Human Development Report 2007
Andhra Pradesh

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Government of Andhra Pradesh

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Dr.Y.S. RAJASEKHARA REDDY

CHIEF MINISTER
ANDHRA PRADESH

HYDERABAD

MESSAGE

It gives me immense pleasure in introducing the first ever Human Development Report published by the Centre for Economic & Social Studies (CESS), a competent and autonomous research agency, for Andhra Pradesh.

I am told that CESS, while preparing the report, has made extensive work involving a large number of stakeholders in order to ensure a realistic approach.

In fact, the Government is also keen to adopt a realistic approach in assessing ground realities and formulating programs with human face, and achieve sustainable and balanced growth in all areas. Development should reflect not only in economic growth and higher GSDP, but also in improvement of quality of life of even weaker sections.

I hope this report will help in reassessing our investment strategies, if necessary, and identifying areas for further attention, and guide to accelerate the implementation of various developmental and welfare programs like *'Jalayagnam'*, **INDIRAMMA**, *'Aarogyasri'* and IT to all cities.

In other words, I am confident that Andhra Pradesh Human Development Report (APHDR) will serve as an important tool in making a comprehensive planning towards achieving *'Haritandhrapradesh'* wherein every sector will experience even and simultaneous development, paving way for emergence of Andhra Pradesh as the model state in India.

(Y.S.RAJASEKHARA REDDY)

K. ROSAIAH

MINISTER FOR FINANCE, PLANNING &
LEGISLATIVE AFFAIRS
GOVERNMENT OF ANDHRA PRADESH

HYDERABAD

MESSAGE

I am glad that our State Andhra Pradesh is finally bringing out its maiden Report on Human Development.

I have noticed that the first "Andhra Pradesh Human Development Report" is an important research-cum-policy document, prepared by an academically competent and autonomous research institute, viz., Centre for Economic and Social Studies (CESS). As I understand, economic development does not mean the growth of income alone but also calls for improvement in the quality of life of our people. Good governance should facilitate realization of these dreams of people.

The report encompasses Human Development Indices, computed both for State and Districts as well. The Report focuses on the levels of achievement, the areas of concern and the possible ways of progress with reference to crucial socio-economic indicators. The purpose of the Report is to provide an independent and objective assessment of the status of human development in different districts of Andhra Pradesh and in the State as a whole. With due importance attached to the outcomes of the report, our endeavour is to give highest priority to the steady improvement of human development conditions in the State.

I am hopeful that the Report would be found useful for all, especially the Policy makers, academicians and researchers.

K. Rosi

(K.ROSAIAH)

A.K. GOEL, I.A.S
Special Chief Secretary to Government

PLANNING DEPARTMENT
Government of Andhra Pradesh
Hyderabad.

MESSAGE

I am extremely delighted to be associated with the release of first ever Human Development Report for Andhra Pradesh. This economic exercise got delayed by more than half a decade. Anyway, better late than never.

Human development is defined by the United Nations Development Programme as enlarging the range of people's choices. The most important amongst these wide ranging choices are enjoying a long and healthy life, be educated and to have access to resources required for a decent standard of living, and thereby making Human development both as means and ends as well.

Andhra Pradesh has a distinction of being one of the most richly endowed natural resource-based states in the country. Known for centuries as 'Annapurna', the state has a historical record of producing and supplying rice to different parts of the country. It adopted Green Revolution quite early. The state, of late, also has decent levels of achievement in education and health sectors. However, there remains substantial scope for improvement.

The gains of development have not benefited all areas and various sections of the people equally. The Andhra Pradesh Human Development Report highlights these disparities in achievement levels among various sections of the society. The much touted *' Inclusive growth',* in the 11th Plan document by the Planning Commission, has a similar philosophy in achievement of a decent level of Human development for all. I am confident that this report would enable the formulation of future strategies for further improving the human development attainments in Andhra Pradesh.

I would like to thank the Planning Commission, Government of India, and the United Nations Development Programme for all the assistance and support provided for the preparation of this report and look forward to future cooperation in following up the messages of this report. I surely thank the Centre for Economic and Social Studies (CESS), Andhra Pradesh, for bringing out this extremely useful report.

Agoel

(A.K. GOEL)

United Nations Development Programme

Planning Commission

India

MESSAGE

On behalf of the Planning Commission, Government of India and the United Nations Development Programme, we congratulate the Government of Andhra Pradesh for preparing the first Human Development Report for the State.

The HDR comprehensively analyses various aspects that have a bearing on human development, including governance, inclusion and environment and effectively establishes the linkages between the facets of human development.

Primarily an agrarian economy, the State has been witnessing exemplary growth in industries, particularly the IT industry. The Andhra Pradesh HDR analyses the challenges that a society in such a transition faces. Important lessons have been identified on how to effectively manage this transition.

We once again felicitate the Government of Andhra Pradesh for the preparation of its Human Development Report.

Santosh Mehrotra
Senior Consultant (RD), Planning Commission
Government of India

Maxine Olson
UNDP Resident Representative
& UN Resident Coordinator

Preface

Prof. S. Mahendra Dev

Andhra Pradesh is unique in several respects. Some of these unique features are: its history of social movements; it was one of the few states which adopted the green revolution; development of participatory institutions including self-help groups; its remarkable progress in technical education; its innovative poverty alleviation strategies; its distinctive demographic experience; and, the state was at the forefront in economic reforms. The experience of Andhra Pradesh with these unique features raises several far-reaching issues on the strategies to be followed in improving human development.

The objective of this report is to examine the experience of Andhra Pradesh in human development at the state and district levels keeping in view these remarkable features together with the interventions and policies of the state.

There has been a 'turnaround' in economic growth and fiscal performance of A.P. in recent years. The State has to focus also on 'inclusive growth' as there is still a considerable degree of poverty, inadequate human development, problems in agriculture, insufficient quantity and quality of employment , significant regional, social and gender disparities and problems in delivery systems. There has been considerable progress in A.P. in all these components of inclusive growth but this has not been sufficient for achieving broad-based and equitable development. The present government is also making efforts to have higher and inclusive growth in which human development is an important component.

The macro environment in terms of growth and fiscal situation at both the Centre and the state level are much better now than before. There is also greater awareness now about improving delivery services through better governance. Andhra Pradesh should make use of these favourable developments to improve human development in the state.

Preface

It was at the invitation of the Planning Department that CESS agreed to prepare the human development report of Andhra Pradesh. Similar to other state HDRs, this Report is sponsored by the Planning Commission, Government of India and the United Nations Development Programme (UNDP).

The Andhra Pradesh Human Development Report (APHDR) is probably the first in India covering the data base up to 2005-06. Thus, the report covers the fifteen year post-reform period which is sufficient for examining the impact of economic reforms on human development.

This report is the outcome of the collective effort of several people. A participatory procedure has been followed in preparing the report. In addition to a state level workshop at Hyderabad, six regional workshops were held to elicit the opinion of people on human development issues in different locations. The regional workshops were held in Mahabubnagar (South Telangana), Warangal (North Telangana), Visakhapatnam (North Coastal Andhra), Guntur (South Coastal Andhra) and, Anantapur and Tirupathi (Rayalaseema). The local organizers Dr. G. Ramachandrudu (Visakhapatnam), Dr. K. C. Suri and Dr. Narasimha Rao (Guntur), Dr. T. Papi Reddy and Dr. MD. Iqbal Ali (Warangal), Dr. Ashok (Mahabubnagar), Dr. Y. V. Malla Reddy (Anantapur) and Shri. Muniratnam and Dr. Rajasekhar (Tirupathi) helped us in organizing these regional work shops. From CESS, Dr. C. Ramachandraiah, Prof. S. Galab, Dr. E. Revathi and Dr. C. Ravi helped in organizing these workshops. We are thankful to organizers and participants in the state level and regional workshops.

Faculty members (S.Galab, M. Gopinath Reddy, Jeena, G.K. Mitra, K.V. Narayana, R. Nageswara Rao, C. Niranjan Rao, P. Padmanabha Rao, C. Ramachandraiah, V. Ratna Reddy, E. Revathi, N. Sreedevi, S. Subrahmanyam) of the Centre for Economic and Social Studies (CESS) prepared the background papers for many of the chapters of the report. We thank all those involved. In addition, there were also a few commissioned papers from academicians and NGOs which have been useful for some components of the report. A few parts of the chapter on agriculture were taken from the work of Prof. D. Narasimha Reddy and Prof. V. Nagi Reddy of ICFAI prepared the background paper on education while Prof. Rama Padma of IIFH (Indian Institute of Family Health, Hyderabad) prepared the background paper on demography and health. There were some inputs from Centre for Dalit Stduies (CDS) on aspects of human development of the Dalits (SCs). We had a survey on the working of public institutions in rural areas conducted by Development and Research Services (DRS). For the APHDR, Dr. S. Irudaya Rajan of Centre for Development Studies along with Dr. Mohanchandran did Infant Mortality Rate (IMR) estimations for the year 2001. We are thankful to Prof. D. Narasimha Reddy, Prof. V. Nagi Reddy, Shri. G. Laxmaiah (CDS) Shri. Narsimha Rao (DRS), Dr. Rajan and Dr. Mohanchandran.

Preface

The core team consisting of myself, Dr. C. Ravi and Mr. M. Venkatanarayana prepared the report based on the background papers. We are grateful to Dr. Ravi and Mr. Venkatanarayana for spending lot of time in preparing the APHDR. We also thank Prof. Kanakalatha Mukund for editing the manuscript.

The progress of the report was monitored by a Steering Committee (chaired by Prof. C. H. Hanumantha Rao) and Technical Committee (chaired by Prof. S. Subrahmanyam). We thank Prof. C.H.Hanumatha Rao, Prof. K. L. Krishna, Prof. S. Subrahmanyam, Principal Secretaries and Heads of Departments from Government of Andhra Pradesh for their help and useful comments on the report.

Also we thank Mr. Vijay Kumar, Librarian (CESS) his colleagues for their help in locating data and research material necessary for the report.

Shri Rosaiah garu, Hon'ble Minister for Finance and Planning has given full support for the preparation of the report. Shri A.K. Goel, the Special Chief Secretary, Planning Department, Government of Andhra Pradesh has been in constant touch with us by giving useful comments and encouragement in preparing the report. Shri T. Koteswara Rao, former director, Planning Department (GoAP) has been with the centre (CESS) while preparing the APHDR and gave useful suggestions on the report. We thank all of them.

The report was prepared with the support of the Planning Commission, Government of India. We wish to thank Shri B. N. Yungandhar, Member, Planning Commission, Dr. Rohini Nayyar (former adviser) and Dr. Santosh Mehrotra (present adviser).

The UNDP, India country office has given full support in the preparation of the report. The initial involvement of Prof. Seeta Prabhu, head of the Human Development Resource Centre (HDRC) at UNDP proved to be very useful later in preparing the report. She gave a lot of encouragement and support throughout the preparation of the report. We wish to thank the UNDP Resident Representative Ms. Maxine Olson, Prof. Seeta Prabhu and Shri Suraj Kumar.

This is the first human development report for the state of Andhra Pradesh. The process of preparation of APHDR has been an enriching experience for the core team and others. We hope the analysis and findings of the Report would be useful for improving human development of Andhra Pradesh in future.

S. Mahendra Dev
Director, CESS
01-05-2008

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Uniqueness and Background of AP

CHAPTER I

This is the first Human Development Report of Andhra Pradesh. The state has several unique features- development of participatory institutions, innovative poverty alleviation programs, spectacular demographic transition, pursuit of state level economic reforms, etc. The report reviews states' experiences of human development in the past two decades in the backdrop of these remarkable features.

1.1 Uniqueness of Andhra Pradesh

Andhra Pradesh is unique in several respects in the country. It was the first state to be constituted on linguistic basis in 1956 by combining the Telugu speaking districts of Coastal Andhra and Rayalaseema from the erstwhile Madras Presidency and the Telugu-speaking region of Telangana from the Nizam's Hyderabad state. These regions, in fact, had widely different natural resources, historical legacies and institutional arrangements. The challenge of development policy subsequent to the formation of the State was to integrate these diverse units into a single economic entity and to accelerate the growth of its productive sectors along with the promotion of adequate opportunities to ensure broad-based participation for all sections of society.

Andhra Pradesh was among the very few states in the country which adopted the green revolution, especially in respect of rice. The focus of government policy in the 1960s and 1970s was on infrastructure like irrigation and power. The historical advantage that the coastal regions enjoyed in terms of government investment in canal irrigation was reinforced with the advent of the green revolution. However, the green revolution benefited only crops grown under irrigated conditions and rain-fed, particularly dry land, agriculture was neglected. The present government has given emphasis to irrigation development in order to convert some of the dry areas into irrigated areas.

A unique feature of Andhra Pradesh is the development of participatory institutions. The state is well-known for its strong emphasis on rural development, community empowerment and support for women's groups. These include self-help women's groups, water user associations, watershed committees, school education committees, mother's committees, *Rytu Mitra Groups* (farmers' clubs), *vana samrakshana samitis* (VSS, Joint Forest Management). For example, Andhra Pradesh was the first state in the country to enact the Andhra Pradesh Farmers Management of Irrigation Systems Act, 1997, under which the formation of Water Users Associations (WUAs) became mandatory for the management of irrigation. This is designed to bring greater accountability to the irrigation department as well as a sense of ownership of the management systems among farmers. Similarly, A.P. has taken bold steps to demonstrate that a convergence of conservation and development objectives can be achieved through Joint Forest Management (JFM). The JFM committees in Andhra Pradesh have successfully targeted remote and under-served communities, in particular tribal populations. However, there have been, tensions between these participatory institutions and Panchayati Raj institutions (PRIs). The experience of Andhra Pradesh with respect to representative discussed in development literature.

The state has also made remarkable progress in technical education like engineering and medicine, probably as a result of the importance given to mathematics and science in colleges which might have improved the skills of the students in these fields. One can see many students from A.P. in IITs and medical colleges of the country. The success of the IT revolution in the state and the number of professionally qualified persons from the state working in other countries (e.g. Silicon Valley in the USA) testifies to the progress of the state in technical education.

The state is also known for innovative poverty alleviation strategies. In the 1980s the government concentrated more on welfare schemes. The scheme to supply rice at 'Two Rupees a Kilo' through the public distribution system (PDS) was one of the important schemes introduced in this period. An important aspect of social change taking place in A.P. relates to women's empowerment (social and economic) through self-help groups. The government of Andhra Pradesh is implementing a statewide rural poverty eradication programme based on social mobilization and empowerment of rural poor women. This programme is popularly known as 'Velugu' or Indira Kranthi Pathakam(IKP). This project aims at enhancing assets, capabilities and the ability of the poor to deal with shocks and risks. The programme has contributed to the improvement in women's empowerment at the household and community level. There are already seven lakh self-help groups in the State. The present government has introduced a programme called INDIRAMMA (Integrated Novel Development in Rural Areas and Model Municipal Areas) in 2006 for the development of model villages and towns on saturation basis to provide basic infrastructure along with welfare measures in an integrated and focused manner and to be serviced over a period of three years[1] . Pensions, housing and land distribution are some of the important measures undertaken by the government to help the poor.

The experience of AP on the demographic front is also distinctive. The state registered the fastest reduction in population growth in the country in the 1990s. It is interesting that the experience of fertility reduction in A.P. is contrary to conventional theories and beliefs which hold that fertility reduction is possible only with considerable economic or social development. The experience of Kerala indicates that female education and improvement in health (e.g. reduction in infant mortality) were responsible for the decline in fertility levels. In A.P., female illiteracy and infant mortality are relatively high but fertility decline has been faster. The success of the state in controlling the population partly lies in better administration of programmes related both to family planning and welfare, including the setting up of women's self-help groups.

[1] According to predetermined saturation criteria, the activities to be covered are: (1) housing; (2) drinking water supply; (3) sanitation – individual sanitary latrine and drainage system; (4) link roads; (5) power connections – habitations and households; (6) health services including awareness and prevention; (7) ICDS (nutrition and pre-primary education for children); (8) primary education; (9) pensions – old age pensions including pensions for weavers, widows and disabled persons; (10) INDIRAMMA Cheruvu.

The state has also witnessed the emergence of numerous non-Governmental Organisations (NGOs) dedicated to development activities through social mobilisation. For example, retaining children in schools needs social mobilization of the community against child labour and for education, as well as intensive institutional arrangements. That such attempts are very successful at the micro level is demonstrated by NGOs like the MV Foundation. Similarly, there are NGOs in the state focusing on areas relating to food and nutrition security, health, livelihoods and natural resource management.

Andhra Pradesh has been vigorously pursuing economic reforms since the mid-1990s. By the end of the 1990s A.P. had earned a reputation as the state at the forefront of reforms in India as several fiscal, governance and other reforms were under way to accelerate economic development and to reduce poverty. The economic reforms and the other singular features of A.P. mentioned above raise several far-reaching issues regarding human development strategies to be followed in India and other developing countries.

The objective of this report is to examine the experience of A.P. in human development at the state and district levels keeping in view these remarkable features together with the interventions and policies of the state.

The outcomes on human development depend on several factors such as the macroeconomic policies of the central government, strategies of the state government, particularly with respect to health and education and historical factors.

There have been several social movements in the state before and after Independence. During colonial rule most of the movements were connected to the freedom struggle. But social movements did not die away with the end of colonial rule. They continued in the post-independence period against the actions of the state and political institutions. There have also been a number of movements against many social evils which have continued to plague society. The important social movements have been agrarian struggles including the Telangana Armed Struggle, dalit movements, tribal struggles, women's movements and regional movements. Among the agrarian struggles, the major one was connected to land issues and these struggles continue even today. Agrarian struggles not directly involved with land were about *vetti*, bonded labour, agricultural wages etc.

While states like Kerala and, to some extent, Tamil Nadu had social movements focusing on health and education, there were no such movements specifically relating to human development in Andhra Pradesh. Social movements in A.P. focused more on land and other distributional issues. This could be one of the reasons for the relatively low levels of human development in the state. In spite of land struggles, the inequalities in agrarian relations still persisted in the state due to historical reasons (e.g. Nizam's rule in Telangana) and policies since its formation.

Macroeconomic policies of the central government-fiscal, monetary, trade, financial liberalization, privatisation and other sectoral (e.g. agriculture and industry) policies - can influence the outcomes at the state level. Since appropriate macro policies are important for generating employment and human development the macro policies in India have to be evaluated as to whether they have promoted employment and human development in the post-reform period.

Investments in physical and social infrastructure are important for higher growth which favours the poor and which can also improve employment and social development. Compared to the East Asian countries, investment rates in India till recently have been low at around 25 per cent of GDP. In the 1980s, the rate of capital formation in the public sector was 11.1 per cent which declined to 7.3 per cent in the post-reform period. Deceleration of public investment and private corporate investment in the second half of 1990s is a matter of concern. The low growth in public investment could be one of the reasons for the low growth in employment in the post-reform period. Fortunately, in recent years (2004-6), investment as a proportion of GDP has risen to more than 30 per cent.

Fiscal reforms are intended to reduce fiscal deficit, improve social sector expenditures and capital expenditures.

The evidence shows that India lost 1 per cent of GDP due to tax reforms in the post-reform period. Central transfers to state governments also declined. State governments were forced to borrow in the market and other (often international) sources at high interest rates. As a result, the levels of debt and debt servicing increased in most of the states. In recent years, most state governments were in fiscal crisis and did not have funds for capital expenditures. This is especially important since state governments are responsible for critical areas such as rural infrastructure, power, water supply, health and education. Meanwhile, at the central government level, capital expenditure declined as a share of national income, and all public expenditure directed towards the rural areas fell both as a per cent of GDP and in real per capita terms. The composition of government spending can alter relative prices and factor income and this in turn will affect income distribution and employment. In recent years, there have been signs of increase in tax/GDP ratios due to better enforcement and tax collection. This could improve allocations to infrastructure and the social sectors.

Trade liberalization is expected to improve exports which can generate employment. However, this depends on whether the impact percolates to unskilled workers or stays with skilled workers. If only the IT sector benefits, the overall employment prospects are not bright. The evidence seems to suggest that employment in the organized manufacturing sector has not improved. Employment has increased only in the unorganized sector which does not point to an improvement in the quality of employment. Financial sector liberalisation in developing countries has been associated with measures that are designed to make the Central Bank more independent, relieve financial constraints by freeing interest rates and allowing financial innovation, reduce directed and subsidised credit, as well as allow greater freedom in terms of external flows of capital in various forms. However, financial liberalization has led to a decline in credit to the agriculture sector, small and marginal farmers and weaker sections in the post-reform period. Thus, on balance the mix of macro policies have not promoted employment and human development in the post-reform period.

The outcomes particularly on agriculture, health and education are determined more by the policies of the state government. As will be shown in the subsequent chapters of the report, economic growth has been taking place in Andhra Pradesh. The growth rate of GSDP in the last four years has been 7 to 8 per cent per annum. The state has also been successful in reducing income poverty if we go by official statistics. However, A.P. has not well done in terms of 'inclusive' development. There is a need for significant improvements in agriculture, employment, social sector and reduction of regional and other disparities. The post-reform period has witnessed an increase in disparities across regions and social groups and between rural and urban areas. The outcomes for A.P. indicate that the efforts of different governments in the state have not been enough to improve human development and livelihoods and that there is a need to promote broad-based and inclusive growth to benefit all sections of society.

1.2 Background and Comparative Status

Andhra Pradesh is one of the major states in India and ranks fifth in terms of population. The population of the state was about 75.7 million in 2001 (Census 2001). The projected population would be around 83 million in March 2007 accounting for 7.4 per cent of country's population. In terms of population the state is bigger than many countries in the world. Its geographical spread of 274.4 lakh hectares accounting for 8.37 per cent of the total area of the country makes it the fourth largest state in the country. The state capital Hyderabad has become an A1 city in 2007 with 54 lakh population. There are 23 districts and 1128 *Mandals* in the state. Andhra Pradesh has three regions which are distinct in terms of socio-economic characteristics owing to historical reasons and region specific resource base. Of the 23 districts, nine are in Coastal Andhra; ten are in Telangana and four in Rayalaseema.

Viewed against the resource base and economic activities, the relative performance of Andhra Pradesh among Indian states in terms of the growth of SDP and per capita income seems to have improved during the 1980s. A higher rate of growth of SDP and per capita income began in the state from the late 1970s, while the 1980s was the

golden era of high economic growth in the state. The growth rate of GSDP in A.P. was lower than all-India in the 1990s but there was a turnaround in GSDP growth during 2003-07. However, per capita GSDP in A.P. has been lower than in all-India throughout, though it has been catching up in recent years with the all-India average. In fact, the per capita GSDP in 2005-06 (in 1999-2000 prices) in A.P. (Rs.21277) was slightly higher than in all-India (Rs.20734).

Andhra Pradesh has done reasonably well in terms of fiscal performance. Till the mid-1980s A.P. used to have a surplus budget and these surpluses were used for productive capital expenditure on irrigation and power generation. The surplus budgets disappeared after the mid-1980s with the introduction of populist welfare policy initiatives such as distribution of rice at the rate Rs. 2/kg through the Public Distribution System (PDS) and prohibition, though alcohol was one of the major sources of excise duty contributing to state revenues. Fiscal reforms undertaken since 1995-96 have led to an improvement in some indicators of fiscal management. At the same time the state also faced fiscal problems similar to other states of India in the second half of the 1990s. Debt/GSDP ratio for A.P. increased from 1995-96 to 2000-01. However, despite rising indebtedness, the outstanding public debt for A.P. at 25.6 per cent of GSDP in 2000-01 was lower than for all the major states, the all-states average being 30.7 per cent. The ratio of debt-GSDP ratio in 2005-06 was eighth (in ascending order) among 29 states. In other words, 21 states in India have higher debt-GDP ratio than Andhra Pradesh. There seems to have been an improvement in revenue generation and decline in revenue deficit in recent years so that the fiscal performance of the state does not seem bad in a comparative perspective.

Andhra Pradesh has one of the highest work participation rates in the country, particularly for females. As with other states, A.P. is going to have 'demographic dividend' in terms of more people in the working age group. However, the growth of employment in A.P. declined from 2.72 per cent in pre-reform (1983 to 1993-94) to 0.95 per cent in post-reform (1993-94 to 2004-05) period. This was one of the lowest rates in the country, and much lower than the all-India rate of 1.9 per cent per annum. Another worrying factor is that unemployment growth increased and growth of real wages declined during 1999-2005 as compared to 1993-2000. It may also be noted that about 94 per cent of workers in Andhra Pradesh were in the unorganized sector in 2004-05, which also indicates the challenges of providing social security to 38 million of 40 million workers in Andhra Pradesh.

The state is still largely agricultural in terms of population and employment. Although the share of agriculture in GSDP has declined from above 60 per cent in the 1950s to around 22 per cent in the recent period, it continues to be the primary source of livelihood for around 60 per cent of the population in the state. The rank of A.P. in terms of share in GSDP and employment in ascending order was 8 out of 16 states in the year 2004-05. Recognising the importance of agriculture, government policy in Andhra Pradesh has been structured around this sector. While giving priority to agriculture a large part of resources was allocated to irrigation and power during the 1960s and 1970s. These were relatively neglected during the 1980s and 1990s. As a result, there was agrarian distress from the mid-1990s which led to episodes of suicides by farmers in the state.

The state was at a relative disadvantage in terms of manufacturing activity in the non-household sector unlike some states which were ahead of the rest in terms of industrial development even at the time of Independence. For instance, A.P. does not have a strong background and tradition of industrial development, like the neighbouring state of Tamil Nadu in terms of entrepreneurship, technical skills and infrastructure. Industry is predominantly a central subject in the Indian Constitution. As a result, the relatively underdeveloped states rarely had a separate industrial policy, at least in their early stages of development. In A.P., the first-ever industrial policy statement was announced only in the early 1990s.

Industrial growth in A.P. was propelled by the growth of the public sector. Though industrial estates came up in and around Hyderabad followed by the establishment of power generation stations between 1960 and 1970, the industrial base in the state began to expand during the 1970s with the establishment of major public sector units like BHEL and ECIL in Hyderabad, and the petroleum

refinery and steel plant in Visakhapatnam. The backward and forward linkages generated by these large-scale units were expected to attract private investment from the surpluses of the agricultural sector. While in the 1980s some entrepreneurship emerged from agricultural surpluses, private investment is still flowing to the services sector. At present the government is focusing on key sectors like pharmaceuticals, biotechnology, food processing, chemicals, marine, leather, textiles, IT and communications. The service sector is the major centre of growth in the non-agricultural sector in the state. More recently, information technology (IT), a component of the service sector, has been the fastest growing sector in Andhra Pradesh.

The performance of the social sector in A.P. has not been satisfactory as compared to many states in India, particularly the other southern states like Kerala and Tamil Nadu. The state has, however, done well in terms of income poverty. Official estimates show that poverty was only around 15 percent in the year 2004-05. This level of poverty is one of the lowest in the country. The state has also done remarkably well in reducing population growth. Further, as noted above, the women's self-help group movement with seven lakh groups is also a success in the state. On the other hand, the human development index is low and the state ranks tenth among 15 states. In spite of better economic growth, the state is lagging behind in social development. The performance of the state in education had been very good in the 1990s. Despite this the literacy level in the state is one of the lowest in the country. Similarly, it ranks eleventh among 17 states in infant mortality. The low poverty ratios and the high incidence of child labour/ educational deprivation of children indicate a paradoxical situation specific to the state. It has the highest incidence of child labour among the Indian states whereas it has the lowest level of poverty and poverty levels have also declined sharply in the past decade. The infrastructure index shows that the state is lacking in infrastructure and in fact has the lowest status (CMIE, 2000).

Inter-regional disparities are very high in the state. Districts like Mahabubnagar and Adilabad in Telangana, Vizianagaram and Srikakulam in North Coastal Andhra and Anantapur in Rayalaseema are among the poorest districts in the state. In general, South Telangana districts, some districts of Rayalaseema and north Coastal Andhra are poorer than South Coastal Andhra and North Telangana.

To conclude, historically, in terms of economic and social development, Andhra Pradesh was behind Travancore and Mysore states, but was ahead of Madhya Pradesh and other poorer states. The same situation continues to some extent even today fifty years after the formation of the state. In terms of economic growth and per capita income it is now closer to all-India average. However, in terms of human development indicators and employment growth, the state is lagging behind all-India. In short, the state has to concentrate more on 'inclusive growth' or equitable development.

1.3 Objectives

It is believed that development means the capacity of a society to participate and enable the people to have a vision of their future. Therefore, this report should be used to launch a public debate on the development pattern of the state in future. It is necessary to keep in mind two aspects while preparing the HDR: the process and the substance. In terms of the process it (the report) should be more participatory in nature with participation of civil society, public scrutiny, involvement of political leadership, broad-based public dissemination of information required at the preparation stage. In terms of substance, the goal and purpose of the report are important. The goal must be to facilitate wide-ranging public debate on what would be the reaction of people to the changing global situation.

The APHDR aims at drawing attention to issues pertaining to human development by reviewing the progress made on aspects related to the quality of life. It identifies strengths, gaps and deficiencies in order to suggest specific policy interventions. The APHDR is a programming tool and a monitoring instrument for interventions and an advocacy device for raising resources to invest in the people so that the quality of people's lives can be enhanced. It presents the status in different sectors which ultimately have a bearing upon human development and thereby facilitates the realization of a vision for the future. APHDR

brings out issues relating to different aspects of human development which have to be addressed with intensive efforts, and identifies the challenges ahead in facilitating improvement in the quality of life of the people. It is known that economic growth or development alone cannot lead to sustained improvement in the lives of people. The report, therefore, argues that both economic growth and human development are important and that they reinforce each other, as indicated by the vast literature on the subject.

1.4 Approach and Novelty of the Report

(1) A participatory procedure has been followed in preparing the report. In addition to a state level work shop at Hyderabad, six regional workshops were held to elicit the opinion of people on human development issues in different locations. They were held in Mahabubnagar (South Telangana), Warangal (North Telangana), Visakhapatnam (North Coastal Andhra), Guntur (South Coastal Andhra) and, Tirupathi and Anantapur (Rayalaseema). Faculty members of the Centre for Economic and Development Studies (CESS) prepared background papers for many of the chapters of the report. In addition, there were also a few commissioned papers from academicians and NGOs (e.g. some inputs from Centre for Dalit Studies) which have been useful for some components of the report. A representative of the Planning Department, Government of Andhra Pradesh has been stationed at CESS in order to have full time interaction with the coordinators of the report.

(2) This report is a 'first' in many respects. This is the first human development report for the state of Andhra Pradesh. The APHDR is probably the first in India covering the data base up to 2005-06. Thus, the report covers the fifteen year post-reform period which is sufficient for examining the impact of economic reforms on human development. APHDR is also the first to use the latest data from NSS 61st Round on Employment and Unemployment, Consumer Expenditure (2004-05), recent NSS data on education, health and status of farmers, NFHS III (National Family Health Survey) data for the year 2004-05 and, landholdings data for the year 2005-06. The report also uses many micro studies done by CESS and others on human development issues.

(3) The report would be useful in the context of Millennium Development Goals (MDGs) and India's goals given in the 11th Five Year Plan. It is known that the 11th Five Year Plan has given emphasis to 'faster and inclusive growth'. Human development is one of the main components of inclusive growth. The present report which coincides with the first year of the 11th Five Year Plan would be helpful in framing policies for achieving the goals of human development in Andhra Pradesh.

(4) Earlier studies on A.P. including the book on 'Andhra Pradesh Development: Economic Reforms and Challenges Ahead' published by CESS have concentrated more on the state as a whole. The APHDR provides for the first time a comprehensive picture of the status of human development at the district level to serve as a baseline for evaluating the trends that will emerge in future. It compares and contrasts disparities in levels of human development across sub-population groups identified by their socio-economic (gender, caste, poverty, occupation etc.,) and geographical (region, district, location: rural-urban) characteristics. It identifies problems specific to the state, region and district. Ultimately it points to the way forward for the progress of human development in the state and relevant policy measures for addressing the emerging areas of concern.

In the process it brings out and highlights several issues relating to human development and livelihoods and also problems specific to the state and its sub-regions. These are: agrarian structure and social unrest, impact of land reforms and green revolution, agrarian distress and farmers' suicides, unemployment, stagnant rural non-farm sector, regional inequalities, lagging social sector, irrigation politics, environmental degradation, the surge of HIV/AIDS, persistence of illiteracy, non-schooling and child labour, interventions by and impact of external agencies like NGOs for the cause of the deprived, as for instance on child labour and child schooling, undertones of institutional changes in the reform process, the boom of the IT sector in the state, the realization of the notion of 'people's participation' in the progress of marginalized sections like women, children, dalits, tribals, disabled and old people. Importantly,

it also highlights the impact of interventions and policy changes initiated during the 1990s on welfare.

(5) The APHDR has made an attempt to take a novel approach on the issues discussed and problems addressed. An attempt is made to assess progress in the context of the state as it was the first Indian state to carry out serious economic reforms, to take policy initiatives in view of good governance and hosting a number of Non-Governmental Organisation (NGOs) involved in developmental activities. As noted above, since the late 1980s, micro-financing institutions have been promoted through self-help groups (SHGs) which are expected to result in empowerment of the poor especially of women. An assessment of the turnaround in the economy; the policy initiatives; participation of people and civil society and their impact on the welfare of the people are interesting parts of the report.

(6) For the first time, a discussion on social movements is included as a separate chapter in a human development report. This is important because social movements help to improve human development and also lead to greater sensitization of the rights approach and better governance. Another novel feature of the report is a detailed analysis on women's empowerment and child well-being. It is known that regional disparities act as barriers in achieving the goals of human development. Therefore, an attempt is made in the report to assess and analyse the contribution of women's empowerment to reducing regional and gender disparities in human development in A.P. It also constructs a gender development index and child development index at the district level. The report for the first time also constructs an environmental index.

In brief, apart from studying areas like health, education, livelihood issues, social problems and the per capita Gross Domestic Product, the APHDR would be unique in looking at disparities across districts, the grass root level institutions and their impact on human development. The APHDR also focuses on state-specific issues like farmers' suicides, child labour, HIV/AIDS, self-help groups and the evolution of institutions parallel to Panchayat Raj systems.

1.5 Organisation of the Report

The Andhra Pradesh Human Development Reoprt is organized as follows. Chapter 2 presents the human development indices across districts of Andhra Pradesh. As a backdrop to the report, Chapter 3 presents the history of social movements in the state. There have been many social movements relating to land issues, tribals, *dalits*, women and regional issues. This chapter examines the importance of these movements in making modern Andhra Pradesh.

Chapter 4 provides an overview of the economic and social development experience of the state. The performance of the state including the problems and the prospects of development at the macro level is analyzed in this chapter. It focuses on economic growth, infrastructure, poverty, inequality, fiscal performance and social sector expenditures.

Expanding productive employment and livelihoods is central for sustained poverty reduction and for enhancing human development as labour is the main asset for the majority of the poor. Liberalisation measures are likely to have significant implications for employment and the labour market. How these policies have affected the growth and structure of employment is an issue that has important implications for future policies. In this context, Chapter 5 looks at trends in employment, wages and rural livelihoods. It covers issues relating to employment in quantitative and qualitative terms. This chapter also examines the experience of livelihood promotions at the grass root level.

Higher growth in agriculture is considered an important element of inclusive growth as a majority of livelihoods depend on the performance of this sector. Agriculture plays a pivotal role in the economy of A.P. Chapter 6 examines the changes in structure, performance of agriculture and the issues relating to farmers' suicides. This chapter also discusses the policy issues relating to agriculture in the present context and suggests the strategies needed for higher growth in agriculture.

There is no difference of opinion that A.P. has experienced rapid demographic transition. However, health

and nutrition are areas of concern in the state. There are problems with regard to expenditure and quality of health and privatization of health facilities. Health is one of the important aspects of Millennium Development Goals (MDGs) and the 11th Five Year Plan of India. Chapter 7 is devoted to examining the performance and issues relating to demographic transition, health and nutritional deprivations. It also provides an interesting discussion on health care systems in A.P.

Education is one of the important indicators of human development and one of the important objectives of the Millennium Development Goals (MDGs) is to achieve universal elementary education among children in the age group 5-14 years. Equality of opportunity in education is crucial for improvement in the quality of education. In this context, Chapter 8 assesses the status of education in Andhra Pradesh focusing on levels and trends in literacy and schooling, supply factors like schools, teachers, physical infrastructure and financial resources.

Women's empowerment is considered to be crucial for economic growth and human development. The empowerment of women also improves household well-being that leads to better outcomes for children. Chapter 9 deals with women's empowerment and child well-being. It examines gender development and empowerment indices and child development index across districts. The government of Andhra Pradesh has provided a larger space for women's self-help groups in its strategy for poverty alleviation and women's empowerment. This chapter assesses the impact of District Poverty Initiative Project (DPIP), the component of the Indira Kranti Pathakam (IKP), earlier called *Velugu* on four dimensions of women's empowerment: psychological empowerment, the empowerment to take action, empowerment to take collective action and empowerment to transform unequal social structures.

Even after 60 years of independence, exclusion problems in Indian society have not been addressed. One of the important components of inclusive growth approach is that the benefits of growth should reach socially disadvantaged sections like the Scheduled Castes (SCs) and Scheduled Tribes (STs). Chapter 10 is intended to provide the status of marginalized sections such as SCs and STs in Andhra Pradesh, their problems and prospects in the human development perspective. It discusses the status of SCs and STs as compared to others for certain parameters like land holdings, poverty, health and educational indicators, access to basic infrastructure and household amenities like water supply, sanitation, electricity etc.

The importance of environment in enhancing human development and the quality of life is well recognized. Keeping in view the importance of environment, Chapter 11 reviews the status of natural resources that affect income and security as well as the environmental conditions that impact the health of the households in Andhra Pradesh at the state, regional and district levels. A composite environmental index based on the district level indicators is attempted in the chapter. Further, linkages between the environmental index and development, particularly human development, are explored for policy purposes.

By now it is known that the concept of governance has emerged as an essential part of sustainable human development. Similarly, democratic decentralization is also considered to be vital for good governance and overall development. There is also an on-going debate on the conflicts between participatory institutions and PRIs. In this context, Chapter 12 deals with institutions and governance. It discusses the issues related to democratic vis-à-vis participatory institutions and good governance initiatives. Important issues addressed in the chapter are: how do the parallel institutions function and perform in achieving the stated programme objectives? Have these institutions improved the delivery of pro-poor policies? What are the linkages between the participatory and the democratic institutions? Is there any need for integration between these two types of institutions?

Urban challenges are delineated in Chapter 13. Finally, Chapter 14 presents a brief summary of conclusions and provides suggestions and recommendations for enhancing human development in Andhra Pradesh.

ANDHRA PRADESH

CHAPTER II

2 Human Development in Andhra Pradesh

There has been a significant improvement in the human development in the state. However, its relative ranking among the major states has always been in the middle. The levels of human development across the districts vary significantly. A welcome feature of the trends between the last two decades is the convergence of human development across districts.

2.1 Introduction

The accepted notion of what constitutes economic development has undergone a paradigm shift in recent times. The concept of development has been extended to be more comprehensive and go beyond the mere material dimension of increase in per capita income, complemented by the non-material dimension (like levels of education, status of health and access to basic amenities). Thus development, apart from income, relates to general well-being and economic capabilities of the people. Sen (1999) says that besides income and wealth we have reason to value many things which ensure real choices and opportunities to lead the kind of life we would value living. It is argued that development should facilitate every human being to live, as she/he likes: expanding the potential capabilities[1] of every human being[2] (HDR, 1990). After consistent debates and discussions, this development approach has been converging with the notion of human development[3].

[1] However, the capabilities approach goes far beyond individual attributes to analyze the role of the social environment on human choice and agency (Ranis, 2004).

[2] Sen (1999) says that development is a process of expanding the real freedoms that people enjoy. Therefore, development can be seen in terms of expansion of the real freedoms where the expansion of human capability can be seen as the central feature of the process of development.

[3] Consequently, the role of social variables in the fostering of economic progress received much attention. The human development approach says that human beings are both ends in themselves and means of production. Human development is the enlargement of the range of choice and it is an end itself (Streeten, 1994).

The single goal of the human development approach is to put people, ignored so far, back at the center of the development process with their involvement and participation in terms of economic debate, policy and advocacy. The goal is massive but simple; the aim is to assess the level of long-term well-being of the people and to bring about development of the people, by the people and for the people.

The United Nations Development Programme (UNDP) initiated the process and first brought out a Human Development Report in 1990 in which the status of human development of a country/region was indicated[4]. The UNDP has also urged individual nation states to bring out human development reports at the national level, across sub-regions within the country, for instance states in India, within the states across districts or sub-regions (i.e. cluster of districts based on specific criteria of homogeneity). Consequently, there are a number of countries, both developed and developing, that have prepared HDRs at the national levels[5].

The Planning Commission of India prepared and published the first HDR of India in 2001 in which all the Indian states are ranked in the order of their achievement in terms of the indicators that reflect human development. Thereafter the Planning Commission has also been encouraging state governments to produce their own Human Development Reports. In fact, Madhya Pradesh was the first state in India to produce a HDR long before the Planning Commission. The other Indian states[6] have come out with their state level reports, one by one. As mentioned before, the Andhra Pradesh Human Development Report (APHDR) is one of these state level human development reports.

Against this background, this chapter compares the levels of human development across districts in Andhra Pradesh through simple composite indices such as human development index (HDI), human poverty index (HPI) and gender development and empowerment index (GDI and GEM).

2.2 Human Development Index

The human development index is a simple composite measure that gauges the overall status of a region in terms of three basic dimensions - long and healthy life, knowledge and decent standard of living - of human development. According to UNDP methodology, literacy rate, enrolment rate, life expectancy and per capita GNP are the representative indicators for these basic dimensions.

AP in All-India Context

The Planning Commission of India considered the following indicators for three dimensions of HDI in NHDR: literacy rate (7+ years of age) and adjusted intensity of formal education for education, life expectancy at age one and infant mortality rate (IMR) for health, and consumption expenditure (per capita per month) for command over resources (NHDR, 2001).

According to NHDR 2001, the performance of Andhra Pradesh appears to be lagging among the 15 major Indian states (See Table 2.1). Though the state improved the level of human development over the period, its relative position slipped as the other backward states began to perform better, especially in the 1990s. The HDI value of AP increased from 0.298 in 1981 to 0.377 in 1991 and further to 0.416, but the rank of the state was 9 in 1981 and 1991 and 10 in 2001. The HDI value in the state has been consistently lower than the all-India average and the other south Indian states. When compared to BiMaRU[7] states, the state was ahead in the 1980s but in the 1990s the state was lagging behind Rajasthan, which was one among the poorer states in India.

Based on the analysis of development radar, the comment of NHDR on Andhra Pradesh was that "on the whole, the attainment on the indicators seems reasonably balanced, though the attainment levels are less than half the norms for most indicators even in the early 1990s" (NHDR, 2001: 16).

[4] It, in fact, indicates the relative status of the country/region in question in the set of countries/regions.

[5] The UNDP supports the HDRs of nation states at many levels: funding, technical assistance, setting the methodology, publication etc. After National Human Development Report (NHDR) units were set up, it has developed a series of tools to contribute to excellence in sub-national, national and regional HDRs.

[6] So far reports have been prepared by the states of Punjab, Maharashtra, Tamilnadu, Kerala, West Bengal, Gujarat, Orissa, Karnataka, Rajasthan, Himachal Pradesh, Assam and Nagaland. Recently Uttar Pradesh and Tripura joined in the list.

[7] The term refers to Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

For APHDR we have estimated another HDI using the same indicators with slight changes. This *revised HDI*, as we term it, considers the following indicators: adult (15 + age) literacy rate and school attendance rate (of 5-14 age children) for education; life expectancy and infant survival rate (ISR) for health; and inequality adjusted per capita consumption expenditure for the economic dimension[8] (See Technical Notes for details).

Table 2.1: Human Development Index (HDI) across Major Indian States

Sno	States/UTs	1981		1991		2001	
		Value	Rank	Value	Rank	Value	Rank
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	Andhra Pradesh	0.298	9	0.377	9	0.416	10
2	Assam	0.272	10	0.348	10	0.386	14
3	Bihar	0.237	15	0.308	15	0.367	15
4	Gujarat	0.360	4	0.431	6	0.479	6
5	Haryana	0.360	5	0.443	5	0.509	5
6	Karnataka	0.346	6	0.412	7	0.478	7
7	Kerala	0.500	1	0.591	1	0.638	1
8	Madhya Pradesh	0.245	14	0.328	13	0.394	12
9	Maharashtra	0.363	3	0.452	4	0.523	4
10	Orissa	0.267	11	0.345	12	0.404	11
11	Punjab	0.411	2	0.475	2	0.537	2
12	Rajasthan	0.256	12	0.347	11	0.424	9
13	Tamil Nadu	0.343	7	0.466	3	0.531	3
14	Uttar Pradesh	0.255	13	0.314	14	0.388	13
15	West Bengal	0.305	8	0.404	8	0.472	8
	India	***0.302***		***0.381***		***0.472***	

Note : Rural and Urban Combined.

Source : National Human Development Report 2001, Planning Commission of India.

The values of revised HDI are higher than those of the NHDR owing to the fact that there is a difference in methodology in terms of indicators chosen and the time points. Thus the revised HDI and the NHDR are strictly not comparable. But the relative position in terms of ranking may be considered where both the NHDR and revised HDI ranking for Andhra Pradesh indicate the same position (See Table 2.2). The HDI value of Andhra Pradesh was lower than the all-India average. The percentage change between two points in A.P. is higher than in all-India but lower than in the most backward states like Bihar and Uttar Pradesh.

[8] The data sources are RGI (life expectancy) NSSO (literacy, school attendance and consumption expenditure), NFHS (IMR).

District Level HDI in Andhra Pradesh

For this report the indicators used to construct a composite index at the district level are: per capita district domestic product (PCDDP) at constant (1993-94) prices representing the income dimension; adult literacy rate (15+ age population) and school attendance rate (6 to 14 age group) for the education dimension; and infant mortality rate (IMR) for the health dimension.

Table 2.2: Revised HDI across Major States of India

Sno	States	Index			Ranking	
		1993-94	2004-05	Change	1993-94	2004-05
1	*2*	*3*	*4*	*5*	*6*	*7*
1	Andhra Pradesh	0.415	0.503	21.2	10	10
2	Assam	0.429	0.509	18.6	9	10
3	Bihar	0.349	0.441	26.3	16	16
4	Gujarat	0.462	0.535	15.7	6	7
5	Haryana	0.470	0.558	18.9	5	5
6	Karnataka	0.448	0.526	17.5	7	9
7	Kerala	0.621	0.673	8.3	1	1
8	Madhya Pradesh	0.369	0.452	22.5	13	15
9	Maharashtra	0.499	0.570	14.3	3	4
10	Orissa	0.360	0.453	25.6	15	14
11	Punjab	0.518	0.588	13.4	2	2
12	Rajasthan	0.391	0.463	18.4	12	13
13	Tamil Nadu	0.481	0.586	22.0	4	3
14	Uttar Pradesh	0.363	0.476	31.2	14	12
15	West Bengal	0.442	0.533	20.6	8	8
	India	***0.416***	***0.544***	***20.6***		

Note : 1. Change is percentage change over the initial point of time (1993-94); 2. Rural and urban combined; 3. Newly created states are merged with their former states using share of population as weight.

Source : Computed, see Technical note for details.

The Human Development Index (HDI) at the district level is constructed for the early 1990s and the early years of this decade. The two periods for education and health indicators relate to 1991 and 2001 respectively, while per capita income at the district level refers to 1993-94 and 2003-04 respectively (See Technical Note giving the methodology for constructing the human development

indices). We refer to the early 1990s as period I and early years of this decade as period II.

There are significant inter-district disparities in the index values. The values across districts vary from 0.717 in Hyderabad to 0.397 in Mahaboobnagar in period II (See Table 2.3). A comparison of levels in the early years of this decade (period II) shows that 11 districts had lower levels of human development as compared to the index value for the state of 0.537 (Table 2.3). Out of these, five districts (Warangal, Nizamabad, Adilabad, Nalgonda and Mahabubnagar) are in Telangana, three (Kadapa, Kurnool, Anantapur) in Rayalaseema and three (Srikakulam, Vizianagaram and Prakasam) in North and South Coastal Andhra.

In most districts of South Coastal Andhra the index of human development was higher than the state average. In Telangana, districts like Hyderabad, Rangareddy, Karimnagar, Khammam and Medak had higher levels of human development than the state average.

Table 2.3: Human Development Index and Ranking of Districts (Period I: Early 1990s and Period II: Early years of this decade)

Table 2.3a: Human Development Index and Rank

Sno	Districts	Index Value		Rank	
		Period I	Period II	Period I	Period II
1	*2*	*3*	*4*	*5*	*6*
1	Srikakulam	0.269	0.453	21	21
2	Vizianagaram	0.236	0.402	23	22
3	Visakhapatnam	0.383	0.553	15	11
4	East Godavari	0.411	0.586	11	6
5	West Godavari	0.448	0.607	7	4
6	Krishna	0.510	0.623	2	2
7	Guntur	0.490	0.599	3	5
8	Prakasam	0.409	0.532	12	14
9	Nellore	0.452	0.565	4	8
10	Chittoor	0.451	0.558	6	10
11	Kadapa	0.447	0.536	9	13
12	Anantapur	0.343	0.458	19	20
13	Kurnool	0.327	0.473	20	19
14	Mahabubnagar	0.249	0.397	22	23
15	Ranga Reddy	0.452	0.610	5	3
16	Hyderabad	0.591	0.717	1	1
17	Medak	0.385	0.550	13	12
18	Nizamabad	0.383	0.504	14	16
19	Adilabad	0.361	0.488	16	17
20	Karimnagar	0.448	0.573	8	7
21	Warangal	0.349	0.514	18	15
22	Khammam	0.420	0.559	10	9
23	Nalgonda	0.360	0.481	17	18
	Andhra Pradesh	0.402	0.537		
	CV	20.98	13.89		

Table 2.3b: Districts Arranged by Rank

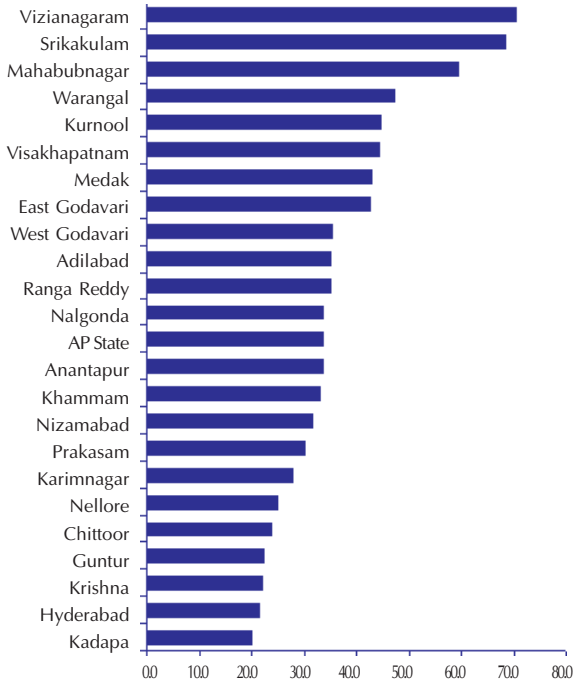
Period I		Period II	
Rank	District	Rank	District
1	*2*	*3*	*4*
1	Hyderabad	1	Hyderabad
2	Krishna	2	Krishna
3	Guntur	3	Ranga Reddy
4	Nellore	4	West Godavari
5	Ranga Reddy	5	Guntur
6	Chittoor	6	East Godavari
7	West Godavari	7	Karimnagar
8	Karimnagar	8	Nellore
9	Kadapah	9	Khammam
10	Khammam	10	Chittoor
11	East Godavari	11	Visakhapatnam
12	Prakasam	12	Medak
	Andhra Pradesh		Andhra Pradesh
13	Medak	13	Kadapa
14	Nizamabad	14	Prakasam
15	Visakhapatnam	15	Warangal
16	Adilabad	16	Nizamabad
17	Nalgonda	17	Adilabad
18	Warangal	18	Nalgonda
19	Anantapur	19	Kurnool
20	Kurnool	20	Anantapur
21	Srikakulam	21	Srikakulam
22	Mahabubnagar	22	Vizianagaram
23	Vizianagaram	23	Mahabubnagar

Note : CV – Coefficient of Variation.

Source : 1. Computed using Economic Survey of Andhra Pradesh 2005-06 for Per Capita District Income; Census data for Adult Literacy and School Attendance; and Irudaya Rajan's Study for Infant Mortality Rates.

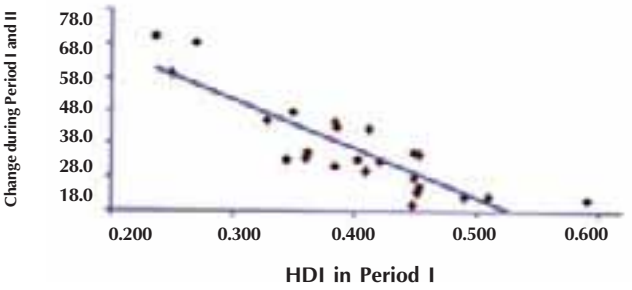
Over time, the index values of human development for A.P. increased from 0.402 in period I to 0.537 in period II (Table 2.3). The index value has improved for all the districts but the rate of improvement varies from district to district. The ranks have improved significantly for Visakhapatnam, East Godavari, West Godavari and Warangal in period II as compared to period I. On the other hand, the ranks of Nellore, Chittoor and Kadapa have declined. The rate of change in HDI values during 1991-2001 was higher in those districts which had lower HDI levels in 1991 (see Figure 2.1 & 2.2). This indicates that the backward districts improved more than the relatively better developed districts in the state. Therefore, there is some convergence of districts in terms of HDI. The co-efficient of variation (i.e., measure of inequality) shows that it declined from 20 per cent in period I to 14 per cent in period II indicates decline in regional disparities in human development across districts of Andhra Pradesh.

Figure 2.1: Rate (%) of Change during 1991-2001 in HDI



The components of human development index show that there is no correlation between income and health / education for some of the districts. The rank in terms of per capita income is much higher than the rank for education and health for three districts viz, Visakhapatnam, Medak and Khammam. On the other hand, the rank for

Figure 2.2: HDI in 1991 and Change During 1991-2001 across Districts of Andhra Pradesh



education is higher than for per capita income in West Godavari, Krishna, Nellore, Chittoor, Kadapa and Nalgonda. Similarly, the rank for health is higher than the rank for income in Krishna, Guntur, Kadapa, Nizamabad and Karimnagar. It is clear that apart from looking at aggregate HDI the components of the index have to be examined in order to have more effective policies.

2.3 Human Poverty Index

While the HDI measures the overall progress in achieving human development, the HPI measures the distribution of progress through the level of deprivation. The broad dimension by which this deprivation is measured is the same as those of HDI – health, knowledge and standard of living – but there is a slight variation in the indicators. Moreover the level of deprivation is the yardstick for measurement while achievement levels are considered for HDI. Therefore, the indicators taken are as follows: adult illiteracy rate and percentage of children (6-14 age) not attending school for education; infant mortality rate for health; and percentage of household not having access to basic amenities like drinking water, housing, sanitation, cooking fuel and electricity for command over resources (see Technical Note for details in the Appendix).

The human poverty index is constructed for two points of time - 1991 and 2001 - to trace the decline in the level of deprivation. It indicates that between 1991 and 2001 the deprivation levels were brought down across all the districts. Importantly, the rate of decline during 1991-2001 in the level of deprivation was higher in those districts where levels of deprivation were relatively higher

Table 2.4 : Human Poverty Index (HPI) across Districts of Andhra Pradesh

Sno	District	HPI			Rank		
		1991	2001	% Change	1991	2001	Change
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	Srikakulam	0.729	0.566	22.4	22	21	5
2	Vizianagaram	0.766	0.597	22.0	23	23	6
3	Visakhapatnam	0.620	0.504	18.7	15	17	18
4	East Godavari	0.587	0.465	20.8	9	9	12
5	West Godavari	0.548	0.449	18.2	4	5	19
6	Krishna	0.518	0.399	22.9	3	3	4
7	Guntur	0.561	0.428	23.7	5	4	2
8	Prakasam	0.630	0.494	21.5	17	13	8
9	Nellore	0.592	0.466	22.1	10	10	10
10	Chittoor	0.570	0.461	19.1	6	8	16
11	Kadapa	0.575	0.451	21.6	7	6	7
12	Anantapur	0.636	0.515	19.1	18	20	17
13	Kurnool	0.648	0.494	23.7	19	14	3
14	Mahabubnagar	0.712	0.592	16.9	21	22	22
15	Rangareddy	0.494	0.369	25.3	2	2	1
16	Hyderabad	0.233	0.213	8.3	1	1	23
17	Medak	0.620	0.498	19.7	16	15	15
18	Nizamabad	0.592	0.470	20.6	11	11	13
19	Adilabad	0.650	0.514	20.9	20	19	11
20	Karimnagar	0.575	0.452	21.4	8	7	9
21	Warangal	0.615	0.492	20.0	13	12	14
22	Khammam	0.604	0.500	17.2	12	16	20
23	Nalgonda	0.619	0.513	17.1	14	18	21
	Andhra Pradesh	*0.583*	*0.469*	*19.5*			
	CV	17.0	16.5	16.9			

Note : CV – Coefficient of Variation.
Source : Computed, see Technical note for details.

in 1991. But Mahabubnagar was an exception and this was one backward district with the lowest rate of change during the period.

However, the relative position of many districts did not change. The three most backward districts and relatively the most deprived ones were Vizianagaram, Srikakulam and Mahabubnagar. Hyderabad, Ranga reddy, Krishna and Guntur were districts that were the least deprived. The value of coefficient of variation (CV) indicates that there was a slight reduction in regional variation across districts in terms of deprivation during 1991-2001.

2.4 Gender Development (GDI) and Empowerment Measure Index (GEMI)

The gender-related development index (GDI) is the third important index in the series used by the UNDP. It measures achievements in the same dimension and uses the same variables as the HDI does, but takes into account the inequality in achievement between women and men. The greater the gender disparity in basic human development, the lower is the GDI of a region when compared with its HDI.

The UNDP also introduced another indicator i.e. Gender Empowerment Measure (GEM) which indicates whether women are able to participate actively in economic and political life. It measures gender inequality in key areas of economic and political participation and decision-making. The GEM, in theory, focuses on women's opportunities in economic and political arenas and in this it differs from the GDI. However, for this report the GEM index is constructed using three additional indicators to those of GDI. These three additional indicators are: percentage of women representatives elected in local body elections, rate of violence against women and sex ratio of children (CSR).

For the APHDR, the GDI is constructed for two points of time i.e. 1991 and 2001, but the GEMI is limited to one point of time (i.e. 2001) because of data constraints.

An analysis of gender related indices, especially GDI, shows that gender adjusted human development improved across districts during 1991-2001. However, the rate of change in GDI varied across districts during the period. Though a backward district like Mahabubnagar experienced a relatively better rate of change during the period, its relative position remained as it was. In three Rayalaseema districts (Kurnool, Kadapa and Anantapur) the rate of change was the lowest and hence their relative positions were worse in 2001 when compared to 1991. The experience in GDI across districts is quite different when compared to HDI in which the most backward districts showed greater improvement. More-over, unlike HDI, regional deparities remained almost same between 1991 and 2001 as shown by the stagnant coefficient variation (see Table 2.4).

Table 2.5: Gender Development Index (GDI) and Gender Empowerment Measure Index (GEMI), Andhra Pradesh

Sno	District	Gender Development Index (GDI)						GEMI	
		Index Value		%	Rank			Index	Rank
		1991	2001	Change	1991	2001	Change	2001	2001
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1	Srikakulam	0.478	0.526	10.0	21	21	14	0.608	14
2	Vizianagaram	0.465	0.518	11.4	22	22	11	0.603	18
3	Visakhapatnam	0.513	0.643	25.3	20	10	1	0.609	13
4	East Godavari	0.569	0.633	11.2	9	12	12	0.655	2
5	West Godavari	0.601	0.675	12.3	5	3	7	0.651	3
6	Krishna	0.608	0.657	8.1	2	5	18	0.659	1
7	Guntur	0.602	0.656	9.0	4	6	17	0.646	5
8	Prakasam	0.555	0.623	12.3	12	13	8	0.637	8
9	Nellore	0.595	0.633	6.4	6	11	21	0.625	10
10	Chittoor	0.577	0.643	11.4	8	9	10	0.648	4
11	Kadapa	0.561	0.588	4.8	11	15	22	0.618	11
12	Anantapur	0.522	0.559	7.1	18	19	19	0.604	17
13	Kurnool	0.517	0.540	4.4	19	20	23	0.590	20
14	Mahabubnagar	0.427	0.493	15.5	23	23	3	0.546	23
15	Rangareddy	0.615	0.678	10.2	1	2	13	0.641	7
16	Hyderabad	0.606	0.692	14.2	3	1	5	0.606	16
17	Medak	0.562	0.648	15.3	10	8	4	0.645	6
18	Nizamabad	0.524	0.594	13.4	16	14	6	0.616	12
19	Adilabad	0.526	0.563	7.0	15	18	20	0.597	19
20	Karimnagar	0.581	0.648	11.5	7	7	9	0.607	15
21	Warangal	0.528	0.580	9.8	14	16	15	0.584	22
22	Khammam	0.548	0.665	21.4	13	4	2	0.631	9
23	Nalgonda	0.523	0.571	9.2	17	17	16	0.585	21
	Andhra Pradesh	0.553	0.620	12.1				0.618	
	CV	9.015	9.33	41.15					

Note : CV – Coefficient of Variation.
Source : Computed, see Technical note for details.

In terms of gender empowerment measure index[9] (GEMI), the district with the best record was Krishna, followed by West and East Godavari Chittoor and Guntur. Many of these districts are located in South Coastal Andhra

[9] This index indicates that the relative disadvantage for women is lower when the value of index is higher and vice versa. Women, in general, are disadvantaged when compared to men so that one can compare the relative level of disadvantage for women across districts.

region. The GEM index indicates that women living in these districts are relatively better in terms of empowerment. Mahabub-nagar followed by Warangal, Nalgonda, Kurnool and Adilabad were the districts which were relatively more backward in terms of GEM. Incidentally, many of these districts are located in Telangana region.

It is worth noting that Hyderabad district which had the best values in HDI, HPI and GDI was ranked only 16th among 23 districts in GEMI, indicating that it is one of the districts where women are at greater disadvantage. The disadvantage for women in Hyderabad district is influenced by the high violence rate against women and low child sex ratio. This indicates that though the process of urbanization has a positive impact on overall human development, it has its own disadvantages in terms of the well-being of women.

2.5. Conclusion

Two major conclusions can be drawn from the analysis in this chapter. One is that there has been significant improvement in human development of Andhra Pradesh. But the relative performance of the state remained stagnant as shown by its ranking in human development across states. Second, there seems to be some convergence across districts in human development in Andhra Pradesh, indicating that the more backward districts are catching up with the developed districts. On the other hand, regional disparities have not changed much for human poverty index and gender development index.

CHAPTER III

3 Social Movements and Human Development in Andhra Pradesh

Social movements force the state policy to address the deprived sections and regions. The state of Andhra Pradesh has a distinct place in the history of social movements in India. These movements have expanded social and political spaces of the women, dalits and tribals in the state and contributed to the improvement in human development.

Political fragmentation and linguistic regional insulation; hierarchical social division and institutionalized inequality; cultural–ethnic diversity and social tolerance and the primacy of the group over individual were the basic characteristics of traditional India (Singh, 1973). These multiple dimensions had given rise to and shaped the nature and type of social movements. The Nationalist ideology subsumed the divergent social movements encompassing into Indian National liberation movement. Nevertheless the Nationalist spirit withered away very soon continuing with the process, of denial of access to productive resources, social discrimination, and patriarchal values into the post-independent India. Social movements continued, revived, and emerged centering around the issues of caste, class, region and language. Andhra Pradesh was not an exception to this phenomenon.

The positive discrimination policy vigorously pursued by the state in post-Independence India is a clear indication of the sensitivity of the state towards movements by Scheduled castes and their co-option into the system. However the benefits of such affirmative action have been cornered by a few groups leaving the marginalized demanding for reservation within reservations. In contrast to the plains areas, the concentration of resources in tribal areas has attracted mainstream communities resulting in the alienation of these resources. Tribal movements have always been against 'outside' forces. The uniformity and continuity in the modes of appropriation of resources

across the country by these forces was the basis for tribal movements. Peasant movements have occurred historically in response to the many failures of policy resulting in a non-egalitarian agrarian structure, ineffectiveness in making cultivation viable and inadequacy in addressing risks due to natural calamities. Women's movements continue to occur despite the series of positive state policies in legal, economic and social realms due to the entrenched patriarchal value system. Many sub-national movements too emerged for the fear of exploitation by dominant regions and linguistic groups within independent India, leading to the reorganization of states on linguistic basis in 1956 (Oommen, 1990). The linguistic basis for state formation has not served as a binding factor as visualized because of unevenness in resource development, cultural identities and political power. The struggle for civil, political and economic rights within the constitutional framework and negotiating with the state for the restoration of rights through the judiciary is another approach of social movements to address the concerns of the people, especially of the vulnerable sections.

In this context, this chapter is intended to trace the history of social movements in Andhra Pradesh and their impact on the human development in the state.

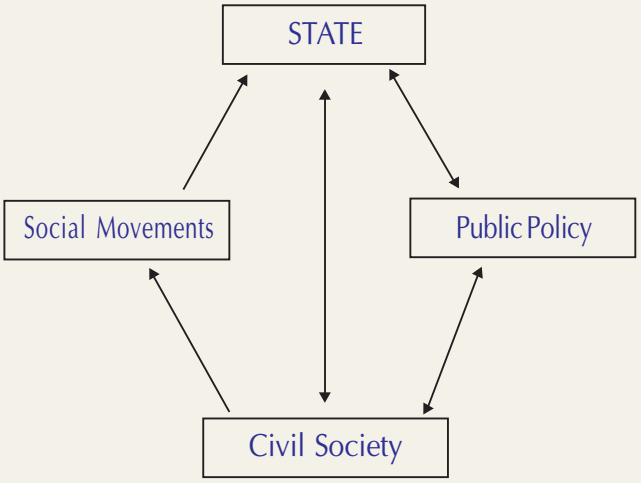
3.1 Social Movements, Public Policy and Human Development

Notwithstanding the different typologies of movements in the literature we have classified social movements into women's movements, dalit movements, tribal movements, agrarian and farmers' movements, regional identity movements, and human rights movements on the basis of the socio-economic characteristics of the participants and the issues involved[1]. All these movements are aimed at acquiring due spaces for different sections of populations and regions, which have been denied the same historically in economy, society, and polity in the development process.

[1] Social movements are institutionalized collective action and they force the state to formulate appropriate policies for deprived sections and regions. Social movements addressed to civil society and state enrich the transformation process towards more inclusive development. The nature of social movements has been characterized with respect to two parameters, viz., structure and process (For detailed discussion see Rao 1978; Guha 1983a; 1983b; Chatterjee 1983, 1985; Hardiman 1987).

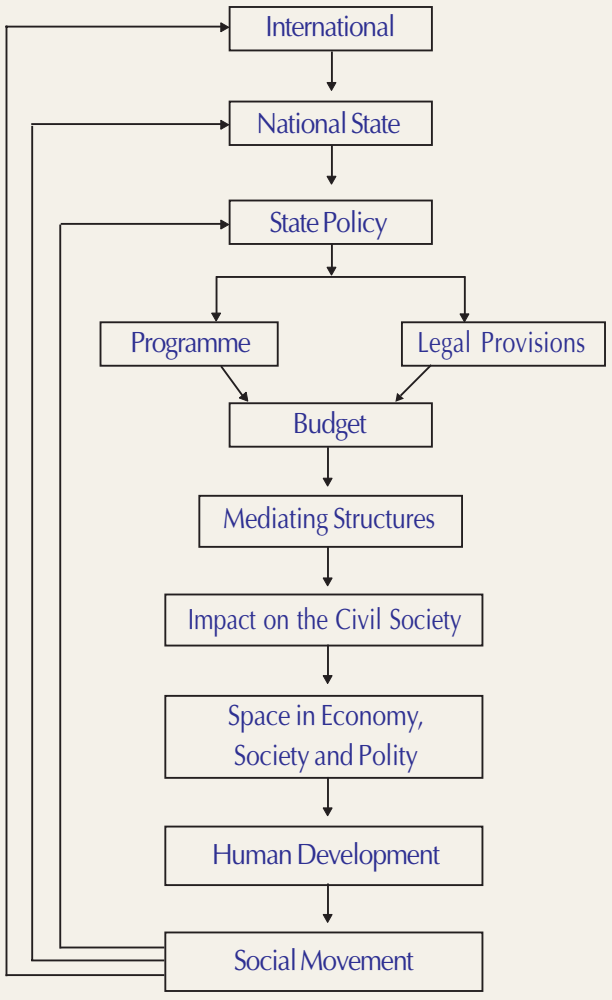
These movements attempt to negotiate with the state, market and civil society, and the root cause of the denial of due spaces for marginalized peoples and regions in the development process. The outcomes of a movement could be seen in terms of social, political and economic change, sometimes structural and also non-structural. However, the state has the power to formulate new public policies or to modify the existing public policies within the constitutional framework in response to the demands of different social movements. Thus social movements through the state and actions initiated by the state on its own, irrespective of any social movements, can determine public policy (see Figure 3.1). But, the issue in question is why some movements continue to recur despite the response

Figure 3.1: Social Movements and Public Policy



of the state. This may be due to inadequacies and/or limitations in policy goals and in programmes formulated to implement the policy goals, lack of legal back-up, inadequate budget provisions, ineffective institutional arrangements and inadequate or even negative impact on the targeted social groups and regions. These result ultimately in the failure of policies to remove discrimination and to ensure due spaces in the economy, society and polity to vulnerable groups and regions so that they are ensured of access to decent earnings, education and health, the three main components of human development. Hence, the emergence or recurrence of social movements can be explained in terms of the failure of the state at different levels of the policy cycle (See Figure 3.2).

Figure 3.2: Social Movements and Public Policy Cycle



3.2 Space created by Social Movements in Andhra Pradesh

The state of Andhra Pradesh has a distinct place in the history of social movements in India. Andhra Pradesh was almost a laboratory for international institutions for experimenting with economic reforms and, according to political scientists, one of the objectives was also to capture the response to such reforms from varied social groups and those involved in social movements down the line ranging from the extreme left to autonomous groups. The state has witnessed many social movements involving marginalized and disadvantaged groups and regions. The *dalit* and tribal movements in the state were the first in the entire country in demanding reservation within reservation among the Scheduled Castes (SCs) and Scheduled Tribes (STs). The violation of civil rights ensured by the constitution especially in Andhra Pradesh where the presence of radical left parties resulted in frequent infringement of civil rights resulted in the civil rights movement. The recent resurgence of the movement for land indicates the renewed demand for the distribution of land to the landless. The long survival of the movement for a separate Telangana is an indicator of the many regional identity movements in the country.

Andhra Pradesh is the only state with a vibrant women's self help group movement. The presence of a strong women's movement probably provided a base for this. Besides having these distinct features, the nature and impact of the social movements may vary across the three regions of Andhra Pradesh. Given the policies of the Government of India and similar policies of different governments in Andhra Pradesh to improve the socio-economic status of women, dalits, tribals and backward regions, these movements should ideally have made a greater difference to their status in the state as compared to the rest of India. As a result, human development levels should be better for these sections of civil society and regional inequalities should be less in the state.

Against this backdrop, this chapter addresses two issues: one, the evolution of different social movements over time and to what extent they have expanded the space for women, dalits, tribals and all regions in the economy, society and polity in Andhra Pradesh. Second, how far the social movements and concomitant expansion of the spaces have resulted in higher level of human development for different social groups and regions in Andhra Pradesh?

A historical analysis of social movements is presented by reviewing the relevant literature. Secondary data has been utilized to trace the impact of these movements on the spaces relating to economy, society and polity. Human development dimensions viz., poverty, education and health have been analysed with the help of secondary data for various social groups (women, *dalits*, tribals) and also across different regions.

3.2.a Women's Movements

During the 19th century there was a reform movement in Coastal Andhra against child marriages, and for widow remarriage. This first wave of the women's movement has been seen mostly as a social reform movement led by Indian men. Later women took the lead and challenged the gender stereotype by actively participating in the freedom struggle. The issue of social reform was raised in relation to upper caste and class, as it was women from this section of society who faced the problem of social isolation in the name of tradition and seclusion.

Later, the women's question essentially focused on education and women were allowed to participate in the Nationalist movement to the extent of production of *khadi* and educating the illiterate[2]. Women's associations aimed at social and legal reforms were formed with no exclusive demands on the part of women and they merely followed male leaders. Notwithstanding these shortcomings, scholars have characterized the social reform movement at that time as a questioning of patriarchy (Sonalkar, 1983). On the other hand, while studies on women in the Telangana Peasant Movement (1948-51) acknowledged women's political consciousness, they underlined the point that the question of identity of women still had not taken centre stage *(Stree Shakti Sanghatana,* 1989).

In British Andhra issues affecting women of the dominant castes came on the reform agenda along with class issues, but in Hyderabad state the fight against the Nizam's rule and *Zamindars* and *Jagirdars* overshadowed the issues of seclusion of women and associated problems.

The transition of the economy in rural areas from semi-feudal to capitalist relations from the 1960s has created a need for the poor in general and rural women belonging to landless agricultural labour and poor peasant households in particular to participate in movements. During the 1970s the left parties organized agricultural labour, peasants and women on class lines. Higher wages for agricultural labour, access to land, and protection against famines were the issues focused upon. In all these struggles (from the 1960s to 1975) there was no 'women's movement' as such and women took up class issues rather than addressing issues of subordination of women.

The 1970s and 1980s witnessed increased violence on women. It was only in the mid-1970s that the left parties reactivated their women's fronts. In the pre-emergency period (early 1970s) the Progressive Organisation for Women (POW) emerged and brought to the fore problems and issues of middle class women. This attempted mass mobilization of women on a broad Marxist framework, particularly from the socialist feminist perspective. The debate centered on the rights of women as individuals. The slogan of 'personal is political' emerged, in which private family life was also exposed. The movement[3] organized middle class women on social and cultural issues like dowry, alcoholism, relief from the double burden of housework and outside work and economic issues like equal pay and the right to work.

The mid-1970s can be seen as a period of transition when Marxist ideological underpinning of movements was lost in social identities. This was also evident in the women's movement which had been led by the left parties till the beginning of the 1980s, followed by organization through autonomous women's groups (AWG). These groups claimed to focus more sharply on gender and feminist issues than the groups affiliated with the left parties and challenged the theory and practice of socialist politics in India[4]. It was increasingly realized that women's movements needed to be organized from a feminist perspective with autonomy of organization, against patriarchy and for political action[5]. The strategy changed later to the coordination of women's wings of various parties and autonomous women's groups to tackle issues of common concern for all women[6]. It worked as an effective pressure group for

[2] Women's associations like the Indian Women's Association (1917), National Council for Indian Women (1925) and All-India Women's Conference (1927) were formed.

[3] The Progressive Organisation for Women (POW) lacked the backing of the working class and was mostly backed by students, teachers and elite sections. The POW is led by a non-party organization.

[4] The extreme left parties were more sensitive than the Left parties to issues of caste and gender oppression although they too worked within the party rather than in separate women's organizations in the early 1970s.

[5] In the case of the rape of Rameeza Bee in 1978 the left parties warned the *Stree Shakti Sanghatana* group not to divide working class women on gender lines.

[6] From the mid-1990s the strategy of women's organizations shifted to a 'Joint Action Committee' as an issue-based expression of solidarity, having their individual identities.

institutionalizing the women's movement. The contribution of AWG has been immense for the women's movement by bringing private concerns into the public sphere.[7]

The anti-arrack agitation during the early 1990s by women, a result of the literacy movement 'Akshara Jyothi' assisted by the state and CPI (M) exposed the entrenched evils of a social system permeated with illiteracy, poverty and alcoholism. The agitation by the newly literate rural women articulated their determination for survival, for dignity of labour and for education of their children. The agitation which was also backed by the radical left was repressed by the police who formed a nexus with the bureaucracy and arrack contractors. However, as a result of the deeply rooted problem of alcoholism and its political dynamics the agitation could not be sustained for long. It is not enough if women agitate against an immediate cause – arrack; it is much more important for them to see that their misery is perpetrated by the social system which needs to be transformed simultaneously (Reddy and Patnaik 1993). Issues of such nature need a broad-based movement though sporadic agitations against arrack by women still continue. The women's movement in the state has created a political space for itself, and generated political consciousness and an understanding of political processes among women.

By the nineties the state had effectively taken over the women's movement by mobilizing them around thrift issues. In the context of globalisation, the state treats women as a homogenous group to address any action or programme for women. The creation of women's self-help groups on a mass scale seems to nurture depoliticized collective action that is not threatening the power structure and political order (Batliwala, 2007). On the other hand there is a shift within the women's movement from the 'one women's movement' of the late 1970s to 'several women's movements' from various perspectives of regional, local, caste, ethnic and minority specific issues.

The status of women in Andhra Pradesh in comparison to the all-India situation shows higher female workforce participation rate, less gender disparity in workforce participation rate, lower female unemployment rate and higher female share in wage employment in the non-agricultural sector. This reflects the greater extent of female participation in the economy of Andhra Pradesh, given the fact that there had been no public policy regarding entitlement of land to women until recently. The participation of women in contesting in 14th Lok Sabha elections, and Panchayat elections in 2005 is higher in Andhra Pradesh compared to all-India. These factors clearly indicate the relatively larger space in power structure occupied by women in Andhra Pradesh, compared to the all-India level.

The higher participation of women in household decisions and relatively lower incidence of women experiencing violence caused by spouses (NFHS III) indicates that women in AP are able to exercise greater degree of independence in comparison to all-India. The higher participation of women in wage and self-employment programmes implemented by the state government highlights the fact that women in AP are more connected to the state than at the all-India level (GOI, 2006). However, AP occupies the first and the second place in regard to the incidence and rate of total cognizable crimes committed against women among all the states of India. This clearly indicates that the expanded private and public space for women had resulted in questioning patriarchal values, leading to enhanced crime against women in the state compared to All-India. Ultimately, it can be concluded that women's movements in AP have resulted in more space for women in the economy, society, polity and also within the household in the state compared to all-India.

[7] The questioning of political party workers about sexist attitudes or harassment of women within the household and the fight for property rights of women have brought about great change in political parties.

3.2.b Dalit Movements

Dalit struggles began in British Andhra and Hyderabad[8] states from 1906. The dalit liberation movement got its impetus with the dawn of democratic institutions in India during British rule. This movement[9] had two objectives: rejection of the Hindu social order and fight to reconstruct self-identity. The dalit movements were mainly anti-Brahmin aiming at a social order based on rationalism and humanism. Dalit movements had a different ideology and objectives when compared to the other anti-Brahmin movements[10]. The dalits fought for structural change in the caste system unlike the social/caste reform movements among upper castes which were essentially non-combative and meant to effect minimal changes. The dalit movement sought to challenge the established non-egalitarian social order, the value system and the patterns of dominance within a rigid caste order. By the 1940s the Congress and the Communist parties attempted to co-opt the dalit movement, the Congress through the Harijan ideology.

Movements started from the 1900s onwards in the Telugu speaking areas of Hyderabad state. The Library Movement[11] in 1901 and the Andhra Jana Sangham in 1922 strived for the protection of Telugu language. Untouchability was used as a plank for conversions both by Islam and Hinduism on the plea of equality which proved to be a myth. The process of religious conversion into Islam[12] and re-conversion into Hinduism by the Arya Samaj brought enlightenment among the dalits that the root of their exploitation, oppression and discrimination was grounded in the feudal system. The Library movement which gained momentum between 1920 and 1930 brought this awareness. The Andhra Jana Sangham later became the Andhra Maha Sabha in 1930[13]. These sporadic and isolated movements began to take on political overtones after the 1930s. By the 1940s political parties had become dominant, subsuming the social issues. The Communists took the lead in organizing movements in Hyderabad state by 1944.

The reformist movement in British Andhra was a result of cross-cultural interaction. On the other hand, in Hyderabad, the struggle started as a social reform movement against the practice of untouchability and bonded labour system (*vetti*) and was extended to fight against the Jagirdari system and the autocratic rule of the Nizam. The movements in the first half of the 20th century in Hyderabad state had, in fact, articulated two issues, one for representative government and the second, for social and economic equality.

By the 1970s, the class movements had turned into caste struggles in the emerging capitalistic mode of production in agriculture in coastal areas. Capitalist agriculture developed in coastal Andhra after the green revolution. The tenants and small marginal farmers (mostly dalits) could achieve upward economic mobility but were still not integrated socially. The general understanding that class integration would happen with agricultural development was realised, but this also led to contradictions between different social groups which then resulted in atrocities against the dalits once these castes began to assert their social identity. The Karamchedu carnage (July 1985) is an incident of an extreme form of violence and atrocity on dalits in the history of Andhra Pradesh[14]. When the Madigas (the lowest caste among SCs) asserted themselves and questioned the hegemony of the Kammas, the Kammas attacked the Madigas brutally[15]. This was

[8] Bhagya Reddy Varma (1888-1939) was the key person behind the Dalit movements in Hyderabad. He was the founder of Jagan Mithra Mandali. 'Harikatha kalakashepams' were used in preaching the ideology.

[9] To understand the sequencing of events and the magnitude and intensity of dalit movements at various times is a difficult task because dalit literature is lacking historical and written documentation, leaving scope for ambiguity. Dalits had always been a subject of interest for missionaries, social historians and social anthropologists (Chinna Rao, 2007).

[10] The 'Manya Sangam' was founded in 1913 and its members were mainly Malas. 'Aadi' ideology became very popular during this period. Some Malas and Madigas who did not like to be called by their caste names, started calling themselves 'Aadi-Andhras' - the original natives of Andhra.

[11] The Krishna Devaraya Grandhalayam was established in 1901 in Hyderabad and the Raja Raja Narendra Grandhlayam in 1904 in Warangal.

[12] The movement for conversion into Islam was known as '*Tableeg*'.

[13] The Andhra Mahasabha was split in 1941.

[14] Karamchedu is a village in Prakasham district. The Kammas with increased economic power found several means like organizing village courts to subjugate the dalits and punish them for small mistakes, an indication of their powerful socio-economic status.

[15] The incident occurred when Kamma landlords were offended by a dalit woman, and the Kammas organised a rampage and butchered Madigas. This incident created much anger among the dalits in the state.

followed by several cold-blooded incidents in Neerukonda, Chunduru, Timmasamudram, Chalkurthi, and Vempenta.

There is no denial of caste oppression in Telangana but the dalits had no opportunity to gain economic mobility. One of the dominant reasons could be non emergence of capitalist relations in agriculture due to green revolution. The presence of the radical left movement in Telangana has made the difference in that there have been no mass atrocities against dalits. At the same time the weakening of the Communist party in Coastal Andhra might have been a factor that contributed to the attack on dalits.

There is also a long history of conflicts and discrimination within the dalit groups (Mahars and Mangs in Maharashtra, Malas and Madigas in Andhra Pradesh) themselves in one form or the other since times immemorial. This conflict has intensified in the recent past and has been manifested in identity movements by the Madigas and their allies. The Karamchedu incident catalyzed the dalit movement in Andhra Pradesh and the conflict between the Malas and Madigas subsided for a short period (Ajay, 2007). The *Madiga Hakkula Parirakshana* Committee organized under '*Madiga Dandora*' demanded further classification of Scheduled castes and reservation according to the relative backwardness of each group.

The impact of the space created by the Dalit movement is mixed. The proportion of SC households possessing land in AP is less than all-India. Labour force and work participation rates are higher in AP than all-India for SC households. The proportion of persons unemployed is less and the proportion of households depending on wage labour is higher in AP than all-India. These facts indicate that the SCs are integrated with the economy more through wage employment in the state in comparison to all-India.

AP occupied the 3rd and 4th place among the states in India with regard to crimes committed against SCs in terms of rate of total cognizable crimes and percentage share in the total crimes in India. The economic and social assertion of the dalits could be the underlying cause of increased violence against them. The representation of SCs in the three-tier panchayat power structure is very close to their proportion of population in the state.

3.2.c Tribal Movements

Tribal revolts took place in British Andhra against colonialism as well as indigenous privileged sections[16]. Tribal movements happened because of the inherent contradictions between the state and tribes; between tribal people and moneylenders; and tribal people and non-tribal land owning classes. The British introduced laws in favour of individual rights over land, forest Acts, courts of law, and revenue, forest and excise machinery from the district level to the smallest village. This process dismantled the collective structures and established individual rights over resources. The Rampa revolt of 1802-03 was suppressed by the British inhumanely and was projected as anti-social. The tribal movements were not merely against moneylenders or migrants to tribal areas as often portrayed by European scholars but were against alien rule and were a quest for identity and self-rule (Janardhan Rao, 1997). Legal acts came into existence after every show of resistance by tribals in the country but were implemented inadequately[17].

The movement led by Komaram Bheem during 1938-41 in the agency area of Hyderabad state was for rights over land and forest. The European anthropologist Heimendorff brought forth the problems faced by the *adivasis* of this region to the attention of Nizam government. As a result in 1946 the Gonds, Kolam, and Pardhan adivasi communities gained legal land rights over their lands. In spite of this, the adivasis could not be at peace because of encroachment on their land by non-tribals from neighbouring districts and states like Maharashtra and Madhya Pradesh. Progressive legislation like the Land Transfer Regulation Act (LTRA) 1959 could not stop illegal encroachment on tribal land, which continued with the connivance of political parties and forest bureaucracy and taking advantage of the ignorance and illiteracy of the tribals.

[16] A series of revolts took place in the agency areas of colonial Andhra; in 1802-03 the 'Rampa' or the Rambhupati revolt; between 1839-1962 in the agency areas of Godavari river or the Rampa region; in 1879-1916 the Tammam Dora, Bheem Reddy revolt or also called as the 'Rekapalli revolt'; and, during 1922-24 the Manyam revolt by Alluri Seetarama Raju and Gamu Gantam Dora. In 1938-41 the 'Komaram Bheem' revolt, also called Babejhari- Jodenghat revolt took place in the Agency area of Hyderabad state.

[17] The British India Act 1867; Scheduled District Act 1874; Agency Region Guidelines of 1917; Revenue systems between 1923- 32 were some of them.

The late 1960s was a period of agrarian tensions. 1969-72 witnessed the Srikakulam tribal revolt and the Naxalite movement. The tribal land issue came to be focused upon through the Srikakulam Revolt which arose because of the oppressive social order in which social relations were dominated by local and settler landlords, moneylenders, contractors and corrupt bureaucracy. The movement succeeded in social liberation and was also economically effective. Women participated in small groups, were active and politically conscious. The gains secured by the revolt were four - fold: relief from the power of money lenders; regaining mortgaged lands and waste lands from landlords and government; relief from bonded labour, with a hike in wages; and elimination of restrictions and extractions imposed by the forest officials. As a result of this movement the government brought an amendment to the LTRA in 1970 which is popularly called the 'One of 1970' Act. According to this Act, land in the scheduled area belongs to the tribals[18]. The Srikakulam movement contributed significantly to the struggles that took place in the subsequent decade of eighties, in terms of spirit and message.

The Godavari valley tribal struggles like Adilabad-Indervelli Gond revolt in North Telangana and also in the North Coast agency region took place from 1976 onwards led by the radical left (CPI ML group). The scheduled areas of Telangana region witnessed mobilization of tribes especially in the districts of Adilabad and Khammam. The Gonds of Adilabad were exploited by the landlords and immigrant peasants from the plains. There was militant mobilization of tribals around the issues of land and money-lending by non-tribal trader-cum-money-lenders[19]. At the same time the tribals of Kondamodulu[20] fought a heroic battle in the Papi hills against non-tribal landlords who controlled thousands of acres of tribal land. When the Girijana Sangham formed by the tribes challenged the power of non-tribal landlords, the state machinery did not come to the rescue of tribals but took the side of landlords[21]. Ultimately the Girijana Sangham could forcibly take possession of 2000 -4000 acres. Land restoration activity by the state arising out of the 1970 Act was considerable till 1979. However in East Godavari district, land which has been conferred on non-tribals was the highest and much more than the land restored to tribals in the other tribal areas of the state. The failure of the state in land restoration has motivated tribals to organize themselves under various social movements to get their lands back.

By the mid-1970s the Srikakulam uprising had moved up the Godavari valley into the plains of Telangana[22]. Peasant struggles were organized under the leadership of radical left and '*Rytu coolie sanghams*' (peasant and agricultural labour organisations) struggled against social oppression and feudal practices, for a hike in wages and for land. 'Social boycott' against the landlords was the popular form of struggle (Papi Reddy, 1990).

Land is seen as a livelihood for tribals. The process of transforming land into a commodity and acquiring economic and political power over it has been the single agenda of the ruling class which made possible the entry of non-tribals into tribal areas. Coal mining, paper industries, trade and commerce were the major ventures in the forest areas and organs of the state like the revenue, police, excise, development, and forest departments made inroads into tribal areas. Thus non-tribal encroachment into tribal lands and forest has been the root cause for continuing tribal struggles.

The '*Tudum Debba*[23]' movement from the mid-1990s has been agitating for categorization of tribals according to their relative socio-economic status for the purpose of

[18] Earlier, non-tribals who possessed land in the tribal areas could enter into transactions with non-tribals but the amendment restricts transactions to be entered into only with tribals or the government. Non-tribals have opposed this amendment and pressured the government for its repeal.

[19] In 1981 at Indervelli, the protestors were fired upon, causing the death of 113 Gonds. Several villages in the mandals of Utnoor, Asifabad, Gudhuthnur, Khanapur and Adilabad rose in rebellion.

[20] Kondamodulu (with mostly Hill Reddy and Koyas) is the biggest village of all the 12 *gudem*s (hutments) of Devipatnam mandal in East Godavari district.

[21] The movement was repressed violently, two persons were killed by goondas hired by the landlords.

[22] Particularly in Karimnagar, Nizamabad, Adilabad, Khammam, Nalgonda and Warangal districts.

[23] Meaning drum beat, Tudum is the traditional drum which is used to alert tribals in times of emergency.

reservation within the Scheduled Tribes. The tribals have been further marginalised by recent polices of Government of India (Guha, 2007). Though legislation empowering the tribals like the PESA (Panchayat Extension to Scheduled Areas) and Land Acts (Recognition of Forest Rights) 2006 has been passed, their rights are not conceded. With economic reforms commercialization has entered through trade and industrial activity into tribal areas because of their rich mineral resources. This process is making them lose their rights over land and resources. Besides, World Bank projects like the JFM and CFM have not improved access to resources except for wage benefits. Tribal development programmes have also created class differences among them. All these changes in the lives of tribals in recent times have become issues for struggle (CESS, 2007).

The proportion of landless households among tribals in the state is double to that of the all-India figure. The proportion of households with less than one hectare is higher in the state than all-India. The average landholding of STs is lower across all categories of landholding classes in AP compared to all-India. The labour force and work participation rates in the state are higher than for all-India. Further, the proportion of unemployed is low among STs in AP compared to all-India.

Crimes against STs in APare relatively less pronounced compared to all-India. Andhra Pradesh occupied 10th and 4th position among all the states of India on the rate of total cognizable crimes and percentage share of total crimes on tribals at all-India. The representation of STs in the three-tier panchayati institutions in AP is close to their proportion in population.

3.2.d Peasant Movements

Historically, socio-political mobilization of the peasantry and agricultural labour shaped agrarian relations in the colonial and post-colonial period. Land revenue, the main reason for permanent settlement in land tenures resulted in land becoming private property. In colonial Andhra and Rayalaseema, both *Zamindari* and *ryotwari* systems of land tenures came into existence as a result of British policies. In the ryotwari areas too vast landed properties were owned by big *pattadars* who belonged to non-Brahmin upper castes[24]. Unfavorable terms of tenancy and exorbitant rents were common because of the limited supply of and high demand for land (Satyanarayana, 2007). Besides, the credit needs of the peasantry were mostly met by the upper caste moneylenders. The institutions meant for the collection of revenue catered to the needs of the zamindars and not of the peasants. Thus the basic contradictions between landlords and the peasantry provided the objective conditions for peasant movements.

The Coastal Andhra *Rytu Sangham* (Peasants Association) formed in 1928[25] led the peasant movement in the estates of Andhra. In 1931-32 the Sangham spearheaded the movement against the resettlement rates fixed by the British government[26]. In 1934 attempts were made to form a union of agricultural labour in Nellore district around the issue of wages. The union joined the anti-Zamindari struggle during 1942-49[27]. Besides, the Rytu Sangham actively participated in the nationalist struggle. Thus the integration of the peasantry into the freedom struggle not only widened the social base of the Indian National Congress, but also led to the intensification of anti-feudal and anti-colonial struggles. The Kisan Sabha in British Andhra had to wage a two-fold struggle (1946) against the atrocities of Zamindars and also against Madras presidency, which would not concede the demand for the abolition of Zamindari estates[28].

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[24] Even village offices were controlled by these castes which enabled them to control economic resources and exercise power and domination over the dependent peasantry. The artisan and service castes became tenants by renting lands from the landlords belonging to the upper castes and worked as agricultural labour as well. Malas and Madigas also depended on agriculture for work as agricultural labour and also had to perform the 'unclean' and 'polluting' services. Thus landlords were the sole suppliers of the basic commodity in the rural society, land. (Satyanarayana, 2007).

[25] Prior to this Rytu sanghams were formed in 1923 in Guntur, Krishna and West Godavari.'

[26] The Andhra Peasants' Association (Rytu Sangham) organized a long march of the peasants from the eastern tip of Andhra to Madras, highlighting the demand for abolition of zamindari and reduction of land tax.

[27] The two major reasons for a union of agricultural labour were: a) the peasant movement was dominated by cultivators and failed to attract agricultural labour; and b) immediately after the transfer of power to tenants, agricultural labourers went on strike demanding higher wages and end of social repression (Singh, 1980; Alexander, 1982).

[28] The then Chief Minister of Madras state in 1946 had gone back on the election promise of abolition of Zamindari system.

The Rytu Sangham played an important role in Telangana which had its roots in the local agrarian structure. Between 1936 and 1944 there were many sporadic protests against the Jagirdars and Deshmukhs. The Communist Party had taken over leadership of the armed struggle towards the end of the first phase of the Telangana Armed Struggle by 1946. The Telangana Armed Struggle was a movement against feudal practices of extra-economic coercion (*vetti*) and highly iniquitous agrarian relations which developed into an armed struggle aiming at state power, with a mass base. It was during this struggle that surplus land distribution first took place in India. The Communist resistance penetrated the Telangana tribal regions also. Thus the Telangana Armed Struggle was an expression of the struggle for land, livelihood and liberation.

The Madras Estates (Abolition and Conversion into Ryotwari) Act 1948[29] was the first legislation after Independence that removed intermediaries and brought all land in the Andhra area under Ryotwari. In the Telangana region, with the Abolition of Jagirdari Act of 1949, the Jagirdari tenure system ended. The Hyderabad Tenancy and Agricultural Lands Act was passed in 1950 to effect tenancy reform and resulted in the conferment of protection to nearly 6 lakh tenants who held over 75 lakh acres of land, constituting 33 per cent of the total cultivated area. The Andhra Pradesh (Andhra Area) Tenancy Act 1956 was intended to ensure that tenants were not evicted from their holdings except through the courts. The peasant movements that had come up in British Andhra and Telangana could not establish any organic links between themselves, as the latter were not much connected to the nationalist struggle, and lacked strong leadership. These variations were carried into the later periods.

The land reform policy of the Andhra Pradesh government in the early 1960s, especially the imposition of land ceiling, came about against the backdrop of militant peasant struggles waged during late 1940s and early 1950s. The land ceiling legislation in 1961 was a miserable failure[30]. However the role of peasant movements was important in ensuring effective implementation of the state policy towards the viability of small farms (CHH Rao, 1984). The advent of green revolution in the mid-sixties shifted the focus from structural factors of land holding to optimizing production through modern technology. The AP Land Reforms (Ceiling on Agricultural Holdings) Act passed in 1973 was politically unavoidable for the Congress government (Suri and Raghavulu, 1996)[31]. The land distributed to the scheduled castes and scheduled tribes till 2004 from the surplus land in the possession of the government accounts for just about 4 percent of the net sown area (Govt. of AP, 2006). The first phase of the green revolution encouraged large farmers and absentee landlords to undertake self-cultivation by throwing out their tenants because of technological gains (Parthasarathy, 1970). In the second phase of the green revolution, mechanization displaced labour. Hence the economic conditions of agricultural labour and tenants deteriorated. At the same time, the Tenancy Act (Andhra Area) in 1956 and its amendment in 1976 could not provide any protection to the tenants. The sixties and seventies witnessed a rapid decline in the number of tenants and area under them as a result of dispossession. Class polarization took place in the coastal region where objective conditions were favourable for the combined struggle of agricultural labour and tenants. On the other hand such class polarisation was absent in the Telangana region as green revolution had largely bypassed it. In the early seventies (1973-74) agitations for distribution of banjar lands, rights for small and marginal peasants on temple land and distribution of forest land took place as expressions of dissent against the tardy implementation of land reforms by the state.

Thus, till the 1970s, the main focus of agrarian movements was the structure of land ownership, rent, bonded labour and high interest rates charged by the moneylenders-cum-landlords. In the decade of eighties

[29] A series of events like state-wide marches, agitations, and a demonstration outside the state Assembly culminated in the introduction of the Zamindari Abolition bill in the Madras Assembly in November 1947 (for details see KC Suri and CV Raghavulu, 1996).

[30] The Act allowed a family to retain 180 to 360 acres of wet land or 1080 to 2160 acres of dry land. Six categories of land were exempted from the purview of the Act. Payment of compensation for surplus land, large scale benami transactions and very limited surplus land were some results of this Act.

[31] The loss of power by the Congress at the centre, dependence on left parties and need to counter powerful state leaders having rural base led the Congress government to embark on this Act.

the agency of agrarian issues had passed from 'peasants' to 'farmers'. The central focus of rural agitation had shifted from land to prices and the agitation was on non-party lines[32]. The left parties also organized agitations in 1980-81 for remunerative prices, abolition of accumulated debt and for power rates charged according to horsepower[33]. The agrarian movements in the earlier decades and the farmers' movements in the later period resulted in legislation favouring equity in land, the major resource, which has impacted on the livelihoods of a large number of tenants and landless labour.

During the 1990s economic reforms were implemented in Andhra Pradesh. Social movements led by political parties or otherwise have taken a different form, and became more sporadic, fractured and fragmented. Social movements also might have contributed to change in the political regime in the state in 2004. There were agitations against the effects of neo-liberal policies (hike in power and water tariffs) headed by the left parties. The major outcome of the regime change is that agriculture has become important in the development agenda.

Class movements for structural change on issues of land distribution for the poor by the left and radical left parties have continued, but have not been a sustained struggle. The state has also been implementing 'third generation land reforms' giving land to the dalits and also to women under the *Indira Kranthi Patham*. Farmers have been protesting on issues of input and output markets. Non-remunerative prices for agricultural produce, malfunctioning of markets and absence of government regulation are the issues which have resulted in sporadic agitations by farmers. Sometimes these are headed by political parties also. On the other hand, though the negotiations between the state and the extreme left parties failed recently, the state co-opted the agenda of the left parties giving top priority to land distribution and constituted a 'Land Committee'[34] in 2004. The large-scale allotment of land to the private sector by the government around Hyderabad and other towns for development projects, and the sharp rise in the demand for urban land has resulted in dispossession and insecurity in the suburbs of cities. Besides, the anomalies in the implementation process of 'assigned land' distribution have made the established left parties to take on this issue and organize agitations to implement the Land Committee's recommendations. They have started a 'Movement for Land' by occupying the lands.

In the era of liberalisation, privatisation and globalisation (LPG), the state is facilitating the movement of private capital into agriculture and in a way it has also taken over farmers' movements by organizing them into *Rytu Mitra* groups. However the inadequacies in strengthening these institutions raise doubts about their sustainability.

Land for the tenants and landless to improve their livelihoods has been the main agenda of peasant movements. The government of India declared over 73 lakh acres as surplus land at the all-India level. But only 87.40 percent of this land was taken possession of. Of this land, only 68.80 percent was distributed (National Commission for SC and ST, 1993-94). In Andhra Pradesh, 8.18 lakh acres were declared as surplus, of which 6.46 lakh acres (79 percent) has been taken into possession. Of this 6.46 lakh acres 5.82 lakh acres (90 percent) have been distributed. Much of the land distributed is uncultivable, because landlords managed to hand over to the government the least cultivable land, which the law itself permitted; and in many cases even this distribution took place merely on paper. The SCs got only 22 per cent of the total government land distributed. Moreover about one lakh SCs lost ownership during 1961 to 1991 (Government of Andhra Pradesh, 2006). In the case of tribals the reality is that out of the 72,000 cases decided under the LTR till September 30, 2005, about 50 percent of the cases were

[32] The non-party formations adhered to a concept of a unified peasantry, undivided by internal antagonisms, and were thus opposed to differences based on caste, ethnicity, community, and religion (State of the Indian Farmer, Volume 23, 2004).

[33] Earlier the power charges were according to unit price.

[34] The present government constituted a Land Committee in 2004 under the chairmanship of Koneru Ranga Rao, a Minister 'to assess the overall implementation of land distribution programmes of the government and suggest measures for its more effective implementation'. This commission was appointed after the government held 'Peace Talks' with the radical left parties.

decided in favour of non-tribals. Of the 3,21,683 acres of land involved in these cases, 1,62,989 acres (50 percent) were confirmed in favour of non-tribals (Government of Andhra Pradesh, 2006). This indicates the legal loopholes as well as the problems in the implementation of laws.

3.2.e Regional Identity Movements

The movement for a separate Andhra state began in 1903, which culminated in the carving out of Andhra state from Madras Presidency in 1953. The liberation of Hyderabad state took place in 1948. In 1954 the States Reorganisation Commission was set up as a part of national policy to consider the formation of linguistic states. The precursors for the formation of the state of Andhra Pradesh were three important movements - the Telangana peasant armed struggle; the agitation for the separation of Telugu speaking areas from Madras and formation of Vishalandhra with Coastal Andhra and Raylaseema; and, the Mulki (local resident) agitation (1952) in the then Hyderabad state.

The Mulki agitation (1952) was for safeguarding Mulki rules which had been in operation in Hyderabad state since 1919[35]. Between 1948 and 1952 Hyderabad state was under the military and civil administration of the Central Government which attracted many outsiders especially from Madras Presidency in search of employment. The non-local administration facilitated this process which antagonized the local people, especially students, who began to agitate to assert the rights of sons of the soil (Jayashankar, 2004).

The formation of the state of Andhra Pradesh in itself contained seeds of hope as well as discontent[36]. It was subject to certain agreements which would take care of equitable development in social, economic, political and cultural spheres[37]. Subsequent to state formation provisions in the agreements were violated time and again about which Regional Committees and peoples' organizations protested at all levels. This had resulted in Telangana Movement (1968-71) spearheaded by employees and students [38]. Close on the heels of the Jai Telangana movement came the 'Jai Andhra' movement in the coastal region (1972-73). The agitation demanded the removal of the protective provisions for the Telangana region which had to be a part of the state unconditionally or otherwise to concede the demand for a separate state for Andhra. The central government resolved the crisis by abolishing all the safeguards guaranteed through the informal agreement[39]. Subsequently the 'Presidential Order' was passed in 1975 which faced problems in implementation and thus paved the way for the Government Order 610 in 1985 to maintain local reservation. Discontent continued in Telangana where reservation for locals in employment was one important issue which then became an on-going movement for the achievement of statehood for Telangana.

The movement for a separate state of Telangana once again gained momentum from the mid-1990s. Contrary to the earlier phase, some scholars have argued that this phase of movement had a wider social base (CHH Rao, 2007; Kondandaram, 2007). Agrarian distress and irrigation became the major issues in Telangana more so in the context of economic reforms (Galab et al, 2007). The high incidence of farmers' suicides is evidence. The demand for a separate state was being articulated in terms of regional identity in addition to a demand for a fair share in resources. The Telangana Rashtra Samiti, a separate political party, emerged in 2001 to spearhead the movement for a separate state for Telangana through a democratic political process.

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[35] Even before 1919 the Nizam's state had attracted people from outside for employment. The locals agitated against non-locals taking up employment opportunities and as a result the Nizam devised the Mulki (local resident) rules. A person is said to be a local only if he is a local resident for 12 years.

[36] Telangana leaders like Ravi Narayan Reddy, Kaloji Narayan Rao and others supported the formation of Vishalandhra in the hope that Telangana would also be given equal status thereafter. There were apprehensions too which were reflected in the words of Prime Minister Jawaharlal Nehru.

[37] The Gentlemen's Agreement had laid down conditions for the protection of the interests of the region in terms of employment, education, formation of regional development board and political power sharing.

[38] The movement was repressed in which 370 students and others died.

[39] Though there was a Supreme Court ruling that Mulki Rules were constitutional against the earlier ruling of the state High court, the Mulki rules were done away with. The central government subsequently issued Orders conferring rights on the President (central government) to issue orders preventing regional inequalities in Andhra Pradesh.

Regional identity movements from other regions like Rayalaseema have also surfaced[40].

As can be seen in other chapters, regional disparities in the state still persist in spite of the efforts made for regionally balanced development in the planning era. There are some favourable trends in the growth of income (DDP-district domestic product) especially in historically backward districts. There exist at present, significant disparities across districts in the levels of human develpoment despite the reduction in the disparities over time[41]. The historically backward districts continue to lag behind in health and education, though they are improving when compared to the past. Regional disparities are also evident in the agrarian economy of the state. South Coastal Andhra continues to occupy the top position in terms of agricultural output per hectare because of assured sources of irrigation, followed by North Telangana and North Coastal Andhra. Rayalaseema and South Telangana are at the bottom because of insufficient irrigation along with low and erratic rainfall. Due to the predominance of ground water irrigation, the sustainability and quality of growth is questionable in these zones.

3.3 Contribution of Social Movements to Human Development in Andhra Pradesh

Social reform movements questioning patriarchal values in terms of anti-*sati*, widow remarriages and against child marriages in colonial times continued in Independent India. The response of the state has been positive with appropriate legislative action. Women's movements organized within the broad Marxist framework were repressed by the state. But the response to autonomously organized women's movements was in the form of legislative provisions to protect the rights of women and institutions for their development. A series of progressive and liberal legal reforms were introduced during the 1980s[42]. Organizations supporting individual women in distress, women in media groups, cultural forums, research centers, and departments of women's studies in Universities, publishing houses in regional and English languages were some steps in this direction. This also compelled political parties to include programmes for women in election manifestos. At the same time, the sixth and the seventh five year plans included special programmes for women for the first time.

The state of Andhra Pradesh stood ninth among the states of India - the middle position - in regard to gender disparity in literacy in 1991 (Govinda, 2007). As compared to the all-India level, the higher sex ratio, the low total fertility rate, the higher proportion of institutional deliveries, the lower infant mortality rate, lower disparities in male-female infant mortality rates and the lower maternal mortality ratio in Andhra Pradesh indicate that the social neglect of women and girls is less pronounced in Andhra Pradesh[43] and that women in AP are better placed in regard to human development compared to all-India.

Dalit movements were grounded in social discrimination; hence the fight is within civil society. The response of the state was conciliatory for at least two reasons, fulfilling their constitutional obligations to the people and to nurture their political constituency. In fulfillment of these, the state formulated and implemented human development and livelihood promotion programmes from the Third Five year plan onwards. Reservation in education and employment, social protection policies, and creation of exclusive institutions were adopted to institutionalize the process of development among the SCs.

Because of the Srikakulam Tribal revolt, lands in the Scheduled areas were protected under the 1/1970 legislation. Besides, the state promoted institutions like ITDA and GCC to arrest exploitation by traders. The disjunction between the Adivasi acts and the Forest Acts increased especially in the context of economic reforms as the tribals could not exercise their right over resources. Recently 'The Scheduled tribes and Other Traditional Forest Dwellers' (Recognition of Forest Rights) Act, 2006 has

[40] The 'Rayalaseema Samakhya' was formed (1982-83) to spearhead demands for the due share of the region in Krishna river water and reservation in employment.

[41] CHH Rao (2007) "Statehood for Telangana: New Imperatives", *The Hindu*, January8

[42] The 'Protection of Women from Domestic Violence Act (2005)' for the effective protection of rights of women within the family is an outcome of women's movements across the country.

[43] See Women and Men in 2006, Central Statistical Organization, New Delhi.

provided for title deeds to be given for lands in possession of tribals which is a direct outcome of tribal struggles.

The forest based tribes or the *adivasis* face greater threat of displacement and hence threat to livelihoods than the plains tribes. Though the level of human development of STs in AP is better than in all-India, in comparison to the dalits, the adivasis are worse off everywhere in the country (Guha, 2007).

When it comes to the parameters of health and education, the literacy level of rural SCs is a little lower in AP than the all-India level (Census, 2001). But current attendance rates of SCs in educational institutions for different age groups (except 15-19 years) are higher in AP than the all-India level[44]. For rural ST households, literacy is lower in AP compared to all-India in 2001. The enrolment rates in 2004-05 for all the age groups (except 15-19 and 20-24 age groups) are higher in the state than the all-India level.

Both among SCs and STs in Andhra Pradesh, the total fertility rate is lower, the proportion of institutional deliveries is higher and mortality among children under 5 is lower than the all-India average. All these indicate that the status of women and girl children among SCs and STs in AP is better than the situation in all-India. In contrast to urban areas, the incidence of poverty among rural SC and ST households is less in AP than the all-India level.

The response of the state to regional movements has varied over time, swinging between repression and co-option. The state repressed the 1969 movement while at the same time it co-opted the leaders of the movement soon after the assembly elections. The direct outcome of this agitation was setting up of educational institutions[45] and revoking regional boards. There were also attempts to co-opt the more recent movement by striking political alliances and giving positions in the cabinet to party members in the central and state governments. The movement for regional identities has always been viewed from the development perspective and hence the response of the state at all times was in the form of special packages.

However, regional disparities in levels of human development especially in literacy, schooling and health persist at the district level despite some positive trends in economic growth.

3.4 Conclusions and Policy Implications

A visible shift could be seen in social movements from class conflicts to social concerns by the eighties. Organizationally there has been a shift from movements promoted by political parties to those promoted by autonomous groups. From the nineties the state has played a dominant role in co-opting these movements. There is also a shift in the agenda of social movements from the structural to non-structural issues. The expanded space in the social as well as political spheres for women, *dalits*, and tribals in the state due to social movements has also resulted in increased violence against these groups. Access to resources like land is as yet an unfulfilled goal in the agenda to expand economic space for these groups in the state. Regional inequalities continue to affect the state. The pattern of spaces is also reflected in the pattern of human development among the social groups and regions in the state. The state, civil society and peoples' movements need to address these concerns to achieve the MDGs with respect to human development.

[44] See NSSO Report No.516 on "Employment and unemployment situation among social groups in India, 2004-05".

[45] Central University in Hyderabad and Regional Engineering College (REC) which is renamed as National Institute of Technology (NIT) at Warangal were some institutions established in 1970 as an outcome.

CHAPTER IV

4 The Economy of Andhra Pradesh
Growth, Infrastructure, Poverty and Fiscal Performance

There is a turn around in the economic performance of the state in recent years. For sustaining these trends, the state needs to invest in infrastructure and improve quantity and quality of social sector expenditure. The focus should now be to make growth more inclusive to address the issues of poverty and regional disparities.

Macro-economic variables such as the level of the economy (in terms of gross domestic product and per capita income), trends in growth, the impact of growth on the quantity and quality of employment, on inequality and poverty, state policy and the allocation of (budget) resources, all play an important role in human development. Though the causal relationship between economic growth and human development is still being debated, it can be argued that a society with a higher rate of economic growth would be better able to mobilize additional resources to improve the sectors which directly influence and enhance human development. This chapter therefore presents an outline of the economic performance of Andhra Pradesh focusing on economic growth, infrastructure, poverty, inequality, fiscal performance and the budgetary allocations especially for the social sector.

4.1 Economic Growth

Economic growth is supposed to improve the well-being of people by increasing the disposable income and purchasing power of all the people. The trickle down theory of economic development assumes that the benefits of high economic growth in terms of incomes at the macro level would automatically percolate down to individuals. But this ignores the inherent problems of distribution and poverty, which have raised questions as to whether economic growth alone is sufficient for ensuring the well-being of the population. However, while higher economic growth is not a sufficient condition, it is a necessary

condition for improving human development for several reasons, first because it creates greater opportunities for employment and rising incomes, and, more important, because higher growth would generate more resources which may be available for further investments in social development.

4.1.1 'Turn Around' in Economic Growth

India broke out of the trap of a low rate of economic growth, the 'Hindu rate of growth', by the 1980s. If the performance of Andhra Pradesh is compared to all-India and other states, it is seen that GSDPgrowth rates for A.P. also rose beyond the earlier low rates during the last two and half decades. GSDPgrew continuously from 2.11 per cent in the 1960s to 3.03 percent in the 1970s; to 5.21 per cent in the 1980s and to 5.42 per cent in the 1990s (Table 4.1)[1]. It was 5.89 per cent in the first five years of this decade. However, the growth of GSDPin the last ten years (1993-94 to 2003-04) was lower at 5.66 per cent as compared to 5.93 per cent during the decade 1984-85 to 1993-94. The growth rate of GSDP was lower in A.P. than the all-India rate but has been catching up over time. Moreover, there seems to have been a turnaround in the growth of GSDP in A.P. in the last five years. The average annual growth rate was 7.45 per cent during 2001-08 and 8.7 percent during 2004-08 (Table 4.1a). The annual average growth in AP is higher than that of India in 2007-08.

Table 4.1: Trend Rate of Growth in GSDP and Per Capita GSDP: AP and All-India

Year	AP		India	
	GSDP	Per Capita	GDP	Per Capita
1	2	3	4	5
1960-61 to 1970-71	2.11	0.26	3.43	1.23
1970-71 to 1980-81	3.02	0.94	3.38	1.12
1980-81 to 1990-91	5.21	3.04	5.37	3.24
1990-91 to 2000-01	5.42	4.01	5.94	3.98
2000-01 to 2004-05	5.89	4.83	6.08	4.37
1983-84 to 1993-94	5.93	3.85	5.23	3.14
1993-94 to 2003-04	5.66	4.46	5.83	3.98

Note : At constant (1993-94) prices.
Source : New Series (1993-94) GSDP, Directorate of Economics and Statistics (DES), Hyderabad

[1] The GSDP figures used were supplied by the Directorate of Economics and Statistics of Andhra Pradesh, Hyderabad. Whole series of data from 1960 to the latest has been transformed into latest single base year: i.e. 1993-94 prices. While bringing GSDP figures at Constant prices with different base years into a single one, splicing method is used at the disaggregated level (i.e. Splicing is done for each individual sector). All this is done by DES, Hyderbad and supplied the final data.

Table 4.1a: Annual Growth (%) of GSDP

Year	AP	India
1	*2*	*3*
2001-02	4.20	5.81
2002-03	3.26	3.84
2003-04	9.27	8.52
2004-05 (R)	6.96	7.45
2005-06 (P)	8.72	9.40
2006-07 (Q)	8.87	9.62
2007-08 (A)	10.37	8.73
Average of 2004-5 to 2007-8	8.73	8.80
Average of 2001-2 to 2007-8	7.45	7.22

Note : 1. Constant (1999-2000) Prices; 2. Annual Growth is percentage change over previous year; 3. **R**–Revised; **P**-Provisional; **Q**–Quick; **A**–Advanced.
Source : Planning Department, GOAP.

Average per capita GSDP has increased from Rs. 4422 (decadal average) in the 1960s to Rs. 8865 in the 1990s. Recent estimates show that it has further increased to Rs. 12804 during 2001-06 (Table 4.2). Though per capita income in the state has always been lower than the all-India average, the ratio of A.P. to all-India per capita net SDP rose from 95.7 per cent in the triennium 1993-96 to 99.3 per cent in 2002-05. The level of per capita GSDP in Andhra Pradesh is now almost equal to the all-India average (Figure 4.1). Thus, A.P. seems to have caught up with all-India in per capita income in recent years. The

Table 4.2: Decadal Averages of Per Capita GSDP in AP and India

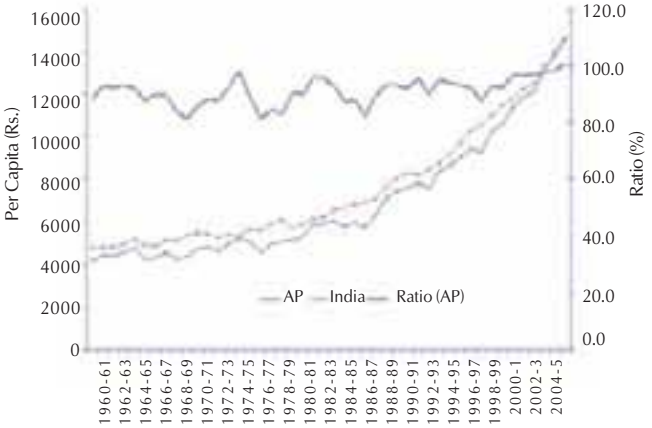
Period	AP	India	Ratio (AP/India)
1	*2*	*3*	*4*
1960s	4422	4965	89.1
1970s	4904	5575	88.0
1980s	6160	6788	90.7
1990s	8865	9587	92.5
2001-06	12804	13058	98.1

Note : Averages of decades in Constant (1993-94) prices.
Source : Computed based on the DES Figures.

growth rate of per capita GSDP has also increased significantly over time from 2.8 percent in the 80s to 3.9 percent in the 90s and to 4.8 per cent during 2000-05 (Table 4.1). In the last five years it has grown at about 5 per cent per annum, which was slightly higher than the all-India rate for the same period. This high growth was partly due to lower population growth in A.P. than all-India.

In comparison with other states, Andhra Pradesh was one of the top performing states in terms of GSDP growth in the 1980s. Only three states viz., Rajasthan, Haryana, and Maharashtra showed higher growth than Andhra Pradesh in the 1980s. However, in the 1990s, A.P. was ranked eighth in terms of GSDP growth. Apart from the above three states, Gujarat, Karnataka, Tamil Nadu and West Bengal had a higher rate of growth than

Figure 4.1: Per Capita GSDP in AP and India and the Ratio of AP in All India

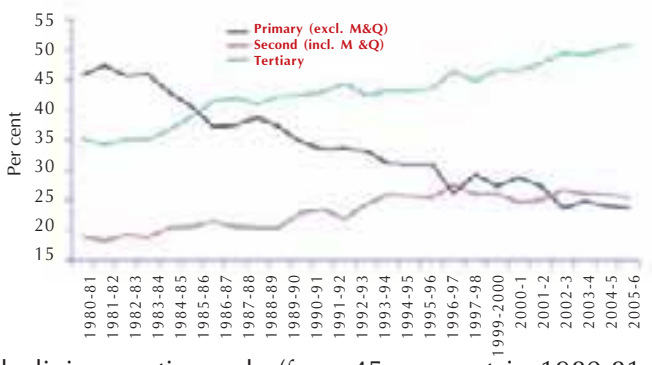


Andhra Pradesh in the 1990s. Similar trends can be seen for the growth of per capita income in the1990s across states. The state's (A.P) rank in per capita GSDP growth was lower in the 1990s as compared to the1980s.

From 1993-94 to 2004-05, the annual growth of GSDP in A.P. was 5.74 per cent and 4.7 per cent for per capita GSDP. During this period A.P. ranked seventh in GSDP growth and fifth in per capita GSDP growth among eighteen major states. It shows that A.P. has done relatively well in terms of growth if we include data from recent years.

The sectoral composition of GSDP in Andhra Pradesh shows that while the primary sector contribution has been

Figure 4.2: Change in Sectoral Contribution (in %) of GSDP in AP



declining continuously (from 45 per cent in 1980-81 to 24 per cent in 2004-05), there has been a corresponding increase in both the secondary (19 to 25 per cent) and tertiary (35 to 50 per cent) sectors, though the growth of the latter is much higher (Figure 4.2).

The growth rate of GSDP across the sectors indicates that the primary sector registered the lowest rate of growth in Andhra Pradesh (Table 4.3). However, the primary sector had its highest ever rate of growth (3.32 per cent) in the 1990s. The tertiary sector registered the highest growth rate during the 1980s and in the recent past but in the 1990s the secondary sector (6.76 per cent) had grown at

Table 4.3: Sectoral Trend Growth (in %) in A P

Industry Group	1980-81 to 1990-91	1990-91 to 2000-01	2000-01 to 2004-05
1	*2*	*3*	*4*
Primary	2.30 (2.13)	3.32 (3.01)	2.07 (1.41)
Secondary	6.92 (6.84)	6.70 (6.77)	7.11 (7.24)
Manufacturing (Reg)	9.87	6.76	7.73
Manufacturing (Un-Reg)	5.47	6.98	4.87
Tertiary	7.63	6.33	7.63
GSDP	***5.20***	***5.41***	***5.89***

Note : 1. Usually Primary includes Mining and Quarrying (M&Q), figures in parenthesis indicates when M&Q is excluded from Primary sector and included in Secondary; 2. Secondary sector includes Manufacturing (Reg.&Un-Reg) and others.

Source : DES, Hyderabad.

the highest rate. The manufacturing sector, particularly the organized/registered sector, performed relatively better than any other sector. In the last four years growth rates for primary, secondary and tertiary sectors respectively were 2.6 per cent, 7 to 8 per cent and, 8 to 9 per cent per annum.

Within the primary sector, agriculture (including crop production and livestock) registered the lowest growth. Andhra Pradesh was among the very few states in the country which experienced for the Green Revolution, especially in respect of rice, in the 1970s. The growth rate of the agricultural sector increased till the 1980s but it declined subsequently. In the first five years (2000-05) of this decade, growth of GSDP in agriculture was less than one per cent per annum. Agricultural growth in the first four decades (1960s to 1990s) was lower in A.P. as compared to all-India. Within agriculture, the share of livestock has been increasing over time and now it contributes almost 85 per cent of the growth in agriculture.

The contribution of the non-agricultural sector to total GSDP has been increasing continuously over a period in the state as well as all-India. It has increased from 50 per cent in the 1960s to 79 percent in 2005-06 in the state. Moreover, as the growth in agriculture has been at a minimal level, most of the growth in the overall economy has been due to the growth in non-agriculture. In contrast to overall growth, the growth in the non-agricultural sector of the state has always been relatively higher than the all-India average, except in the 1990s.

Table 4.4: Per Capita GSDP per Worker (in Rs) in Agriculture and Non-agriculture Activities

Year	Andhra Pradesh			All-India		
	Agrl	Non-Agrl	Gap	Agrl	Non-Agrl	Gap
1	*2*	*3*	*4*	*5*	*6*	*7*
1993	7201	34077	26876	9327	41783	32456
2003	9830	51924	42094	11058	62854	51796
%Change	36.5	52.4	15.9	18.6	50.4	31.9

Note : **1**. Workers in Agrl (agriculture) and Non-Agrl (non-agriculture) considered to calculate the per capita GSDP per worker, is based on NSSO 50th (1993-94) and 61st (2004-05) round and New Series (1993-94) GSDP figures of DES (Hyderabad).

Source : Computed.

Since GSDP has been growing without a corresponding increase in the level of employment, the gap in per capita value added per worker between those engaged in agriculture and non-agriculture has increased significantly over time. For instance, the per capita GSDP value added in agriculture (including agriculture related activities) per worker was Rs. 7201 in 1993-94 which increased to Rs. 9830 in 2004-05, an increase of 36.5 per cent (Table 4.4). On the other hand, the per capita GSDP value added in non-agriculture per worker increased by about 52.4 per cent from Rs. 34077 to Rs. 51924 during the same period. The gap between agriculture and non-agriculture in terms of per capita value added per worker has increased from Rs. 26876 to Rs. 42094. Unless the high growth in GSDP of non-agriculture results in a corresponding growth in employment by absorbing the surplus labour in agriculture, it may not result in an improvement in the conditions of the poor and thereby human development. Therefore, it will result in lopsided growth/development.

4.1.2 Regional Disparities in the Levels and Growth of the Economy

The challenge of development policy in the period subsequent to the formation of the state was to integrate different diverse regions into a single economic entity and to accelerate the growth of its productive sectors, along with the promotion of adequate opportunities to

Box 4.1: Information Technology in A P

Information Technology (IT) services is the fastest growing component of the service sector in India and Andhra Pradesh. At present Andhra Pradesh ranks fourth in software exports from India, behind Karnataka, Maharashtra and Tamil Nadu. Hyderabad is the major destination for IT companies. The Software Technology Park Hyderabad (STPIH) was started in 1991. Efforts are underway to take the IT sector to other Tier-II cities viz., Visakhapatnam, Vijayawada, Tirupati, Warangal and Kakinada. Efforts to develop Tier-II cities were started in 2001-02 but do not seem to have been successful as yet. In 2006-07, Visakhapatnam, Vijayawada and Tirupati accounted for only 1.55 percent of total exports of IT sector from Andhra Pradesh.

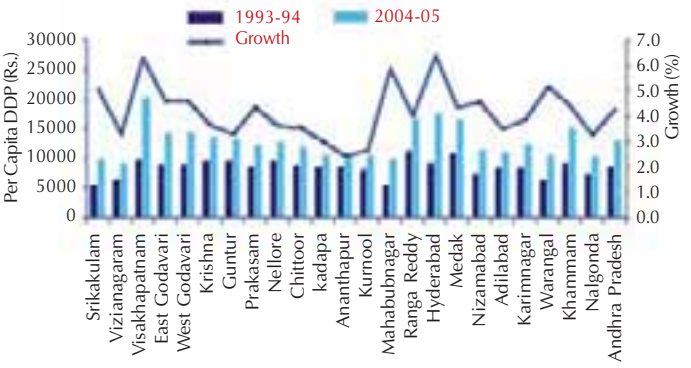
The number of units registered under STPIH was only 7 in the year 1991-92 but rose to 194 in 1998-99. 1999-2000 saw a quantum jump with the number units going up to 977. It continued to rise[2] to 1401 in 2002-03. There were 1408 registered units under STPIH in 2006-07.

Exports of IT sector firms registered with Software Technology Park in Hyderabad (STPIH) started at a very low level of Rs.0.02 crores in 1991-92. They reached Rs.574 crores in 1998-99 and Rs.18582 crores in 2006-07. There has been very rapid growth in overall IT exports especially in the past four years, but it must be noted that the growth rates in later years are over a larger base. Even with this performance, the share of AP in total Indian exports of IT reached only 13.10 percent in 2006-07 from 7.96 percent in 2002-03. As already mentioned AP ranks fourth among the states in IT exports. Most of the increase in later years seems to be the contribution of ITES instead of IT. The share of ITES, which was only 0.34 percent of exports in 1999-00, rose to 39.16 percent in 2002-03 (Ramachandriah, 2003: 209), and reached 56.00 percent in 2006-07 (*The Economic Times*, May 30, 2007).

ensure broad-based participation by all sections of society[3]. However, the actual performance of the economy indicates that the response of the state government to this challenge has not been very satisfactory.

Even after fifty years, regional disparities in economic and social development are significant in A.P. A comparison of growth rates[4] of district domestic product (DDP) and per capita DDP shows that seven districts of Telangana (Ranga Reddy, Nizamabad, Khammam, Hyderabad, Mahabubnagar, Warangal and Medak) and two districts of North Coastal Andhra (Visakhapatnam and Srikakulam) have had higher growth rates than the state average. On the other hand, all the districts in South Coastal Andhra and Rayalaseema and three districts of Telangana and one district of North Coastal Andhra have had a lower growth than the state average. In terms of per capita income, the distance between the poorest four districts and the richest four districts has declined between 1993-94 and 2003-04. The ratio of the four poorest districts (Srikakulam, Warangal, Mahabubnagar and Vizianagaram) to the four richest districts (Ranga Reddy, Medak, Nellore and Krishna) increased from 57.4 per cent in 1993-94 to 65.5 percent in 2003-04.

Figure 4.3: Per Capita GDDP and its Rate of Growth across Districts of Andhra Pradesh



If one analyses the relationship between the levels of per capita income in the base year and growth rates of DDP and per capita DDP, it can be seen that in some districts the higher growth rates could be due to a low base (Figure 4.3). However, in the nine districts which recorded higher growth rates than the state average in per capita income, only four districts (Mahabubnagar, Nizamabad, Warangal and Srikakulam) had a low base. It may be noted that the quality of growth is important.

[2] Data on units is not a very reliable indicator of the strength of the IT sector in AP. At any time the number of units reflects the number of units registered with STPIH, and not those which are functional. In fact in 2003-04 the number of units registered has come down because a number of units have been de-registered since they had not been reporting any activity for more than three years.

[3] See Rao et al, (1998). For some useful references on the historical factors and developments in A.P. in the earlier decades see Mukund (1990), Radhakrishna (1990), Parthasarathy (1995), Vithal (1998).

[4] The Directorate of Economics and Statistics provides domestic product for each district in the state. These are available for the recent period 1993-94 to 2003-04.

Some of the Telangana districts may be showing higher growth rates but we are not sure about the quality of growth. We are also not sure whether it is inclusive growth in this region. Further research is needed to understand the impact of growth in Telangana and some other regions. Secondly, there are significant disparities in social development.

Despite some favourable trends in district domestic product, regional disparities in the levels of development are still significant in the state[5]. For example, South Coastal Andhra, because of the very high level of assured sources of irrigation, continues to occupy the top position in regard to agricultural output per hectare, followed by North Telangana and North Coastal Andhra. Rayalaseema and South Telangana are at the bottom because of insufficient irrigation coupled with low and erratic rainfall. Moreover, well irrigation is predominant in Telangana and Rayalaseema, entailing high cost of power for pumping water, besides exposing the rural areas to the uncertainties of weather and shortage of drinking water. As shown in subsequent chapters, disparities in education and health across regions are quite high.

4.2 Infrastructure

Physical and social infrastructure is important for economic growth and higher human development. Economic infrastructure like transport[6], communication and power facilitates the growth of economic activities and contributes to national or state GDP through revenue mobilization. In Andhra Pradesh the contribution of the transport and communication sector to total Gross State Domestic Product at current prices was 6.31 per cent in 1960-61 and increased to 7.94 per cent in 2004-05 (DES, 2005).

The total road length in Andhra Pradesh in 1956-57 was 17086 Kms (consisting of 338 Kms of cement concrete, 5016 Kms of blacktop, 10939 Kms of metalled and 793 Kms of unmetalled roads) which was 6.21 Kms per 100 Sq. Kms in the state and 0.55 Kms per 1000 population. The total road length increased to 179980 Kms by the year 2002-03, a phenomenal increase of 954 percent over the period, about 65.45 Kms per 100 sq kms of geographical area and 2.36 kms per 1000 population. In 1956-7 the total length of railway lines in Andhra Pradesh was 4550 Kms which has gradually increased to 4974 Kms.

Since the inception of the first Five Year Plan, investment in irrigation has been a priority in the state to increase agricultural growth. For about three decades from the 1950s to the 1970s, irrigation has accounted for a major share of public expenditure in Andhra Pradesh. During the pre-plan period, 27.02 lakh hectares of ayacut was developed. About Rs. 18771.36 crores were spent from the First Plan till 2004-05 and irrigation potential of 27.67 lakh hectares was created. The total area irrigated (gross) was 136.36 lakh acres, or about 40 per cent of the gross cropped area in the state as on August 2005. Andhra Pradesh has been one of the major Indian states with the highest percentage of area under irrigation. The rapid growth in area under irrigation in the state till the 1980s was reversed during the 1990s and thereafter. More recently, irrigation has again become a priority in state policy and a considerable amount of resources has been earmarked under the policy initiative *Jalayagnam*. The amount and percentage of expenditure on Irrigation and Flood Control has been the highest among Indian states. Given the longer gestation period of major irrigation projects, the expected results of this policy initiative will take time to evaluate.

Another important sector that had gained attention and priority in resource allocation from policy makers during the 1950s to 70s was the power/electricity sector.

[5] See Rao (2007) on the failure of successive governments to address regional imbalances in the state.

[6] The modern transport system consists of surface (Rail and Road), water (Navigation) and air transport.

As a result, the installed capacity of the power sector increased from 213 MW to 11105 MW between 1959 and 2005. The total number of consumers has grown from 2.7 to 165.48 lakhs and the energy handled per annum rose from 686 MU to 51123 MU during the same period. The annual revenue increased from Rs.5.50 crores to Rs. 10170 crores. Of the total installed capacity about 27 per cent is from thermal and 32 per cent from hydel units. Power generation during 2004-05 was 51122.82 MKWH. The state had the highest gross generation, next to Maharashtra and Goa. Of the total power generated in the state about 40 per cent was from thermal units and another 10 per cent from the hydel units. The rest was the contribution of others that include the central sector projects and purchases from other states and the private sector. Though the power sector of the state emerged as the one of the best performers in India, power generation in the state was insufficient to meet the demand. Per capita consumption of electricity has increased over the period to 574 KWh during 2004-05. The state is among the top ten states in terms of per capita consumption of electricity.

Andhra Pradesh is one of the states in which almost all the villages are electrified. This has to be read with the caution that this does not ensure either that each hamlet in every village is electrified or that each household in every village/hamlet has electricity. The figures show that about 94 per cent of the habitats/hamlets in the state were electrified and 69 per cent of the rural households had electricity connection in 2005.

Agriculture, particularly irrigation, in Andhra Pradesh, is the single largest consumer of electricity; per capita consumption of electricity (utility) was highest in this sector. The number of agricultural services in the state increased from about four thousand in the late 1950s to three lakhs by the end of the Fifth Plan and to 24 crores by the end of 2005. Andhra Pradesh was the second highest among the Indian states in terms of number of agricultural services. The number of pump sets energized through electricity in Andhra Pradesh was around 23 lakhs (as on 31st March 2005), which is the second highest after Maharashtra. The power shortage is considered to be one of the contributing factors in the agrarian crisis in the state.

In Andhra Pradesh, there were 16190 post offices and 32.64 lakh telephone connections as on March 2005, that is, around 21 post offices and 4121 telephone connection per lakh population. The number of scheduled commercial bank branches in the state was 5415 at the end of the year 2005, that is about 7 bank braches per lakh population or 14 thousand persons per bank branch. The aggregate deposits in these commercial banks amounted to Rs. 98600 crores, or Rs. 1420 per capita. Total bank credit advanced was Rs. 74771 crores, or Rs. 11428 per capita. The state ranks fourteenth among the Indian states in terms of both the population per bank and per capita deposit whereas in terms of per capita credit it stands seventh.

Despite improvements in infrastructure in the state, the Infrastructure index[7] presented in the report of the Tenth and Eleventh Finance Commission for major Indian states shows that though the index value for Andhra Pradesh for 1995 was almost close to all-India (i.e. 100) it was only ranked at 10 among the fifteen major states. In 2000, the index value and rank of the state had improved marginally to 103 and 9 respectively. Punjab, Kerala, Tamil Nadu, Haryana and Gujarat had much higher levels of infrastructure than Andhra Pradesh in the year 2000.

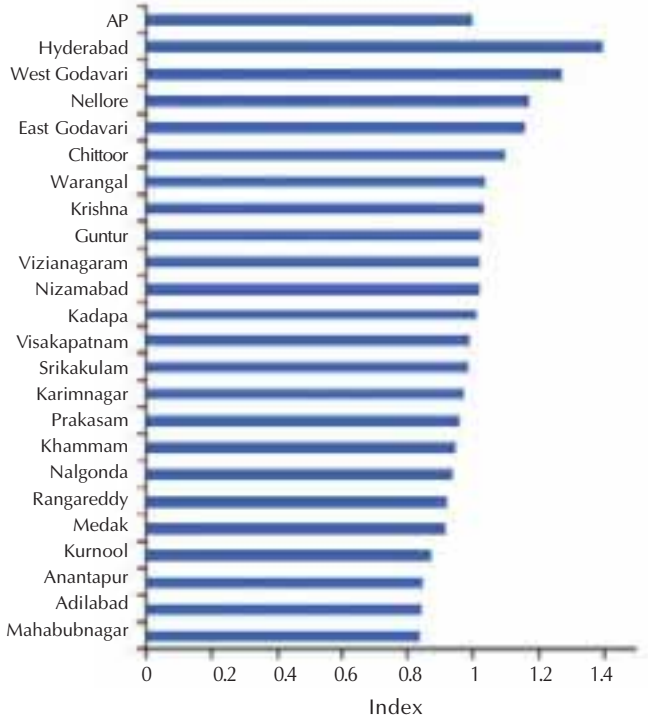
There are wide disparities in terms of infrastructure facilities across the districts in the state. With respect to irrigation, the percentage of gross irrigated area varied from as low as 13 per cent in Adilabad to 87 per cent in West Godavari in 2001. Across all the districts in the state almost all the villages are electrified, though as noted above, this does not mean that all households have electric connections. Bank branches and telephone connections

[7] The index for each state is estimated in relation to all-India

are heavily concentrated (16 bank branches and 12617 telephones per lakh population) in Hyderabad which in fact is entirely urbanized. The variation across other districts in terms of bank branches is not very high (from 5 to 8). Road infrastructure ranges from 497 to 973 km per thousand square km (of geographical area) across districts in the state. Hyderabad (973) followed by Srikakulam, West Godavari, Krishna and Rangareddy (793) have the highest road density.

The composite index representing the selected infrastructure facilities across districts in the state is in relation to the state average. The index indicates the status of an individual district in comparison with the state average. If the index value of any district is above 1 it shows better infrastructure than the state average and vice versa. For instance, Hyderabad (10.2) would be the best performing district in terms of infrastructure and Mahabubnagar (0.73) would be the most backward. The index values in general indicate that most of the districts performing below the state average are located in Telangana, Rayalaseema (see Figure 4.4).

Figure 4.4 : Infrastructure Index, 2004



4.3 Poverty and Inequality

Poverty is multi-dimensional including income and non-income poverty and indicates not only levels of income and consumption, but also health and education, vulnerability and risk, and marginalisation and exclusion of the poor from the mainstream[8]. Although Andhra Pradesh is lagging behind on many other dimensions of poverty, its performance in terms of income poverty[9] based on consumption expenditure shows that there has been a remarkable reduction in the level of poverty, particularly rural poverty, from 48.4 per cent in 1973-74 to 11 percent in 2004-05. The rural poverty level in the state was less than half of that of all-India.

Table 4.5: Poverty Ratios - Official Methodology

Year	Andhra Pradesh			All-India		
	Rural	Urban	Total	Rural	Urban	Total
1	*2*	*3*	*4*	*5*	*6*	*7*
1983	27.31	37.49	29.75	45.76	42.27	44.93
1993-94	16.64	37.63	22.30	37.26	32.56	36.02
2004-05	11.2	28.0	15.5	28.3	25.70	-

Source : Planning Commission, New Delhi

The paradoxical situation specific to Andhra Pradesh is that the poverty level is higher in urban areas than in rural areas. The rate of decline in urban poverty was slower in the state up to 1993-94 but the pace of decline subsequently increased, especially between 1993-94 and 2004-05. While rural poverty declined significantly from about 27 percent in 1983 to 11 percent in 2004-05, urban poverty declined from 37 percent to 28 percent during the same period which was still high and higher than the all-India figure (Figure 4.5). The difference in absolute number of urban (6.1 million) and rural poor (6.4 million)

[8] There has been much debate about how exactly poverty should be defined. In popular understanding, poverty is identified with low income which prevents a family from obtaining and enjoying the basic necessities of life, including a minimum of food, clothing, shelter and water. This concept is defined as income poverty. For a comprehensive picture of poverty other deprivations in relation to health, education, sanitation and insurance against mishaps, must be taken into account. (Chellaiah and Sudarshan, 1999), p.xiii.

[9] The National Sample Survey (NSS) data on consumer expenditure is generally used for estimating poverty in India. NSS has both annual surveys and quinquennial surveys. We concentrate on the estimates based on the latter as they provide reliable estimates at the state level. The estimates based on expert group method and approved by the Planning Commission are presented.

Box 4.2: Alternative Poverty Estimates for Andhra Pradesh

There is a controversy regarding the poverty ratios of Andhra Pradesh. The official estimates for rural poverty have been much lower than alternative estimates made by independent researchers. The alternative estimates[10] show that the poverty ratios in A.P. were closer to the all-India pattern i.e. 26 per cent for rural areas and 12 per cent for urban areas (see Deaton and Tarozzi, 2000; Deaton, 2001; Deaton and Dreze, 2002). The very low level of official rural poverty ratios in A.P. was due to the base year poverty line in 1973-74 which was the lowest among all the major states in India. This in turn was due to the low level of Consumer Price Index for Agricultural Labour (CPIAL) for A.P. The estimates by Deaton and Dreze, on the other hand, are based on a more realistic poverty line arrived at on the basis of consumer prices computed from the National Sample Survey data. Their study shows that the rural poverty line for A.P is more or less similar to all-India. Notwithstanding these differences regarding the *levels* of poverty, both the official estimates and those from Deaton and Dreze show a significant decline in the incidence of poverty in A.P. between the eighties and the nineties in line with all-India trends. The alternative estimates based on Deaton's method shows that rural poverty was 20.8 percent while urban poverty was 8 percent in A.P in the year 2004-05. These numbers are closer to those of all-India. In both official and alternative estimates, the rate of reduction was faster in the second period (1999-2005) as compared to our first period (1993-94 to 1999-00).

Table 4.5A: Alternative Estimates of Poverty Ratio

Year	Andhra Pradesh		All-India	
	Rural	Urban	Rural	Urban
1987-88	35.0	23.4	39.0	22.5
1993-94	29.2	17.8	33.0	17.8
1999-00	26.2	10.8	26.3	12.0
2004-05	20.9	8.4	23.1	10.2

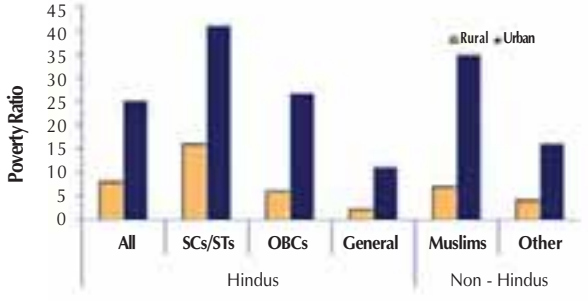
Note : Poverty lines for the year 2004-05 are estimated by updating the poverty lines of Deaton and Dreze (2002) for the year 1999-00. CPIAL and CPIIW for the year 2004-05 are used for updating the poverty lines of 1999-00.

Source : Deaton and Dreze (2002) for the period 1987-88 to 1999-00; Poverty ratios for 2004-05 are estimated by Dev and Ravi (2007).

in 2004-05 was very small. It indicates that urban areas contribute about half of the total poor in Andhra Pradesh.

Using NSS consumption data, the Sachar Committee Report (GOI, 2006) provides poverty ratios across socio-religious categories (Figure 4.5). In their estimates for A.P one can see the differential levels of poverty for different groups. The SCs/STs together are the most poor, with a poverty ratio of 16 percent in rural areas and 41 percent in urban areas, while among Muslims the poverty ratios stood at 7 percent in rural and 35 percent in urban areas. The poverty level among OBCs was closer to the general average in rural areas. It is interesting to note that the incidence of poverty for Muslims was much higher than for Hindus in urban areas.

Figure 4.5 : Poverty Ratios by Religion and Caste in AP, 2004-05



Source : Sachar Committee report (GOI, 2006)

The available estimates at the regional level within the state indicate that the poverty ratios vary across regions and that there are also rural-urban differences within each region (Table 4.6). Telangana had the lowest incidence

Table 4.6: Region Level Estimates of Poverty: Official and Adjusted

Region	1993-94		1999-2000	
	Rural	Urban	Rural	Urban
1	*2*	*3*	*4*	*5*
Coastal	31.2	19.1	24.3	16.2
Telangana	25.9	12.1	20.6	9.7
Rayalaseema I	38.6	20.0	33.1	27.3
Rayalaseema II	21.9	25.2	22.3	12.4
Andhra Pradesh	*29.2*	*17.8*	*23.6*	*13.6*

Note : 1. NSSO Regions.
Source : Lanjouw (2003)

[10] Deaton (2000, 2001) estimates unit prices for different states for the years 1987-88, 1993-94 and 1999-00 using the NSS data.

of poverty in both rural and urban areas across NSS regions in the state while the level was highest in Rayalaseema I (comprising Anantapur and Kurnool districts) during NSS 55th round (1999-2000). There was a significant difference in poverty between two sub-regions of Rayalaseema.

4.3.1 Inequality

Inequality in consumption represented by the Gini coefficient seems to have increased significantly for both rural and urban areas in the post-reform period, and the rate of increase was much higher for urban as compared to rural areas. This is true for both A.P. and all-India.

The adverse impact of the increase in inequality is reflected in the decomposition exercise undertaken for the post-reform period. We examined the poverty scenario by decomposing changes in levels of poverty due to growth and distribution[11]. It is seen that growth was an important factor contributing to the reduction in poverty in the post-reform period. However, adverse distribution (higher Gini coefficient) seems to have halted the reduction in poverty. If distribution had remained unchanged, the poverty ratio would have fallen by an additional one percentage point in rural areas and 5.46 percentage points in urban areas in A.P. in the post-reform period (Table 4.7).

Table 4.7: Gini Ratio of Consumption Expenditure

Year	Andhra Pradesh		All - India	
	Rural	Urban	Rural	Urban
1	*2*	*3*	*4*	*5*
1983	29.66	33.25	30.79	34.06
1993-94	28.93	32.31	28.55	34.31
2004-05	29.40	37.43	30.45	37.51

Source : Dev and Ravi (2007)

The literature on determinants of poverty shows that factors like agricultural growth represented by per capita agricultural GDP, land and labour productivities, land distribution, non-agricultural GDP growth, relative food prices, inflation rate, food stocks, fiscal deficit, development expenditure, rural non-farm employment, infrastructure, human development, gender equity, decentralization etc. explained the temporal and spatial variations in rural and urban poverty[12]. Almost all the urban population and more than 50 percent of rural population are net purchasers of food. The increase in terms of trade may not help to increase agricultural growth. Increase in agricultural prices would increase wages only after a time lag. There is a need to protect the poor from an increase in the relative price of food during the reform period.

Some policies in the post-reform period have had an adverse impact on poverty reduction. Several policies such as measures to improve agricultural growth, macro pro-poor policies, development of the industrial sector and the rural non-farm sector, planned urban growth, rise in the effectiveness of anti-poverty programmes, reduction in personal, social and regional disparities, acceleration in human development and physical infrastructure, gender development, decentralization and improvement in governance are needed for reduction in both rural and urban poverty and decline in inequality. Inclusive growth also requires appropriate policies to improve the conditions of socially disadvantaged sections like Scheduled Castes and Scheduled Tribes.

4.3.2 Inflation

Inflation is one of the important factors that adversely affect the poor. The average annual inflation rate in rural areas was around 8.0 per cent during 1983-94 and 8.3 per cent during period 1993-00. But, it drastically declined to 2.2 per cent between 2000 and 2005. Similar trends can be seen for urban areas. The faster decline in poverty during 1999-2005 in A.P. as well all-India could be due to low inflation and relatively low food prices.

The purchasing power of individuals, even with rising incomes, is constrained by inflation. The consumer price index for agricultural labour (CPIAL) and Industrial Workers (CPIIW) reveals the burden of inflation[13] in rural and urban areas, particularly on the poor. Both general and food indices (CPIAL) for Andhra Pradesh were lower than the all-India average throughout the period and the index

[11] See Ravi and Dev (2007) for methodology.

[12] See Tendulkar et al (1996), Sen (1996), Ravallion (1998). Also see Radhakrishna and Ray (2005) for policies needed for poverty alleviation.

[13] Inflation at the macro level can be captured with implicit deflators from National Accounts Statistics. The implicit deflator, however, does not reveal the rate of inflation for consumers.

for food in Andhra Pradesh was higher than its general index.

Table 4.8 : Growth of CPIAL

Period	AP		India	
	General	Food	General	Food
1	*2*	*3*	*4*	*5*
1971/80	7.6	8.0	8.5	8.5
1981/90	6.8	6.6	7.3	7.3
1991/01	9.5	9.8	9.3	9.3
2001/06	3.4	3.4	3.5	3.5

Note : **1.** CPIAL – Consumer Price Index for Agricultural Labourers; **2.** in 1960-61 Prices

Source : Computed using RBI data

The rate of growth of the general price index for Andhra Pradesh declined from about 7.6 per cent in the 1970s to 6.8 percent in the 1980s (Table 4.8). The price rise during the 1970s could be due to the impact of external shocks like the oil crisis on prices of consumer goods and the decline in inflation in the following decade was the result of better efforts at crisis management and the lower growth of prices in food items. Specific to Andhra Pradesh, the supply of rice at Rs. 2 per kg introduced in 1983 seems to have had a significant impact as the growth of the price index for food items is a little lower than the general index for the state and for all-India. The 1990s witnessed the highest rate of growth ever recorded in CPIAL, especially for food items. Subsequently, during 2001-06, a steep decline was observed. The growth rate of the general index for Andhra Pradesh was lower than the all-India average in all the decades.

4.4 Fiscal Performance

The fiscal situation of central and several state governments in India has deteriorated, especially since fiscal reforms were initiated in 1991. Andhra Pradesh is not an exception to this. The RBI Report on Currency and Finance 2000/01 has cautioned about the deteriorating performance. It says "the low and declining buoyancies in both the tax and non-tax receipts, constraints on internal resource mobilization due to losses incurred by state PSUs, electricity boards and decelerating resource transfers from the Centre have resulted in the rising fiscal deficits of State Governments, with an accompanying surge in the outstanding stock of debt" (p.34). Most states had high levels of fiscal deficits, interest payments and a high ratio of public debt to GDP (Dev and Ravi, 2003). However, there seems to have been a turnaround in fiscal management in recent years.

4.4.1 Revenues of the State Government

In the mid-1980s, the state's (A.P.) own tax revenue as a per cent of GSDP was more than 9 per cent. This declined to about 5.2 per cent in 1995-96. Due to fiscal reforms, the ratio increased to 7 to 8 per cent during the period 1997-98 to 2004-05. In the last two years, there seems to be a turnaround in the ratio of own tax revenue to GSDP. It was 8.9 and 10.1 per cent of GSDPrespectively in the years 2006-07 and 2007-08 (RE). The state's own revenue (tax and non-tax) has increased from about 9 per cent in the 1990s to about 11.3 and 12.3 per cent of GSDP in the last two years. Similarly, the total revenue (own revenue and central transfers) which was 12 to 14 per cent of GSDP during 1995-96 to 2004-05 increased to 16.4 and 18.0 per cent of GSDP respectively in the years 2006-07 and 2007-08 (RE). Thus, there has been a 'turnaround' in the tax, non-tax and total revenues of A.P. in the last two years. There are several reasons for this improvement. Tax revenues increased because of the introduction of VAT and better tax collection led by higher economic growth. Further, central transfers to the state government have also increased in recent years.

4.4.2 Public Debt and Fiscal Deficit

Both these problems increased significantly for Andhra Pradesh as in other states in the latter half of the 1990s. In the 1990s, A.P. was ranked sixth on public debt as a

Figure 4.6: Revenue and Capital Expenditures as Percentage of Revenue Receipts of AP

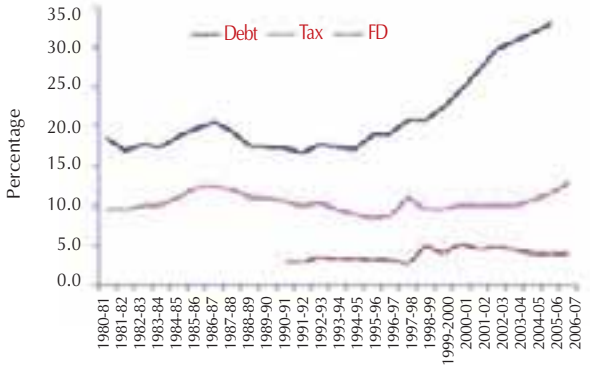
percentage of SDP, fifth for fiscal deficit as percentage of SDP and seventh in interest burden, so that only five to six states had performed better than A.P. in terms of the main fiscal indicators. The latest data from RBI for 29 states shows that the rank of A.P. in debt-GDP ratio was eighth. ***In other words, 21 states in India have a higher debt-GDP ratio than Andhra Pradesh.*** The debt-GSDP ratio for AP was 22.5 per cent in 1999-2000, it increased to 31.90 per cent (highest ever for the state) in 2004-05 and thereafter it declined to 26.91 per cent in 2007-08[14].

As compared to the past fiscal performance by A.P., there has been a significant deterioration in the 1990s. The gap between the revenue receipts and total expenditure of the state has been increasing. A.P. was, in fact, one of the pioneering states to initiate fiscal reforms earnestly, along with the reforms package, during 1995-96. Before the reforms were introduced the financial position of the state was under stress. The fiscal deficit had led to higher debt financing, which resulted in the burden of interest payments which amounted to about 15 per cent of government revenue. Several initiatives were undertaken as part of the reform package. The earlier policy of prohibition on liquor was reviewed to safeguard excise revenue and the rice subsidy scheme and power tariffs, which put a tremendous stress on the state's fiscal position, were moderated. This good beginning, although inadequate, appears to have been reversed. The reforms process slowed down after a few years and the state was once again under financial stress. A rise in all three deficits - revenue, fiscal, and primary - and the stock of outstanding debt touching the level of about 30 per cent of the GSDP indicates the situation of deterioration (Sarma, 2003). But the situation has improved in the recent past.

Andhra Pradesh was once characterized as a state of surplus budgets in India. During the 1960s and 1970s the state used to mobilize about 60 to 70 percent of its revenue from its own resources (both tax and non-tax) and the remainder used to come from the shared taxes and grants of the central government. The total revenue that the state could mobilize used to meet all its revenue expenditure and sometimes even exceeded it, which resulted in a surplus budget. The revenue surpluses were spent on developmental activities through capital expenditure particularly on irrigation and power projects.

The sound fiscal situation on revenue account continued till 1982-83. Thereafter, during the 1980s and 1990s, especially since the inception of economic reforms followed by fiscal consolidation, the state began to have revenue deficits. Capital receipts mobilized through borrowing, meant for developmental activities, were used

Figure 4.7: Tax Revenue, Fiscal Deficit (FD) and Public Debt as a percentage of GSDP in AP



to fill the gap in the revenue account. All the revenue receipts of the state could meet about 80 to 90 per cent of the total expenditure during 1980s and 1990s. The increase in the revenue account gap could be attributed to the decline in revenue receipts due to a reduction in excise tax collection owing to prohibition and a decline in land (tax) revenue. On the other hand, there was a great increase in expenditure owing to populist welfare policies of the government and the burden of increased wages and salaries over the years. In particular, the expenditure on distribution of rice at Rs. 2 per kilo through the public distribution system (PDS) and subsidies on irrigation and electricity increased the burden on the state government.

The increasing revenue deficit compelled the state to divert resources meant for capital expenditure and resources mobilized through borrowings to cover the deficit. The borrowings of the state were spent to fill the revenue deficit and to repay loans. A massive burden of interest payments in turn accentuated the revenue deficit. About 20 per cent of the public debt raised was spent on repayment of loans during the early 1990s. This increased to 60 percent in the late 1990s and rose further to 70 per cent in the last few years. As a result, the productivity of

[14] GOAP (2008) Socio-Economic Survey 2007-08, Planning Department, Government of Andhra Pradesh, Hyderabad.

government expenditure declined, which in turn kept the base for raising resources at a low level.

There has been some improvement in the fiscal deficit, particularly the revenue deficit of the state in recent years. Fiscal deficit as a percent of GSDP declined from 5.21 per cent in 2000-01 to 4.04 percent in 2004-05. Only five states (Tamil Nadu, Karnataka, Orissa, Bihar and Haryana) had a lower fiscal deficit than A.P. in 2004-05.

The Fiscal Responsibility and Budget Management Act[15] (FRBM) and the incentives by the Twelfth Finance Commission have led to a reduction in revenue deficit in many States. The revenue deficit which was around 2.5 per cent in 2000-01 declined to 1.2 per cent in 2004-05 and turned to surplus of 1.04 per cent in 2006-07. It indicates that the state of AP achieved the FRBM Act target of nil revenue deficit much in advance.

The recent improvement in the fiscal scenario of AP and the other states in India, is joint effort of both the central and state government(s)[16].

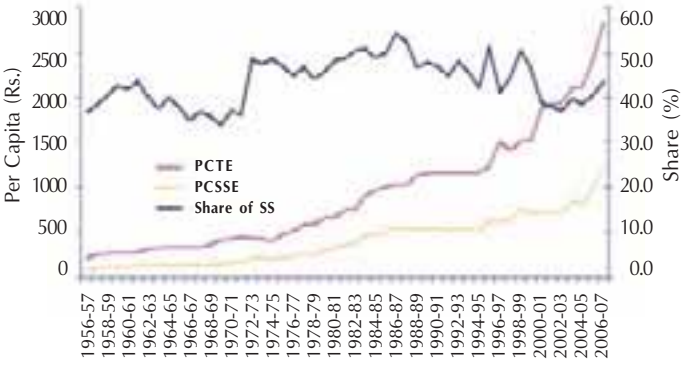
4.5 Social Sector Expenditure

Social sector expenditures directly influence human development. Since its formation, different governments in the state claimed that poverty eradication/alleviation and social development generally were their main challenges and that they were fully committed to address these issues. The prime objective of most policies is to help the poor and improve the social sector. Analysing government budgets is a useful starting point for understanding the genuineness of the claims of the government.[17] In Andhra Pradesh, total public expenditure as a percentage of GSDP seems to have increased in the 1980s while there was no increase in the 1990s, and the share was in fact lower during this decade. This could have been partly due to the structural adjustment programme in the state. Since 2000-01, however, there was a sign of increase in this ratio.

We examine here the trends in expenditure on the social[18] sector, which includes rural development. Social sector expenditure as a percentage of aggregate budget expenditure explains whether the above-mentioned challenges are really taken into account while expenditures are budgeted or made. Social sector expenditures as a per cent of GDP and total public expenditures were lower in the 1990s as compared to the 1980s[19]. As a percent of aggregate expenditure, the state spent between 35 to 50 per cent on the social sector during 1980-81 to 2006-07.

Social sector expenditure as a per cent of GDP in A.P ranged around 6 per cent during the last four years (2002-06). Similarly, social sector expenditure as a per cent of total expenditure was around 35 per cent in A.P. during the same period. In both these cases, A.P. is the median state in India. The expenditure on education and health

Figure 4.8: Trend in the Share of Social Services (incl. Rural Development) in the Total Budget Expenditure (Rev. A/c) and Per Capita Expenditure in Total (PCTE) and in Social Sector (PCSSE) in AP



[15] Fiscal targets set by FRBM Act were reduction of revenue deficit to nil by the year 2009 and generate surplus thereafter; the fiscal deficit should not be more than 3 per cent of GSDP; and the debt-GSDP ratio should not exceed 35 percent by 2010. The recent fiscal performance of AP seems to be within these limits.

[16] On the receipts front, introduction of VAT and higher fiscal transfers recommended by the Twelfth Finance Commission (TFC) are two important factors. When it comes to expenditure, enactment of FRBM Act and commitment for fiscal correction process in reaching the set targets of revenue balance and fiscal deficit as prescribed under FRBM rule, Debt Swap Scheme, TFC's Debt Consolidation and Waiver Facility, New Pension Policy, and various measures taken by RBI as the Government's debt manager.

[17] Implementation processes are also absolutely crucial. Since government agents are usually very important in implementation, the commitment of the government can also be studied in the implementation processes. The present chapter focuses, however, only on budgets and expenditures.

[18] Social sector expenditure is defined as the total expenditure on 'Social Services' and 'Rural Development' as given in Central and State budgets.

[19] A.P. spent around 6 to 11 per cent of its GSDPon the social sector in the last two decades. In 1980-81, the share in GSDP was 7.5 per cent and increased to 11 per cent in 1986-87; thereafter it started declining.

has been lower in Andhra Pradesh as compared to the all-state average. For example, the expenditure on education hovered between 10 to 13 per cent in A.P as compared to the all-state average of 12 to 17 per cent during 2000-07. Similarly, the expenditures are lower in A.P. than the average for all states in the last two years (Dev, 2007).

It may however, be noted that the impact on outcomes in the social sector depends on the level of expenditures as well as on the effective and efficient utilization of these expenditures.

Per capita real expenditure on the social sector has increased over time except during the first half of the 1990s. It increased from Rs. 318 in 1980-81 to Rs.528 in 1989-90 and was stagnant in the first half of the 1990s. Thereafter per capita expenditure again began to increase and crossed Rs. 1000 in 2006-07. The average for the 1980s and 90s respectively was Rs.447.4 and Rs.624.7. This increase in per capita terms may be partially attributed to the lower growth rate of population during 1991-2001.

In comparison to the other southern states, the expenditure on social services as a percentage of GSDP was lower for Andhra Pradesh in the 90s but the expenditure on rural development was higher in the state. The same situation prevails with respect to per capita expenditure on social services and rural development (Table 4.9).

Table 4.9: Per capita Expenditure (93-94 prices) on Social Sector in Southern States

State	Total Social Services				Rural Development				Total Social Sector			
	1990-1	1995-6	2000-1	2004-5	1990-1	1995-6	2000-1	2004-5	1990-1	1995-6	2000-1	2004-5
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
A P	440	547	705	754	97	67	111	121	537	614	816	874
Karnataka	469	563	781	777	76	56	56	66	545	619	836	843
Kerala	612	643	858	968	59	53	162	209	671	696	1020	1177
Tamilnadu	617	637	867	994	79	46	88	79	696	682	955	1072

Note : The data given in RBI Bulletins is deflated by taking WPI at 93-94 base year and using interpolated Census data of 1991 and 2001.
Source : RBI Bulletins

4.6 Conclusions

This chapter has examined the macro economic scene in terms of economic growth, infrastructure, poverty and fiscal management. The conclusions of the chapter are the following.

(1) A.P. has also moved into a higher path of growth, similar to all-India, during the last two and a half decades. GSDP growth in the 1980s at 5% p.a. was nearly the same as the GDP growth rate for the country. But whereas there was a clear step-up in the 1990s in the growth rate of GDP for the country to a little over 6 per cent, there was no significant improvement in the growth rate of GSDP in A.P. However, there has been a turnaround in GSDP growth in A.P. in the last five years. The average annual growth rate was 7.5 per cent during 2001-08 and 8.7 per cent during 2004-08. Per capita GSDP growth was around 6 to 7 per cent per annum during this period. Thus, A.P. has done relatively well in terms of economic growth in recent years.

(2) Regional disparities across the state in economic growth are significant although there are signs of improvement. The trends in the growth of district domestic product during 1993-94 to 2004-05 shows that 7 districts of Telangana (Ranga Reddy, Nizamabad, Khammam, Hyderabad, Mahabubnagar, Warangal and Medak) and

2 districts of North Coastal (Visakhapatnam and Srikakulam) have recorded higher growth rates than the state average. One can say that higher growth in Telangana could be due to a lower base. However, if we study trends in the growth of per capita income, out of the 9 districts which had higher growth rates than the state average, only four districts (Mahabubnagar, Nizamabad, Warangal and Srikakulam) had a low base. It should be noted that the quality of growth is also important. Some of the Telangana districts may be showing higher growth rates but we are not sure about the quality of growth.

(3) One of the reasons for the lower GSDP growth in A.P. than all-India in the 1990s was due to lower levels of infrastructure in A.P. The index of social and economic infrastructure for Andhra Pradesh was slightly below the All-India average in 1995, and was a little above the average in 2000. It is true that there has been an improvement in the infrastructure of the state over time. However, in order to sustain the recent higher levels of growth in GSDP it is necessary to improve infrastructure in the state. The index of infrastructure at the district level shows that the majority of districts which are below the state average fall in Telanagana, Rayalaseema and North Coastal Andhra.

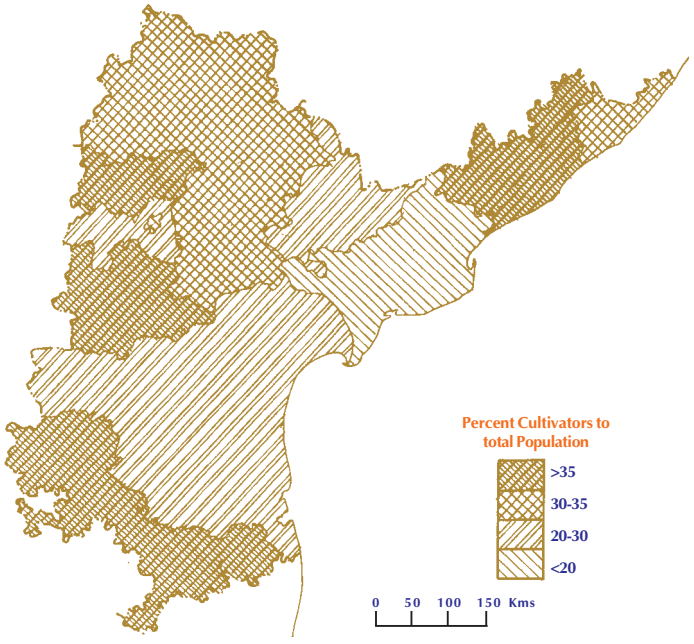
(4) The official poverty ratios, based on the Lakdawala Committee methodology show very low levels of rural poverty (11 per cent) and high levels of urban poverty (28 per cent) for A.P. as compared to all-India (28 and 26 per cent respectively) in 2004-05. Thus the official estimate of poverty ratio for urban areas in A.P. is more than double the rural level. This is quite contrary to what one would expect on the basis of the rural-urban differences in per capita income and wages. However, alternative estimates based on Angus Deaton's methodology show that the poverty ratios in A.P. were closer to the all-India pattern i.e., 21 per cent for rural areas and 8 per cent for urban areas. However, in both official and alternative estimates, the rate of reduction was faster in the second period (1999-2005) as compared to the first period (1993-94 to 1999-00). Inequality in consumption represented by the Gini coefficient seems to have increased significantly for both rural and urban areas in the post-reform period – the rate of increase being much higher for urban as compared to rural areas. If distribution had remained the same, poverty would have been reduced by an additional one percentage point in rural areas and 5.46 percentage points in urban areas in A.P. in the post-reform period. The faster decline in poverty during 1999-2005 in A.P. could be due to low inflation and relatively lower food prices.

(5) Fiscal performance shows that the fiscal reforms initially improved revenue generation. But, later the fiscal situation deteriorated in A.P. as in other states in the post-reform period. State's own tax revenues, which had fallen to around 5 per cent of GSDP in 1995-96, rose steadily to about 8 per cent in 2000-01 – nearly the level obtaining in the early nineties. In general, the fiscal deficit and debt/GDP ratios increased in several states in the post-reform period. The fiscal performance of A.P. compares favourably with other states. There seems to have been a turnaround in the total revenue of the state in recent years. It increased from 12 to 14 per cent of GSDP in the late 1990s to 16.4 and 18.0 per cent in 2006-07 and 2007-08 (RE) respectively. The debt-GDP ratio increased from 24 per cent in late 1990s to 37 percent in 2005-06. In spite of this increase, the rank of A.P. in debt-GDP ratio was only eighth (in ascending order) among 29 states. In other words, 21 states in India have higher debt-GDP ratio than Andhra Pradesh. There has been a slight improvement in fiscal deficit and in revenue deficit which turned into surplus in the state in recent years.

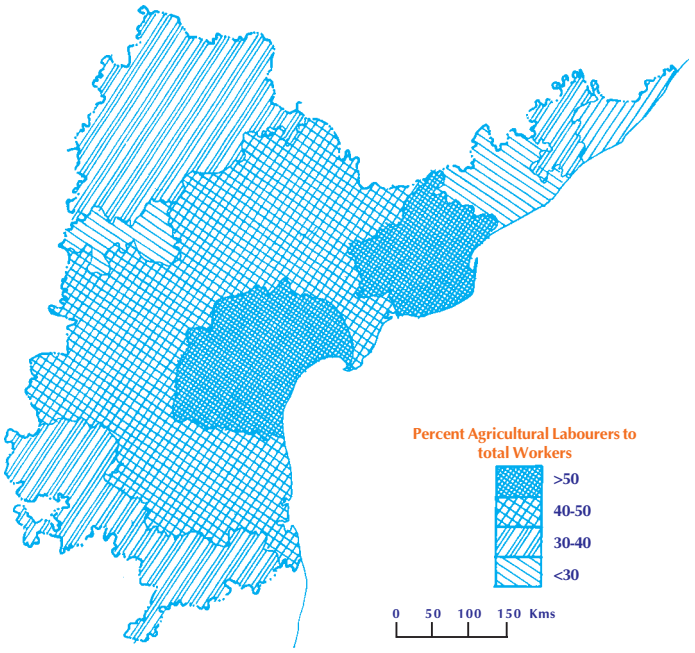
(6) Social sector expenditure as a percent of GSDP in A.P was around 6 per cent and was around 35 per cent in total expenditure in A.P. during the last four years (2002-06). In both these cases, A.P. is the median state in India. Expenditure on education and health has been lower in Andhra Pradesh as compared to the all-state average.

To conclude, there seems to have been some 'turnaround' in economic growth of A.P. in recent years. Similarly, fiscal performance in terms of revenue generation and reduction in fiscal deficit, particularly revenue deficit, has improved significantly in the last few years. However, the focus should be on inclusive growth as there is still a considerable degree of poverty, lower human development and significant regional disparities in A.P. The state needs to improve its physical infrastructure for sustaining growth and increase in quantity and quality of social sector expenditures.

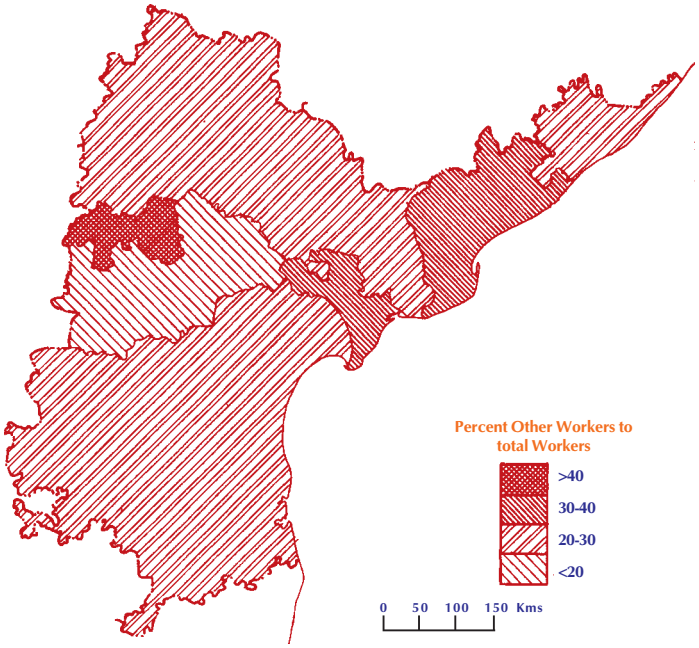
Andhra Pradesh
Cultivators - 2001



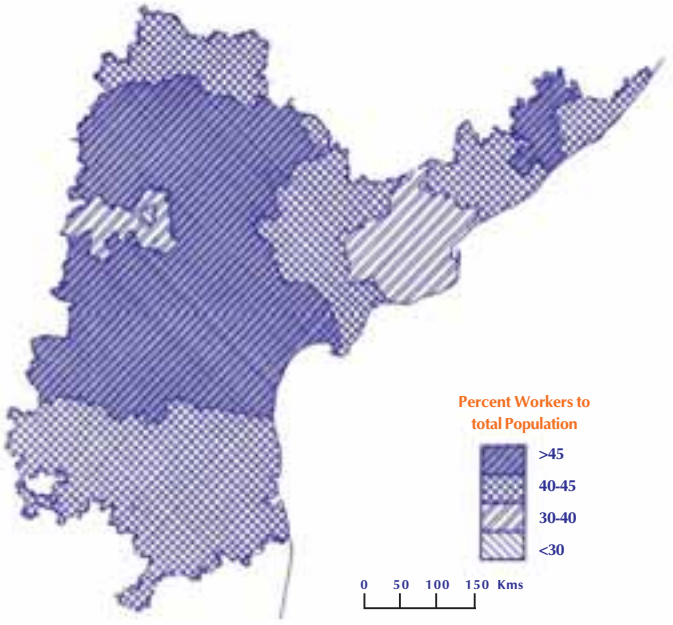
Andhra Pradesh
Agricultural Labourers - 2001



Andhra Pradesh
Other Workers - 2001



Andhra Pradesh
Total Workers - 2001



CHAPTER V

5 Employment and Livelihoods

Structure of Employment and Changes in Rural Livelihoods

The work participation rate in the state is one of the highest in India. Low labor productivity and slow shifts/diversification livelihoods are tow major challenges the state has to tackle. What is needed is the skill development and expansion of non-farm employment opportunities.

The objective of economic development is to provide people with basic necessities, and opportunities for meaningful employment. Expanding productive employment is central for sustained poverty reduction and for improvement in human development, as labour is the main asset for the majority of the poor. Labour absorption, in fact, depends more on the pattern of growth, on whether it is labour intensive or capital intensive. In India as well as in Andhra Pradesh, in spite of the improvement in the growth (GDP) of the economy, the absolute number of unemployed and under-employed has increased and the quality of employment has not improved. These factors have definitely had a bearing on human development in the state. In this context this chapter presents the situation in Andhra Pradesh with respect to employment and livelihoods.

5.1 Employment Situation in AP

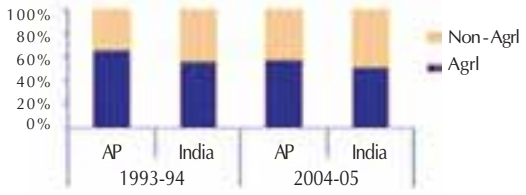
There are four major issues related to employment. First is the work participation rate and rate of growth in employment. The second is the quality of employment in terms of real wages. The third, related to the second, is diversification in terms of the structure of employment. Last, an outline of policies are needed for improving quantity and quality of employment. Labour market reform is also an important issue for policy.

The recent NSS 61st round (2004-05) quinquennial survey on employment and unemployment estimated that around half the population in Andhra Pradesh is reportedly working. In other words, out of an estimated population of 80 million, 40 million are in the workforce. The work

participation rate (WPR) was high in rural areas at 54.4 per cent and in urban areas it was 39.2 per cent (see Table 5.1). The WPR in Andhra Pradesh is much higher than the all-India average. Moreover, the female work participation rate (41 per cent) in the state is the highest among the major Indian states. There was a slight increase in the WPR over the years in Andhra Pradesh, especially in urban areas.

One of the paradoxes of the Indian development experience relates to the slow pace of structural transformation in the economy. Although the share of agriculture in GSDP has been falling, the decline in the share of employment has been slow. However, structural transformation has happened in four states viz., Kerala, Tamil Nadu, West Bengal and Punjab – as the share of agriculture in employment is now less than 50 per cent in these states. But in the case of Andhra Pradesh it is still high at 58.5 per cent with a rank of 8 among the major Indian states. As a matter of fact, the share of agriculture in employment and GSDP is slightly higher than the all-India figure. In the total workforce, the share of the non-agricultural sector in overall (rural and urban combined) employment has increased from 32.9 percent in 1993-94 to 41.5 percent in 2004-05 (see Figure 5.1).

Figure 5.1: Percentage Distribution of Workforce Between Agriculture and Non-Agricultural



Source : NSS Employment and Unemployment Survey

The long term total (rural and urban combined) employment growth in A.P. was around 1.75 percent per annum from 1983 to 2004-05 (Table 5.2). This can be further sub-divided into the pre-reform (1983-1994) and post -reform (1993-2005) periods. The growth of employment in A.P. declined from 2.59 percent in the pre-reform period to 0.95 percent in the post-reform period, both in rural and urban areas. In the post-reform period, growth in employment in urban areas was almost double the rate in rural areas. It is a matter of concern that Andhra Pradesh recorded the lowest growth in employment (0.95 per cent) among all the states in the country in the post-reform period (1993-2005). During this period employment growth in all-India was almost twice the rate in A.P. Six states recorded employment growth of more than 2 per cent per annum. In the early reform period (i.e. 1993-94 to 1999-2000) the growth of employment in AP was its lowest ever (0.29 per cent); thereafter, especially during 1999-2000 to 2004-05, it increased to 1.76 per cent but it was lower than in the pre-reform period. Moreover the employment elasticity which indicates the responsiveness of employment growth to growth in GSDP is lower during the post-reform period when compared to the pre-reform period and it has been lower than the all-India average. This situation has implications on the employment generating capacity of the increasing rate of GSDP growth in Andhra Pradesh.

Table 5.1: Work Participation Rate

Year	Andhra Pradesh			All-India		
	Rural	Urban	Total	Rural	Urban	Total
1	2	3	4	5	6	7
1983	53.5	34.8	47.2	44.5	34.0	42.0
1993-94	54.2	37.5	52.0	44.4	34.7	42.0
2004-05	54.4	39.2	50.2	43.9	36.5	42.0

Note: 1. Figures presented are percentages; 2. Principal and Subsidiary Status.
Source: NSS Employment and Unemployment Surveys.

Table 5.2: Growth and Elasticity of Employment in Andhra Pradesh and in India

	Growth Period	Andhra Pradesh				India			
		Rural	Urban	All	EE	Rural	Urban	All	EE
	1	2	3	4	5	6	7	8	9
1	1983 to 2004-05	1.50	2.81	1.75	0.305	1.73	3.07	2.04	0.361
2	1983 to 1993-94	2.32	3.82	2.59	0.437	2.03	3.03	2.25	0.431
3	1993-94 to 2004-05	0.72	1.87	0.95	0.166	1.44	3.11	1.84	0.314
4	1993-94 to 1999-2000	0.29	0.27	0.29	0.056	0.62	2.28	1.02	0.159
5	1999-2000 to 2004-05	1.24	3.82	1.76	0.289	2.43	4.12	2.83	0.495

Note: **1**. Usual Status -Principal and Subsidiary Status;
2. Growth is CAGR and presented in percent;
3. EE – Employment Elasticity.

Source : Computed based various rounds of NSS Employment and Unemployment Survey data.

Table 5.3 : Sectoral Distribution of Workers and Growth of Employment in each Sector in Andhra Pradesh

Sector	Distribution (%)		Growth
	1993-94	2004-05	
1	2	3	4
Agriculture	67.1	58.5	-0.29
Non-Agriculture	32.9	41.5	3.10
Mining and Quarrying	0.9	1.2	3.62
Manufacturing	9.2	10.9	2.50
Electricity	0.3	0.1	-6.85
Construction	2.9	4.5	5.06
Trade, Hotel & Restaurant	7.5	10.5	4.11
Transport, Storage & Commn.	2.5	4.4	6.39
Financial and Business Services	0.7	1.4	7.20
Public Admn. Community Ser.	8.9	8.4	0.44
All	***100***	***100***	***0.95***

Note: 1. Rural and Urban; 2. Principal and Subsidiary; 3. Growth is for emplyment (i.e. number of workers) and is Compound Annual (CAGR).

Source: Computed based on NSS data.

The growth of employment for different sectors in both rural and urban areas shows that there was no growth in employment in agriculture in the post-reform period.

As a matter of fact Andhra Pradesh was the only major Indian state that experienced such a situation. On the other hand, employment in non-agriculture grew more than 3 per cent during the same period. The manufacturing sector recorded a growth of around 2.5 per cent. Sectors like construction, finance and transport and communication registered a high growth of more than 5 per cent per annum (see Table 5.3).

Box 5.1: Employment in IT Sector

In India, information technology (IT) is seen as a shortcut to rapid economic growth and development. India's aspiration to be an "IT superpower" and a "knowledge-based society" is now well recognized. Since the mid 1990s IT, a component of the service sector, has shown remarkable growth in terms of its value added. Andhra Pradesh is one of the few states which are the major contributors to the growth of the IT sector in India. Andhra Pradesh ranks fourth in software exports from India, next to Karnataka, Maharashtra and Tamil Nadu. Hyderabad is one of the major destinations for IT companies. The fast growth of the IT sector is in fact generating employment opportunities for educated and skilled labour in India and abroad.

Employment in the IT sector has been growing at a rapid pace since 1996-97. According to the information available at Software Technology Park Hyderabad (STPIH), the IT sector in Andhra Pradesh employed 4500 workers in 1996-97. This reached a figure of 187,450 in 2006-07. A real breakthrough was achieved in 2004-05 when more than 40,000 new jobs were added in this sector. It is observed that in recent times, information technology enabled services (ITES) became an important component in the growth of the IT sector in India. It is possible that most of the employment creation has been in ITES in the recent years, but we do not have a break-up of employment figures for IT and ITES sectors.

As per the NSS 61st (2004-05) round on Employment and Unemployment[1], the IT sectors employ around 0.21 per cent of the total workforce in Andhra Pradesh whereas the all-India average is 0.17 percent. Among the states, the workforce employed in IT is the highest in Delhi (1.76), followed by Tamil Nadu (0.47), Karnataka (0.43), Maharashtra (0.37) and West Bengal (0.24). While Andhra Pradesh contributes 10 per cent of the total workforce in IT sector in India, Maharashtra contributes the highest (21 per cent) followed by Tamil Nadu (17 per cent), Karnataka (14 per cent) and Delhi (10.8 per cent).

There are expectations that the growth of the IT sector may solve the employment problem in India as well as in Andhra Pradesh. But its contribution to total employment is quite miniscule. Moreover, information technology is by its very nature an urban activity and employment opportunities in this sector are limited to the educated, especially those with technical qualifications and skills. Skilled workers live in cities and telecommunication facilities, which are important for this sector, could be established much more easily in big cities. It was only during the past few years that a conscious effort has been made to develop Tier-II cities. While extending IT to Tier-II cities is very difficult, there is a possibility that ITES (with its lower skill levels) may spread to smaller urban centres.

[1] The estimation is based on the unit record data of 61st round (2004-05) NSS Employment and Unemployment Survey. The IT workforce is identified from the National Industrial Classification 1998 (NIC-98).

Child Labour

One pressing issue that needs immediate attention is that Andhra Pradesh has a high percentage of child labour (in the 5-14 age group). Despite several initiatives to eradicate child labour, the problem still persists, though Andhra Pradesh has succeeded in reducing the incidence of child labour from nearly 14.8 per cent in 1993-94 to around 6.6 per cent in 2004-05 (see Table 5.3). A number of programmes involving both the state machinery and civil society were initiated in Andhra Pradesh especially to eradicate child labour. These were probably responsible for the decline in child labour in the state. In spite of this, the incidence of child labour in Andhra Pradesh is double the all-India average and the state has one of the highest rates in India.

Table 5.4: Child Labour–Percentage of Children (5-14) involved in the Workforce

Location	1993-94		2004-05	
	AP	India	AP	India
1	2	3	4	5
Rural	17.6	7.2	7.8	3.6
Urban	6.8	3.1	3.1	2.3
Rural and Urban	14.8	6.3	6.6	3.3

Note: 1. Figures presented are in percentage.

Source: NSS Employment and Unemployment Survey.

The work participation rate was relatively higher for rural children when compared to urban children. Within the 5-14 age group the participation rate was higher for the older children in the 10-14 age group. In this age group about 14.6 per cent of children in rural areas and 5.8 per cent of children in urban areas were working in 2004-05. This was a remarkable improvement as compared to a corresponding figure 31.2 per cent in 1993-94. In absolute numbers child workers came down from around 2.5 million 1993-94 to 1 million in 2004-05.

Unemployment

The unemployment rate is measured in three ways in India: based on usual status (US), current weekly status (CWS) and current daily status (CDS). The unemployment rate based on usual status indicates the magnitude of the persons unemployed for a relatively longer period[2] and approximates to an indicator of the chronically unemployed. The 'weekly status'[3] includes both chronic and intermittent unemployment of workers categorised as usually employed, caused by seasonal fluctuations in the labour market. The 'daily status' concept gives an average picture of unemployment on a day during the survey year. Unlike US and CWS which refer to unemployed persons, CDS refers to the person days unemployed[4].

The unemployment rate in India as well as in Andhra Pradesh thus varies with the measure used and was found to be highest according to current daily status (CDS). This higher rate of unemployment in CDS measure indicates high prevalence of seasonal unemployment (Table 5.5). It is important to note that the unemployment rate is increasing during the last decade or so period (i.e. between 1993-94 and 2004-05), in India as well as in Andhra Pradesh, in all the three measures (see Table 5.5). The growth of unemployed persons (US) in Andhra Pradesh has increased

[2] The reference period is 365 days.

[3] This gives an average picture of unemployment for 7 days during the survey period. According to the current weekly status approach, a person was considered as unemployed in a week if he/she did not work even for 1 hour during the week but sought or was available for work for at least for 1 hour during the week.

[4] For measuring unemployment according to the current daily status approach, 7 person-days were assigned for a person for the 7 days preceding the date of survey and activity for each of the person-days was considered. A person who did not work even for 1 hour in a day was considered unemployed for the day if he/ she sought or was available for work for 4 hours or more, and was considered unemployed for half-day, if he/she sought or was available for work only for 1 to 4 hours. The estimate of person days unemployed on a day during the survey period is obtained by dividing the person-days unemployed in a week by 7.

during the same period although it is relatively lower than the all-India average (Dev, 2007).

Rural-urban differences in unemployment rate are significant. The unemployment rate is higher in urban areas when compared to rural areas. It is noteworthy that the urban unemployed persons in Andhra Pradesh contribute more than half of the total unemployed persons (US) in the state. However, the recent data (2004-05) shows that the seasonal unemployment (CDS) is increasingly getting concentrated in rural areas.

Table 5.5: Unemployment Rates in India and Andhra Pradesh

Activity Status	Andhra Pradesh				All-India			
	1993-94		2004-05		1993-94		2004-05	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1	2	3	4	5	6	7	8	9
General								
Usual Status	0.8	3.7	1.3	4.0	1.8	5.2	2.5	5.3
Current Weekly Status (CWS)	2.7	5.1	3.8	5.2	3.0	4.5	3.9	6.0
Current Daily Status (CDS)	7.5	8.6	10.9	7.9	5.6	7.4	8.2	8.3
Educated								
Usual Status	7.4	9.5	7.0	7.8	10.3	8.9	8.5	8.2
Current Weekly Status (CWS)	7.7	9.7	9.2	10.4	9.3	9.8	8.5	8.3

Note: 1. Unemployment Rate is percentage of Unemployed Persons (willing to work but unable to find work) to the total Labour force (all age groups); 2. For Educated Unemployment the age group considered is 15 years and above; 3. Education levels considered are Secondary and Above.

Source: NSS Employment and Unemployment Survey, 50th (1993-94) and 61st (2004-05) Round.

Unemployment rate among educated adults are higher in India as well as in Andhra Pradesh when compared to the general unemployment rate (see Table 5.5). The unemployment rate among educated adults, in Andhra Pradesh, too follow a general unemployment pattern where it is higher in urban areas when compared rural areas. The unemployment (in both the US and CWS) among educated adults declined between 1993-94 and 2004-05 in India but in Andhra Pradesh seasonal unemployment (CWS) among educated adults has increased in this period both in rural and urban areas.

Quality of Employment

There are concerns about the number and quality of employment in Andhra Pradesh. Given the size of its population and the high work participation rate, AP has a huge workforce - around 40 million workers in 2004-05. Apart from numbers, the quality of employment is a cause of concern. All those who are working may not be able to earn reasonable level of income. Problems such as low wage rate, seasonality, job insecurity, illiteracy, occupational hazards etc. continue. Moreover, disguised unemployment may still be prevalent in Andhra Pradesh[5] as in India.

In Andhra Pradesh a large segment of the workforce is informal / unorganized in nature. According to the National Commission on Employment in Unorganised Sector (NCEUS, 2007), about 94 per cent of the workforce in the state is in the unorganized sector. Andhra Pradesh is one of the states with the highest incidence of employment in the

Table 5.6: Percentage Distribution of Workers by Nature of Employment in Andhra Pradesh

Nature of Employment	1993-94			2004-05		
	Rural	Urban	All	Rural	Urban	All
1	2	3	4	5	6	7
Self-employed	47.2	40.1	45.9	47.9	44.5	47.2
Regular Wage/Salaried	5.2	34.1	10.6	7.2	36.2	13.4
Casual Labour	47.2	25.3	43.1	44.9	19.3	39.4

Note: 1. Both Principal and Subsidiary Activity Status.

Source: NSS Employment and Unemployment Surveys.

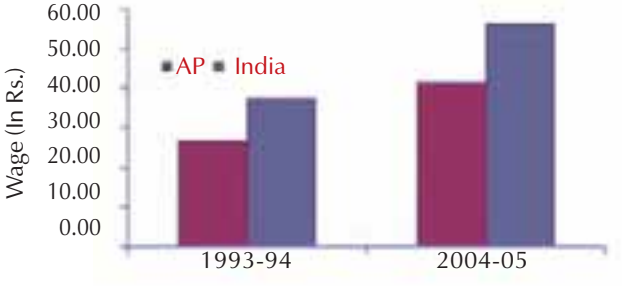
[5] Since workers prefer not to be unemployed they engage in some activity despite the fact that the particular activity may not require additional workers.

unorganized/informal economy. Employees in these sectors generally do not enjoy employment security (no protection against arbitrary dismissal), work security (no protection against accidents and illness at the work place) and social security (maternity and health care benefits, pension, etc.).

In the NSS employment and unemployment survey for 2004-05, about 39.4 per cent of the workforce is characterized as casual labour in Andhra Pradesh (see Table 5.6) and they are vulnerable to the uncertainties of the labour market. Also, the percentage of casual labour is higher in rural areas than in urban areas. 13.4 per cent of workers earn a regular wage or salary, and the remaining 47.2 percent are characterized as self-employed.

The situation seems to have improved between 1993-94 and 2004-05. There was a decline in the percentage of casual labour in the total workforce and a corresponding increase in the percentage of workers in the regular wage/ salaried category in this period, both in rural and urban areas.

Figure 5.2 : Average Daily Wage Rate (Rs.) in 1993 - 94 Prices

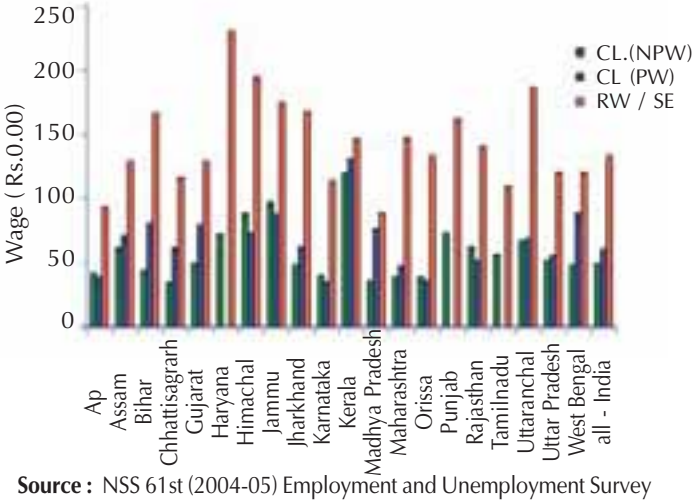


Though the average daily wage rates (both the actual and real) increased (Figure 5.2), the decline in the growth rate of real wages is a cause of concern. In five states viz., Assam, Bihar, Kerala, Madhya Pradesh and Punjab the growth of real wages are much higher than in Andhra Pradesh (Dev, 2007). Real wages in Andhra Pradesh increased in the 1980s, but the growth rate was low in the 1990s for both men and women. The trend rate of growth in real wages for males declined from 5.74 per cent in the 1980s to 1.53 percent in the 1990s. Similarly for women, the trend rate of growth in real wages declined from 4.76 per cent in the 1980s to 1.94 percent in the 1990s. Growing rural wages in real terms was one of the key determinants of poverty reduction in India in the 1980s. The trend in Andhra Pradesh is therefore worrying.

Moreover, the wage rate for casual workers - engaged in public works and other than public works - in Andhra Pradesh seems to be one of the lowest among the major Indian states (see Figure 5.3).

There has been a lot of debate on the impact of labour market reforms on employment. An analysis of macro policies has shown that the mix of policies have not been pro-employment in the post-reform period (Dev, 2006). The Indian experience in the post-reform period shows that Indian industry has been adjusting its workforce more after liberalization. Fiscal, monetary, trade and financial liberalization policies should have been more employment friendly and pro-poor. Insufficient public investment in infrastructure is one of the biggest failures in the post-reform period. This is true for Andhra Pradesh. In this context, it is difficult to eradicate poverty when 60 per cent of the workers are in agriculture. The need to develop the rural non-farm sector is evident. Agricultural growth of around 4 per cent and manufacturing growth of more than 10 per cent are prerequisites for this. Another challenge is to provide livelihood and security to the vast number of workers with low productivity and low wages in the informal/unorganized sector. To improve their productivity and reduce risk and vulnerability, the cluster approach, training and skill improvement, credit and technology and social security are needed. The problem of the 'working poor' is the major problem in Andhra Pradesh.

Figure 5.3: Average Daily Wages for the Casual Workers (CL) Working in Public Works (PW), others than PW (NPW) and Regular Wage/Salaried Employes (RW/SE)



Source : NSS 61st (2004-05) Employment and Unemployment Survey

Regional (Inter-district) Variations

Within the state and across districts, work participation rates range from the lowest of 29 per cent in Hyderabad to the highest of 52.2 per cent in Vizianagaram according to the 2001 Census. In most districts the work participation rate is above 40 per cent. While the work participation rate declined between 1991 and 2001 in three districts of Coastal Andhra and three in Telangana (Srikakulam, Visakhapatnam, Nellore, Rangareddy, Nizamabad, and Karimnagar), it increased in the other districts.

During 1991-2001 growth of employment was the highest in Rangareddy (3.29 percent) followed by Hyderabad (2.67 percent) and this high growth in employment coincided with the high growth of population in these districts. The lowest growth in employment was in Srikakulam (0.63 percent), West Godavari (0.96 percent) and Vizianagaram (1.0 percent). There are regional differences in the growth of employment also. Most of the districts with high growth of employment were in Telangana and districts with low rates of growth of employment were in Coastal Andhra. However, little is known about the quality of employment in Telangana districts.

Agriculture is the main source of employment in all the districts except in Hyderabad. If districts that experienced fast growth of urbanization such as Rangareddy and Visakhapatnam are excluded, in all the other districts the share of agriculture in the total workforce was 60 per cent or more. In districts like Mahabubnagar and Khammam, around three-fourths of the workforce is dependent on agriculture.

When the growth of employment in general is compared to the growth of employment in agriculture, it was lower in agriculture in all the districts (except Hyderabad). The growth of employment in agriculture was negative in four districts during 1991-2001 and three of them (Srikakulam, Visakhapatnam and Nellore) were in Coastal Andhra and the fourth, Karimnagar, in Telangana. In all the other districts there was growth indicating that there was an increase in the number of persons employed in agriculture. Low growth of employment in agriculture was matched by high growth in non-agricultural employment in all districts, though the quality of employment in non-agriculture was questionable.

5.2 Rural Livelihood Patterns

Since a majority of the population especially in developing countries such as India live in rural areas, responding to the livelihood and other basic needs of developing rural communities is a major concern world-wide. The majority of the population depends upon activities that utilize local natural resources. Increasing population coupled with continuing degradation of the natural resource base has further aggravated an already dismal situation. These degraded local resources would otherwise have supported multiple activities which in turn would have created employment opportunities for local people.

Rural livelihoods imply systems of how rural people make a living and whether their livelihoods are secure or vulnerable over time. As a matter of fact a livelihood comprises people, their capabilities, and their means of living including food, income and assets wherein the livelihoods are the ways in which people satisfy their needs, or gain a living. Thus, a livelihood is a set of flows of income, from hired employment, self-employment, remittances or (usually in developing rural areas) from a seasonally and annually variable combination of all these. A livelihood should be sufficient to avoid poverty, and preferably, increase well-being for a typical worker and dependants. Livelihood security means 'secure ownership of, or access to, resources and income-generating activities, including reserves and assets to offset risk, ease shocks and meet contingencies'. Food security is also one of the objectives of livelihood security.

In Andhra Pradesh, about three-fourths of the total population is in the countryside. For the majority of the rural population, land and agriculture used to be the main source of livelihood. Most of those who possessed or owned cultivable land were engaged in cultivation and would be characterised as self-employed in agriculture. The majority of the landless, including those with marginal and smallholdings, engaged in agriculture related activities were casual labourers. A small segment of the rural population depended on non-agricultural activities (producing goods and services) and most of them were under the *jajmani* system, in a system of inter-locked customary patron-client relationships in rural society. Thus, many of the traditional non-agricultural activities like carpentry, weaving and other rural household industry were closely associated with agriculture. A closed rural market owing to lack of connectivity (infrastructure like roads, transportation and other commutation facilities) offered limited opportunities for locally produced goods and services. Over the years, both the internal dynamics and external forces including policy interventions have brought in changes in the rural livelihood structure. It is worthwhile to assess who have been the gainers and losers in the process and the status of the chronic poor.

Public policies for improving rural livelihoods and the well-being of the people progressed and gathered momentum. Land reforms had been taken up to distribute land concentrated in the hands of a few people to the landless. Though the process helped many landless poor, the expected benefits did not materialise, as the policy could not ensure the provision of other supplements required to cultivate crops. Moreover, land reforms have been virtually dormant for many decades. Policies have been focusing on improvement in infrastructure like irrigation and implementation of Green revolution technology to improve the productivity of land and yield and thereby increase crop output. However, the gains were undermined by the negative impact on employment. In the process of commercialisation and increasing land values, land for grazing and under common use has been getting reduced. The degradation of common property resources would have had a negative impact on the livelihood of many persons.

In accordance with development theory and structural transformation there have been continuous efforts to transfer the surplus rural labour, especially labour concentrated in agriculture into non-agricultural activities in rural areas or in urban areas in addition to those activities which were traditional and hereditary in nature.

Rural industrialisation was planned but never gathered momentum and traditional industries have been neglected. The policy initiative of rural industrialisation and the economic incentives followed benefited small-scale industries which are in fact organised and modern in nature. The crisis in activities like ***handloom weaving*** and ***beedi making*** is the result of the lack of public support to such traditional sources of livelihood.

But the changes brought through modernisation and commercialisation of agriculture along with improved connectivity through infrastructure have opened new avenues and thereby increased the opportunities for non-agricultural activities, particularly modern ones. Most of the traditional services are now commercialised and marketed. However, the process of diversification from agriculture to non-agriculture (modern) and from traditional non-agriculture to modern activities has been slow in the state.

At present, according to the latest NSS 61st (2004-05) estimates, for about 61 and 39 per cent of the rural households in Andhra Pradesh, agriculture and non-agriculture respectively were the main sources of livelihood[6]. Of those households which depend upon agriculture about

[6] Agriculture includes crop cultivation and livestock in addition to the allied activities i.e. forestry, fishing, and logging.

Table 5.7: Distribution of Households by Livelihood Status in Rural Andhra Pradesh and India

Nature of Activity	2004-05		1993-94	
	AP	India	AP	India
1	2	3	4	5
Self employed in Agriculture	25.1	35.9	32.4	42.4
Casual Labour in Agriculture	35.8	25.8	39.4	27.5
Self employed in Non-Agriculture	16.0	15.8	14.8	13.1
Casual Labour in Non-Agriculture	9.1	10.9	6.0	7.5
Other Labour	14.0	11.6	8.4	9.5

Note : Figures presented in percentages.
Source : NSS 61st Round.

25 per cent are self-employed and 36 per cent are casual labourers (see Table 5.6). Among households in non-agriculture, 16 per cent were self-employed, while 9 per cent were casual labourers. The situation in Andhra Pradesh is slightly better when compared to all-India (where about 62 per cent of the households depend on agriculture). Between 1993-94 and 2004-05 there has been an improvement in terms of a decline in the percentage of households depending on agriculture and a corresponding increase in that of non-agriculture. The remaining 16 per cent were in other activities.

Rural employment: Change in Structure

According to the 2001 Census the population of Andhra Pradesh was around 76.2 million. Of these 55.4 million people (72.7 per cent) were living in rural areas and the rest in urban areas. About 28.2 million comprising 51 per cent of the rural population were reported to be workers (including 22 million main and 5.2 million marginal workers). Of the total workers in rural areas about 21 and 7 million were engaged respecively in agriculture and non-agriculture related activities.

The latest NSS quinquennial survey on Employment and Unemployment, the 61st (2004-05) round, estimates the work participation rate (WPR) in rural areas at 54.4 per cent (both principal and subsidiary status). Gender-wise WPR was 60 per cent for males and 48 per cent for females. The total population of the State for 2005 has been estimated at 79.7 million and the rural population at 57.8 million, an increase of about two and half million from 2001. The number of workers in rural areas would be around 31.4 million. The work participation rate in the rural sector of the state is the highest among the Indian states. Women workers constitute 43 per cent of the total workforce in rural Andhra Pradesh. This high percentage of females in the workforce is a special feature of Andhra Pradesh and nowhere else in India is there such a high ratio of working women.

Rural diversification is important for reducing poverty. There has been some improvement in the share of rural non-agricultural employment in Andhra Pradesh from 1993-94 to 2004-05 when it increased from 21 to 28 percent (see Table 5.8). Moreover, the rate of growth of employment in non-farm activities has been faster. The negative growth of employment in agriculture indicates that there is an absolute decline in the number of workers in agriculture and that all the growth in employment in AP is generated in the non-agricultural sector. This is a

Table 5.8: Distribution and Growth of Workers by Industry Category in Rural Andhra Pradesh

Activity		Distribution (%)		Growth (%)
		1993-94	2004-05	(1994-2005)
1	2	3	4	5
A	**Agriculture**	79.3	71.8	-0.18
B	**Non-Agriculture**	20.7	28.2	3.59
1	Mining and Quarrying	0.7	1.2	5.78
2	Manufacturing	6.9	8.6	2.76
3	Electricity	0.1	0.1	0.72
4	Construction	1.7	3.3	6.98
5	Trade, Hotel & Restaurant	4.5	6.6	4.29
6	Transport, Storage & Commn.	1.0	2.6	9.86
7	Financial and Business Services	0.2	0.4	7.27
8	Public Admn. Community Ser.	5.6	5.4	0.39
	All	100	100	0.72

Note: 1. Usual Principal and Subsidiary Activity Status; 2. Growth is for employment (i.e. number of workers) and is Compound Annual (CAGR).
Source: NSS Employment and Unemployment Survey

new phenomenon for Andhra Pradesh. The change in terms of increase in the share of non-agriculture has taken place mostly during the last five years i.e. between 1999-2000 and 2004-05.

Within the non-farm sector the sub-sectors in which there has been a remarkable growth in employment during 1993-94 and 2004-05 in Andhra Pradesh are transport and storage (9.86 per cent) followed by banking, finance and real estate activities (7.27 per cent), construction (6.98 per cent) and wholesale trade and other activities (5.78 percent).

However, 72 percent of the workers in rural areas continue to depend on agriculture for livelihood. Given this fact, an almost stagnant agrarian economy in which the growth of agricultural output or its value added has remained unchanged and a dynamic and a growing non-agricultural economy (value added) would widen economic inequalities between those engaged in agriculture and non-agriculture.

Regional Variations

There are regional variations across the state in WPR and the share of agriculture, and the growth rate of employment in general and in agriculture. The WPR is high in rural Andhra Pradesh. The lowest WPR was 42 per cent in East Godavari and the highest was 56 per cent in Vizianagaram district in 2001. In most districts WPR is around 50 per cent. The WPR had increased slightly during 1991-2001 in many districts. But eight districts experienced a slight decline in WPR (Srikakulam, Visakhapatnam, Krishna, Nellore, Rangareddy, Nizamabad, Karimnagar and Warangal).

The highest growth of employment in rural areas, of more than two percent was in Kurnool (2.52 per cent) and Khammam (2.02 per cent). And the lowest was in the two north coastal districts of Srikakulam (0.71 per cent) and Vizianagaram (0.85 per cent). A decline in the share of agriculture in the total workforce in the state is noticed across districts also.

The diversification index indicates that though there were disparities in the diversification levels across districts, in almost all districts workers were concentrated in agriculture. In order to shift people from agriculture this has to be reversed and employment should be concentrated in non-farm activities. The process of diversification, however, has been taking place in the districts and an improvement can be observed between 1991 and 2001 in all the districts except Srikakulam, East Godavari and West Godavari. A detailed analysis of the diversification index indicates that wherever the share of household industry in the total workforce is high the value of diversification index is also high. Across districts, diversification is relatively higher in Telangana districts particularly in Nizamabad and Karimnagar where a sizeable proportion of workers, especially women are engaged in household industry, particularly beedi-making and handloom weaving.

5.3 Livelihood Initiatives: Policy Intervention

There are several government schemes for uplifting the poor. All the Poverty Alleviation Programmes (PAP) which were part of the micro initiatives may be grouped under five categories: a. Income enhancement programmes; b. Wage employment programmes; c. Programmes which provide basic minimum services - housing, sanitation, health, and education; d. Income maintenance programmes viz., pension schemes, maternity benefit scheme and survival benefit scheme; and e. Natural resource management and livelihoods. In recent times Andhra Pradesh became a testing ground for implementing many of these programmes.

There are, in fact, two important models in the country on poverty alleviation. One is the Kerala Model and the other is the Andhra Pradesh model. The *Kudumbashree* programme in Kerala has made significant progress in reducing absolute poverty among its members. The interventions and processes of this programme have resulted in sustained empowerment of its women members (GOI, 2006). Similarly, the government of Andhra Pradesh is implementing a statewide rural poverty eradication programme based on social mobilization and empowerment of rural poor women. Particularly during the last two and half decades the state government has adopted several policy initiatives towards achieving livelihood security. The Andhra Pradesh Rural Poverty Alleviation Programme (APRPRP) also known as Velugu but more recently as Indira Kranti Pathakam is one of these programmes. This programme aims at enhancing assets, capabilities and the ability of the poor to deal with shocks and risks. The

programme has contributed to an improvement in women's empowerment at the household and community level.

The Andhra Pradesh Rural Livelihood Project (APRLP) is a joint initiative with the Department for International Development (DFID). The main objective of APRLP is to work with the on-going watershed programmes to improve the livelihoods of people in rain-fed areas and to promote the participation of women in land-based development interventions and other livelihood initiatives. Two poverty reduction projects in the state, the Andhra Pradesh Rural Poverty Reduction Project (APRPRP) and District Poverty Initiatives Project (DPIP), were designed to enable the rural poor to improve their livelihoods and quality of life and to reduce their vulnerability to shocks like illness, a death in the family, crop failure, livestock disease etc. The rationale for these programmes is the sustainable livelihoods approach (SLR) to ensure poverty reduction.

In Andhra Pradesh, self-employment and wage employment programmes are the most important direct employment schemes. Despite problems and inefficiency in terms of targeting and cost-effectiveness, these programs have contributed significantly to reducing the severity of poverty and prevent an increase in poverty. The self-help group movement in general, has been spreading all over the country. For example, there are 29 lakh SHGs, under NABARD's SHG-bank linkage programme, at the all-India level. Andhra Pradesh accounts for the bulk of the self-help groups in the country.

The National Rural Employment Guarantee Scheme (NREGS) is an important scheme in wage employment programmes. With a legislative act in 2005, the Government of India made it clear that the provision of employment for the rural unemployed, especially the poor, was a legal obligation. The Government of Andhra Pradesh initiated the scheme at the state level on 2 February 2006. Initially the scheme was limited to 13 districts in the state and at present it has spread to almost 19 districts. Initial reports on the working of NREGS in the state have been positive although there have been problems at the ground level. NREGS is relatively better implemented in A.P. because the progress is monitored with IT, social audit, post-office involvement etc. The success of the scheme in Andhra Pradesh is now well recognized, especially by the Planning Commission of India, and the state has become a model for implementing the NREGS. This indicates that if there is political will, it is possible to implement NREGS effectively with a new approach. The delivery systems in all the direct programmes can be improved with the new approach of participatory development, social mobilization, right to information, involvement of civil society and *panchayati raj* institutions.

5.4 Impact of the Initiatives at the Grass roots Level

Findings from a field study are presented here to help understand the dynamics of livelihoods and their change through governmental interventions. The study covers sample households from the first round of a longitudinal study of child poverty in Andhra Pradesh, which is part of the Young Lives project. It focuses only on diversification and examines the different diversification strategies and the reliance of households on incomes from different sources. The observations are as follows.

Agriculture remains the main activity in rural Andhra Pradesh, whereas in urban areas households are engaged in a more diverse range of activities. There is also less emphasis on agriculture in better developed rural regions and districts, and among non-poor households. It was observed that ownership of irrigated land and non-farm productive assets, access to credit (debt used as proxy), access to transfers and high male education status in developed areas are probably the factors behind growth-led diversification, and households choosing non-farm[7] over off-farm[8] activities. In contrast, households involved in off-farm activities were vulnerable to a greater number of shocks, while those engaged in non-farm activities were less susceptible to shocks. This indicates that there is no safety net for natural disasters that affect community-wide agriculture. Moreover, rather than reduce the risk of vulnerability, such off-farm diversification may actually increase vulnerability. The study also found an association between poor households in backward areas and non-farm diversification. Although this appears counter-intuitive, it makes sense when placed within the context of the government's Employment Guarantee Scheme which aims

[7] Non-Farm includes those activities other than agriculture.

[8] Off-farm includes those activities other than crop production within agriculture.

to provide minimum wage income-generating opportunities to all citizens for 100 days per year. Non-farm activities for the rural poor range from the lucrative to the poorly paid, including public works programmes involving construction and rural infrastructure development.

The landless poorest of the poor (ten per cent of the sample) are also more likely to be the most vulnerable. Sixty five per cent of the landless poorest of the poor (in the lowest decile) were not diversifying their activities, which would suggest that households in this group, because they have fewer options, are only working as casual labour (possibly on more than one farm). Fifty six per cent of this group were asset poor, compared to just 17 per cent among non-poor households. There was significant association only in poor households between having irrigated land and involvement in off-farm and non-farm diversification strategies. This was true irrespective of location in developed or backward areas. Increasing land size and proportion of land irrigated is associated with off-farm diversification in both backward and developed areas. This indicates that, especially for off-farm diversification and backward areas, this is a form of distress mitigation where irrigation acts as a cushion. However, in developed areas where households have less land, but where a greater proportion of that land is irrigated, non-farm diversification could be growth-led.

For both off and non-farm diversification strategies, it would appear that social networks that facilitate the sharing of farm equipment and labour as well as membership in community groups are important assets for the poor, especially in developed areas. Similarly, NGO assistance was positively associated with non-farm diversification. In backward areas, poor households were found to be more involved in non-farm diversification when assisted by NGOs. It can be inferred that living in a developed region serves as a substitute for some assets, especially as market integration is generally stronger in developed areas, and such assistance is therefore less important. However, since NGOs, including those which support self-help groups, seed development initiatives, skills training and petty trade development tend to target the poorest of the poor, they are more likely to provide assistance in backward areas and help poor households compensate for underdeveloped market mechanisms.

The findings on education levels are difficult to interpret; especially where a low education level (for both females and males) is associated with diversification. It is possible that diversification activities prevented a higher level of education for all members of these households. However, the association between high male education and non-farm diversification in developed areas shows the positive impact of education. Household labour supply emerged as an important factor shaping livelihood diversification strategies, especially among poor households. On the one hand, a large body of literature suggests that as households see others with fewer children investing more in each child and moving into more lucrative occupations, they too seek to limit their family size. On the other hand, in the context of limited income generating opportunities, having more able-bodied household members facilitates diversification into multiple activities, thereby dissipating risk.

Significant variation between males and females was found only in terms of education levels and livelihood patterns. While high levels of male education were linked to non-farm diversification, low levels of female education were also associated with non-farm diversification. However, this observation may be capturing two extremes of the

spectrum of non-farm occupations (i.e. from the lucrative to subsistence level). In the case of off-farm occupations, low levels of education among men and women were found to be positively associated, suggesting that much off-farm work is distress-led. In terms of other gender-related factors, we believe that data limitations probably account for the lack of perceived potential gender differences: in the case of the gender of the household head, our sample population was too small, while in the case of occupational distribution, our questions were too limited.

In line with the literature on livelihood diversification in India, we found that caste differences were associated with variations in household asset bases. Lower caste groups were found to be asset poor while forward castes were found to be asset rich.

Ownership of productive farm assets is associated with off-farm diversification in developed areas. It is possible that poor households with such assets opt for off-farm diversification because they have farm assets, which can be utilised for such diversification. Alternatively, it could reflect the in-migration of poor people who do not have productive farm assets and move into an area in order to undertake non-farm work.

However, when looking at the ownership of non-farm productive assets and non-farm diversification, the relationship appears to be clearer. It is interesting that, in backward areas, it is poor households that are significantly associated with non-farm diversification compared to non-poor households in developed areas. This is probably due to the fact that it is more difficult for poor households in developed areas to establish themselves because of greater demand for non-farm services such as tailoring. In backward areas, however, this does not appear to be the case. Disparities in access to non-farm diversification were also observed across wealth deciles.

5.5 Conclusions

Andhra Pradesh is a state with the highest work participation rates in the country. The high WPR in the state is partly due to the high female WPR, which is the highest in India. In spite of such a large human resource, especially working population, Andhra Pradesh still lags behind many other states in terms of growth and development. Though the state has a high work participation rate, the value added per worker is relatively low when compared with other states which means that labour productivity in the state is lower, which would be reflected in the wages. Therefore, many family members including children need to work to feed the family. The state in fact has a high incidence of child labour. Though this seems to have declined to a remarkable degree during 1993-94 to 2004-05, the incidence is still high and it is one of highest in the country.

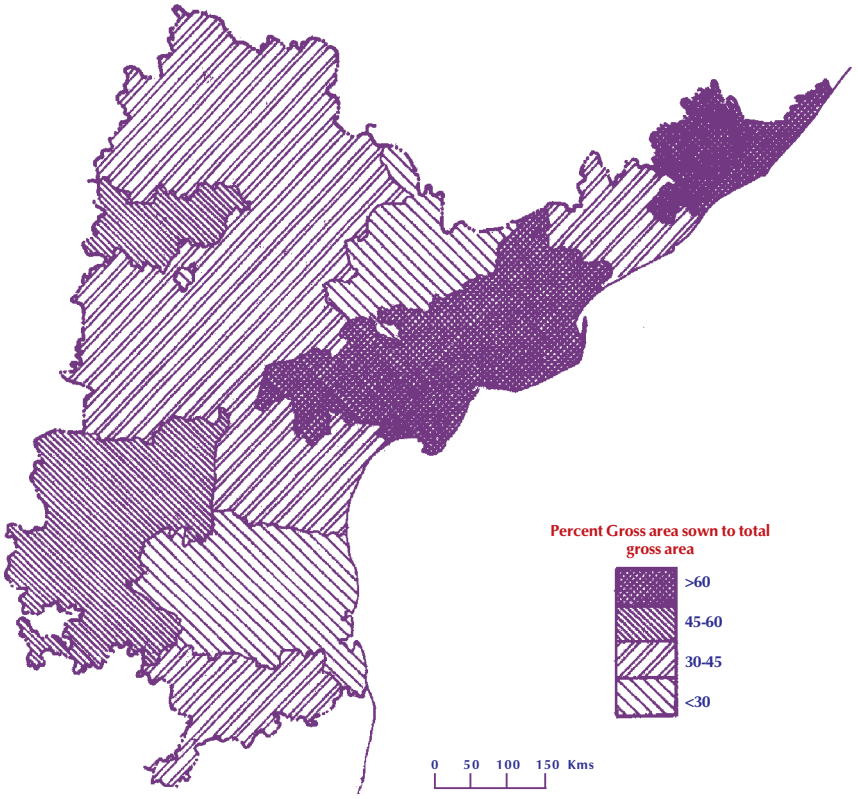
The low value of labour could be due to the fact that most workers are engaged is unskilled work. Because of its low levels of literacy and educational attainment, the state is lagging behind many other states in India including those characterized as BiMaRU, which are the most underdeveloped states in terms of human capital formation. For most of the workers, especially in rural areas, agriculture is the main source of employment and livelihood and Andhra Pradesh has the highest rate among Indian states. The rate of occupational shift/ diversification has been slow in the State.

Within non-agriculture, those engaged in traditional household industry especially *beedi*-industry and handloom weaving in Andhra Pradesh are facing livelihood insecurity. The recent crisis in handloom weaving is one example. Many of the traditional non-farm occupations are hereditary, without any formal education and training. The contribution of modern non-farm activity is minimal although it has been increasing over the years. Most modern non-farm activities require minimum levels of formal education and training. The percentage of educated (both general and technical education) persons in the state is low, which makes it difficult for improving employment opportunities in modern non-farm activities.

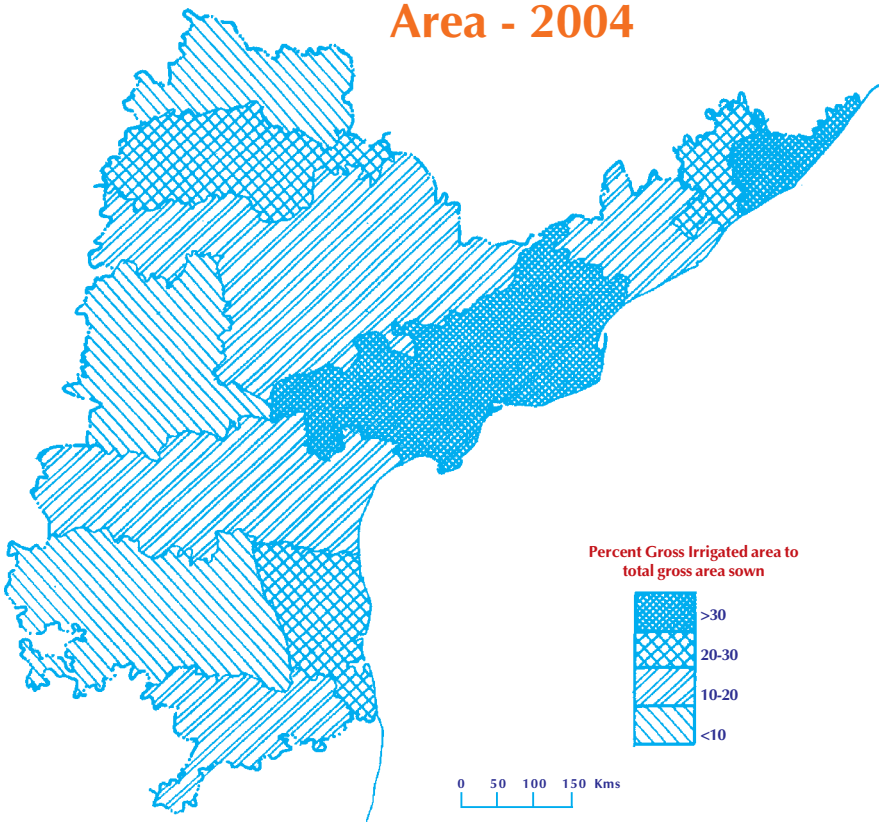
The government of Andhra Pradesh had initiated several statewide rural poverty eradication programmes based on social mobilization and empowerment of rural poor women, aimed at achieving livelihood security. The Andhra Pradesh Rural Poverty Alleviation Programme (APRPRP) also known as *Velugu* (now known as *Indira Kranti Pathakam*) is one such programme. The recent National Rural Employment Guarantee Scheme (NREGS) has been implemented relatively better in A.P. because the progress is being monitored with IT, social audit, post-office involvement etc. This indicates that if there is political will, it is possible to implement NREGS effectively with a new approach.

The delivery systems in all the direct programmes can be improved with the new approach of participatory development, social mobilization, right to information, involvement of civil society and *panchayati raj* institutions.

Andhra Pradesh Gross Area Sown - 2004



Andhra Pradesh Gross Irrigated Area - 2004



CHAPTER VI

6 Agrarian Economy of Andhra Pradesh
Changing Structure, Performance in Crop Output and Agrarian Distress

The performance of agriculture has not been satisfactory since the early 1990s. There is a need to focus on root causes of farmers' suicides in the state. Indebtedness of farmers should be reduced by improving institutional credit and steps should be taken to improve viability of farming. Farming is unviable without substantial public investment in infrastructure supported by several social security measures.

Agriculture plays a pivotal role in the economy of Andhra Pradesh and the better performance of this sector is vital for inclusive growth. Although its contribution to gross state domestic product (GSDP) is around one-fourth, agriculture provides employment to nearly 60 per cent of the work force. Also, the forward and backward linkage effects of agricultural growth increase incomes in the non-agricultural sector. Raising some commercial crops creates significant potential for promoting exports of agricultural commodities and brings about faster development of agro-based industries. Thus, agriculture not only contributes to the overall growth of the economy but also provides employment and food security to the majority of the population.

Andhra Pradesh was among the very few states in the country which went in for the Green Revolution in rice cultivation in the 1970s. The share of agriculture in GSDPand employment are higher in A.P. as compared to all-India. The per capita value of GSDP from agriculture is relatively higher in the state when compared to all-India. Average per capita agricultural income in the state was Rs. 3618 while it was Rs. 3360 in all-India at constant (1993-94) prices in the triennium 2002-05. There have been significant changes in the structure and performance of the agrarian economy in the state. In recent years, the state has also been facing a crisis in agriculture with a high incidence of suicides by farmers. This chapter examines the changes in structure and performance of agriculture and the issues relating to farmers' suicides.

6.1 Changing Structure of the Agrarian Economy

We look at changing structure in terms of employment and land holdings. The share of agriculture in employment in the State declined from about 69 per cent in 1961 to about 59 percent by 2001. The diversification to the non-farm sector has been slow. Among the agricultural workforce, about 60 percent are registered as agricultural labour and the rest as cultivators. Though there are regional differences, they are not significant. The percentage of cultivators in the agricultural workforce was relatively much higher in north coastal Andhra followed by Telanagana and Rayalaseema, and was lowest in south coastal Andhra. There has been a consistent pattern across all the districts of workers shifting to agricultural labour. Interestingly, the rate of increase was relatively higher in south coastal Andhra.

It is well recognized that the growth of agriculture leads to an increase in the non-farm sector and also employment opportunities. The instance of south coastal Andhra indicates that this is true as the region has the highest share of workforce in non-agricultural activities compared to the other regions. But, between 1971 and 2001 employment in non-agriculture had declined in this region, while it had increased in the other regions in the same period.

6.1.1 Distribution of Land Holdings

The data on land holding structure from 1955-56 to 2005-06 show that operational holdings have become much less concentrated (Table 6.1). Whereas the absolute number and area covered by large and medium holdings has declined since the mid-1950s there has been a significant increase 'in the shares of marginal and small farmers in the number of holdings and area. The share of marginal farmers in the number of holdings increased from 46 per cent in 1970-71 to 61.6 per cent in 2005-06. In fact, the share of marginal and small farmers in the number of holdings was more than 80 per cent in 2005-06. Area under marginal and small farmers rose from less than 20 per cent in 1970-71 to around 50 per cent in 2005-06. Many of the operational holdings are being held under

Table 6.1: Changing Structure of the Agrarian Economy in Andhra Pradesh: The Percentage Distribution of Operational Holdings by Size Class, 1956-2006

Year	Share in Number of Holding					Share in Operated Area					Avg
	Marginal	Small	Semi- Medium	Medium	Large	Marginal	Small	Semi- Medium	Medium	Large	Size
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1955-56	38.6	18.3	17.7	16.7	8.7	7.9	9.7	16.1	28.1	38.2	2.43
1970-71	46.0	18.5	17.4	12.7	4.3	8.0	11.3	19.2	30.8	30.7	2.51
1976-77	46.6	20.3	17.4	12.2	3.4	9.3	12.8	20.8	32.3	24.8	-
1980-81	49.3	20.9	16.0	9.1	2.1	13.1	16.2	23.3	28.7	18.7	1.94
1985-86	54.2	20.8	15.2	8.0	1.8	14.5	17.3	24.0	27.3	16.3	-
1990-91	56.0	21.2	14.5	6.9	1.3	16.4	19.6	25.2	26.1	12.8	1.50
2000-01	60.9	21.8	12.4	4.3	0.6	21.6	24.8	26.4	19.8	7.5	1.25
2005-06	61.6	21.9	12.0	4.0	0.5	22.7	25.8	26.5	19.0	6.1	1.20

Note : 1. *Marginal* – 0 to 1 hectare; *Small* – 1 to 2 hectare; *Semi-medium* – 2 to 4 hectare; *Medium* – 4 to 10 hectare; and *Large* – 10 and above hectare; 2. **Avg** - Average Size of the Holding is given in hectares.

Source : Directorate of Economics and Statistics (DES), Hyderabad.

tenancy contracts. The changing structure of the agrarian economy in terms of size class of landholding when the average size of holdings declined in A.P. from 2.5 hectares in the early 1970s to 1.20 hectares in 2005-06 also meant that the peasantry was increasingly being marginalised.

Within the state, the share of marginal and small holdings, in fact, is relatively higher in South Coastal Andhra when compared to the other regions. But because of the irrigation facilities, marginal farmers in South Coastal Andhra are relatively better off than in other regions.

6.2 Land Reforms in Andhra Pradesh

Agrarian relations and landholding structure play an important role in the performance of the agricultural sector. Land reforms[1] have been on the national agenda since Independence to improve the performance of agriculture as well as for rural re-construction[2]. In addition, creating greater access to land for the landless rural poor is an important component of poverty alleviation programmes.

Land reforms, in spite of all the limitations in implementation, did play an important role in changing the agrarian structure in Andhra Pradesh. The early land reform measures in the state were a combination of two administrative histories, of the Andhra region and the Telangana region which had formerly been under the Nizam. Following the pattern at the all-India level, the land reforms in Andhra Pradesh had three components: abolition of intermediaries, tenancy reforms, ceiling legislation and the other government initiatives.

Legislative measures were also initiated following Article 46 of the Constitution that made it obligatory for the states to promote the interests of Scheduled Castes and Scheduled Tribes and to protect them from social injustice and all forms of exploitation. State governments have accepted the policy of prohibiting the transfer of land from tribals to non-tribals and the restoration of alienated tribal lands to tribals. In 1977, the government of Andhra Pradesh enacted the Assigned Land Prohibition Act which ruled that land that had been 'assigned' by the government to the landless and tribals could not be resold and used for purposes other than agriculture[3]. To improve women's access to land and landed property Andhra Pradesh along with Karnataka and Tamil Nadu amended the Hindu Succession Act, 1956, to legally protect the right of women to property including land.

The Madras Estates (Abolition and Conversion into Ryotwari) Act 1948 was the first legislation after Independence which removed intermediaries. It brought all land in Andhra area under ryotwari system. In the Telangana region the jagirdari tenurial system ended with the Abolition of Jagirdari Act of 1949 (GOI, 2004). With respect to tenancy, the Hyderabad Tenancy and Agricultural Lands Act was enacted in 1950 which gave protection to nearly six lakh tenants who held over 75 lakh acres of land, constituting 33 per cent of the total cultivated area. This was considered one of the progressive acts of legislation in the state. The AP (Andhra Area) Tenancy Act 1956 was passed to ensure that a tenant was not evicted from his/her holding except by going to court. This legislation has given a mixed result as it often led to concealed tenancy (Reddy, 2006).

Legislation on ceilings on agricultural holdings was enacted in two phases, 1955-72 and 1972 to the present. The Andhra Pradesh Land Reforms (Ceiling on Agriculture Holdings) Acts were passed in 1961 and 1973. As in most states, the first round of legislation in 1961 was a miserable failure but the second one in 1973 had some impact. Against an estimated surplus land of 20 lakh acres, only 7.9 Lakh acres were declared surplus, of which 6.47 Lakh acres were taken possession by the government and 5.82 lakh acres were distributed among 4.79 lakh

[1] Land reforms included abolition of Zamindari system and all intermediaries since the beginning of the fifties; the introduction of a family ceiling in the mid-fifties; reduction of the ceiling limit, consolidation of land holdings and monitoring the progress of the distribution of ceiling surplus land as part of the 20- Point Programme of the Central Government. Tenancy reforms were intended to abolish or regulate tenancy to ensure fixed tenures and a fair rent. The Constitution of India was amended 13 times for the incorporation of 277 land laws in the Ninth Schedule. The last such amendment was the 78th Amendment of the Constitution to incorporate 27 land laws in that Schedule.

[2] The major objectives of land reforms have been the re-ordering of agrarian relations in order to achieve an egalitarian social structure, elimination of exploitation in land relations, realising the goal of land to the tiller, enlarging the land base of the rural poor, increasing agricultural productivity and infusing an element of equality in local institutions.

[3] A spate of earlier legislation like the AP Land Reforms (Ceiling on agriculture holdings) Act of 1973 had not been properly implemented. Big landlords had not declared their excess land, and where they had, it was fallow land. Whatever be the intention of the government of the day, even the Assigned Land Act has been observed only in the breach. There are numerous instances of assigned land being purchased from the poor at cheap prices by the rich.

beneficiaries till August 2004 (GOAP, 2004). This amounted to about 4 per cent of the net sown area. Of the beneficiaries, 42 per cent were SCs who were assigned 39 percent of the land, while STs constituted 14 per cent of the beneficiaries and received 20 per cent of the land. A major step in land distribution in the state was the assignment of government land to the landless poor, which accounted for 12.5 per cent of the net sown area. By the end of 2002, an area of 43.21 lakh acres of government land was assigned to 23.98 lakh beneficiaries of whom 24 per cent were SCs and 28 per cent were STs (GOAP, 2004).

Though the ceiling legislation was not effective in the redistribution of land, it did act as a constraint on the acquisition of more land by the rich. In addition, the political mobilization of rural masses inspired by the radical political parties and the Naxalite movement arrested the process of acquiring more land by the rich. The rich peasantry began to sell their land and shift to other vocations in non-agricultural activities in urban areas. As a result, on the one hand, the surplus land under land ceiling and government wasteland was distributed to SCs and other rural poor. On the other, land was acquired for cultivation by communities which had been involved in off-farm activities earlier. Subsequently the concentration of land in a few hands and large holdings declined. In the process, the power of the dominant cultivating castes in agrarian society has declined while backward communities have more control over land (Reddy, 2006).

While land-reform legislation remained active, land policies in more recent decades have focused less on land reform and more on land development and administration. Land policy in India has undergone broadly four phases since Independence. Land reforms were in the forefront in the first and longest phase (1950-72)[4]. During the second phase (1972-85) attention shifted to bringing uncultivated land under cultivation. In the third phase (1985-95) water and soil conservation was given more importance through Watershed Development, Drought-Prone Area Development (DPAP) and Desert-Area Development Programmes (DADP). A central government Wasteland Development Agency was established to focus on wasteland and degraded land. The fourth and current phase of policy (1995 onwards) centres on debates about the necessity to continue with land legislation and efforts to improve land revenue administration and, in particular, clarity in land records.

Land relations in Andhra Pradesh are extremely complicated which have led to serious problems for actual cultivators. Unregistered cultivators, tenants, and tribal cultivators all face difficulties in accessing institutional credit and other facilities available to farmers with land titles. Among others, the Farmers Welfare Commission (GOI, 2004) made the following three recommendations on land issues.

(a) There is a need to record and register actual cultivators including tenants and women cultivators, and provide passbooks to them, to ensure that they gain access to institutional credit and other inputs; (b) The land rights of tribals in the agency areas must be protected; and (c) Considerable scope exists for further land redistribution particularly when waste and cultivable lands are taken into account. In order to develop the lands, complementary inputs for cultivation (initial land development, input minikits, credit, etc.) should be provided to all assignees. The future assignments of land should be in the name of women.

6.3 Changes in Land and Water Resources

It is a matter of great concern that land and water resources available for agriculture in Andhra Pradesh have declined over a period especially during the 1990s. Area under cultivation (net area sown) declined from 110.42 lakh hectares at the beginning of the 1990s to 100.87

Table 6.2: Changes in Cropped and Irrigated Area in Andhra Pradesh

Sno.	Area	1957-58	1980-81	1990-91	2004-05
1	*2*	*3*	*4*	*5*	*6*
1	Net Area Sown	112.3	108.7	110.4	100.9
2	Gross Area Sown	122.5	125.6	127.9	121.5
3	*Cropping Intensity*	*1.09*	*1.16*	*1.16*	*1.20*
4	Net Area Irrigated	27.8	34.5	43.5	37.1
5	Gross Area Irrigated	33.2	44.3	54.2	47.7
6	*Irrigation Intensity*	*1.19*	*1.28*	*1.25*	*1.29*

Note : Figures presented are in lakh hectares.
Source : 1. DES, Hyderabad; 2. Subrahmanyam and Aparna (2007)

[4] It included three major efforts: abolition of intermediaries, tenancy reform, and the redistribution of land taken over under land ceiling. The abolition of intermediaries was relatively successful, but tenancy reform and land ceilings met with less success.

lakh hectares by the triennium ending 2004-05, indicating a decline of about 10 lakh hectares or 8.65 percent (Table 6.2). In fact, during the triennium ending 1957-58 net sown area had been about 112.3 lakh hectares. Despite the improvement in cropping intensity, there has been a significant fall in the gross cropped area (GCA) which declined by about 6.4 lakh hectares or 5.3 per cent of GCA during the same period. The GCA was about 122.5 lakh hectares in 1957-58 and increased to 127.9 by 1990-91, but declined to 121.5 by the triennium ending 2004-05. Multiple cropping could not lead to a proportionate increase in agricultural production because productivity is lower for crops grown after the first crop. In addition, there has been an increase in instability in the area under cultivation[5].

The decline in net area sown is observed across almost all the districts in the state except two, Anantapur and Nellore where, in fact, it has increased (see Table 6.3). Four districts - Mahabunagar, Nalgonda, Chittoor and Karimnagar - accounted for about 54 per cent of the decline in net sown area in the state. Another four districts - Nizamabad, Prakasam, Khammam and Rangareddy - contributed to almost one-fourth of the decline. Of these eight districts six are located in Telangana region.

There has also been a decline in irrigated area. The state had an irrigated area of about 27.8 lakh hectares in the mid-1950s which increased to 43.5 lakh hectares, an increase of about 56.5 per cent, by the end of the 1980s. During this period (mid-fifties to eighties), out of the total increase (15.7 lakh hectares) of irrigated land, about 6.7 lakh hectares was added in the first 23 years (i.e. late 1950s to late 1970s) and 9.0 lakh hectares in the next 10 years (in the 1980s). As a matter of fact, the addition in the 1980s was mostly due to expansion of area under groundwater which is highly vulnerable to fluctuations in rainfall.

During the 1990s, the irrigated area declined to 37.1 lakh hectares, which was almost equal to the level in 1980-81. Similarly, the gross irrigated area which had increased by 10.1 lakh hectares in the 1980s declined

Table 6.3: Contribution of Districts to the Total Cropped and Irrigated Area declined in Andhra Pradesh

Range	Net Sown Area		Net Irrigated Area	
	Districts	Contb	Districts	Contb.
1	*2*	*3*	*4*	*5*
Very High	Mahabubnagar (17.5), Nalgonda, (13.4) Chittoor (12.3) Karimnagar (10.6)	53.8	West Godavari (13.1), Guntur (13.0), Krishna (11.5), Prakasam (10.1)	47.7
High	Nizamabad (7.5), Prakasam (6.4), Khammam (6.2), Rangareddy (4.8)	24.9	Nalgonda (8.8), Karimnagar (8.4), Anantapur (6.8), Visakhapatnam (5.8), Nizamabad (5.2)	35.0
Low	East Godavari (4.1), Adilabad (3.9), Srikakulam (3.5), Krishna (3.2), Visakhapatnam & Vizianagaram (2.4), Guntur (1.9), Kurnool (0.8), Warangal (0.7), West Godavari (0.6), Kadapa (0.4), Medak (0.1)	21.3	Khammam (4.3), Mahabubnagar (4.0), Nellore (3.5), East Godavari (3.2), Vizianagaram (3.0), Chittoor (2.9), Medak (2.5), Srikakulam, (2.3), Rangareddy (1.3).	27.0
Increase	Anantapur (1.5), Nellore (1.1)	2.6	Adilabad (4.3), Warangal, (4.0), Kadapa (1.1), Kurnool (0.2)	9.6

Note : **1**. Figures presented in parentheses are percentages of each district to the total area declined in the state and col. 3 and 5 are the percentage contribution of the group of district; **2**. ***Contb.*** – Contribution of district to the total at the state level.

Source : 1. Subrahmanyam and Aparna (2007); 2. DES, Hyderabad.

[5] Instability measured in terms of coefficient of variation was 2.9 per cent during 1955-80 and increased to 4.1 per cent during 1990-2004.

by 6.5 lakh hectares in the 1990s and after. Irrigated area, which was 33.2 lakh hectares in the late 1950s, increased to 54.2 lakh hectares in the late 1980s but declined significantly during and after the 1990s and had come down to 47.7 lakh hectares in 2004-05. The highest increase in irrigated area happened in the 1980s and the lowest in the 1990s. While the growth rate of gross irrigated area declined from its highest level of 1.81 in the 1980s to 0.31 percent in the 1990s, it became negative for net irrigated area from 2.0 to –0.49 per cent during the same period.

New irrigation potential had been created in the pre-HYV period and as result net irrigated area expanded at an annual rate of 2 per cent per annum. In the post-HYV period, gross irrigated area expanded because of the implementation of modernization schemes without much addition to the net irrigated area. In the 1980s, irrigated area expanded at a very high rate of 2 per cent but this was only due to the exploitation of groundwater. The 1990s and subsequent years were a period of disaster for the irrigation sector. The net and gross irrigated areas declined at 0.49 and 0.31 per cent per annum respectively.

The changes in irrigation from different sources since the mid-nineties indicate that irrigated area declined both under surface and groundwater sources. Under surface irrigation the area declined by about 4 and 3 lakh hectares under canal and tank irrigation respectively. There was a decline also in area under groundwater sources. Though there is no proper data to show the performance and functioning of wells, many micro level studies have shown that more and more wells were going dry, becoming non-functional. This happened both because of the unsustainable growth of groundwater exploitation and the failure of the monsoon. Despite the fact that cultivation practices in Andhra Pradesh continue to depend on irrigation, state governments have not increased public investment and neglected surface irrigation infrastructure. Consequently, there has been an increase in private investment in exploiting groundwater resources.

The frequent failure of the monsoon and the resulting deficit in normal rainfall and droughts create crises in the agrarian economy. There have been many such periods of drought in Andhra Pradesh. The average annual rainfall in the monsoon season was at an all time low in the 1990s at 586 mm as against 684 in the previous decade. Variations in rainfall across years also declined in the nineties, indicating that it was uniformly low in all the years. When compared with earlier periods, the state suffered most in the 1990s when the monsoon was poor in nine years. As a result the state experienced continuous and severe drought during this decade. Across regions within the state, Rayalaseema and South Telangana experienced the lowest rainfall and these two regions have a low irrigation ratio of 22 per cent when compared with other regions.

6.3.1 Predominance of groundwater in most of the districts

Despite differences in the extent of irrigation, the data for 2004-05 on the structure of irrigation indicate a clear regional pattern. Tanks and canals are the main sources in North Coastal Andhra, though canals are dominant in Srikakulam district. The four districts in the Krishna-Godavari zone are mainly served by canals with wells as a supplementary source. In West Godavari wells are more predominant, along with canals. In Prakasam and Nellore, the two districts in the South Coastal zone, wells and canals are the main sources. However, Nellore is a special case where all three sources are important. In Rayalaseema and Telangana, except in the districts of Chittoor, Mahabubnagar and Nalgonda, wells and canals are the main sources, whereas wells and tanks are predominant in all the remaining districts of Telangana region and in Chittoor. Thus, wells play a very important role in the agricultural economy of Andhra Pradesh and serve as the main source of irrigation in as many as 15 districts. Canals come second and are important in five districts while tanks are the dominant source only in two districts.

However, as a secondary source, tanks are important in ten districts, canals in eight and wells only in four districts. In a state with low rainfall of less than 100 cm per annum, surface irrigation should have more prominence than groundwater irrigation to facilitate recharge. The high growth of wells had led to the overexploitation of groundwater and drying up of wells. The extent of area under wells, canals and tanks is in the ratio of 3:2:1.

This lopsided development of groundwater is seen in all the districts in Rayalaseema and Telangana which led to high indebtedness because of risky investment in wells. The high and increasing ratio of groundwater to surface irrigation in these two regions indicates their dependence on the former. The ratio increased from 0.7 to 3.47 in Rayalaseema and 0.43 to 7.31 in South Telangana during 1974-75 to 2003-04. In other words, for each acre of irrigated land under canal or tank, the area irrigated with groundwater resources was 3.47 acres in south Telangana and 7.31 acres in Rayalaseema.

Table 6.4: Growth Rates in Aggregate Value of Crop Output in A P

Period	Growth	t value
1	*2*	*3*
1955-56 to 1966-67	3.25	4.77
1966-67 to 1979-80	3.87	5.40
1980-81 to 1991-92	2.66	2.34
1991-92 to 2004-05	0.37	0.37
1955-56 to 2004-05	2.54	17.99

Note : 1. Figures presented are in Percent; 2. Exponential growth based on semi-logarithmic trend equations estimated for the Divisia index.

Source : Subrahmanyam and Aparna (2007)

6.4 Performance of Agriculture : Growth in Value of Output

The growth of GSDP/NSDP from agriculture is one of the measures of the performance of the sector. In Andhra Pradesh, the annual growth rate of agriculture increased from 2.3 per cent during 1980-81 to 1992-93 to 2.7 percent during 1993-94 to 2005-06, which was due mainly to the extraordinary performance of the livestock component during this period. The livestock sector[6] achieved a high growth rate of 8.4 per cent per annum between 1993-94 and 2005-06 whereas the growth rate of value of output in the crop sector was very low at 0.59 per cent. Moreover the share of livestock in agriculture increased from 18.1 percent in 1993-94 to 34.7 percent in 2005-06. The share of agriculture in NSDPin terms of the crop sector, excluding all allied activities, declined sharply from 26.7 per cent in 1983 to 14.12 percent in 2005-06, relegating agriculture almost to insignificance. *Therefore, the growth of agriculture will not properly reflect the ongoing crisis referred to as agrarian distress in the crop sector.*

While examining the performance of the crop sector with respect to 19 major crops[7], three distinct phases can be observed. The first phase covering 1955-56 to 1979-80 consisting of both the pre-HYV and the early HYV period is one of high and accelerated growth. From 3.25 per cent in the pre-HYV period the growth rate accelerated to 3.87 in the early HYV period (Table 6.4). The second phase covering the decade of 1980s witnessed a deceleration in agricultural growth from 3.87 to 2.66 per cent. In contrast to the experience of the moderate to high growth for a long period of about 35 years, there has been a steep decline after economic liberalization (since 1990), which is seen as the period of stagnant and unstable agriculture.

To understand in detail the performance of agriculture during the last fifteen years, it is observed that the deceleration in growth was mild till 2001-02. Between 1990-91 and 2001-02 the growth rate was 2.39 per cent per annum. But in the last three years the growth rate has fallen very sharply. The year-to-year movement of the value of agricultural output remained almost constant till the mid-nineties without much fluctuation and thereafter it grew at a high rate till 2000-01. In the next four years (2001-02 to 2004-05), or the post-reform period, the performance was very poor as compared to any pre-reform period.

Among individual crops, the performance of rice which accounts for a quarter of the gross cropped area had been poor during the nineties. The growth rate of rice production fell to 0.36 per cent in 1990s from a high growth rate of 2.7 to 3.9 per cent in the earlier periods. All the coarse cereals declined at a high rate both in the 1980s and 1990s except for maize which had a high growth during both the sub-periods. The growth rate of

[6] Livestock includes dairying, poultry, small ruminants and piggery.

[7] Based on Divisia index

cereals was 1.94 per cent during the last fifty years but it declined to 1.08 per cent during the 1990s. The growth rate of pulses picked up after 1980-81 and maintained a high growth rate of more than 4 per cent. Groundnut which is the second major crop (rice being the first) had a very high growth rate of 7.29 per cent per annum during the 1980s but it did very badly during the 1990s when production declined at the rate of 5.64 per cent. The *poor performance of oilseeds is partly responsible for the deceleration of agricultural (crop sector) growth* in the state during the post-reform period.

Cotton is an important crop accounting for 8 per cent of the gross cropped area. Production of cotton grew very rapidly after the mid-sixties when the growth rate was as high as 10.33 per cent during the HYV period. But it slipped to 4.61 percent in the 1980s and further to 2.65 percent in the post-reform period. The long run growth rate of cotton production was 6.96 percent which was the highest among all the crops.

Since the production of a crop may decline because of shifts in cropping pattern, the growth rate of yields would be better indicator of performance for each crop. It is observed that the growth rate of rice yield in Andhra Pradesh had decelerated marginally in the nineties over the eighties. It was negative for groundnut while for cotton the growth in yield was poor. The growth rate of yields explains in part why there has been such a steep deceleration in the growth rate of aggregate output.

Major changes in the cropping pattern occurred during the 1980s. The share of cereals in gross cropped area declined, mainly because of the steep fall in the area under coarse cereals. Secondly, the area under oilseeds increased significantly from 14.7 per cent during the triennium ending 1982-83 to 24.1 per cent during the triennium ending 1992-93. In the post-reform period, the share of oilseeds declined and the share of pulses increased. It may be noted that these changes were due to changes in the relative prices of agricultural commodities.

6.4.1 Regional Variations

There are variations within the state in terms of the contributions of agriculture to the total value added and the growth of value added in agriculture, across regions/ districts. The share of agriculture (crop output and livestock) to total value added has declined across the districts but at different rates. It would seem that this is primarily due to the decline in the share of crop output as the share of livestock has, in fact, increased. In Hyderabad district, the contribution of crop output to the total value was almost nil or negligible. The other districts whose contribution has been minimal in the recent period (2003-04) are Rangareddy (4.3 percent), Visakhapatnam (5 percent) and Chittoor (9.5 percent). A few districts like Guntur (25.1 per cent), Kurnool (24.5), West Godavari (22.3), Warangal (21.9) and Adilabad (20.3 percent) showed a relatively higher contribution (more than 20 per cent) of the crop sector to the total value added.

In terms of growth during the last decade (from 1993-94 to 2003-04), the livestock sector shows higher growth when compared with the crop sector across districts. In crop output, while a few districts - Srikakulam, Nellore, Chittoor and Anantapur - showed negative growth, two districts, Kadapa (5.6 percent) followed by East Godavari (5.4), recorded the highest growth. All the Telangana districts had a reasonably high growth. Interestingly, the most backward districts like Mahabubnagar and Medak also showed high growth in crop output.

It was observed that higher agricultural output per worker ensures higher GDDP, but higher GDDP does not ensure higher agricultural output per worker. For instance, Visakhapatnam, Medak and Ranga Reddy have high per capita GDDP, but they occupy a low position with respect to agricultural output per worker. On the other hand, West Godavari, East Godavari, Guntur and Krishna have a high agricultural output per worker and their ranking in per capita GDDP is also high. The correlation between per capita GDDP and per worker agricultural output is only 0.26, which is not statistically significant.

6.5 Decline in Public Sector Investment and Failure of Support Services

6.5.1 Decelerated Capital Formation

Capital formation is important for the growth of any individual sector and the overall economy. The trend rate of growth in Gross Fixed Capital Formation (GFCF) in agriculture in Andhra Pradesh shows that the growth rate

in the state slipped from a high value of 6.9 per cent during the 1980s to 1.1 percent in the 1990s whereas at the national level it recovered from negative growth during the 1980s (Table 6.5). In A.P., the growth rates of both public and private investment have declined. The growth rate of public investment declined from 7.6 to 3.9 and that of private investment declined from 5.2 per cent in 1980s to (–) 1.7 per cent in 1990s.

The available data shows that the state experienced a decline in capital formation in agriculture in the post-reform period, even in absolute terms, basically on account of a decline in capital formation by the private sector, at a time when there was a significant increase in private sector capital formation in this sector for the country as a whole. This aspect needs further investigation.

6.5.2 Prices of Agricultural Commodities

When the prices received by the farmers for their crops are compared with the prices they pay for the consumer goods (i.e. Consumer Price Index for Agricultural Labour – CPIAL), it was observed that the farming community is facing an erosion of their real incomes due to the lower growth of prices of commodities they produce as compared to the prices of consumer goods.

Table 6.5: Growth of Gross Fixed Capital Formation in Agriculture

State	Source	1980-81 to 1989-90	1990-91 to 1999-00
1	*2*	*3*	*4*
A P	Public	7.6**	3.9***
A P	Private	5.2*	-1.7***
A P	Overall	6.9**	1.1***
India	Overall	-1.0***	2.0*

Note : 1. Growth is exponential growth rate; 2. *** Significant at 1 percent level, ** significant at 5 percent level *Significant at 10 percent level,

Source : Subrahmanyam and Aparna (2007)

The aggregate price index grew at an annual rate of 4.83 per cent per annum between the periods 1991-92 to 2004-05. The prices of all the coarse cereals have grown at less than 4 per cent per annum. While the price of maize, which is an important crop in the drought prone areas of the state, grew at 3.99 per cent, the shortfall in the relative price was more than 12 per cent. The growth rate in prices of pulses was higher than the average of all the commodities while the price of rice has grown at a rate lower than the average of all the commodities. The growth in prices of cotton, sesame and groundnut was observed to be relatively lower than that of other agricultural commodities.

The terms of trade have become favourable to agriculture because the protection given to domestic industry has been reduced and the minimum support prices (MSP) for rice and wheat have been increased. As MSP operations are limited to only a few commodities, the prices are not favourable to most of the other commodities. For instance, the high imports of edible oil led to a decline in the price of oil which affected the drought-prone areas in the state.

Trade liberalization with respect to agriculture has led to destabilization in some crops in A.P. The two major crops after rice viz., groundnut and cotton are known to have suffered in the state because of trade liberalization. The import duty on cotton has been reduced to almost zero, thus depressing cotton prices. Similarly, the import of palm oil has affected the profitability of groundnut in Andhra Pradesh

6.5.3 High Indebtedness and Exploitation by Informal Credit Agencies

Indebtedness is a major problem in the rural economy in Andhra Pradesh. The amount of loan outstanding per farmer is about Rs. 24000 which is twice the all-India figure. The position of the small farmer is the worst among all classes of farmers, and the outstanding loan per farmer is Rs. 33000 per farmer in the state as against Rs. 14000 at the national level. Since most of the loans are borrowed from private moneylenders and traders, the implicit rate of interest is very high.

Inadequate expansion of formal credit facilities and poor access to these has made the farmers, especially small and marginal ones, to resort to informal credit agencies. An NSSO survey reveals that about 68.6 per cent of the total loans taken by farmers in Andhra Pradesh are from the informal credit market. This is much higher than the corresponding figure at the national level as well as in other south Indian states.

6.5.4 Heavy investment in wells and a high proportion of failure

A very high rate of expansion of wells in the recent period intensified the crisis in the agricultural sector. According to a survey conducted in seven districts in the state covering 3861 cultivator households, farmers incurred heavy losses due to failure of wells. 26.0 per cent of the farmers have invested in borewells during the last five years. The proportion is highest in South Telangana, followed by Rayalaseema and South Coastal Andhra (Table 6.6). As expected, there is a positive association between farm size and the proportion of farmers investing in borewells. While it was 14.1 per cent among marginal farmers, it was as high as 46.7 per cent among large farmers. The average investment per household was about Rs. 25000.

Table 6.6: Percentage of Farmers Investing in Borewells

Region	Marginal	Small	Medium	Large	All
1	*2*	*3*	*4*	*5*	*6*
Srikakulam	1.7	2.9	1.0	7.0	2.7
East Godavari &Nellore	15.6	28.1	38.5	52.4	29.4
Kadapa & Anantapur	13.4	27.6	42.6	56.4	30.2
Nalgonda	32.9	43.4	63.4	73.7	49.2
Warangal & Adilabad	11.5	15.6	24.8	33.8	18.6
Overall	14.1	23.6	34.5	46.7	26.0
Investment (Rs.'000)	18.1	22.0	25.7	30.2	24.5
Investment Lost (%)	55.9	53.2	55.9	58.5	56.1

Source: Primary survey conducted by CESS during 2004

A high proportion of this investment (56.1 per cent) was lost due to failure of wells without much variation across farm size (Table 6.7). However, the loss increases with farm size in absolute terms as the amount invested has positive association with farm size because large farmers invest in more than one well. It is significant to note that the loss is highest in South Telangana (66.5 per cent) followed by Rayalaseema (54.9 per cent). These are the areas where rainfall is poor and surface irrigation is also low. Except in North Coastal Andhra, where investment in borewells is negligible, loss of investment is more than 45 per cent in all the other regions. A field survey conducted in four Telangana villages revealed that one-third of the farmers deepened their wells every five years, indicating that groundwater levels were falling. In the case of marginal and small farmers, expenditure on wells is sometimes enough to push them into long- term debt trap (Vamsi, 2004).

Table 6.7: Percentage of Investment lost due to failure of Borewells across Regions in Andhra Pradesh

Region	Marginal	Small	Medium	Large	All
1	*2*	*3*	*4*	*5*	*6*
North Coastal Andhra	25.0	-	15.0	56.8	30.4
South Coastal Andhra	58.0	49.8	49.1	34.2	45.9
Rayalaseema	61.9	47.8	54.4	59.6	54.9
South Telangana	59.8	74.3	63.0	67.4	66.5
North Telangana	32.9	46.1	52.5	59.1	51.6
All Sample districts	*55.9*	*53.2*	*55.9*	*58.5*	*56.1*

Source : Primary survey conducted during 2004

6.5.5 Failure of Extension Services

The performance of the state in terms of agricultural extension services was found to be relatively poor when compared with other states. For instance, an agricultural extension officer in Andhra Pradesh has to cover more than 10 villages or 3700 farm families whereas in states like Maharashtra and West Bengal it was only 2 or 4 villages.

Agricultural extension services account for only 9 percent of the farmers' information on agricultural technology in the State. With the virtual breakdown of the extension machinery, small and marginal farmers have become increasingly dependent upon private agents for extension services. Input dealers (30 percent) and other progressive farmers (34 percent) constitute the major sources of information[8]. Such agents were subject to less regulation than before, leading to circumstances in which resource-poor farmers became victims of exploitation.

6.6 Agrarian Distress and Farmers' Suicides

The agrarian economy of Andhra Pradesh has been in distress since the 1990s. The state is one of those states with highest number of farmers' suicides in the country. The agrarian distress in the state[9] coincided with the period in which reforms were initiated.

[8] See (NSSO – Report 499 -2005)

[9] The State of Andhra Pradesh has acquired a special place, in more than one sense, in implementing the economic reforms in all sectors, including in agriculture.

As noted above, there has been a steep deceleration in the growth rate of agricultural output since the 1990s as compared to the 1980s. The growth rate of investment in agriculture decelerated from 6 percent in the 1980s to just 1.5 percent per annum in the 1990s. There has been a systematic decline in the budgetary expenditure on agriculture and allied activities in the name of fiscal constraint. Research and extension have been neglected. Government investment in agricultural research and education in the state (at 0.26 percent of its agriculture GSDP during 1992-94) was lower than for the other three southern states and was just around half the all-India figure (0.49 percent for center and states together). Public expenditure on extension, which is borne by the state government, declined in absolute terms in the nineties. It was only 0.02 percent of the state's GSDP during 1992-94, as against the all-India average of 0.15 percent (Reddy, 2006).

The agricultural crisis and farmers' suicides were mainly due to inadequate agricultural services, including extension, reliable seed supply, quality pesticides, machinery, proper soil survey testing, soil conservation, market information and market intelligence. The failure of extension services, the mushrooming of spurious seed and pesticide companies, and the relegation of the Agricultural University and the Andhra Pradesh Seeds Corporation to an insignificant role in the research, development and propagation of seeds of non-food crops, are all the consequences of deliberate policy changes in the state. There was also an attempt to privatize extension services.

Irrigation, a critical infrastructure for agriculture in the state, had also suffered. A decline in public surface irrigation (canal and tanks) resulted in the emergence of private groundwater as the single largest source with all the attendant ecological problems. Lack of access to institutional credit is another problem for farmers, particularly small and marginal farmers. Farm gate prices of most agricultural commodities fall steeply at harvest time. It is known that many poor farmers sell their output at harvest time because of their poor retention capacity[10]. Because of these uncertain conditions, about 40 percent of the farmers across the country have stated that they would like to quit farming if there was a choice (NSSO Report 496, 2005).

Many public institutions that are critical for farmers seem to have disappeared during the reform period. Some important government corporations and cooperative institutions in the state were closed, allowed to run down, or simply handed over to the private sector. Institutions such as AP Irrigation Development Corporation, AP Agro-Industries Corporation, AP Seeds Development Corporation, cooperative sugar factories and co-operative spinning mills which had played an important role in helping farmers were closed down (Reddy, 2006). The reforms in agriculture resulted in an increase in electricity charges, growing dependence on high cost groundwater resources, increased irrigation charges and high degree of dependence on credit at high interest rates provided by the informal credit market. The recent NSS survey[11] shows that about 82 percent of farmer households are in debt, which is the highest incidence of indebtedness in the country. Further, institutional sources in the state account for only 30 percent of the loans, which is the lowest for the country.

In addition, farmers who have been opting for high value crops like cotton face serious problems of spurious and unregulated seed supply, undue reliance on disproportionate use of pesticides due to lack of proper extension information, and face high risks of losing the entire crop. The other high cost risk is the investment made in wells and tube-wells, which often fail because of overexploitation of groundwater or lack of recharge of groundwater due to prolonged drought conditions.

[10] This is yet another form of usury that benefits the trader-dealer who rolls in as a moneylender with a tie-up for buying the commodity at harvest time. Peasant farming is exposed to perpetuation of multiple modes of exploitation owing to uncertainty.

[11] See (NSSO 2005, Report 498)

Many micro studies have shown indebtedness as the proximate cause of farmers' suicides. Increasing cultivation of commercial crops accompanied by an unregulated input market and private investment in irrigation has led to a rise in the cost of cultivation. It is true that agricultural credit has increased in the last few years. However, this is not sufficient and farmers fall back on informal credit at high interest rates.

According to a source there were 16,770 farmers' suicides between 1997 and 2005 in the state[12]. According to a judicial commission appointed by the State Government, between May 14, 2004 and November 10, 2005 alone 1068 farmers had committed suicide, and in addition there were 277 starvation deaths of weavers in the same period (Nagesh Kumar 2005). The Commission also brought out the fact which shocked the state that 26 debt-ridden farmers of Guntur district had sold their kidneys.

Most of the suicides are by male members in the age group of less than 40 years. By and large the incidence of suicides has been higher among small-marginal farmers moving from subsistence agriculture to the high value crops with a strong motivation to improve their social and economic status. With a few exceptions, the majority belong to Backward Communities or Scheduled Castes or Scheduled Tribes. Barring the ST households, most have had some schooling.

The agrarian crisis has not only continued but has spread to different regions and to a number of high value crops other than cotton[13]. Any commercial or high risk crop can put a farmer under stress and make him vulnerable to suicide. The trigger in these cases again is the failure of water resources particularly groundwater.

A number of studies in the state have analyzed the proximate causes for the suicides based on sample investigation of households of the victims. In 1998, a Peoples Tribunal (RSC, 1998) heard depositions from 60 households of victims drawn from across five districts in the state. An AWARE (1998) study covered a sample of 92 households of farmers who committed suicide, from across 10 districts. A Citizen's Report (CES, 1998) investigated 50 households of deceased farmers in Warangal district. The major cause reported by most of the victims' households is accumulated debt for digging or deepening of wells and repeated crop losses or the failure of the bore-wells. Inadequate credit availability from institutional sources had forced them to resort to informal credit sources.

According to a case study, in one village in the district, thirty years ago there were only six tube wells and the water table was at a shallow level of six feet from the surface. But by 1998 there were 1800 borewells, half of which were dry, and the water table was at 240 feet. Dependence on groundwater and the related risks are prominent features of the emerging agrarian crisis. But there may not be any parallel than the worst scenario which prevails in Musapally village in Nalgonda district. For a village with 2000 acres under cultivation, there are more borewells than people, 6000 borewells dug at an estimated investment of Rs. 6.52 crores. About 85 per cent of these wells have failed (Sainath, 2004).

All this shows that state policy and actions which have no sensitivity to the regional specificities of agriculture are likely to put disproportionately high pressure on the livelihood of farmers in dryland areas where there is no canal irrigation but the entire burden of developing water resources through wells or bore-wells is on the shoulders of farmers. In addition, there has been rising pressure on farmers in terms of meeting their needs for basic social services like education and health which are increasingly privatized, and have become a significant component of household expenditure. A combination of these stress factors have been at the back of the crisis in the farming sector which has been manifested into widespread suicides, particularly since 1997.

Small-marginal farmers constitute almost 80 per cent of the farming communities in the country and many of them operate in dry and drought prone conditions and are the most vulnerable. It is the apathy of government that has been forcing these farmers to shoulder all the costs and risks of high investment, including land and water resource development with borrowed capital at usurious interest rates.

6.7 Conclusions and Policy Implications

This chapter has examined changes in agrarian structure, issues in land reforms, performance in agriculture and farmers' suicides.

[12] Sainath, P (2007) " one farmer suicide every 30 minutes", *The Hindu*, November 14.

[13] This is evident from yet another field study (Shashi Bhushan and Reddy 2004).

It is well known that the agrarian structure in terms of operational holdings has undergone significant changes in the last 50 years. More than 80 per cent of the holdings belong to small and marginal farmers now. Land reforms through redistribution of land, tenancy reforms and recording of land titles etc. are relevant and important in A.P.

Significant changes have taken place in the cropping pattern. The share of rice, millets (other than maize) and groundnut has declined while the share of maize, pulses and cotton has increased. Because of the decline in gross cropped area and shifts in cropping pattern, production of oilseeds declined drastically. Yield also contributed to the decline in the production of oilseeds. Rice production has fluctuated because the decline in area has been compensated by an increase in yield. Prices have not been favourable to farmers since 1991-92. While CPIAL has grown at 5.4 per cent per annum, crop prices have grown at 4.83 per cent. Prices of crops like chillies, cotton, sunflower and gingelly have grown at a very low rate.

Regarding performance, the crop sector has grown at 2.54 per cent per annum in the state during the last fifty years. While the sector experienced accelerated growth till the end of the seventies, the growth rate started decelerating from the eighties onwards. The situation became worse after 1990-91 with instability and low growth. The livestock sector however has been dynamic and achieved a growth rate of about 8.0 per cent and improved its share in agricultural GDP to 35.0.

The major changes in the nineties relate to a decline in land and water resources available for agriculture. There are significant inter-district variations in agricultural performance. It should be noted that groundwater plays an important role in the agricultural economy of Andhra Pradesh and is the main source of irrigation in 15 out of 22 rural districts in the state.

Growth of investment in agriculture decelerated in the nineties in the state, while the nation recovered from low growth of investment during this period. There was a deceleration in public investment during this period and because public and private investment are complementary, private investment also declined. Among the sectors, agriculture experienced the lowest growth of investment during the nineties.

What are the challenges for improving the growth rate in agriculture and equity in A.P.? The supply and demand side constraints have to be removed to raise overall growth in agriculture. Support systems and policy changes have to be tuned in such a way that they improve the productivity and incomes of the small and marginal farmers and focus more on dryland areas.

The well known challenges in agriculture are: public and private investment in agriculture, land issues including land reforms, research and extension, irrigation and water management, credit, marketing, domestic and trade liberalization, diversification while maintaining food security and institutional reforms. All these issues have to be addressed for improving agricultural growth and incomes of the farmers.

The Prime Minister of India Dr.Manmohan Singh mentioned four deficits regarding agriculture. These four deficits are: (a) public investment and credit deficit; (b) the infrastructure deficit; (c) the market economy deficit; (d) the knowledge deficit. The Farmers' Welfare Commission headed by Jayati Ghosh appointed by the Government of A.P. gave several recommendations to tackle the crisis in agriculture in the state (see Box 6.1).

Irrigation development and water management are crucial. The green revolution in the 1960s and 1970s had been greatly facilitated by the availability of good irrigation infrastructure. However, the existing systems have deteriorated over time and addition to capacity has been negligible due to the decline in public investment. According to the Planning Commission, nearly 35 per cent of the ultimate potential from major and medium irrigation projects in the state is yet to be exploited. In the case of minor irrigation, about 40 per cent of the ultimate potential remains unutilised.

Institutional reform is important, particularly in inputs, marketing and management of land and water resources which in fact is even more important than price and trade policy reforms. On land issues, the priority is to provide credit to tenants and women farmers. Appropriate institutions have to be developed for delivery of inputs, credit and

Box 6.1 Recommendations of Farmers' Welfare Commission on A.P. Agriculture

The Commission on Farmers' Welfare has deliberated on the problem of the agrarian crisis in A.P. and held discussions with a large number of farmers during its field visits and has also consulted experts in various relevant fields. While the issues are complex and require detailed investigation of each area, they generally reflect structural conditions and especially the collapse of public institutions that affect farmers and farming. The Commission feels that solutions to the current crisis require interventions in six important areas, which would do the following:

- Correct spatial inequalities in access to irrigation and work towards sustainable water management;
- Bring all cultivators, including tenant farmers, into the ambit of institutional credit;
- Shift policies to focus on dryland farming through technology, extension, price and other incentives;
- Encourage cheaper and more sustainable input use, with greater public provision and regulation of private input supply and more research and extension support;
- Protect farmers from high volatility in output prices;
- Emphasise rural economic diversification to more value-added activities and non-agricultural activities.

These goals form the basis of the recommendations made by the Commission. All of these issues have to be tackled at different levels and require intervention by various institutions over the short as well as medium term. The new role envisaged for the state government will require a substantial increase in public expenditure. Therefore the Commission expects that public expenditure on agriculture and allied activities should reach 5 per cent of GSDP in the next budget. It is clear that the effectiveness of these recommendations will depend essentially upon the political will to translate them into government policy and on the ground-level implementation. Detailed recommendations for each of the above goals are given in the Commission's report.

extension particularly for small and marginal farmers. There are different models of marketing: self-help groups, co-operative model similar to dairy, small producer co-operatives and contract farming. Given the price situation, farmers can be helped by providing marketing facilities at production points. Andhra Pradesh introduced a new model of marketing for maize based on the principles of decentralization and local participation during 2005.

It is known that there is very little scope for further expansion of net sown area and land scarcity will become an acute feature of the rural economy. The reasons for decline in land and water resources and increase in fallow land have to be identified at the local level and measures have to be taken to solve the problems. The productivity levels are low in well irrigation because of low availability of water. Water conservation measures are needed by way of improvement of tanks and rainwater harvesting to improve the recharge of groundwater. An integrated development of different sources of irrigation is needed to rectify the adverse effects of the lopsided development of groundwater exploitation. Water is a precious national asset and there are several concerns regarding water resources in the country. Therefore, a judicious use of land and water resources will have to be the central concern of agricultural growth policies.

Another important aspect is the high level of indebtedness. One of the major factors for high indebtedness is investment in wells and frequent failures. There is no insurance against this investment and most of this investment is financed by informal sources. The co-operative sector, which is active in other states, plays a negligible role in the state. It is desirable to regulate investment in groundwater and extend insurance coverage for it. The present government is rightly giving importance to irrigation but it has to take a holistic view of agriculture rather than concentrating only on irrigation. Short term and long term measures are required to come out of the agrarian crisis and prevent suicides by farmers.

To conclude, small-marginal farmers will be unviable without substantial public infrastructure support and comprehensive social security including health, education, employment and old age support. They are indeed risk taking small agricultural entrepreneurs. The state may have to own the responsibility for the social costs of investment in the development of land and water (including groundwater) resources, provision of adequate economic support by way of institutional credit, extension services, quality input supply and remunerative prices as well as social sector support of ensuring quality education and health facilities.

CHAPTER VII

7 Demography, Health and Nutrition

Demographic Transition, Health and Nutritional Deprivations

The state has done remarkably well in terms demographic indicators among the Indian states. However, its progress in the areas of health and nutrition needs has not been impressive. The increasing burden of diseases, especially of HIV/AIDS needs greater public policy attention. The policy of public-private partnership in health care system needs to be reviewed.

The demographic profile of the population in terms of its size and composition is important in determining the level of development. With the paradigm shift in development discourse it is now widely accepted that the health status of the people is also an important indicator of development. Parameters like longevity, mortality, fertility and nutritional levels reflect the status of health in a society. Health is an area which the global community is concerned about, as specially spelt out in the Millennium Development Goals (MDGs). One of the MDGs, specific to health, is to reduce the *mortality* rate (infant & maternal) to three quarters by the year 2015 from the 1990 (country specific) baseline rate. Therefore, various governments want to improve the health status of the people as well as human development. The government of Andhra Pradesh is also moving ahead in this direction. Thus this chapter focuses on the performance of Andhra Pradesh with respect to the health status of its people.

7.1 Size, Growth and Composition of Population

Andhra Pradesh is the fifth largest state in India, in terms of population. The state now accounts for about 7 per cent of the total population in India but this share had declined from 8.3 per cent in 1961 to 7.2 percent 2001. The population of Andhra Pradesh almost quadrupled in the last century from 19.1 million in 1901 to 76.2 million in 2001. In fact, three-fourths of this increase took place in the latter half of the 20th century and the

annual growth of population had increased sharply. The decadal growth of population was, in fact, below 15 per cent until 1961; it rose till 1991 and the growth rate (24.2) during 1981-91 was the highest ever recorded during the 20th century. Later, a dramatic decline, however, has been observed in the rate of growth of population which was only about 14 percent during 1991-2001. The annual compound growth rate for Andhra Pradesh was 1.37 per cent, which was much lower rate than the all-India average of 1.93 per cent (Table 7.1).

Within the state, among the districts, Ranga Reddy recorded the highest growth rate (3.43) during 1991-2001, followed by Hyderabad (1.99), which was largely due to the rapid growth of the Hyderabad urban agglomeration. Adilabad had the third highest growth rate (1.80) due to high fertility. The coastal districts had the lowest growth rates - Vizianagaram with 0.64 percent followed by East Godavari (0.77), West Godavari (0.78), Guntur (0.84) and Srikakulam (0.90) - all had population growth of less than 1 percent. In another 11 districts the growth rates were between 1 and 1.5 percent; and in 5 districts between 1.6 and 2 percent.

Table 7.1: Size, Growth and Composition of Population

Year	All-India				Andhra Pradesh				
	Pop.	Gr	SR	% of 60+	Pop.	% in India	Gr	SR	% of 60+
1	2	3	4	5	6	7	8	9	10
1951	361.1 M	1.25	946	-	-	-	-	986	-
1961	438.9 M	1.95	941	5.6	36.0 M	8.2	-	981	6.2
1971	548.2 M	2.20	930	6.4	44.0 M	8.0	-	977	6.0
1981	665.3 M	2.22	934	6.3	54.0 M	8.0	2.3	975	6.7
1991	838.6 M	2.14	927	6.7	67.0 M	7.9	2.2	972	6.8
2001	1028.6 M	1.93	933	7.1	76.0 M	7.4	1.4	978	7.6

Note : **Pop.** – Population; **M** – Millions; **Gr** - Growth (Compound annual growth rate); **SR** – Sex Ratio; **% of 60+** - Share of 60+ age population in total.

Source : Computed using Census of India Figures.

However, the phenomenon of 'missing females' owing to the unbalanced sex ratio has been a cause of great concern. Although the sex ratio in Andhra Pradesh is slightly better than the all-India average, it is still not favourable (Table 7.1). The sex ratio in Andhra Pradesh was estimated to be 985 in 1901 and it declined to 981 in 1981 and to 972 in 1991. There was a marginal improvement during the last decade when it increased to 978 in 2001. However the child (0 to 6 years) sex ratio has declined from 978 (girls per 1000 boys) in 1991 to 965 in 2001 and this is a cause for concern. Within the state, the sex ratios of general and 0-6 age population vary across districts. In districts in which the tribal population is higher and in the more developed districts, the sex ratio is relatively higher.

7.2 Demographic Transition in A P

The sudden decline in population growth in Andhra Pradesh during the past decade (1991-2001) is undisputed and hence has attracted the wide attention. The state is found to be on the course of rapid demographic transition following the other south Indian states like Kerala and Tamil Nadu. It is known that fertility, mortality and migration are critical in the process of demographic transition. Although about 31 per cent of the population living in Andhra Pradesh is characterized as migrants only about 1 per cent in the total population and 4.5 per cent of the total migrants were born outside Andhra Pradesh. The 2001 Census classifies about 2.3 crore people in Andhra Pradesh as migrants of whom about 0.23 lakh were reportedly born abroad and about 10.6 lakh people were born within India but not in the state. It seems that the role of migration is insignificant in the overall population dynamics[1] in Andhra Pradesh and hence, fertility and mortality are the major contributing factors.

Both the birth and death rate in the state had fallen to low levels. In the country as a whole and in Andhra Pradesh mortality began to decline steadily, much earlier than the fertility decline. Though both the birth and death rates began to decline from the 1960s, there was a sharp decline in mortality rate in the state during 1961-71. Thereafter the pace of decline slowed down and especially since the 1990s the trend in mortality rate has almost flattened. The faster rate of decline in the mortality rate without a corresponding decline in the birth rate resulted in the highest rate of growth of population ever recorded during the 1980s. The death rate in Andhra Pradesh was always in line with the level for the country.

[1] See James and Subramanian (2003).

Infant mortality is an important component of mortality in general and a crucial factor in indicating health status. Unlike the crude death rate, IMR in Andhra Pradesh has always been lower than the all-India rate, but it was high when compared to other southern states. There was a steady decline in IMR in Andhra Pradesh particularly since 1971. Though the IMR in the state declined from 106 in 1971 to 66 in 2001 and further declined to 53 in 2005 (Table 7.2). It is, however, a level that is unacceptably high. Moreover, the earlier sharp decline in IMR has not continued in the recent past. This situation has a bearing on the overall death rate and life expectancy at birth and is also indicative of the fact that the state has a long way to go before attaining transition in mortality. A cause of concern at this point for the state is how to achieve a further decline in the death rate when infant mortality remains high and stagnant.

IMR can be segregated into neonatal and post-neonatal mortality. It is estimated that two-thirds of IMR occurs in the former phase. According to the latest SRS (2005) the proportion of neonatal mortality to infant mortality in India is 62.9 percent (63.7 percent in urban; 58.2 percent in rural). In Andhra Pradesh the proportion of neonatal mortality is 61.1 percent of IMR (68 percent in rural; and 28 percent in urban).

A decline in the mortality rate has, however, increased the life span of people. It was estimated that life expectancy at birth for the country as a whole was twenty in 1921 and this has increased to 65.4 years during 2001-06. In Andhra Pradesh too life expectancy has improved, rising from 48.4 years in 1970-75 to 63.9 years during 2001-06, by almost 15 years. The improvement is noted in both the rural and urban areas as well as among males and females. But women are outliving men by 0.9 to 2.2 years in the state. An improvement of ten years in life expectancy was observed between 1970–75 and 1981–85. However, the state (AP) is lagging behind other south Indian states.

Table 7.2: Crude Birth (CBR) and Death Rates (CDR), Infant Mortality Rate (IMR) and Total Fertility Rate (TFR) in A P and India

Year	CBR		CDR		IMR		TFR	
	AP	India	AP	India	AP	India	AP	India
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1951	-	39.9	-	27.4	-	-	-	-
1961	39.7	41.7	25.2	22.8	-	146	5.5	-
1971	34.8	41.2	14.6	14.9	106	129	4.8	5.4
1981	31.7	37.2	11.1	12.5	86	110	4.3	4.5
1991	26.0	32.5	9.7	9.8	73	80	3.4	3.6
2001	20.8	24.8	8.1	8.4	66	66	2.3	3.1
2005-06 (NFHS 3)					53	55	1.8	2.3

Note : 1. Birth and Death Rates are per 1000 Population; 2. IMR - Deaths per 1,000 live Births.

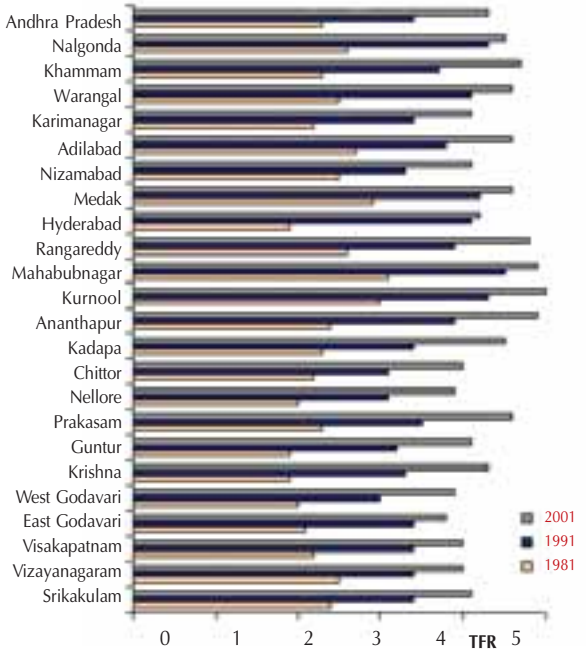
Source : Registrar General of India, NFHS III (2005-06) Fact Sheets.

The main factor in demographic transition in Andhra Pradesh is fertility. Historically, the fertility level in south India has been lower than in the rest of the country. The variation in fertility in the other three southern states remained more or less the same, and the birth rate in Andhra Pradesh remained higher than in the other states. The Sample Registration System (SRS) data indicates that the total fertility rate (TFR) in Andhra Pradesh remained more or less stable at around 5.5 per woman from 1961 to 1971. It took almost three decades for TFR to reach three children per woman but once this threshold was reached, the further decline to two children took only about ten years. The pace of decline in fertility was slower till the first half of the 1980s but thereafter there has been a rapid decline in fertility, faster even as compared to other southern states particularly between 1987 and 1996. The pace of fertility decline outstripped the decline in mortality rate in the second half of the 1980s and resulted in decline in the natural growth of population during 1990s. The declining fertility rate in the state is approaching the replacement level. According to NFHS III (2005-06), the Total Fertility Rate (TFR) for the state is 1.8, which is below the national average and even that of Kerala. The TFR fell at a faster rate in rural areas compared to urban areas so that the rural and urban difference has virtually disappeared. According to NFHS-3 data for 2005-06, TFR in urban areas was estimated to be 1.7 and the rural TFR (1.9) was higher by only 0.2 points in the state. Moreover, fertility differences have also narrowed considerably among women with different levels of education or across social groups, leading to homogenization in reproductive behaviour.

Within the state regional disparities, however, are to be seen both in fertility and mortality. The districts located in the coastal region (for instance, Srikakulam,

West Godavari, Krishna, and Guntur) have experienced a faster decline than the other regions during 1991-2001. Some of them had already reached the replacement level of fertility as early as 1996. The lowest fertility rate is observed in the coastal region (2.1), followed by Rayalaseema (2.8) and Telangana regions (2.9). According to the reverse survival estimates[2] from the 2001 census data, the highest level of TFR was observed in Mahbubnagar district (3.1), and the lowest (1.9) was in Guntur, Hyderabad, and Krishna (Figure 7.1).

Figure 7.1: Total Fertility Rate in Districts of AP



Source : RGI and Guilmoto&Rajan (2002)

However, the classical theory of fertility transition fails to explain the experience of Andhra Pradesh. Drastic decline in fertility level would not be possible without changes in terms of improvement in material conditions and economic well-being, increase in female literacy, improvement in child survival, exposure to media and modern values and so on. A few studies[3] based on NFHS II data show that exposure to mass media and contraceptive use have had a relatively strong influence on fertility decline.

7.3 The Burden of Disease

The burden of disease may be seen in terms of the loss of human resources due to premature death and loss of healthy life resulting from disability. To capture the burden of disease for an individual or for a society the World Health Organisation (WHO) has introduced a new concept called Disability Adjusted Life Year[4] (DALY). Though mortality rates have come down over the years, morbidity levels are high owing to a variety of health problems. New variants of diseases along with sporadic resurgence of a few virtually eradicated communicable and non-communicable diseases are challenging the medical and the health care system. As a consequence, the cost of health care particularly at the household level is increasing which has socio-economic implications at the household as well as societal level.

According to NSS 60th (2004) round survey on Morbidity and Health Care, the prevalence of morbidity[5] measured as the number of persons reporting ailments during a 15-day period per 1000 persons in India is 91, 85 for males and 97 for females (9.1, 8.5 and 9.7 percent respectively). In Andhra Pradesh, the estimated morbidity rate is around 10 per cent (it is 11.4 and 9 per cent in rural and urban areas respectively) and it is one of the states with a high morbidity rate. Morbidity increases with age and is highest among the aged (i.e. 60 + years persons). Persons who are ill do not always go in for medical treatment and sometimes resort to self-medication, home remedies or no medical care. However, about 8.5 per cent of sick persons had been treated in India, whereas in Andhra Pradesh the proportion receiving treatment was 7.7 and 8.8 per cent in rural and urban areas respectively. The morbidity rate in the state is higher than the national average and the other southern states mainly because of the more frequent occurrence of some diseases, particularly asthma, tuberculosis, jaundice and malaria.

Disability is another cause of concern. Disability may refer to any restriction or lack of ability to perform an activity in the manner or within the range considered

[2] See Guilmoto and Irudaya Rajan (2002).

[3] For instance see James (1999); James and Subramanian (2005); Bhat (2002).

[4] This is a health gap measure that extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of 'healthy' life lost by virtue of being in a state of poor health or disability (YLD – years lost due to disability). The DALY combines in one measure the time lived with disability and the time lost due to premature mortality. One DALY can be thought of as one lost year of 'healthy' life and the burden of disease as a measurement of the gap between current health status and an ideal situation where everyone lives to old age free of disease and disability. However no estimates have been made of DALY at sub-regional level within India.

[5] That is proportion of ailing persons (PAP).

Box 7.1: Burden of Ageing

The main effect of demographic transition usually is a reduction in population growth rate and the resulting changes in the age structure of the population. In the process, the demographic concern moved from baby boom to the burden of ageing. The declining trend in mortality rate and increased life span, accompanied by the steep fall in fertility levels have reduced the size of the younger age group in the population and the increase numbers of aged people.

In India, according to the Census, there were about 24.7 million people of 60 years and above who comprised 5.6 per cent of the total population in 1961.This number has increased to 70.5 million (7.1 per cent) in 2001. In Andhra Pradesh, the aged population increased from 2.2 to 5.6 millions (the percentage to total population increased from 6.2 to 7.6 per cent) from 1961 to 2001. The burden of ageing appears to be higher in Andhra Pradesh than the all-India average. From a policy perspective, this means that the state has to design a policy to take care of old people and attend to the socio-economic problems associated with old age[7] .

normal for a human being[6]. According to Census 2001 there were 1.2 million households, comprising 7 per cent of the total households, with at least one disabled member in Andhra Pradesh. Around 78 per cent of these households are located in rural areas. One member is disabled in 5 percent (41,600) of the households, while there are two or more disabled persons in around 10.5 per cent (1.3 lakh) households. This problem needs supportive action from the state.

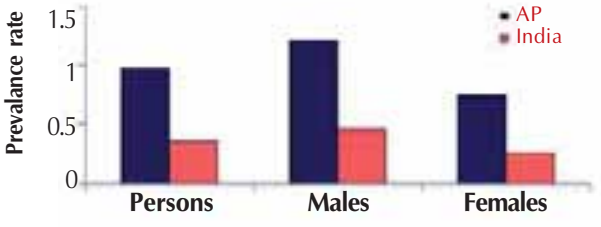
7.3.1 HIV/AIDS in Andhra Pradesh

While advances in medicine have greatly reduced the occurrence of diseases like malaria and leprosy, HIV/AIDS has become a serious challenge for the world, for both the developing as well as developed countries. HIV/AIDS is more than a health problem as it indirectly affects many other sectors in the economy and therefore is considered to be a serious threat to economic growth.

In terms of magnitude, though the prevalence rate of HIV/AIDS in India seems to be at an insignificant level, it has been increasing over time ever since the first infected case was discovered. Estimates by UNAIDS of HIV/AIDS infected cases in India are higher than the figures given by National AIDS Control Organisation (NACO). According to UNAIDS estimates for 2004, of the 42 million People Living with HIV/AIDS (PLWHA) in the world, around five million are in India, and of these almost one tenth i.e. around five lakh persons are in Andhra Pradesh. According to the estimates given by NACO, of the total number of 1,03,857 AIDS cases reported in the country till 31 July 2005, as many as 11,280 cases, accounting for nearly 11 percent are from Andhra Pradesh and so far, the state has recorded 739 AIDS related deaths. Among the major states in India, Andhra Pradesh has a large number of cases with HIV/AIDS. Moreover, the state is one of the six Indian states with the highest prevalence rate besides Karnataka, Maharashtra, Tamilnadu, Manipur and Nagaland. These six states in India together accounted for nearly 83 percent of the AIDS cases in the country.

According to NFHS 3 (2005-06), while the prevalence rate of HIV at the national level is 0.35 percent (0.26 and 0.46 per cent respectively for female and males) of 15-49 age group population, (Figure 7.2) Andhra Pradesh has the highest prevalence rate 0.97 percent (0.75 and 1.22 per cent respectively for females and males), next to Manipur among Indian states. Based on the prevalence rate the number of people who tested HIV positive are around 18 lakh at the all-India level and 4 lakh in Andhra Pradesh. These numbers may go up if we include other

Figure 7.2: HIV Prevalence Rate (15-49 Age Group)



Source : NFHS III (2005-06).

[6] NSS survey on disability shows that in 1981 there were nearly 12 million persons in India with one kind of physical or mental disability. The number was 16 million in 1991 and 19 million in 2001, an indication of the increasing burden of the number of disabled persons over the period. According to the latest Census estimates, there are 21.9 million disabled persons in India, of whom 9.3 million or 42 percent are women. About 75 per cent are located in the rural areas.

[7] The severity of the problem depends upon the endowment of human capital (in terms of health and skills) of the old. Andhra Pradesh as well as India is facing the problem of *ageing without human capital endowment.*

age groups (0-14 and 50+) for which we do not have estimations. The state accounts for around 22 per cent of the HIV positive persons in India.

The other estimates based on surveillance surveys shows the infection rate to be 22.8 per cent among the high-risk population represented by the STD clinic attendees and 2 percent among the antenatal clinic attendees, who represent the low-risk adult population. This indicates that the situation is very serious in Andhra Pradesh and the HIV epidemic in the state is no longer confined to the high-risk groups like sex workers, truckers and MSM, but has penetrated into the general public.

The worrying factor is that the epidemic is more than a public health problem and is affecting a productive human resources. The age-wise distribution of HIV/AIDS prevalence in the 97 Voluntary Counselling and Testing Centres (VCTC) in the state shows that nearly 80 percent of persons in the infected are in the age group of 15-39 years and another 12 percent are between 40 and 49 years. This means that as many as 92 percent of those infected are in the age group of 15-49 which are the most productive years.

The prevalence of HIV/AIDS varies across districts of Andhra Pradesh. In 20 districts, at least 1 percent of the women who are attending antenatal clinics had tested positive for HIV in 2004. Similarly, more than 100 cases of AIDS were reported in fourteen districts.

While examining modes of transmission of HIV, based on the sample of 32,243 persons who had tested positive, Andhra Pradesh State AIDS Control Society (APSACS) estimates for 2004 show that 88 percent of the infections are through sexual contact and less than 2 percent are through blood transfusion and infected syringes. The parent to child transmission accounts for another 3 percent of the infections and other causes account for the remaining 7 percent of the cases.

According to APSACS's report on HIV and AIDS Situation and Response, several factors are responsible for the consistent high-prevalence rate of HIV in the state (APSACS, 2005). There is a high prevalence of sex with non-regular partners and STI among both men and women and low condom use with non-regular partners. There is also a high level of trafficking of girls and women. According to the estimates of mapping of population groups that are vulnerable to HIV and AIDS in the state, the number of female sex workers is likely to be around as many as 24000. The infection is being spread along the vast network of national highways (4,472 kms) and other roads (1,79,980 kms) and by the large number of migrant population like migrant labourers, truckers, construction workers and street children in all districts of the state. In addition, there are fishermen in nine Coastal districts, mining and quarrying workers in 13 districts and tobacco grading women workers in two districts.

Box 7.2: Future Challenges of HIV/AIDS

The thrust of public action on the spread of HIV/AIDS could be in three areas: prevention, care and support. First of all, it has to develop a mechanism to prevent the spread of the disease through creating awareness. Though general awareness has increased, there is still little understanding about the mechanism through which HIV infection spreads. The trend in the spread of HIV/AIDS appears to be transforming from sporadic to generalized infection. As a result, the contribution of HIV/AIDS to overall morbidity is continuously increasing. Providing health care for those who are already infected is a major task. The epidemic is shifting towards rural areas from urban and commercial centers. Given the meager health care facilities in rural areas, the necessary medical treatment for the HIV infected would be inadequate.

Though men are affected more in the initial stages, over a period there will be more women among the HIV infected. The deaths of men as result of AIDS leave many women widowed, resulting in an increase in female-headed households. This will increase the burden of women for maintaining the family. The erosion of the traditional joint/extended family system which normally would provide support and help would further increase the burden.

Children who are the future citizens are also victims of HIV/AIDS. The spread of HIV/AIDS has two prime consequences on children. One is children infected through their parents or any other mechanism; another is children who are affected by the disease. Children of infected parents are orphaned when their parents die. In changing society in which nuclear families are rapidly growing, especially in AP, these children may have nobody to take care of them. This may lead to child headed households sustained by child labour.

The burden of HIV/AIDS definitely affects the economy. First, due to the loss of man power as the most of the infected are in the most productive age group. Second, due to the cost of the treatment for the infected. There will be a financial burden on both the public exchequer and the private purse.

Sentinel Surveillance Surveys report that most married men who were occupied in employment that necessitates considerable mobility or temporary visits to other cities or areas such as truck/ auto/taxi drivers, those employed in hotel industry, agricultural and unskilled labourers were responsible for spreading HIV to the general public through their wives (Sentinel Surveillance Survey, 2004).

Though there is growing awareness in the state about HIV/AIDS, the awareness levels of women are far below that of men. According to NFHS III about 93 per cent of men but only 73.6 per cent of women were aware of AIDS in 2005-06. In 1998-99, 55.3 per cent of women were aware of AIDS. At the national level the corresponding figures for the year 2005-06 are 57 and 80 per cent respectively for women and men. Yet preventive knowledge of regular use of condoms is very low in Andhra Pradesh at only 34.1 percent among women and 73.4 percent among men (NFHS-3).

7.4 Maternal and Reproductive Child Health

Sexual life is interwoven with the practice of early age at marriage for women, especially in Andhra Pradesh. Most girls who get married when very young are ignorant of reproductive health. The recent NFHS III (2005-06) survey results reveal that about 54.7 per cent of women in the age 20 to 24 years are married before or at the age of 18 and about 18 per cent of ever married women in the age 15 to 19 years were already mothers or pregnant at the time of the survey. The median age at first birth for women in the age group 25 to 49 years was 18.8 (NFHS, III). Moreover, female sterilization is the most favoured option for family planning. About 62.9 per cent of women aged 15 to 49 years and currently married have undergone sterilization. The state has the youngest average age (22.4 years) at sterilization in the country with only 6-8 years of reproductive span (Padma, 2006).

7.4.1 Maternal Health

Maternal mortality ratio (MMR; defined as maternal deaths per 100,000 live births) is one of the indicators of overall quality of life and the reduction in MMR is an important indicator of progress. SRS based estimates show that there was a decline in maternal mortality ratio (MMR) in India from 398 in 1997-1998 to 301 in 2001-2003, and that there was an overall relative decline of nearly 24 per cent during 1997-2001 in the country. In all the southern states together the decline was around seven per cent. In Andhra Pradesh, the decline was around eleven percent, i.e. from 220 in 1997 to 195 in 2003. Although the estimated level of MMR for Andhra Pradesh (195 in 2001-3) was well below the national average, the change observed was nominal during the same period (RGI, 2006). The main causes of maternal death are hemorrhage, followed by sepsis, toxemia during pregnancy, abortions and obstructed labor. In addition, the non-medical causes that are identified with MMR are illiteracy/ low levels of education, younger age at marriage, women belonging to unprivileged sections, and poor economic status. In India about one lakh women die each year of complications from pregnancy, including bleeding to death because they could not get treatment. It was observed that poor maternal health and nutritional

Box 7.3: Policy Initiatives to Improve Maternal Health

The Maternal and Child Health (MCH) programme has evolved over a period of time especially since the First Five Year Plan. A focused approach was taken up during the Fifth Plan (1974-79), when mother and child health care, nutrition and family planning were introduced in an integrated manner. The beginning of the nineties brought about a change towards improving the health status of individuals, particularly women and children. In 1992-93, the state government adopted the child-survival and safe-motherhood programme. In 1994, during the ICPD conference at Cairo, much emphasis was laid on social development beyond family planning. The major goal was to provide health care to the mother and the child through the Reproductive and Child Health Programme. India being a signatory to this conference also implemented the Cairo Declaration with complete earnestness. In 1996, the Child Survival and Safe Motherhood Programme was incorporated into the Reproductive and Child Health Programme.

The state level population policy of Andhra Pradesh emphasised an integrated approach with particular attention to provision and improvement of maternal and reproductive health services in the state. In 2006 the National Rural Health Mission laid further emphasis on maternal health care. The important elements in each programme initiated that address maternal and reproductive health care were to provide antenatal care, encourage institutional delivery, provide post-natal care and to identify reproductive tract and sexually transmitted diseases.

status and inappropriate management of labor during delivery were responsible for 75 per cent of the peri-natal deaths. A study in Andhra Pradesh reported that 78 percent of the maternal deaths that were reported could have been prevented by specific action taken in time (Bhatia, 1993).

Maternal mortality is just the tip of the iceberg of the problems women face. Many women may not die of causes related to pregnancy but suffer severe morbidity[8]. About one-fourth of deaths of women in reproductive age (15 to 49 years) are related to pregnancy (WDR, 1993). About 40 percent of the pregnancies in developing countries result in complications, illness, or permanent disability for mother and child (WHO 1992a). It has been observed that in developing countries for each maternal death, ten to fifteen women suffer from serious impairments (Mesham and Rochat, 1987). A study in Andhra Pradesh found that life threatening maternal morbidity ranged between 35 and 15 percent (Rama Padma, 2003).

An issue of concern is about women who suffer from reproductive health problems. Nearly half the women (48.5 percent) in the state are reported to be suffering from a reproductive health problem (NFHS II). Of these only a few women had sought treatment indicating that most have been putting up with the problem silently. A few micro level studies (for instance, Rama Padma, 2003) indicated that low utilization of reproductive health care was due to lack of privacy and poor quality of care. According to the Reproductive Child Health (RCH) survey 2003-04, 13.7 percent of women in the reproductive age group in the state are suffering from reproductive tract infections (RTIs).

Compared to the country on the whole, the situation with regard to maternal health care is much better in Andhra Pradesh. However when compared with Kerala and Tamil Nadu, maternal health care practices need to be improved further. Within the state there has been a steady improvement in the utilization of antenatal care services between 1992-93 and 2005-06 (NFHS I&III). The percentage of women who had received the minimum requirement of three antenatal visits increased from 75 to 86 during the same period. According to the NSS 60th (2004) round survey on *Morbidity and Health Care* the proportion of pregnant women in Andhra Pradesh availing antenatal and post-natal care services were respectively about 90.6 and 71.9 per cent in rural areas and 92.5 and 82.0 per cent in urban areas.

The educational status of women, particularly ten years or more of formal education, showed a significant association with improvement in antenatal care. Though the utilization of antenatal care improved significantly, yet mothers taking IFA tablets for the required 90 days or more is still very low at 39 percent. The disparity between urban and rural women is especially pronounced - about 46 percent of urban women took IFA for 90 days or more while the figure for rural women was 36 percent. Births assisted by a health professional increased to 74 percent from 49 percent, 89 percent for urban women and 67 percent for rural women (NFHS III). Institutional births increased from 35 percent to 70 percent, but about two-fifths of rural women still deliver their children at home. About 70 per cent of women receive postnatal care within two days of delivery in Andhra Pradesh.

District wise analysis based on Reproductive Child Health (RCH) survey (2003-04) indicates that full ante-natal care[9] is lowest in Mahabubnagar district (14.5 percent) and highest in Medak (65.1 percent). Safe delivery[10] is lowest in Kurnool (37 percent) and highest in the capital district, Hyderabad, (93 percent).

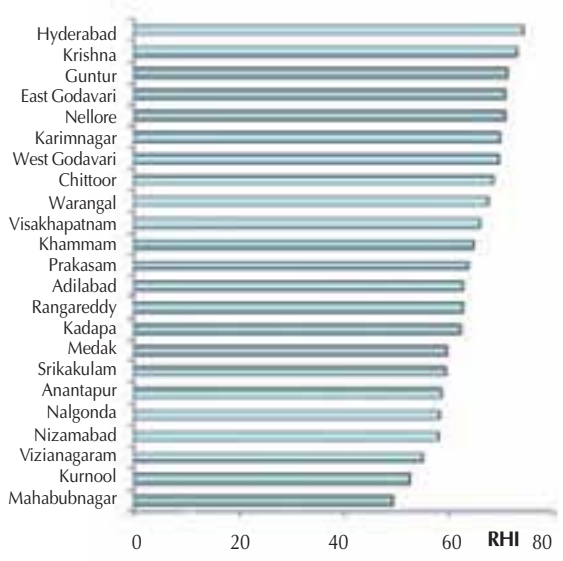
A reproductive health index (RHI) has been constructed for all the districts of Andhra Pradesh in which the higher value of the index indicates the relatively better performance of a district (see Figure 7.3). Reproductive health is defined as a state of complete physical, mental and social well-being of a couple in all matters relating to the reproductive system and its functions and processes. Though the term covers the health of both partners throughout the life cycle, it is most relevant to the health of the mother. Thus, female reproductive experiences are usually taken for assessing

[8] At least 1, 600 women die every day all over the world, owing to complications related to pregnancy and childbirth.

[9] Full ANC2 - (At least 3 visits for ANC + at least one TT injection + 100 or more IFA tablets/syrup).

[10] Safe Delivery means either institutional delivery or home delivery attended by doctor/nurse)

Figure 7.3: Reproductive Health Index (RHI) across districts



reproductive health status[11]. The RHI comprises six parameters relevant to maternal health: fertility rate (TFR), the proportion of higher order births, the proportion of adequately-spaced births, safe births[12], infant mortality rate (IMR), and the educational attainment of women (EAW). As expected the maximum RHI value is seen in the more developed districts of the state.

7.4.2 Child Health

Child health covers a span of time from conception to childbirth and childhood. During pregnancy when the child is in the womb the health of the fetus is totally influenced by the health condition and nutrition levels of the mother, antenatal care and the place of delivery and proper medical assistance. According to NFHS III survey estimates, in Andhra Pradesh about 86 per cent of the mothers had at least 3 antenatal care visits during their last pregnancy, 74 per cent of confinements were assisted by health personnel and 68.6 per cent of births were 'institutional' births. Immunization coverage of children between 12 to 23 months in the state is better than in all-India. Although the percentage of children fully immunized (46 percent) seems to be below 50 percent, the coverage under individual components like BCG (92.9), polio vaccine (79.2), DPT Vaccine (61.4), measles vaccine (69.4) is higher. The component that brings down the average is vitamin A supplement which is received by only 21.4 per cent of children. Regarding treatment of diseases for children below three, only 36 percent of children with diarrhoea received ORS and about 61.4 per cent were taken to a health facility. Although Andhra Pradesh seems to have performed relatively better in all these aspects when compared to either the all-India average or a few north Indian states, the performance is still well below the norms.

7.5 Nutrition: Mal (Under) Nutrition

Freedom from hunger and malnutrition is a basic human right and a fundamental prerequisite for human and national development. Better nutrition means stronger immune systems, less illness and better health. Three types of malnutrition occur frequently: i) under-nutrition; ii) micronutrient malnutrition; and iii) over-nutrition. Whereas developed nations are encountering problems related to over-nutrition, developing countries such as India are experiencing micronutrient malnutrition and under-nutrition. The negative externalities of under-nutrition are many, especially among the younger age group. According to the World Health Organisation (WHO), poor nutrition contributes to 1 out of 2 deaths (53 percent) associated with infectious diseases among children below five in developing countries. Because of the severity of the problem, efforts have been made at the global, national and regional levels to cut down the extent of malnutrition. Recently the global community (as part of MDGs – Millennium Development Goals) has committed itself to a major reduction in malnutrition at each and every level of society by 2015.

The nutritional status of children below three years of age is better in Andhra Pradesh when compared to the all-India average with respect to underweight (i.e. weight for age), wasting (weight for height) and stunting

[11] The reproductive health index used in this report is a modified form of that constructed by K. Srinivasan (UNFPA, 1997) which comprised six parameters relevant to maternal health: the total fertility rate (TFR), a fertility measure that measures the total burden of fertility in the population; the proportion of higher order births, the proportion of adequately-spaced births, the proportion of births receiving skilled attention at the time of delivery (SKAID); infant mortality rate (IMR), and the educational attainment of women (EAW). Equal weights were assigned for all six components. Due to the non-availability of district level information on the proportion of adequately-spaced births, the RHI includes the other five indicators.

[12] The proportion of births receiving skilled attention at the time of delivery (SKAID)

(height for age). According to the estimations of NFHS III (2005-06), in Andhra Pradesh, about 42.7, 12.2 and 32.5 per cent of children below 5 years of age were respectively characterized as stunted, wasted and underweight while the all-India averages are 48.0, 19.8 and 42.5 per cent. And about 9.9 percent of children below five years of age were severely malnourished in Andhra Pradesh and this percentage is very much lower than the all-India average of 15.8 percent (Table 7.3). Though the state is better than the all-India average in terms of nutritional status, its status is poor in the case of anaemia among children.

Table 7.3: Nutritional Status of Children and Women, 2005-06

	Indicators	AP	India
Children			
1	*Weight for age (Underweight)*		
1.1	Below –2SD	32.5	42.5
1.2	Below –3SD	9.9	15.8
2	*Height for Age (Stunting)*		
2.1	Below –2SD	42.7	48.0
2.1	Below –3SD	18.7	23.7
3	*Weight for Height (Wasting)*		
3.1	Below –2SD	12.2	19.8
3.2	Below –3SD	3.5	6.4
4.1	Anaemia (all)	70.8	69.5
4.2	Anaemia (severe)	3.6	2.9
Women			
5	Below 145 cm	12.1	11.4
6	Mean BMI	20.9	20.5
7	BMI less than 18.5	33.5	35.6
8	Chronic Energy Deficiency (NNMB)	14.1	18.5
9	Moderate and Severe Anaemia	23.9	16.8

Note : 1. For nutrition and anaemia children below five years of age were considered.

Source : NFHS III (2005-06) and NNMB (2002).

Even with respect to the nutritional status of adults, especially of ever-married women and men, Andhra Pradesh appears to be performing better than the country as a whole. In Andhra Pradesh, by NFHS III estimates, about 30.8 per cent of women and 24.8 per cent of men have a body mass index (BMI) below normal whereas for all-India it was 33 and 28 percent respectively. The mean Body Mass Index (BMI) for Andhra Pradesh estimated by NFHS III survey data was almost the same as the national average at 20.3 but below the normal level. These figures indicate the poor nutritional status of women in the state as well as in India.

The state was also relatively better than all-India with respect to anaemia. About 17.3 per cent of women in Andhra Pradesh had iron-deficiency anaemia whereas it was as high as 53 per cent for all-India (NFHS II). But on other aspects of anaemia the state was not much better than the country as a whole. About 79 per cent of children aged 6 to 35 months, and 62 and 56.4 per cent of ever-married and pregnant women in the age of 15 to 49 years were found to be anaemic whereas for all-India the corresponding figures were 79.2, 56.2 and 57.9 per cent (NFHS III).

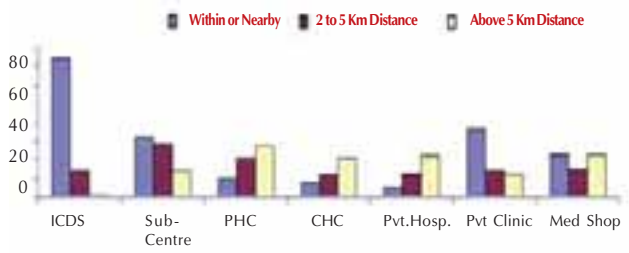
7.6 Infrastructure for Health Care

All health related aspects are influenced by the availability of and access to health services. Individual households and the state are the most important stakeholders in health services systems. To protect and promote general health, the public health infrastructure must be strong. Public health programmes must deliver specific health services to the population (e.g. immunization); promote healthy behaviour; and promote healthy environments.

A minimum level of physical infrastructure is needed to provide public health services, and also to increase access to health services. In Andhra Pradesh (as on 31st March, 2005), there were 349 general hospitals with 36168 beds, 262 dispensaries and 7415 doctors (including 743 contract doctors) to serve the 8 crore population of the state. On an average, there are 4 hospitals and 3 dispensaries per ten-lakh population, and 45 beds and 10 doctors per one lakh population. This is inadequate in terms of availability

of health facilities and provision of adequate health care to the population.

Figure 7.4: Access to Health Facility: Percentage of Villages Having Health Facility in AP



Source : Report On Village Facilities, NSS Report No. 487, 58th Round (July-December 2002)

In Andhra Pradesh, the availability of PHCs, PHSCs and CHCs is relatively better than the all-India average and many states in India, except the south Indian states of Kerala and Tamilnadu. There are 1570, 12522 and 164 PHC, PHSC and CHCs respectively serving around 60 million rural population (Census projections 2007) in Andhra Pradesh[13]. Since the inception of mandals, a sub-administrative division in the district, the State had made it mandatory that there should be one PHC in each mandal. The number of PHCs is more than the number of mandals (i.e.1126). This seems to be inadequate in terms of population norm[14] (1 PHC per 30000 persons) according to which 60 million rural population should be served by 2000 PHCs, which means that 430 more PHCs are required. Similarly, an additional 336 CHCs are required. But in terms of sub-centres (existing 12522), AP seems to have 500 more PHSCs than the norm (12000).

However, people located in rural areas continue to be the most disadvantaged in terms of access to health care facilities. There are a number of villages where there may not be any basic medical facility available. (see figure 7.4) Even where facilities are available, their functioning is dismal in rural areas. Many villages do not have any qualified medical practitioners. While the hospitals at secondary and tertiary level are over-utilized, the primary level services, especially PHCs and sub-centres, are under-utilized mainly due to non-availability of doctors at these health centers, especially in rural areas. These primary health centers account for around 5 per cent of out-patients (OP) and in-patients (IP) in rural Andhra Pradesh. It was observed in field studies that while primary health centres may exist, medical personnel may not be available.

Box 7.4: Missing in Action - Health Workers India

Absenteeism of health care providers especially in the public sector is rampant in many developing countries. The absence rate based on direct physical verification (by unannounced visits) of the service provider's presence in randomly sampled health centers indicate that in India it is as high as about 40 per cent. It is observed that higher-ranking health workers are absent more often then lower-ranking ones and men absent more than women. Those who have marketable skills and lucrative outside earning capabilities (such as doctors) at private clinic are more likely to be absent. Above 40 percent of total (sample) health workers reported that they had their own private practice. Many of the health workers who are absent from the public health centers are providing private medical care. Absence rates are high when health centres are not regularly inspected and in remotely located centres than in less remote locations. In primary health sub-centres (PHSC) the absence rate is higher than in community health centers (CHCs). The situation in Andhra Pradesh may be no better than the country as a whole.

Source : Chaudhury et al (2006)

Absenteeism among the available doctors is also common in primary health centers.

Private health care services (with qualified doctors) are also negligible in rural areas. Most medical facilities in both the private and public sectors are located in urban areas. A study conducted by the Centre for Economic and Social Studies during 2003 based on a sample survey in selected areas found that most of the qualified private doctors (79 per cent) were in the urban areas. There is no private doctor in 23 mandals of the total 38 mandals in the rural areas of Khammam district. Most of the doctors in rural areas were in government facilities. The actual availability of doctors in rural areas, though officially posted in these areas, may be negligible, given the widespread prevalence of absenteeism (Narayana, 2003).

[13] The numbers for Andhra Pradesh are collected from Health Information in India, 2005.

[14] According to government formula, there must be one sub-centre (PHSC) for every 5,000 people (3,000 in hilly areas), one primary health center (PHC) for every 30,000 people (20,000 in hilly areas) and one community health centre (CHC) for every 120,000 people (80,000 in hilly areas). The infrastructure at the all-India level is far short of the requirement even according to the government formula. India needs at least 7,415 CHCs, but there are less than half this number of CHCs in the country.

7.6.1 Predominance of Private Sector in Health Care

Inadequacy of facilities and the various problems involved with public health care have led to the growth of private health care services in India as well as in Andhra Pradesh. The Indian health care system is among the most privatised in the world and less than a quarter of all health care related expenses are met by the government. According to a survey[15] of private hospitals in 1993, there were a large number of private hospitals (3,151) and beds (46,550)[16] in Andhra Pradesh. Complete information on the size of health care facilities (hospitals, beds, doctors etc.) in the private and voluntary sectors is not available, as compulsory registration of health care institutions with any public or professional agency is not legally enforced.

National level surveys such as National Sample Survey (NSS) and the National Family Health Survey (NFHS) on utilisation of medical care and local surveys on medical facilities also indicate the predominance of the private sector and its rapid growth in the state. A survey by the government of Andhra Pradesh (GOAP) in 1994 had shown that private hospitals accounted for 59 percent of total hospital beds in the state, 35 percent were in the public sector and 6 percent in the voluntary sector. Although the private sector accounted for a higher per cent of medical facilities in the state, the size of private hospitals was relatively small[17]. A majority of the private hospitals treated all types of cases and a few were confined to a single speciality. Among various specialisations, obstetrics in combination with others was the single largest area of specialisation in the private sector.

The 42nd (1986-1987), 52nd (1995-96) and 60th (2004) rounds of NSS provide state-wise estimates on private and public sources of treatment for both in-patients as well as out-patients. These survey results indicate that the private sector in Andhra Pradesh has been predominant in health care, reaching its peak in the 1980s. It has grown marginally in the recent period. In 1986-87 it accounted for about 70 percent of in-patient care in rural areas and 62 percent in urban areas, which was the highest in the country. This had marginally increased to 73 and 64 per cent respectively by 2004.

Similarly, the estimates of National Family Health Surveys (NFHS) on the type of medical attendance at the time of delivery show the growing importance of private medical facilities in Andhra Pradesh[18]. At the national level, about 26 percent of births took place in health institutions (public and private hospitals) in 1992-93 which increased to 34 percent in 1998-99. In Andhra Pradesh, it increased from about 34 to 54 percent during the same period. The percentage of births in private hospitals in the state increased rapidly from 58 percent in 1992-93 to 75 percent in 1998-99. The trend was similar at the all-India level but was less pronounced, and the percentage of births in private hospitals increased from 43 to 52 percent[19].

However, it may be noted that the utilization pattern of public and private hospitals, as indicated by the NSSO and the NFHS, does not imply any specific preference for private hospitals in Andhra Pradesh. The proportion of people going to public and private hospitals broadly corresponds to their bed strength in the state. Private hospitals accounted for about 72 per cent of beds in the rural areas and 56 per cent in the urban areas in 1993. The NSS (42nd round) had also shown that private hospitals accounted for 69 per cent of in-patient care in the rural areas and 58 per cent in the urban areas. Similarly, according to the NFHS (1992-93), 58.5 per cent of total births in hospitals have taken place in the private sector, which is almost equal to the share of the private sector (59 per cent) in the hospital beds in Andhra Pradesh. It is therefore erroneous to cite the NSS and NFHS as an indication of a general preference for private hospitals. Rather, the poor are probably

[15] Directorate of Health Services, Government of AP (GOAP) in 1992/1993

[16] Institute of Health Systems (1996): Andhra Pradesh Health Institutions Database (APHID), Technical Note, Working Paper No. XI (1-27), IHS, Hyderabad.

[17] In all the towns, the average bed strength of hospitals was only about 15. About 90 per cent of the hospitals had bed strength of less than 30. Together, the hospitals with less than 30 beds accounted for more than two-thirds of hospital beds in the private sector. The GOAP survey also showed this pattern at the state level. About 66 per cent of beds were located in hospitals with bed strength of 30 or less.

[18] International Institute for Population Studies (1992-93 and 1998-99): National Family And Health Surveys, IIPS, Bombay

[19] In sum, the national surveys on utilisation of medical facilities indicate the rapid growth of the private sector in the country during the 1990s. The private sector seems to be very large, particularly in the state.

going to private hospitals because of lack of facilities and poor quality of services in public hospitals. It does not imply their preference for and ability to pay for the services in the private sector.

The corporate phenomenon in medical care in Andhra Pradesh began with the establishment of a multi-specialty diagnostic centre (Medinova) with out-patient consultancy by a local pharmaceutical company in 1985. In the hospital sector, it began with the establishment of Apollo Hospital in the state capital in 1989 by Non-Resident Indian (NRI) doctors[20] from the USA. The state also played a very active role in the corporatisation of medical care by extending financial and other benefits like providing government land while the central government offered tax concessions on the import of medical equipment.

7.6.2 Rural Health Care: Predominance of RMPs

The inadequacy of public health care services in rural areas made the people choose alternative service providers, the unqualified medical practitioners (RMPs). The urban bias in the availability of health care services in both the public and private sectors is a pointer to the disadvantaged position of people living in rural areas.

Box 7.5: The Nexus between the RMPs and the Qualified Doctors

The role of RMPs as vacuum fillers, however, has taken a very negative turn with growing competition and unscrupulous practices in the private medical sector. RMPs are lured by qualified doctors with commissions to mobilize patients, particularly for surgeries and diagnostic tests, as seen from recent news on the mobilization of women from villages by RMPs for hysterectomy by gynecologists. The commissioning of RMPs is not confined to the small private hospitals in towns. Even super-specialists from corporate hospitals and well-established diagnostic centers are resorting to such practices. The strong nexus between the RMPs and qualified doctors is very open. In fact, qualified doctors consider RMPs as the pillars of the private sector for providing first aid in medical emergencies, referral and escort services and supervising follow-up treatment. The nexus between RMPs and qualified doctors seems to have an adverse impact on the cost and quality of medical care in the private sector.

Source : Narayana (2006)

[20] The existing corporate hospitals have been opened by doctors (either NRI or local) and local business families. All of them are promoted by the local dominant agricultural castes (Kamma, Raju, Reddy and Velama) and most of them are family controlled and managed by family members who are doctors by profession.

There is no doctor or trained/qualified paramedic either in the public or private sector in most villages to provide even first-aid in medical emergencies and to attend to routine health problems. However, the increasing demand for health care services in rural areas is mostly met by RMPs so that they are filling the vacuum in the organized medical system. Most RMPs are from a poor socio-economic background and educated but unemployed sections (Narayana, 2006).

A study conducted by the Centre for Economic and Social Studies during 2003 reveals the predominance of Registered Medical Practictioners (RMPs) in the rural areas of Andhra Pradesh. There are, on an average, 21 RMPs for one qualified doctor (QD) in the surveyed area and 12 RMPs per ten thousand (10,000) persons. It is even higher especially in tribal areas, with 31 RMPs per one qualified doctor. Wherever, the per capita (number of doctors per ten thousand population) availability of qualified doctors is low, there is higher per capita availability of RMPs. Most of the out-patient (OP) care in the rural areas is provided by these RMPs (Narayana, 2006).

7.7 Financing Health Care

The sources of finance for health care are government (central, state and local), employers (private and public sectors), households, voluntary sector (trusts/NGOs), and

external aid. However, households and the state government together contribute more than 90 to 95 percent of the expenditure on health and are the two major sources of health care finance in India. The contribution of all the other sources amounts only to about 5 per cent. Universal public health care based on a progressive tax system is more equitable than financing health care from household spending. However, inadequate public funding of health care and inadequate and poor quality of health care facilities are forcing people to go to private medical services, paying for them from their personal resources.

In Andhra Pradesh, according to the NSS 61st (2004-05) round, on an average nearly 6 per cent of total household consumption expenditure is spent on medical care (both institutional and non-institutional), which is in fact higher than the all-India average. Annual government expenditure on health sectors has been below 5 per cent of total expenditure in Andhra Pradesh, especially in the recent past. In per capita terms, household expenditure on health care in current prices was around Rs. 39 per month in rural areas and Rs. 53 per month in urban areas. The average for a year would be Rs. 463 and Rs. 634 per capita in rural and urban areas, and the average for rural and urban areas was Rs. 518 per capita in the state, which was higher than the all-India average. Per capita expenditure by the government of Andhra Pradesh on health (Rs. 188 per capita per annum in 2004, in current prices) is well below household expenditure. Household expenditure accounted for 73 per cent of total per capita expenditure (i.e. Rs. 518 and Rs.188 would be Rs. 706) on medical care.

The overall decline in the share of the health sector in the government budget, particularly after the introduction of the Structural Adjustment Programme (SAP), has further worsened the scarcity of resources for the health sector. The share of the health sector in the state budget was highest (6.5 per cent) in the Fifth Five Year Plan (FYP) period. Thereafter it declined continuously and fell to 5.2 per cent in the Eighth FYP. Despite the increase in the share of social services in total expenditure, the share of health expenditure declined during Sixth and Seventh FYPs. It was marginally higher (5.4 per cent) in the Ninth Plan due to added resources of World Bank projects, but declined to 4.5 per cent by 2005-06 (see Figure 7.5).

Figure 7.5: The Share of Health (HE) in Total Expenditure (TE) and Per capita Health Expenditure (PCHE) in Andhra Pradesh Constant (1993-94) Prices

At constant (1993-94) prices, per capita public expenditure on health care was about Rs.58 during the Fifth Five Year Plan. It increased by about 45 percent in the next two five-year plans and reached Rs.85 per capita during the Seventh Five Year Plan (1985-1990). However, there was a significant reduction in per capita public expenditure on health care and other services in the 1990s. It declined from Rs.85 in the Seventh plan to Rs.73 in the Eighth Plan. When compared to economic services, public expenditure on social services, and especially on health services, fell sharply.

Box 7.6: Consequence of Private Health Care - Falling into Poverty

The public health care system is unable to meet the rapidly increasing demand for health care services. The private sector, ranging from clinics to corporate hospitals, is filling this gap with profit motive and at the expense of out-of-pocket finance. The pricing of private health care services is very high and without proper regulation.

One study reveals that expenses incurred on health care have resulted in some households falling into poverty (See Anirudh Krishna, 2004)

All this clearly indicates the adverse impact of the Structural Adjustment Programme (SAP) on the provision of health and other social services. Moreover, though per capita public health expenditure increased over the period, it was not sufficient to meet the increasing demand for health care services in the state because there was a continuous increase in the share of salaries in hospital budgets from about 52 per cent in 1974 to 80 per cent in 1995. This left very little resources for the supply of materials

and maintenance of infrastructure. The decline in allocations for medical supplies and maintenance has contributed to a faster degeneration in the quality of treatment in public hospitals.

Prior to the Structural Adjustment Programme (SAP) the ratio of public expenditure on the health sector to State Domestic Product (SDP) had increased, in spite of a decline in its share in the state budget. The share of the health sector in SDP increased from 1.09 per cent in the Fifth plan to 1.29 per cent in the Seventh Plan. During the Sixth and Seventh FY Plans the share of social services was actually higher than the share of economic services. However, with the beginning of SAPin 1990s there was a sudden decline in the share of social sectors including health. The proportion of public expenditure on the health sector to SDP declined from 1.29 per cent in the Seventh FY Plan to 0.94 in the Eighth FY Plan. Thus, after SAP, there was a decline in the allocations to health services despite all the talk of a safety net.

7.8 Human Resource: Health Workers

The most recent report of WHO (2006) *The World Health Report 2006 - Working Together for Health* contains an expert assessment of the current crisis in the global health workforce and ambitious proposals to tackle it over the next ten years, starting immediately. The report concludes that there is an estimated shortage of almost 4.3 million health workers in the world. The shortage of health workers and their inefficiency in functioning, especially in the public sector health care system, is not a new phenomenon.

According to one estimate, in India there are about 0.8 million doctors and 2600 dental surgeons (allopathic) serving a population of one billion, at an average of one doctor per fourteen thousand people and one dental surgeon per four lakh people. The situation in Andhra Pradesh is better than the all-India average, with one doctor per 10 thousand people,[21] but it is relatively poor when compared with other states, especially in south India.

According to the NSS 61st (2004-05) round on Employment and Unemployment survey data, there were 0.26 million health workers (including both public and private health care) comprising 0.65 per cent of the total workforce in Andhra Pradesh. On an average there were about 324 health workers engaged in health services per lakh population in the state. The share of the public sector in the total workforce engaged in providing services is almost same in the state and at the country level, 28 per cent. In terms of the availability of health workers (per lakh population) both in general and the public sector in particular, the situation of Andhra Pradesh (i.e. 324 and 95) seems better when compared to the all-India average (304 and 86).

The distribution of health workers by nature of activity shows that about 38 per cent are engaged in hospital related activities and another 30 per cent in medical and dental practices. About 5 per cent of the total health workers are engaged in the practice of traditional (Indian) systems of medicine. About 18 per cent of workers are engaged in nursing and other paramedical activities and those engaged in independent diagnostic centres, pathology labs and blood banks constitute about 5 per cent of the health workers in the state. The proportion of health workers engaged in traditional (Indian) systems of medicine in the state is well below the national average and it can be concluded that the demand for such health services is very low in Andhra Pradesh.

Rural-urban differences are quite high both in Andhra Pradesh and at the national level. More health workers are located in urban areas than in rural areas. The availability of health workers and therefore health services is much better for the urban population as compared to the rural. Traditional (Indian) systems of medicine are also mostly practised in urban areas. In Andhra Pradesh only twenty per cent of the health workers are in the public sector which is well below the national average. There is also a large difference in the per capita availability of health workers between rural and urban areas, indicating the disadvantage of rural people in terms of access to health services in general and public health services in particular.

7.9 Reforms in Public Health Sector

With the objective of improving the financial viability and quality of care in public hospitals the State Government initiated a series of reforms, with later guidance from the

[21] There are 7991 doctors and 198 dental surgeons serving a population of 80 million in the state.

World Bank, mainly at the secondary and primary levels. The Andhra Pradesh Vaidya Vidhana Parishad (APVVP), an autonomous Commission for the management of secondary level hospitals, was created in 1986 to grant financial and administrative autonomy to these hospitals when government hospitals were facing scarcity of funds and declining standards. The APVVP seems to have achieved considerable improvement[22] in the functioning of public hospitals at the secondary level[23] in spite of problems. However the APVVP failed in achieving two of its basic objectives: recruitment of independent staff on contract[24] basis and financial independence. Although a major objective in establishing the APVVP was to introduce user charges, this could not be realised and this was the case for other financial proposals. As a result of the limited scope for raising revenues for financial self-sufficiency, the APVVP became unviable.

The Andhra Pradesh First Referral Health System (APFRHS) Project was launched with aid from the World Bank, to introduce reforms in secondary level hospitals that were under the management of APVVP[25]. The APFRHS Project is the first reform-based lending by the World Bank to the health sector in the country and a major policy initiative in the health sector. A.P was selected mainly because APVVP, an autonomous organisation, was already functioning in the state to manage secondary level hospitals. Apart from renovating and upgrading secondary level hospitals through huge investments[26], the project aims at introducing major changes in health policy and institutional structures. The major policy changes proposed include the introduction of user charges at secondary hospitals, contracting out support services and shift in allocations from the tertiary to secondary level hospitals. The APFRHS project stipulates introduction of user charges to recover at least the non-salary component of incremental recurrent costs. It is also proposed to decide the extent and level of user charges depending on the cost of medical interventions, to impose user charges on services for which cost-effectiveness was low and subsidise high cost-effective procedures.

This approach represents two major shifts in the health policy. Firstly, the shift in emphasis from the incidence of disease to the economic burden of disease in setting health sector priorities. The cost-effectiveness of health interventions was assessed in terms of gains in the Disability Adjusted Life Years (DALYs). In other words, the economic value of people is taken into consideration in the provision of health services. Secondly, the project lays emphasis on a greater role for market forces in providing health care.

The GOAP has initiated reforms at the level of primary health care also as a part of the World Bank sponsored A.P. Economic Restructuring Project (APERP) which encompasses reforms in primary education, nutrition, irrigation, communications and state administration[27]. The objectives of the project are to improve the quality and effectiveness of health services at the primary care level and accessibility to sections of the population which are poorly served; and, to integrate the primary health care with the first referral hospitals, which are already under major reforms in the APFRHS project[28]. The reforms at the primary care level are expected to add value to investment at the secondary level by strengthening the referral system and reducing the patient-load at the secondary hospitals. The primary health care project is intended to strengthen institutional capacity (at the state, district and PHC level) and upgrade primary health care facilities (by constructing/renovating the PHC buildings), by enhancing

[22] Creation of a single apex agency is intended to eliminate bureaucratic delays in getting sanctions from the State Secretariat. It is also supposed to improve medical supplies and maintenance of diagnostic equipment and other infrastructure facilities.

[23] Chawla, Mukesh and George, Alex (nd): Hospital Autonomy: The Experience of APVVP Hospitals, IHS Working Paper XVI, Institute of Health Systems, Hyderabad.

[24] One of the objectives of APVVP was to introduce a flexible manpower policy based on contract system.

[25]. World Bank (1994): Andhra Pradesh First Referral Health Project, Report No.13402-IN.

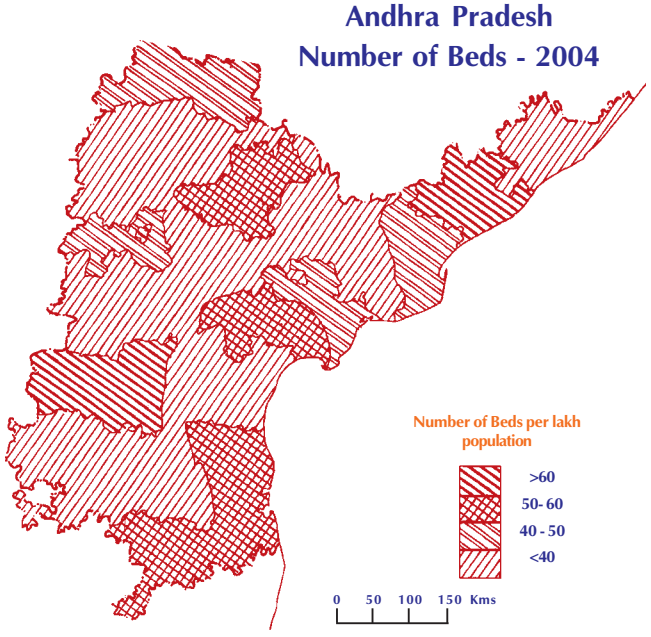
[26] US $159 million/Rs.6.08 billion, 90 percent of which is funded by the IDA in civil works, medical equipment, additional staff and medical supplies.

[27] Department of Health, Medical & Family Welfare, GOAP (1998): Project Implementation Plan for the Primary Health Care Component of AP Economic Rehabilitation Project, Hyderabad.

[28] The total estimated cost of the primary care project is $76.5 million of which $62.2 million would be financed by the World Bank. About 70 per cent of the project cost is meant for civil works and 30 per cent for capacity and institution building (22 per cent) and community participation (8 per cent).

community participation (through IEC and other innovative schemes including health care delivery through the private sector).

At present there are about 1335 PHCs in the state. The project aims at upgrading 500 existing PHCs to provide an enhanced service package consisting of prenatal and delivery care, family planning services, management of sick children etc., which require the presence of a doctor. The other PHCs will be run with the help of paramedical personnel. About 100 upgraded PHCs would work round the clock to improve access for out-patient care and maternity services. Indirectly, the project aims at enhancing the space for the growth of the private sector. It criticizes the existing population norms in locating PHCs and proposes to take into account the availability of private services. The project discourages the upgrading of PHCs where private facilities are available and wants to gradually reduce the availability of doctors at PHCs in places where private doctors are in practice.



7.9.1 Public Private Partnership: Policy Imperatives

Public subsidies and lack of regulatory mechanisms to control supplier induced demand have resulted in a very large private sector in medical care in the state. Given its size, the role of private medical care is the basic public policy issue in the health sector.

The past experience with the private sector has been very discouraging. The precondition of providing a certain percent of out-patient and in-patient medical care to the poor in return for government subsidies was never honoured by private hospitals. Reimbursement facilities under the Central Government Health Scheme (CGHS) and other government programmes were grossly abused by corporate hospitals. The immediate objective of public policy should be to formulate institutional arrangements to regulate private medical care and ensure its geographical distribution so that it supplements, rather than replaces, the public sector. Any partnership with the private sector is possible only after achieving the regulation of the private sector in terms of quality, cost and geographical distribution. In any case, the state should not extend any more subsidies to private medical services.

The only positive experience has been the collaboration with not-for-profit hospitals in public health programmes like TB and blindness control. It was also found that the cost of medical care in the not-for-profit sector was one-third to half the costs in corporate hospitals. Given the lower cost of care and positive experience in the implementation of public health programmes, it is better to restrict all subsidies and reimbursement facility to the not-for-profit hospitals.

However, the main focus should be on the large-scale expansion of facilities in the public sector. The main problem with public hospitals is non-availability of doctors either because posts are unfilled or doctors do not attend to their duties. In recent years the government has not been able to recruit enough doctors/specialists to the secondary and tertiary hospitals even in the urban areas. One of the constraints is the low salary in the public sector when compared to incomes in the private sector. It is also partly due to the lack of adequate facilities and overcrowding of patients in public hospitals. It may not be possible to provide salaries comparable to incomes in the private sector.

In recent times the provision of universal health insurance through self-help groups for the poor has been widely discussed but this is not feasible simply because the health care facilities are not available in most rural areas either in the public or the private sector. The bed

and doctor population ratios are abysmally low even after taking private facilities into account. The lack of control on the cost and quality of care is another major problem in introducing the social insurance.

To conclude, these are the following public policy options. There is a need for large-scale public investment in public sector health care services. The Nizam Institute of Medical Sciences (NIMS) type of hospitals may be encouraged at the tertiary level to provide free health care to the poor with user charges for the rich. This would control the cost of care in the corporate hospitals and provide access to tertiary level care for the poor. Encouragement should also be given to not-for-profit hospitals. There should be regulation of private medical care and no partnership with private hospitals. Moreover, public subsides to these private hospitals must be withdrawn.

7.10 Conclusions

This chapter has focused on the performance of Andhra Pradesh with respect to indicators related to demography, health and nutrition. The performance of Andhra Pradesh has been relatively better in the all-India context in terms of a few demographic indicators particularly with respect to demographic transition because of a dramatic reduction in total fertility rate (TFR) and decline in the growth of population. However, its performance in terms of other health and nutritional aspects is still poor and it is lagging behind many states in India. In terms of infant mortality rate (IMR) and under-nutrition among children below three 3 years of age, the state stands next to the group of the most backward states (referred as BiMaRU states). Moreover, the achievement of the state on this dimension falls short of the target, goal or norms set for many indicators, although its performance is relatively better than the all-India average as well as a few North Indian states.

It is also observed that there is an increasing burden of disease especially that of HIV/AIDS in Andhra Pradesh and that the state is at the top in terms of prevalence rate across states in India. Both the prevention and cure of diseases related to HIV/AIDS needs greater attention in terms of the policy as well as funds.

The changing structure of population across age-groups indicates that there is likely to be an increasing burden of old people in the coming years. Attention needs to be focused on policy to address the attendant problems of old age. Another aspect is reproductive and child health which is mostly ignored in most health related analysis. It has been shown that it is not only maternal mortality that matters but also the sufferings of women in the reproductive age and problems related to maternity.

As regards health infrastructure (physical and man power), though there has been an improvement over the past, health care facilities are still inadequate, especially in rural areas. People living in rural areas are the most deprived of health care. However, increasing awareness related to the importance health is increasing the demand for health care. Correspondingly, the share of the private sector in the provision of health care is increasing, especially in urban areas. Owing to inadequate public health facilities, while awareness and demand for health services are increasing, private health care has developed on a wide scale. The rising cost of health care at the household level is a cause of concern and needs public action. The average share of household budget spent (7 per cent) on health care is relatively higher than the share of public budget spent (5 per cent) on health care in the state.

On the whole though the state seems to be successful in terms of family planning and the immunization programme, many other facets of health care have to be improved. Therefore, it is suggested that the current public policy of encouraging corporate hospitals and public-private partnership in health care needs to be reviewed given their far-reaching implications and the public health care system needs to be further strengthened and extended.

8 Education
Literacy and Schooling

CHAPTER VIII

The performance of Andhra Pradesh in terms of improvements in literacy and schooling is one of the best among the Indian states in the recent period. Given the trends, the state can achieve universal enrolment soon. But it is the large stock of adult illiterates that makes it one of laggard states in literacy.

In a mature democracy, an informed citizenry, active citizenship and collective actions are critical for the functioning of civil society, made possible through a minimum level of formal education. Development economics now lays great importance on the concept of human capital. Education, defined in terms of literacy rate and schooling levels (enrolment ratios - in primary and secondary schools - mean years of schooling), is an important component of human capital. These proximately represent the level of human capital in society and hence are important indicators for the human development index. Education is also one of the important aspects stressed in the Millennium Development Goals (MDGs), especially universal elementary education for children in the age group 5-14 years. But literacy levels in India are very low even today, despite decades of rhetoric. Among the Indian states, Andhra Pradesh is one of the least developed in terms of education/literacy, not much better than the BIMARU (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) states.

In this context, this chapter deals with educational development in Andhra Pradesh focussing on levels and trends in literacy and schooling, supply factors like schools, teachers, physical infrastructure and financial resources.

8.1 Levels and Trends in Literacy

8.1.1 Crude Literacy

The literacy level/rate is a rather crude measure which is derived in terms of number of literates divided by the

total population excluding the population in the age group 0-6 years. The best record in literacy so far at both the national and state levels was during the nineties. The literacy rate in India increased from 52.2 to 65.4 per cent during 1991-2001 (see Table 8.1). Whereas the decadal improvement at the national level had been not more than 8 percentage points till 1991 and the nineties witnessed an improvement of 13.8 percentage points. Literacy in Andhra Pradesh increased by 17 percentage points during the 1990s from 44.1 per cent in 1991 to 61.1 percent in 2001. In spite of this faster rate of growth, the literacy rate in Andhra Pradesh is still lower than the all-India average. While the literacy rate of Andhra Pradesh was about three-fourths of the all-India level in 1961, the state has made substantial progress subsequently, especially in the last two decades. In spite of this, the state is still one of the educationally backward states in India in terms of literacy and Andhra Pradesh is among the three least literate states in the country.

While the overall literacy rate has gone up from 44 per cent in 1991 to 61 percent in 2001, the male literacy rate has increased from 55 to 71 per cent. What is encouraging is that the female literacy rate has gone up by about 50 percent, i.e. from 33 percent in 1991 to 51 percent in 2001. The ratio of male literacy to female literacy has come down after 1981, indicating a reduction in gender inequality in literacy.

Table 8.1: Literacy Rate in A P and India

Year	Andhra Pradesh			All-India		
	Person	Male	Female	Person	Male	Female
1	*2*	*3*	*4*	*5*	*6*	*7*
1961	21	30	12	28	40	15
1971	25	33	16	34	46	22
1981	30	39	20	44	56	30
1991	44	55	33	52	64	39
2001	61	71	51	65	76	54

Note : 1. Literacy is for 5 + age population till 1981 and after that, for 7 + age population; 2. Figures presented are in percent.

Source : Census of India.

It is also observed that the progress of literacy in Andhra Pradesh lagged substantially behind all-India during 1961 to 1981. During this period, the increase in male literacy in Andhra Pradesh was about 30 percent as compared to about 40 percent in India and the increase in female literacy was about 66.6 percent in Andhra Pradesh as compared to about 100 percent in India. The opposite pattern emerged between 1981 and 2001when male and female literacy rates increased by about 80 percent and 150 percent respectively in Andhra Pradesh as compared to about 36 percent and 80 percent respectively in all-India.

Gender equality in literacy, measured in terms of the ratio of female literacy rate to male literacy rate, is quite impressive (greater than 75) in districts such as West Godavari, East Godavari, Krishna, Nellore and Guntur. It is the lowest for Mahabubnagar (56.4) and hovers around 50 for Kurnool, Medak, Adilabad, Anantpur and Nizamabad districts. In many of these districts the female literacy rate is less than 30.

Literacy rates at Mandal level

It is always useful to study the situation at the grass root level in order to take constructive steps to improve literacy levels. Using the data from both the 1991 and 2001 censuses[1] , at the *mandal* level a considerable increase in female literacy rate (FLR) was observed across mandals in each district in this decade.

According to the 2001 census in 77.6 per cent of the mandals in Coastal Andhra and 67.6 per cent of mandals

[1] The rural and partially urban mandals are classified according to the level of female literacy rate during 1990-91 to 2000-01. The class intervals considered for the female literacy rate are 0-20, 20-30, 30-40, 40-50 and greater than or equal to 50.

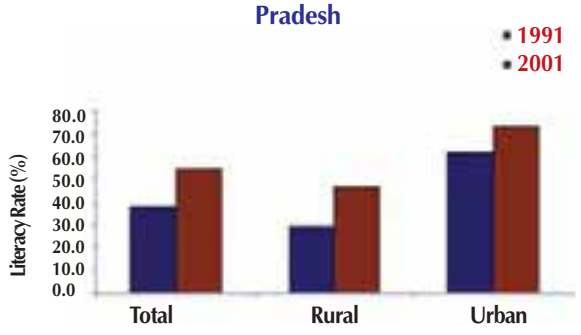
in Rayalaseema, the FLR was more than or equal to 40, where it was less than 40 in 60.6 per cent of the mandals in Telangana. Further, FLR was less than 30 in about 20 per cent of mandals in Telagana and the situation in Mahabubnagar district is a cause of worry since the FLR was found to be below 30 in 61 per cent of mandals. The other districts in which the FLR was less than 30 in more than 20 per cent of the mandals were Adilabad (32.6 per cent), Medak (26.7 per cent), Nizamabad (22.2 per cent) and Kurnool (20.4 per cent). In Visakhapatnam FLR was less than 30 in 18.6 per cent of the mandals. This indicates that special attention should be given to these mandals to improve the overall level of literacy in the state.

8.1.2 Adult Literacy

The literacy level among adults (persons of age 15 years and above) is a useful guideline for the quality of life. Further, a certain level of education at least up to middle school (class 8) among adults is required to understand, appreciate and benefit from government policies. The government is also insisting on universalisation of elementary education among the adult population.

According to the 2001 census, the literacy rate among adults[2] in Andhra Pradesh was 54.2 per cent, which was nearly 16 percentage points higher than 38.3 per cent in 1991 (see Figure 8.1). The corresponding figures for adult male and female populations were 65.7 and 42.5 respectively indicating a gender disparity index in literacy of 42.9. There were considerable variations in literacy rates among adult males and females between rural and urban areas. In general, the literacy rates in the rural areas are considerably lower than in urban areas.

Figure 8.1: Adult (15+ Age Population) Literacy Rate in Andhra Pradesh



Source : Census of Andhra Pradesh

As expected, the literacy rate was the lowest for adult females in rural areas. Slightly more than one-third of the rural adult female population was literate whereas in the urban areas nearly two-thirds of the women were literate. The gender disparity index in literacy was also higher in rural areas than in urban areas. There are variations in the educational levels - primary school and above and middle school and above - of literate adult males and females in rural and urban areas which are worth noting. In rural Andhra Pradesh, about 73 percent of the adult female literates have studied up to primary and above, but only about 35 percent have had schooling up to middle school and above. The corresponding figures for adult male literates are 79 and 49 percent respectively. In the urban areas of Andhra Pradesh, about 89 percent of the adult female literates have had education up to primary school and above and about 62.5 percent of the adult female literates have studied up to middle school and above. The corresponding figures for adult male literates are about 92 and 73 percent respectively.

At the district level, the adult literacy rates are less than 50 in 12 districts out of 23, so that more than half the adults in these districts are illiterates. Mahabubnagar has the highest illiteracy rate (62.6) followed by Adilabad, Nizamabad, Medak, Vizianagaram (around 56). In the case of female adults, the illiteracy level is more than 50 percent in most districts, except in Hyderabad, West Godavari, East Godavari and Krishna.

These figures suggest that the rate of dropping-out of school is much higher among rural adults than among urban adults especially among adult women.

The gender disparity index in literacy increases with the level of education both in rural and urban areas and is significantly higher in rural areas. Non-literate adult females and those with an educational level below primary together constitute about 75 percent of the adult female population in rural areas and about 43 percent in urban

[2] According to Census 1961, there were about 72 million literates in the population aged 15 years and above, which was 27 per cent of the adult (15+) population (around 259 million) in India. The number of literates in adult population in India increased to 251 million in 1991 and the percentage of literates in adult population increased to 48 percent.

areas. Among adult males the corresponding figures are about 53 percent and 25 percent respectively. Further, only about 11.9 percent of the adult females in rural areas have studied up to and beyond middle school, whereas in urban areas the corresponding figure is about 40 percent. For the adult male population, the corresponding figures are 28.8 and 59.8 percent respectively.

Against this background, it would seem that the Adult Literacy Campaign should be strengthened, so that both non-literate adults and adults with low levels of schooling should be brought to the level of primary school, if not to the level of middle school. About 23 per cent of literate females in the age group of fifteen years plus (23 and 56.2 percent in rural and urban areas respectively) have had schooling up to middle school and above. Among males of age 15 years and above, the corresponding figures in rural and urban areas are about 45.7 percent and 69 percent respectively.

Literacy levels among adults in the age group 15 to 29 years

Literacy rates and levels of education for the age group 15 to 29 years give a good indication of recent progress in literacy and level of education. The literacy[3] rate for this age group is highly encouraging and indicates a considerable progress in literacy between 1991 and 2001. However, about 59 percent of women and about 28 percent of men in rural areas in this age group are either non-literate or have an education level below primary school.

At the district level, Mahabubnagar, Vizianagaram, Medak, Adilabad and Nizamabad may be classified as low literacy districts with literacy rates (of 15 to 29 years age group) between 37.4 and 44.1 percent. Karimnagar, Srikakulam, Kurnool, Anantapur, Warangal, Khammam and Nalgonda may be classified as low medium literacy districts with literacy rates between 46.2 and 49.3. Prakasam, Visakhapatnam, Kadapa, Guntur, Nellore, East Godavari, Chittoor and Rangareddi may be classified as high medium literacy category districts with literacy rates varying between 50.4 to 61.3 per cent. Krishna, West Godavari and Hyderabad may be classified as high literacy category districts with literacy varying between 63.9 to 77.0 per cent.

8.1.3 Proximate Literacy

Because of the externality effect of one literate member on the illiterate members of a household, households with at least one literate member have an advantage over those which had none,[4] for the benefits of literacy will spread to other members. It is also to be noted that the activity pattern of a household is likely to be related with their level of literacy. It is more appropriate to consider literacy at the household level rather than individual level and identify the households in which all the members are illiterate so that the literacy programmes can target such households first. According to the NSSO 61st round (2004-05) survey, the incidence of illiterate households (all the adult member are illiterates) is relatively much higher in Andhra Pradesh than all-India.

It is observed that the percentage of households having no literate adult female member (F) in rural Andhra Pradesh has decreased from 71.4 in 1999-00 to 57.7 in 2004-05. In rural all-India, it had decreased from 60.9 in 1999-00 to 50.0 in 2004-05 (see Table 8.2). In Kerala, the most literate state, the percentage of households which had no literate adult female member (F) in rural areas was 5.6 during 2004-05. The percentage of households having

Table 8.2: Percentage of Households with no literate adult (All) / adult female in AP, Kerala and All-India

State	2004-05		1999-2000	
	All	Female	All	Female
1	*2*	*3*	*4*	*5*
Rural				
Andhra Pradesh	36.4	57.7	44.8	71.4
Kerala	2.8	5.6	2.9	9.2
All-India	26.1	50.0	32.1	60.9
Urban				
Andhra Pradesh	12.7	28.1	17.2	38.7
Kerala	1.1	3.1	1.6	10.7
All-India	8.4	19.5	11.6	34.6

Source : NSS Employment and Unemployment Survey.

[3] The literates and the literacy levels with education levels of primary school and above and middle school and above are computed for each district and separately for rural and urban areas.

[4] Basu and Foster, 1998; Basu at al, 1999; Subramanian, 2004.

no literate adult member (A) in rural areas of Andhra Pradesh, Kerala and all-India in 2004-05 were 36.4, 2.8 and 26.1 respectively. The incidence of households either with all non-literate adults or with all non-literate female adults is relatively much smaller in urban areas as compared to rural areas for all the states under consideration both during 1999-00 and 2004-05.

The rate of decline in non-literate households during 1999-00 and 2004-05 has been only moderate for all social categories and across rural and urban areas. About two-thirds of the households in the rural areas of Andhra Pradesh did not have an adult female literate member in 2004-05. In all-India the corresponding figure was 61.9 percent.

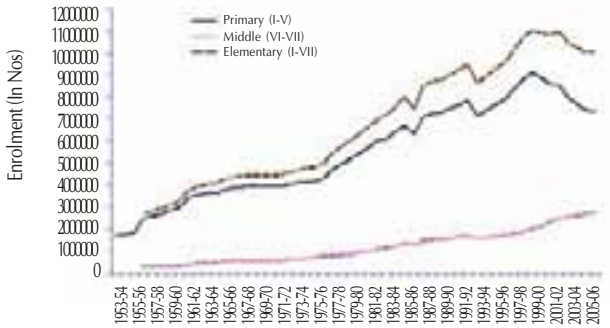
8.2 Levels of Schooling

Different data sources are available on levels of schooling among children, though each has its own limitations. The Ministry of Human Resource Development (MHRD) is a major source of data relating to schooling. At the state level (AP) the Department of School Education provides enrolment figures at different levels of schools.

The state figures indicate that there has been a continuous increase in the number of children enrolled in both primary and upper primary schools in Andhra Pradesh since its formation (see Figure 8.2) from 25 lakh children in 1957 to about 85 lakhs in 2006, indicating an increase of about 3.3 times in enrolment. The trend slowed down during the 1960s and 1970s but rose sharply again in the 1980s, except for a sudden dip in 1987. In the early 1990s once again there was a dip, but enrolment began to rise immediately. Again in the recent past, especially since the late 1990s, there has been a declining trend in enrolment figures particularly in primary schools.

However, the real concern is whether the state is reaching the goal of universal elementary education. The true indicator for this is the percentage of children in elementary school-going age actually enrolled/attending school. The enrolment (gross) ratio especially in primary schooling, as reported by the Department of School Education, indicates that it is more than 100 per cent which would mean that the number of children enrolled in the primary classes (i.e. I to V) is more than the number of children in primary school age (6 to 11 years of age). This, however, is possible given the fact that both under and over age children are enrolled[5] in primary schools. The net enrolment ratio, which excludes these under and overage children, is also almost 100 per cent particularly among primary school age children.

Figure 8.2: Growth of Enrolment in Andhra Pradesh



Box 8.1: High drop-out rate due to fictitious enrolment

Andhra Pradesh is known for high drop-out rates of school going children among Indian states. Fictitious enrolment is one of the factors responsible. The state introduced the non-detention system in 1971 under which children are promoted to the next higher class each year irrespective of their progress assessed through any formal test. Teachers were required to canvass all children of school-going age and enrol as many children in school as possible. There are conditions of minimum enrolment of children required for the continuance of a school and the teachers in the school. Because of these conditions the teachers enrol as many names as possible, without any concern as to whether the enrolled children would attend school or not.

In some instances, children are enrolled not by parents, but by the teacher, and without their knowledge. Sometimes, the names of children who, in fact, had been enrolled and attended school but had later dropped out on their own for valid reasons, are not deleted from the rolls. Once a child is enrolled in the first year of primary school, his/her name will be carried throughout the primary school stage. The automatic promotion system facilitates and necessitates such practices (see GOI, 1987). In recent years, after the implementation of mid-day meals scheme, school enrolment has greatly increased as every child whose name is registered is eligible for benefits from the scheme. But, many children are not regular in attending school, nor do teachers bother to ensure attendance. There is a quid pro quo in this arrangement. Teachers please the parents (and thereby the villagers as a whole) by distributing rice irrespective of their children's attendance at school; in return, the teachers are left alone and their regular attendance in school is not insisted upon. This is the background for the exaggeration in enrolment figures and drop-out rates rise in the state.

[5] Owing to late or early enrolment or repeaters.

This achievement, however, is vitiated by the high drop-out rate. All the enrolled children may not be retained in school, and actual attendance would be less than enrolment. High drop-out rate reduces the retention rate and the completion rate. Andhra Pradesh is regarded as a state with high drop-out and low retention rates. However, a different opinion has also been expressed. A more recent data source, the District Information on School Education (DISE), contradicts the drop-out rate given by the Department of School Education (AP). The drop-out rate in the state has declined steadily over the years. According to the data of the Department of School Education (AP), at primary school level, the drop-out rate was 70.65 per cent in 1971-72 which had gradually declined to 24.73 per cent in 2005-06. Though a similar decline is observed in the upper primary stage the drop-out rate is still rather high and has to be reduced. According DISE source, the drop-out would be around 10.8 in AP for the year 2005-06. These differences are due to differences in the way drop-out is calculated.

The drop-out rate estimations based on Census data indicate that the drop-out rate is around 10 per cent[6] in 2001. Moreover, it shows that non-enrolment rather than drop-out is the major problem in Andhra Pradesh as well as in India.

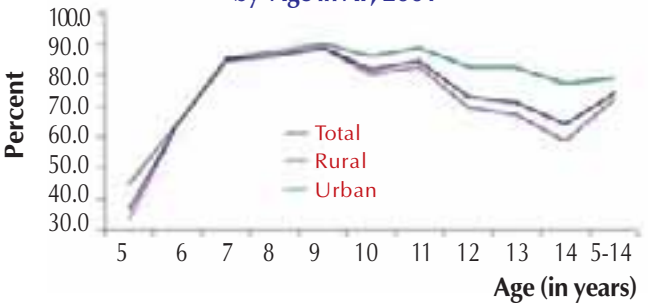
The decline in total enrolment since 1999-2000, particularly in primary schools, has happened in spite of the enrolment drive under different programmes like back to school. A possible reason could be the rapid decline in population growth for the young age groups in the state during the 1990s. The Census of India projections indicate that the growth will be negative especially in the 5-14 age group during 2001-11. As per the Census 2001 there were about 17.7 million children in the age group 5-14 years. Projections show that the child population would decline to 15.8 million in 2006 and further to 14.4 million by 2011. It may be noted that because of the decline in the child population, universal elementary education will be achieved in Andhra Pradesh if the same momentum in enrolment trend were to continue.

8.2.1 Children Attending Schools

It is generally recognized that data available from the MHRD overestimate the number of school-going children, which may lead to misleading results while measuring the schooling status of children, especially in 5-14 age group. The Census of India and NSS may be a better alternative source of data[7].

In India, usually, 5 to 14 years of age is considered as suitable age for the elementary school cycle, 8 (I to VIII grades) years of schooling. But in Andhra Pradesh the corresponding age group is 6 to 14 and 7 (I to VII grades) years of schooling, which may be more realistic since it is not practical to expect children below five years of age to attend school. The school attendance rate among children 5 to 14 years indicates that at age five the attendance rate is minimal (see Figure 8.3) whereas it increases among older children and reaches its peak at 9 years. Thereafter it declines among older children.

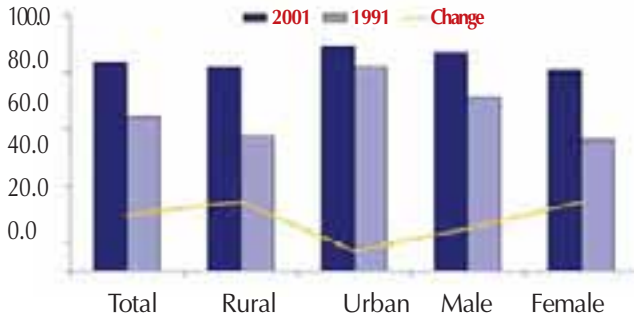
Figure 8.3: Percentage of Children Attending School by Age in AP, 2001



[7] Socio-cultural tables of the Indian Census provide data on activity status of children under four categories: a) full time students; b) children who are working full time; c) children who attend school and work; and d) children who are not working and are not attending school, referred to as nowhere children. These Census estimates are based on a 20 percent sample of the household schedules.

According to the Census 2001 there are 17.7 million children in the usual age group (5 to 14 years) whereas it is 15.9 million in the state specific age group (6 to 14 years). The number of children attending school varies in these two age groups between 13.1 and 12.4 million and also the attendance rate between 78 and 74 per cent respectively. It indicates that 4.6 and 3.5 million children in the usual (5 to 14 years) and state specific (6 to 14 years) age group respectively were out of school in 2001 (Census 2001).

Figure 8.4: Percentage of children (6-14 Age) Attending Schools in AP



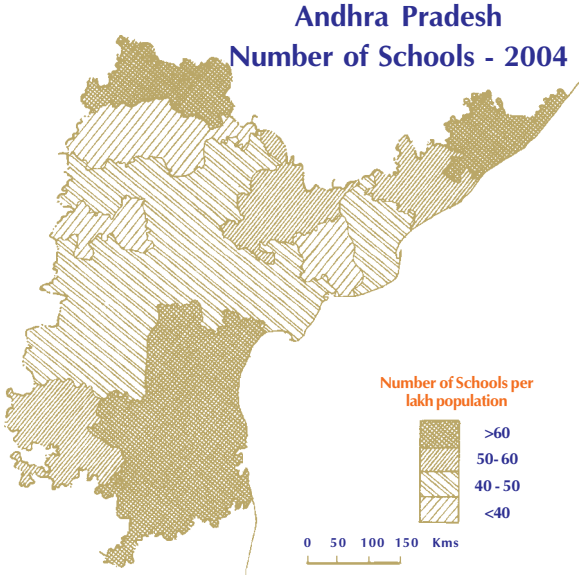
Source : Census

However, according to the NSS Employment and Unemployment Survey 61st (2004-05) round estimations, the percentage of children (6 to 14 age group) currently attending schools was around 91.7 per cent (see Figure 8.4) which is 6.7 percentage points above the all-India average (85 per cent). Of the population of 80 million in Andhra Pradesh, the child population in the age group 6-14 years would be around 14.63 million[8] (as on 1st January 2005). It is to be noted that the Census projection indicates a decline in the number of children, especially in Andhra Pradesh. The number of children in the age group 6-14 years attending school based on NSS estimation would be around 13.42 million. That means there are around 1.21 million or about 12 lakh children found to be out of school (as on 1st January 2005).

The trend in the percentage of children attending schools indicates that during the 1990s a dramatic change took place in Andhra Pradesh[9]. There was a sharp increase in the percentage of children attending school. The levels of enrolment in the state had been below the national average till the early nineties. But by the late nineties the school-enrolment rate was higher than the national average, and the state has also been doing well after the 1990s among the Indian states. The increase in percentage points for the state remained the highest among the major Indian states during 1990s.

Gender Gap

According to Census 2001, the percentage of children in the age group 6-14 years attending schools in Andhra Pradesh is about 77.9 percent. The corresponding figures for boys and girls are about 81.24 and 74.30 respectively indicating a gender disparity index in attendance of about 8.91. It may be noted that there are considerable variations among districts. The percentage of children attending schools is more than 80 in districts such as Karimnagar, Chittoor, Warangal, West Godavari, Kadapa, Nellore, Hyderabad, Krishna and Srikakulam.



[8] Derived, based on ratios estimated from the NSS data.

[9] In Andhra Pradesh, according to the Census, though there was a marginal increase in the number of non-school-going children (25 per cent), there was rapid growth (220 per cent) in terms of the number of children (5-14 age group) going to school between 1961 and 1991. There were around 2.6 million children (5-14) attending schools (i.e. 'in school') in 1961 and the remaining 6.6 million were out of school. By 1991, the number of school-going children and out-of-school children increased to 8.1 million and 8.6 million respectively. More than 50 per cent of children in this particular age group were out of school (i.e. educationally deprived).

In Mahabubnagar and Kurnool districts the percentages are as low as 63.25 and 67.03 respectively. In all the other districts, the figure varies between 75 and 80. The pattern is similar for boys and girls attending to schools. The gender disparity index in attendance is substantially higher in the low school attendance districts of Mahabubnagar and Kurnool, but is very low in Hyderabad, East Godavari, West Godavari, Krishna, Rangareddi and Nellore. Inter-district variations in the percentage of girls attending schools are significantly higher than for boys. It should also be noted that inter-district variations in gender disparity index in attendance are also considerable.

Rural-Urban Disparity

The percentage of children in the age group 6-14 years attending school in rural Andhra Pradesh is 76.15 and 82.76 in urban areas. The corresponding figures for boys and girls are about 80.45 and 71.61 respectively in rural Andhra Pradesh and about 83.53 and 81.97 respectively in urban areas, which show that the gender disparity index in attendance is much lower in urban areas compared to rural areas. The contribution of rural children to the total children (6-14 age group) attending school is around 72 per cent which is in fact below the share of the rural children (75 percent) in total child population.

There are considerable variations in the percentage of children in the age group 6-14 years attending schools across districts in rural areas. The percentage of children attending schools is more than 80 in districts such as Karimnagar, Chittoor, Warangal, West Godavari, Kadapa, Nellore and Krishna. In Mahabubnagar and Kurnool the figures are as low as 60.85 and 65.42. In all the other districts, the percentage varies between 70 and 80. The pattern is similar for boys and girls.

In rural schools, the gender disparity index[10] in attendance is high in Mahabubnagar and Kurnool, but is very low in East Godavari, West Godavari and Krishna. There are noticeable variations across districts in the levels of school attendance for boys and girls in rural areas whereas in urban areas there is little variation across districts. However, inter- district variations in the gender disparity index in attendance are very high in urban schools as well. Across the different social categories, the percentage of children in the age group 6-14 years attending to schools in ST, SC and Other communities were about 64.13, 76.86 and 79.56 respectively during 2001.

8.3 Educational Attainment Index

A composite index has been constructed for 2001 to examine the relative positions of states with respect to education attainment[11]. The index consists of indicators relating to levels of literacy and schooling. The index values and relative position rankings show that while Kerala was at the top of the list, Bihar was at the bottom. The index value ranged from as high as 91.55 to 45.19 indicating widespread regional disparities across states. The national average stood at 64.35.

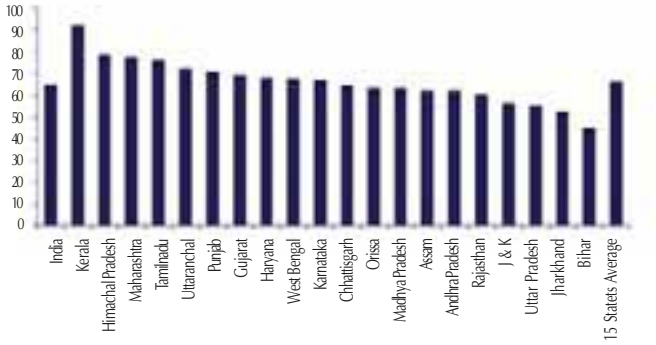
The index shows that Andhra Pradesh, with a rank of 15, was one of the most backward states in terms of educational attainment. Rajasthan, J&K, Uttar Pradesh, Jharkand and Bihar had lower index values. Importantly, Orissa, a poverty-stricken state and Madhya Pradesh one of the BiMaRU states, are ahead of Andhra Pradesh (see Figure 8.5).

A similar composite index has been constructed across districts within Andhra Pradesh to identify the backward districts and the level of inter-district disparities. The index values across the districts, ranging from 78.38 to 46.02 are within the range of values found across major Indian states. No district of Andhra Pradesh is either as developed as Kerala or as backward as Bihar.

[10] The Gender Disparity Index is ratio of male to female in educational attainment.

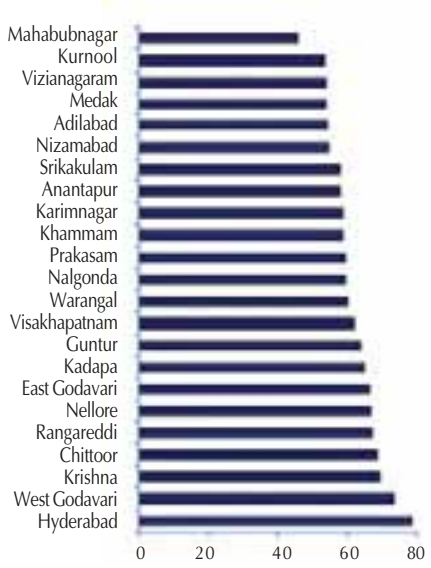
[11] The index is based on both the adult literacy rate with two-third weight and children's school attendance rate with one-third weight.

Figure 8.5: Educational Attainment Index across Major States in India, 2001



The regional disparities within the state across the districts are quite revealing. Among the 23 districts in the state, Hyderabad and Mahabubnagar were the most and the least developed in terms of educational attainment. Interestingly both districts are in Telangana. It is not unexpected that Hyderabad tops the list, as it is a totally urbanized district[12]. After Hyderabad, almost all the districts from the South Coastal Andhra region are at the top of the list. But the three least developed districts are from the three different regions (see Figure 8.6).

Figure 8.6: Educational Attainment Index across districts of AP, 2001



8.4 Growing Demand for Private Schools

The recent performance of the state has been more promising. Demand for education has been increasing in the recent past and which is reflected in literacy and schooling levels (i.e. percentage of children in the 5-14 years of age attending schools) in the state. It is to be noted that there has been growing demand[13] for private schools in Andhra Pradesh, especially since the late 1980s, and more so in the 1990s. The general perception is that the quality of public (i.e. government) schools is very poor. The growing awareness about the value of education with rising expectations from parents about the quality of schooling, and the general feeling that public schools are not offering good quality education has led to an increasing demand for private schools. The failure of public schools in maintaining quality is attributed to many factors from teachers to infrastructure. Because parents are interested in better quality, they prefer private schools if they can afford it. If they cannot afford a private school some parents prefer to keep send their children to work rather than to a public school.

In Andhra Pradesh, the number of private schools and enrolment in these schools has been increasing rapidly, especially since the 1990s. There were about 62000 primary and 17000 upper primary schools in the state in 2005. Of these about 7000 primary and 5000 upper primary schools are under private management, constituting 11 and 29 percent of the total primary and upper primary schools respectively. About 30 and 34 per cent of the children enrolled were in private primary and upper primary schools in 2005 (see Table 8.3). Private primary and upper primary schools together account for about 15 per cent of the total schools whereas their share in total enrolment is around 30 per cent. The intake capacity of the schools under private management and the area they cater to seems to be high. The large number of children enrolled per private school when compared to a public school proves this. Increasing demand for private educational institutions is also very prominent in higher education, especially technical education.

The emergence of private education underlines the dualism in the education system: poor public schools

[12] Usually the urban areas are ahead of rural areas in any development parameter as is the case with Hyderabad in educational attainment.

[13] As a matter of fact the increasing number of private schools indicates the increasing demand for private schools. In Andhra Pradesh between 1987 and 1993 the share of private schools in total schools at the upper primary level increased from 16 per cent to around 33 per cent.

Table 8.3: Percentage Distribution of Schools and Enrolment between Public (Govt.) and Private Management in A P

Stage/	Schools				Enrolment			
Magt	1970-71	1980-81	1993-94	2004-05	1970-71	1980-81	1993-94	2004-05
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Primary								
Public	94.3	94.2	92.6	88.6	90.9	90.7	86.7	69.5
Private	5.7	5.8	7.4	11.4	9.1	9.3	13.3	30.5
Upper Primary								
Public	88.9	86.0	80.0	70.8	83.6	80.0	74.5	65.3
Private	11.1	14.0	20.0	29.2	16.4	20.0	25.5	34.7
Primary & Upper Primary								
Public	93.9	93.4	91.2	84.8	89.5	88.0	83.7	68.0
Private	6.1	6.6	8.8	15.2	10.5	12.0	16.3	32.0

Note : Magt – Management

Source : Statistical Abstracts of Andhra Pradesh.

and good quality private schools. The implication of this is far-reaching. It leads to differentiation in employment opportunities and earning prospects in the labour market where the system of education itself perpetuates the class system in society by which the instrumental characteristic of education that it facilitates the economic mobility may lose its rigour.

8.5 Supply Factors of Education

Although the demand for schooling is important, the supply factors have a potential capacity for generating more demand. The supply factors facilitate the realisation of schooling[14].

[14] It is made possible in two ways - first, by meeting the manifest demand for schooling from parents who can not only afford it but who are also aware of the value of education and are willing to send their children to school; second, by transforming latent demand into manifest demand or by creating demand. Latent demand indicates parents who are potential consumers of educational services but, who, owing either to lack of willingness or affordability or both, are not sending their children to school. Provision of easy access (physical, economic and social) to school may encourage parents to send their children to school; but it is the quality of schooling that matters in retaining children (throughout the completion of their schooling cycle) in school, as either inadequate access or poor quality of schooling or both together may discourage manifest demand. Turning latent demand into manifest demand needs pro-active initiatives by educational service providers through providing incentives and persuading and motivating parents (of school-age children). This becomes a classic case of supply creating its own demand for schooling.

8.5.1 Access to Primary Education

In fact, Andhra Pradesh is far better than the average Indian state in respect of physical access to primary schools. In the state, around 90 per cent of the population are served by primary schools within their habitations (see Table 8.4). Also, within the state, the differences in access to primary schools across districts are not wide, and have in fact been coming down over the past few decades. However, the availability of primary schools for children in habitations with very small population (of say below 500) is not sufficient. Incidentally, these habitations predominantly have SC and ST inhabitants. The neglect of these habitations results in the exclusion of children belonging to depressed communities from opportunities for primary education. The intensity of neglect is the highest for ST children. It was reported[15] in 1989 that only 35 per cent of the habitations in the state with more than 50 per cent ST population had primary schools within their habitations. In 25 per cent of habitations children had to walk up to 2 km and in 40 per cent they had to walk more than 3 Km to reach schools (GOAP, 1992).

Table 8.4: Physical Access to School in A P - Percentage of Population living in the Habitations which are Availing Schooling Facility

Survey	Year	Primary		Upper Primary			
		Served within Habitation		Served within Habitation		Up to 3 Km.	
		H	P	H	P	H	P
1	*2*	*3*	*4*	*7*	*8*	*9*	*10*
I	1957	44.8	81.1	2.2	-	-	-
II	1965	60.8	90.7	6.1	25.7	-	-
III	1973	61.1	87.5	9.3	31.3	47.4	64.6
IV	1978	64.0	91.8	10.2	36.0	53.4	71.2
V	1986	67.8	93.3	13.5	40.7	63.5	79.2
VI	1993	69.7	92.5	13.8	43.0	65.4	79.4
VII	2002	78.5	-	24.5	-	-	-

Note : 1.In first two surveys distance was measured in miles for later surveys it was in kilometres; 2. H – Habitations Served; P – Population served.

Source : 1. Directorate of School Education, Hyderabad, Andhra Pradesh; 2. All India Educational Survey.

[15] Based on NSSO 44th Round (1988-89) A Report on Tribal Living Conditions in Andhra Pradesh.

Box 8.2: Policy Initiatives in Andhra Pradesh

The State has developed a number of strategies and interventions to facilitate bringing more number of out-of-school children to school. In the late 1990s the state began special enrolment drives in the name of 'chaduvulapanduga' recently 'badibata'. In this effort, the State carries out awareness campaigns among parents and employers through community mobilization, establishment of more EGS (Education Guarantee Scheme) and AIE (Alternative and Innovative Education) centres, opening of NRBCs/ and RBCs for drop-outs and child labour, provision of bridge courses for migrant children from neighbouring states and similarly for the migrant children of Andhra Pradesh in other adjoining states. NGOs are also being mobilized for mainstreaming the out-of-school children.

The recent initiative *Badi Bata* has been started to address dropouts and out of school problem under SSA. As a part of the programme volunteers take up house to house survey to identify the dropouts. The consolidated list is discussed by the *Gram Sabha* and the final list is sent to the district SSA office. Assistant Project Coordinators start the process of bringing back the identified dropouts by admitting them to RBCs. Rallies and processions are also taken out as part of this programme in habitations to create awareness. People having child labour in their houses are identified and targeted activities are also undertaken to sensitize them. Children freed from these places are sent to RBC (if they had no formal education in the past) or mainstreamed directly (children with some formal education in the past).

There are initiatives to reach schools to out of reach children. Efforts have been made to develop special intervention for children in very difficult circumstance which needs awareness, counseling and creating learning opportunities. There is an interesting concept of Boat School in East Godavari district. Children from the fishing community, who live closer to ponds, lakes or rivers, had no access to formal schools. Schools established on boats with a regular teacher and equipped with black board have been introduced in these areas to reach the community and the children are now getting formal education on regular basis. The other initiatives were special RBCs for children with special needs and HIV affected children; mobile schools and seasonal hostels for migrant children; door step schools for urban migrant children especially those of construction and brick kiln labourers.

Radio lessons for formal primary and upper primary children (*Vindam Nerchukundam*) and out of school children, parents and community (*Vindam Chaduvukundam*) are being given on the regular basis.

Though there has been a massive push towards enrolment in schools, the important issue of ensuring quality education goes largely unaddressed. Hence quality improvement initiatives like Children's Language Improvement Programme (CLIP) and Children's Learning Acceleration Programme for Sustainability (CLAPS) have been introduced recently. The CLIP was initiated during 2005-06 to improve basic skills of literacy and numeracy among the children at elementary stage. Based on the experience of the CLIP initiative, CLAPS was initiated in 2006-07 to accelerate children's learning in various areas focusing on the expected learning outcomes at every level

Access to middle (upper primary) schools is restricted to some children. Middle schools are located within the habitations only for 43 per cent of the population and children in other habitations have to walk some distance to school. Of these, 37 per cent have a middle school within a range of 3 km while 20 percent have to walk more than 3 km. It is worth mentioning that the Kothari Commission (1964-66), as early as the 1960s, had suggested that one middle school should be set up for every three primary schools. Though efforts had been initially made since 1990s under DPEP (District Primary Education Programme) and later under SSA (Sarva Siksha Abhiyan) to increase the number of upper primary schools by either establishing new ones or upgrading existing primary schools, the state has not yet met this norm.

Moreover the experience of a few NGOs working in the area of child schooling show that the intricacies and absurdities of rules and regulations governing the schooling system contribute to non-enrolment and/or dropping out of children[16].

[16] *First*, the prevailing practice allows the enrolment of children for a few months from the beginning of the school-year, and later, enrolment is denied for that year. *Second*, when a child is absent for several days in a row they are required to produce evidence of the validity of the reason for their absence. When the teacher refuses to be convinced by the explanations of the parents of the children concerned they drop-out. When the teacher wants an explanation for the child's absence he calls his/her parents instead of approaching them himself. At the initial stage, it is the child's inability to join in school that keeps him/her away from schooling; at a later age he / she is denied access to primary school on the ground of being over-age.

Rationalisation of Schools

On the one hand the Expert Group on elementary education recommends the expansion of schools and human resources, especially teachers. The government of Andhra Pradesh, on the other, went in for rationalization by reversing this. It has been closing down some existing schools especially in the interior hamlets/villages, for the reason that these schools are not viable because the number of children enrolled in or attending these schools is not enough to run a school. The Government also sought rationalisation of teachers as some schools had teachers beyond the number needed, while those with good student strength lacked teachers.

Since the inception of District Primary Education Programme (DPEP) with external aid, there was a significant increase in the number of new schools, especially primary schools. These schools started after 1995 number 17000 and account for about 25 per cent of the total number of primary schools in Andhra Pradesh. (DISE survey) Many of these primary schools, under the DPEP, were set up in interior villages which did not have a school. The idea was to ensure that children did not have to walk far to go to school. However, attendance in these schools was not at the desired level. As a part of the rationalisation process, the Education Department conducted a survey of these schools in 2005 and found that many schools had insufficient student strength. Consequently, the government considered that these schools had to be either merged with nearby schools or closed down completely. According to the department officials, there are hardly 20 students in each of these schools and there were schools with only 10 children. According to a recent District Information on School Education (DISE) Survey there were about 30000 primary schools in Andhra Pradesh with 50 students or less and these schools are spread across all districts other than Hyderabad. All these schools, perhaps, will be subject to the rationalization process going on in the state[17].

8.5.2 Supportive Programmes of the State: Incentives

Programmes to support and complement affirmative actions of the state in the matter of child schooling are also in place. Incentive schemes are intended to be an approach to motivate parents to send their wards to school and also to attract children to schools[18]. Different types of incentives like free education, free uniforms, free textbooks, scholarships, residential schools and mid-day meals are provided under the incentive schemes.

Though the Indian Constitution has endorsed the view that elementary education should be free and compulsory, the recent evidence shows that elementary education, even at the lower primary level, is not provided free of cost. Also it is observed that primary education involves considerable cost and accounts for a significant proportion of household expenditure. In Andhra Pradesh, no (tuition) fee is collected from children attending schools at the primary or the middle levels, so that at least partially the state is complying with the obligation of providing free elementary education. However, the expenditure incurred on uniforms and textbooks increases each year raising the cost of schooling which may discourage parents, especially poor parents, from sending their children to school. Hence, the distribution of free uniforms and textbooks are essential to motivate all children to attend school. Though scholarship schemes were introduced as an incentive especially for the poor and SC/ST children, in reality, the distribution of these incentives happens to be limited to certain schools and a few children[19].

The government of India introduced a nation-wide mid-day meal scheme[20] in 1995 following a Supreme

[17] One of the reasons behind the poor attendance is migration; many hamlets had less than 50 families and in most cases the entire families had migrated to urban areas in search of livelihood.

[18] The principal purpose of incentives is to encourage children to participate (enrolment and attendance) in the formal educational process.

[19] It was observed that in 1993, the proportion of schools implementing the scheme and the beneficiaries of schemes did not cross single digit figures among enrolled children in primary or middle schools. In addition, the Residential School System was introduced during the 1980s especially for children belonging to backward communities (SC, ST and OBC). In the majority of these schools, the entry point was the middle level and pupils who crossed the primary level. Entry was determined on merit.

[20] There are three arguments for the noon-meal scheme. *First*, it motivates poor parents to send their children to school and the children to stay in schools. It is expected thereby to improve the levels enrolment and retention. *Second*, it improves the nutrition level of school children provided the food supplied has high nutrient value. The resulting improvement in the health of children enables them to attend school regularly and enhances their learning capacity. *Third*, there is the socialisation argument that sitting together and sharing meals may help in eroding class barriers which are inherent in the Indian social structure (see PROBE, 1999).

Court judgement. Later, for some time, the scheme was implemented through the distribution of dry grains by way of ration; currently, it has reverted to cooked meal supply. The experience varies however across states. The scheme was first implemented in the erstwhile Travancore State of Kerala; later some other states followed the model. It has been observed that there is a difference in the enrolment rate before and after the implementation of the scheme. In Andhra Pradesh, the scheme was implemented as early as 1959-60 on an experimental basis, as a scheme for the supply of mid-day meals for primary schools in 20 selected areas (i.e. Samiti blocks). In 1960-61 the scheme was extended to 5 to 10 villages in each of the 254 Samiti blocks[21] . In the early 1980s the scheme was extended to all primary schools, but was terminated within a few years. Later, in the 1990s, the distribution of dry rice replaced cooked meals. The mid-day meal (cooked) scheme was reintroduced recently (in the late 1990s). It is implemented throughout the state in every school and covers all the children at school.

Though various attempts have been made to provide mid-day meals in the state during the past 50 years, the programme could not match the scheme being implemented in other south Indian states, particularly Kerala and Tamil Nadu, where it has been a great success. Moreover, the state is lagging behind many other states in terms of the percentage of beneficiaries (of mid-day-meal scheme) among the school-going children. According to NSS 61st (2004-05) round on Employment and Unemployment, 35 percent of children benefited from the scheme in Andhra Pradesh and the state is ranked tenth among the 18 major Indian states.

8.5.3 Quality of Education

The access to and the quality of schooling are important aspects influencing the levels of schooling. Even if access is ensured, the poor quality of education often makes parents think that attending school is a waste of time. In the Indian context, the quality of schooling especially public schooling is a more serious problem than access. Schools at present are not sufficiently equipped to accommodate all the children in the elementary school age (i.e. 5-14). Many schools are operating with inadequate staff and are not ready to welcome additional entrants. The educational content remains uninteresting and the teachers are indifferent to teaching.

Human resources, especially teachers, are the crucial elements of an educational system and the teacher-pupil ratio is an indicator of the quality of education. Teacher-pupil ratios (TPR) above the optimum level i.e. 1: 40 make the effective teaching-learning process difficult and place an undue burden on teachers. This is especially true in combined classrooms with many grades and different age group children. The TPR in Andhra Pradesh used to be above the required norm during the 1990s. Moreover, many of the primary schools, especially in remote hamlets, were run with a single teacher and there were instances when schools functioned without an officially appointed teacher. The Seventh All-India Educational Survey (2002) reports that 10 per cent of the primary schools had a single teacher and another 42 per cent had only two teachers in Andhra Pradesh. The latest District Information on School Education (DISE) data for 2006 indicates that the percentage of 'single teacher' schools is in fact higher at around 12 per cent. It was observed that the drop-out rate is high in schools with single teachers. But the situation has improved in recent times, as there has been large-scale recruitment of teachers given external aid and central assistance under different programmes. At present, according to the recent District Information on School Education (DISE) data for the year 2006, the state has a teacher-pupil ratio of 1:24 (see Table 8.5) in primary schools which is one of the lowest among Indian states.

Table 8.5: Teacher – Pupil Ratio (TPR) in Public and Private Schools by the Type of the School in Andhra Pradesh

Type School	All	Public	Private
1	*2*	*3*	*4*
Primary Only	27	25	34
Primary with Upper primary	25	25	24
Primary with UPS, Sec/HS	20	20	20
Upper Primary with sec./higher sec.	19	20	18
All	*24*	*23*	*24*

Note : Public means government schools.
Source : District Information on School Education (DISE), 2006.

[21] NCERT (1968).

Box 8.3: Teacher's Absenteeism in India

Education is one of those areas where public service delivery is undermined especially in many developing countries. Teachers who are frontline service providers and critical in service (education) delivery, are often absent from school. Another problem is that the presence of teachers per se does not ensure that they are working. The absence rate based on direct physical verification of the teacher's presence at their respective schools (randomly sampled) in India is as high as 25 percent which one is of the highest rates among the developing countries. In government-run schools only 45 per cent of teachers are engaged in teaching activity. It is observed that higher-ranking teachers like headmasters are more absent than the lower-ranking ones and male teachers are absent more often than women teachers. The situation in Andhra Pradesh may be no better than in the country as a whole.

Source : Chaudhury et al (2006)

Usually the teacher-pupil ratio in practice is computed for the enrolled children. The TPR will go up if all the children of the elementary school age (i.e. 5-14 age group), irrespective of their enrolment status are taken into account. Schooling is one of the areas that require assured and adequate supply to accommodate all the potential students irrespective of their actual demand for schooling. The supply of schooling should not depend on the manifest demand[22]. When we take into account all the potential school-going children, more teachers would be required.

In addition, gender composition of the teaching staff is also an important issue. Lack of women teachers is one of the reasons given for the non-attendance of many girl children in schools. In majority of the states, men outnumber women as teachers in schools, although the share of women teachers has increased greatly in recent decades. It is also observed that there are more female teachers than men only in urban areas and private (aided and unaided) schools, whereas teachers in rural schools and public schools on the whole are male. In Andhra Pradesh, since Independence there have always been more men than women teachers in primary schools. Although the proportion of female teachers is increasing, it still falls short of 50 per cent. It increased from 34 per cent in 1991 to 38 per cent in 2001 and further to 42 per cent in 2006[23]. The DISE data show that there are about 18000 primary and another 2000 upper primary schools in the state with at least two teachers but none of them is a woman.

It must be noted that an improvement in TPR as such may not serve the purpose of attaining the goal of universal elementary education, unless those appointed as teachers perform their duty. The attitude of teachers towards pupils, their motivation, functioning and attendance in schools is more important. Frequent absenteeism by teachers, especially in public schools, is well recognised all over the country and it is reported that it is very high particularly in Andhra Pradesh.

8.5.4 Physical Infrastructure

Another factor that influences the quality of schooling is physical infrastructure. Lack of adequate physical facilities such as pucca buildings, blackboards, drinking water, playgrounds and urinals has an adverse impact on attracting children to school as well as on the quality of schooling. In India, despite achievement of satisfactory access to primary schools (within each habitation), the shortages of classrooms and teachers remain widespread. A large number of schools are running with single rooms; some schools do not have even a pucca room. Many classrooms are in a poor condition and many schools lack potable water supply and adequate sanitary facilities.

The Seventh All-India Educational Survey (AIES), for 2002 reported that about four thousand primary schools comprising around 7 per cent of the total primary schools (61,167) were running in the open in Andhra Pradesh. Further, of the total primary schools about 17 per cent and about 10 per cent of the upper primary schools did not have a pucca building. According to DISE 2006, there was only one classroom in about 22000 primary schools, or 33 per cent of the total, (see Table 8.6). The availability of drinking water in schools is very poor, and about 28 per cent of primary and 11 per cent of upper primary schools did not provide drinking water. About 47 per cent of primary schools did not have any kind of toilets. The situation is worse with respect to toilets for girls;

[22] Provision of schooling can be done in two ways - by adjusting supply to manifest demand, or by ensuring supply irrespective of existing demand, but aimed at increasing demand. The latter approach becomes relevant in the Indian context, in which the number of non-school going children is large, and state policy aims at universal elementary education.

[23] According to 2006 DISE data, for Andhra Pradesh.

Table 8.6: Number of Schools Without Selected Facility, Andhra Pradesh 2006					
Schools Without Facility		Type of School			
		Primary Only	Primary with U P	U P with Sec./HS	All
1		*2*	*3*	*4*	*5*
1	*Total Schools*	*57769*	*15557*	*14355*	*87774*
2	Without a Female Teacher	18579 (32.2)	2010 (12.9)	1551 (10.8)	22140 (25.2)
3	With Single Teachers	5947 (10.3)	42 (0.3)	72 (0.5)	6062 (6.9)
4	Single Class Rooms	21558 (37.3)	424 (2.7)	108 (0.8)	22090 (25.2)
5	Without Common Toilets	27197 (47.1)	4196 (27.6)	5524 (38.5)	36950 (42.1)
6	Without Girls Toilets	41461 (71.8)	6666 (42.8)	3965 (27.6)	52094 (59.4)
7	Without Drinking Water	16522 (28.6)	1825 (11.7)	1351 (9.4)	19699 (22.4)
8	Without Black Board	4269 (7.4)	613 (3.9)	1059 (7.4)	5953 (6.8)

Note : Figures in parenthesis are percentages in total schools.

Source : District Information on School Education (DISE), 2006.

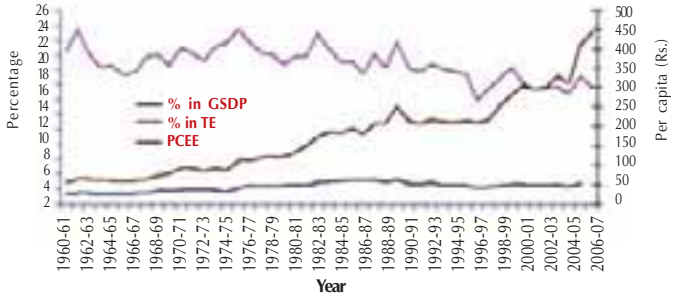
more than 70 per cent of schools did not have such a facility.

With the introduction of the new education policy (1985), programmes like OBB, APPEP and DPEP were initiated to make elementary education universal. These programmes had focused on infrastructure, improving the quality of schooling and involving the local community. However, they do not appear to have been effective in providing the school infrastructure necessary to create a proper learning environment. It is to be noted that the ineffective education system has a discouraging effect in terms of low enrolment and high drop-out rates.

8.6 Financial Resources

It is the obligation of a welfare state to provide free and universal elementary education, and the progress achieved in expanding school enrolment depends upon the amount spent and its distribution among the different types and levels of education. In 1960, the Kothari commission pointed out the inadequacy of the amount spent on education and highlighted the need to spend at least 6 per cent of the GDP on education. The Commission also pointed out that it was school education and especially primary education that had to be given top priority. So far neither India as a whole nor any particular state, including Andhra Pradesh, has fulfilled this suggestion, with the exception of Kerala and Himachal Pradesh.

Figure 8.7: Percentage Share of Education Expenditure (Rev. A/C) in Total Expenditure (TE) and GSDP and Per Capita Expenditure (1993-94 Prices) on Education (PCEE) in Andhra Pradesh



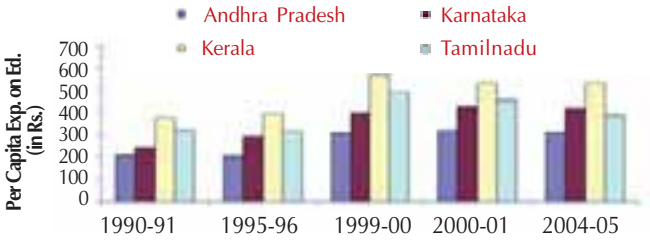
There has been a tremendous increase in expenditure on education in Andhra Pradesh since its formation in 1956. It increased from Rs. 6.7 crores in 1956-57 to Rs. 7074.6 crores in 2006-07, that is by about 1000 times. But the impact of such an increase is nullified by inflation[24]. In constant (1993-94) prices, the expenditure increased from Rs. 119.4 crores to Rs. 3566.3 crores during the same period, by just about 29 times[25]. Though per capita expenditure on education has increased over the period, the impact of population growth in addition to the rising

[24] The impact of inflation is seen to be significant when we adjust the expenditure in current prices with GDP deflator.

[25] The growth in expenditure on education in constant prices is lower than in current prices, indicating the rising impact of the level of price on the increasing level of expenditure.

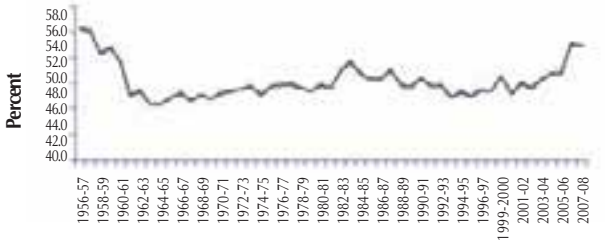
prices has affected it[26]. In current prices the per capita expenditure on education has increased from Rs. 2/- in 1956-57 to Rs. 844/- in 2006-07, whereas in constant (1993-94) prices it increased from Rs. 36 to Rs. 440 (see Figure 8.8). The per capita expenditure on education in Andhra Pradesh grew at an increasing rate till the 1980s, but after that the percentage change over the period decelerated especially during the 1990s.

Figure 8.8: Per capita Real Expenditure (1993-94 Prices) on Education, Sports, Art and Culture in Southern States



The share of expenditure on education to total expenditure has fluctuated from period to period and shows a declining trend during and after the 1990s. From 19.2 per cent (decadal average) in the 1960s it increased to 20.5 per cent in the 1970s. The share of education in total expenditure was highest in 1975-76 when it was 23 per cent. Thereafter it began to decline and dropped from 19.8 per cent during the 1980s to around 15.7 per cent in the recent past. On the other hand, expenditure on education as a percentage of state Gross domestic product (GSDP) showed a gradual increase from the 1960s till the end of the 1980s and touched its peak at 3.4 per cent, but even this was well below the norm of 6 per cent set as the minimum essential level by the Education Commission (1964-68). It declined in the 1990s from its peak during the 1980s and remained between 2 to 3 percent till the recent budget (2007-08).

Figure 8.9: Share of Elementary Education in the Total Expenditure on Education in Andhra Pradesh



[26] Though both the total expenditure and expenditure on education have been increasing, the rate of increase has been higher for the former.

Box 8.4: Financing Child Education

Child education is an essential part of child well-being. For this purpose, the allocation of budget resources in Andhra Pradesh shows that the entire expenditure[27] on child education (including elementary and secondary) constituted 2.74 per cent of the GSDP during the last five years. Of this, 0.73 per cent is towards secondary education and the remaining 2.01 per cent is on elementary education. The grants of centrally sponsored schemes (CSS) such as DPEP, SSA, KGVB and NEPGL, are not in fact reflected in the budget of the state government but reach the implementing authorities in the state. When accounted, the expenditure through these grants constitutes 0.21 per cent. It indicates that in the absence of CSS funds, the state government expenditure on elementary education would be 1.8 per cent of its GSDP

Source : Sreedevi (2007)

As a matter of fact, expenditure on education as a per cent of total budget was lower in Andhra Pradesh than in many other states in India especially the southern states (Figure 8.8). In fact, the World Bank study observed that education has not been a priority in the allocation of funds in Andhra Pradesh. Inter-state comparisons indicate that the expenditure on education in Andhra Pradesh as a share of GSDP is lower than that of fourteen other major states in India. Till the end of the 1980s, the state's allocation was higher than in Gujarat, Haryana, Karnataka, MP, Maharashtra, UP and West Bengal. But from 1990 the state has been spending a little more than the proportion spent on education by Haryana and Punjab only, but lower than all the other states mentioned above.

The trend shows that expenditure on education has increased steadily over the period, but the share of expenditure on elementary education[28] in total expenditure on education declined during the 1960s from 53 per cent in the late 1950s to 43 per cent in the 1960s. It then remained almost stagnant during the 1970s (44 per cent) and 1980s (46 per cent). During the 1990s the situation was unfavourable for elementary education and the share of elementary education in total expenditure on education

[27] Including expenditure through grants of Centrally Sponsored Schemes (CSS).

[28] About 95 per cent of the current expenditure is spent on salaries, and the rest on teaching materials, equipment and maintenance. Capital expenditure on education is negligible (World Bank, 1997b).

(Revenue Account) declined to its lowest ever, to 38 per cent. In recent years the share of elementary education has been increasing, especially in the last two budgets of 2006-07 and 2007-08 when it stood at around 53 per cent. However, a comparative study of educational attainment to public expenditure on education points out that the performance of Rajasthan, one of the most backward states (*BiMaRU* group) in India, is better than that of Andhra Pradesh (Tilak, 2006).

8.7 Conclusions

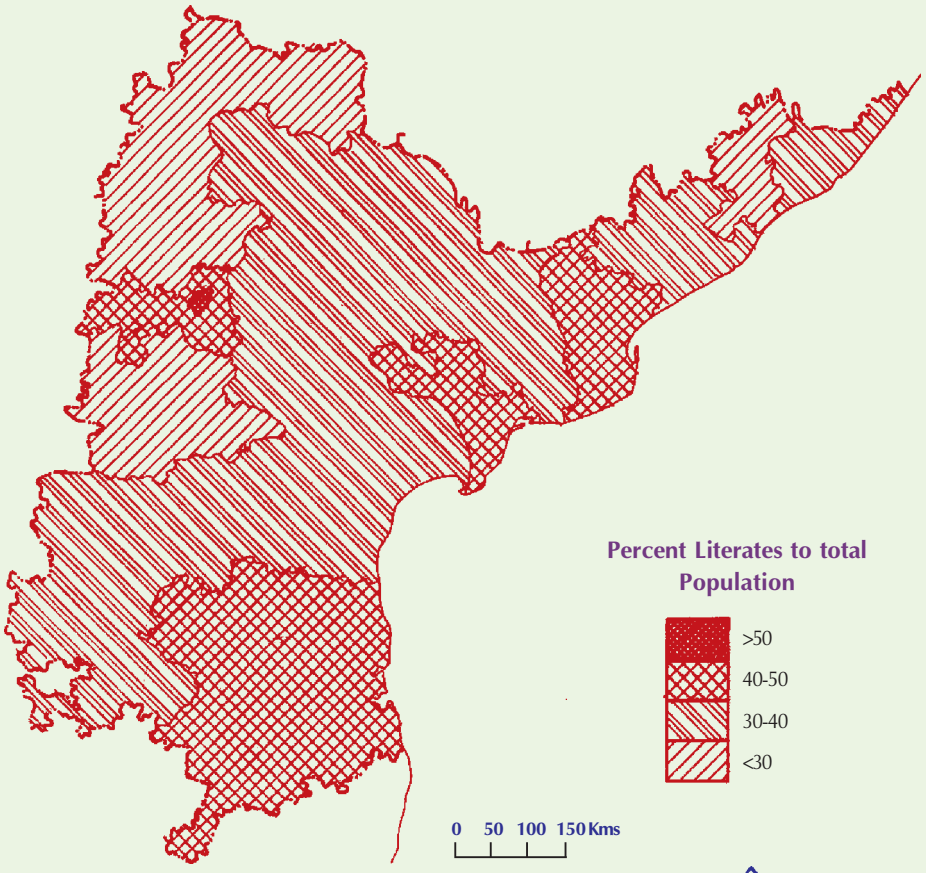
Although considerable progress has been made in the last two decades in Andhra Pradesh in terms of literacy and schooling, it continues to remain one of the educationally laggard states in India. Between 1991 and 2001, the performance of the state in terms of the rate of improvement in both literacy and school attendance is one of the best among Indian states. But the state stands next to BiMaRU states in India in terms of the overall attainment of education. This is because though there has been a phenomenal increase in terms of schooling and thereby literacy especially among the younger age groups, a large number of the adult population remained illiterate. **At present it is the level of illiteracy especially among adults in the state that keeps Andhra Pradesh in a low position among Indian states.** For this one may suggest programmes to increase adult literacy. Unless the state improves the literacy level among adults it will remain backward in overall educational attainment even if it achieves the goal of universal primary/ elementary education.

Andhra Pradesh is yet to achieve the goal of universal elementary education but it has an advantage for achieving such goal. It is a fact that the state is experiencing a demographic transition whereby the growth of population is declining and total fertility is now below the replacement level. Consequently, there was negative growth in the younger age (0-5 years) population and positive growth but below one percent for the subsequent younger age groups. The Census of India projections indicate that the growth of population in the age group 5 to 14 years will be negative during 2001-2011. As a result, the number of children in the elementary school age i.e. 5 to 14 years would decline from 17.7 million in 2001 to 15.7 million in 2006 and further to 14.4 million by the year 2011. Given this fact, if the state ensures a positive growth in enrolment at elementary stages while accommodating those children (estimated at 12 lakhs in 2005) who were out of school, the state would achieve the goal of universal schooling very soon.

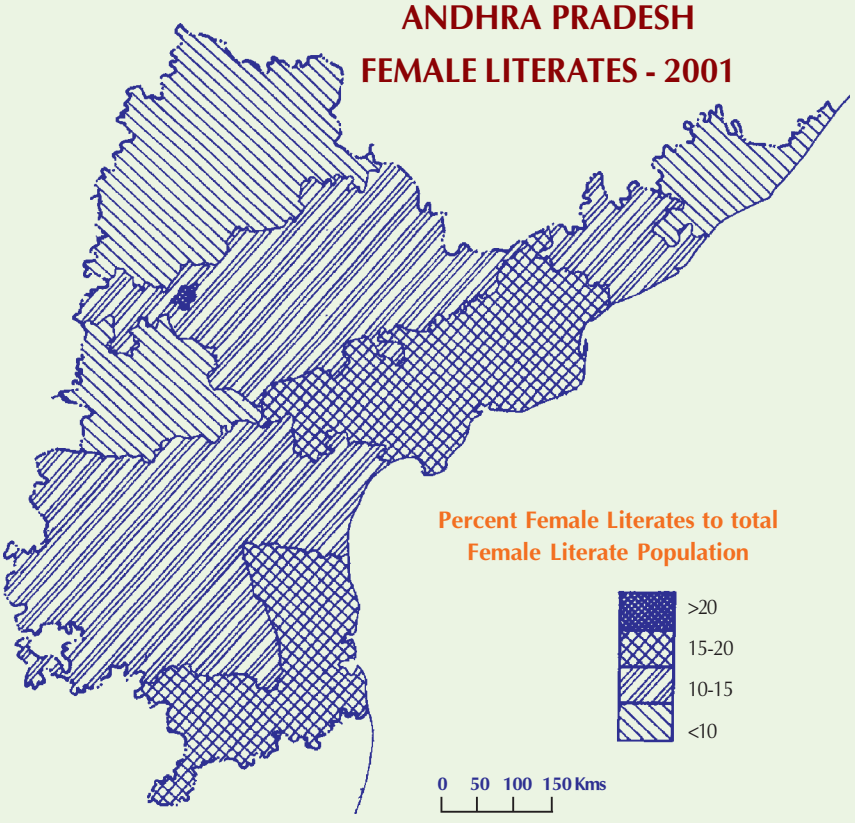
An important feature of educational development in the state is the growing demand for education in the private sector. Here it is to be noted that the growth of the private sector especially in school education in Andhra Pradesh is unaided, unlike the situation in Kerala where the share of private management in education especially schools is above 60 percent and most of it is contributed by the private aided schools. Though most of the private schools are concentrated in urban areas, their catchment area can be extended to interior villages by providing transportation facility using improved road infrastructure. The changing preference of parents for private schools may not be certainly attributed to their better earnings. Rather, the reason could be that public schools are not able to meet the expectations of parents in terms of the quality of education in the scenario of increasing awareness of the value of education. Therefore there is a need to improve the quality of education especially in public schools.

The performance of Andhra Pradesh has not been impressive when it comes to the financial resources available for education especially elementary education. The recommendations of the Kothari Commission that expenditure on education should be at least 6 percent of GSDP was never implemented in the state. Since the 1990s there has been a flow of funds for education, especially elementary education, in most states in India through external aid and central assistance. These are all considered additional resources to the intended allocations by the state government, so that with these additional resources the share of elementary education in the total education budget must show an increase. But the actual trend does not indicate any such increase except in the recent budget estimates.

ANDHRA PRADESH
LITERATES - 2001



ANDHRA PRADESH
FEMALE LITERATES - 2001



9 Women's Empowerment and Child Well-Being

CHAPTER IX

The women in Andhra Pradesh are better placed compared to all India situations in terms of gender disparity indicators. There is close association between women and child development. The participation of women in public sphere has improved the functioning of the public institutions delivering child services and discriminatory practices against women and children.

The fact that five of the eight Millennium Development Goals (MDGs) concern health and education signals the importance of welfare in development. When women have more control over resources, household expenditure patterns are geared relatively more towards human development inputs, such as food, health and education (Gustav et al, 2000). Hence, improving women's access to resources is one route through which the MDGs on human development can be achieved. The empowerment of women becomes a powerful agency to improve welfare and human development. It is argued that empowering women improves the well-being of the household and leads to better outcomes for children (Kabeer, 2003). In other words, the inter-generational transmission of poverty can be arrested, if women are empowered. In addition to this, women's empowerment also results in reduction in gender disparities in human development (Rustagi, 2004). Therefore empowerment of women stands as a crucial pathway for reducing gender disparities and achieving human development.

This chapter therefore assesses and analyzes the contribution of women's empowerment in reducing regional and gender disparities in human development in the state of Andhra Pradesh. This calls for a conceptual framework on the notion of women's empowerment and child well-being and the transmission mechanisms of the effect of women's empowerment on children's well-being.

9.1 Pattern of Women's empowerment and child well-being: State Level Analysis

9.1.a Empowerment to take action

The most fundamental prerequisite for empowering women in all spheres of society is education[1] and women without education lose the opportunity to improve their lives. Moreover, the positive externalities of educated women especially for the household are very well documented. However women are far behind men in any indicator of education: literacy, schooling (i.e. enrolment, dropout etc.), and average years of schooling.

It has already been established that Andhra Pradesh is one of the laggard states in India with respect to education status i.e. literacy and schooling levels (see Chapter 8). Though the progress achieved by the state during the last 10 to 15 years may be commended, it still lags behind most Indian states. According to the 2001 Census the literacy rate in Andhra Pradesh was 61 per cent and the NSS 61st (2004-05) round Employment and Unemployment Survey estimates it at 62 per cent, which is below the all-India average.

Table 9.1: Educational Levels – Percentage of Persons with Level of Education in AP and India, 2004-05

Location and Sex		Illiterate	Primary	Middle	Secondary & Above
1	*2*	*3*	*4*	*5*	*6*
AP	Rural Male	44.2	30.0	12.5	13.3
	Rural Female	60.9	25.0	7.4	6.6
	Urban Male	23.3	28.9	13.5	34.3
	Urban Female	37.5	28.6	12.1	21.8
India	Rural Male	36.4	36.1	14	13.4
	Rural Female	55	29.3	8.9	6.7
	Urban Male	19.5	30	16	34.5
	Urban Female	30.7	29.4	14.4	25.5

Note : 7 + Population.
Source : NSSO 61st (2004-05) Round, Report No. 515.

Although the state lags behind in average levels of literacy and schooling, the gender difference in education is relatively lower when compared with the all-India level (Table 9.1) and also the north Indian states. But it is behind compared to the other south Indian states. Moreover, in professional occupations like medicine, engineering and others the gender differential is very high. For instance, less than thirty per cent of doctors in Andhra Pradesh(Table 9.2) registered with the Medical Council are women (29 per cent). The number of women enrolled in professional courses and their share in the total enrolment is very low so that the sex ratios in professional courses are at very low levels across the districts.

Table 9.2: Doctors registered with Andhra Pradesh Medical Council, 2005

Profession	Male	Female	Total
1	*2*	*3*	*4*
Graduate Doctors	37396 (72.6)	14824 (28.4)	52220
P G Doctors	1363 (88.1)	185 (12.9)	1548
Total	38759 (72.1)	15009 (28.9)	53768

Note : These figures are related to registered Medical Doctors.
Source : Medical Council

Work participation rates, the nature of economic activity and wages are considered to assess economic empowerment. Equal access to economic participation and decision-making power is an important aspect of women's empowerment. The participation of women in the workforce in quantitative terms is important not only for lowering the disproportionate levels of poverty among women, but also as an important step towards raising household income and encouraging economic development[2]. The work participation rates for males and females in Andhra Pradesh as well as at the all-India level show that female WPRs are below that of males (Table 9.3). Female WPR in Andhra Pradesh is higher than the all-India average. The difference between the WPR of males and females is lower in the state than the all-India rates. As a matter of fact, Andhra Pradesh has one of the highest WPR for both the male and females across Indian states.

[1] The proxy indicators are: i) average years of schooling, females as a percentage of males; ii) female to male ratio, gross enrolment at primary, secondary and tertiary level; and iii) adult literacy (female rate as a percentage of male rate).

[2] The Gender Gap Report of WEF used the following indicators for Economic Participation. They are: i) female unemployment (in female labour force) as a percentage of male unemployment (in male labour force); ii) female youth unemployment (in female labour force aged 15-24) as a percentage of male youth unemployment (in male labour force aged 15-24); iii) ratio of estimated female to male earned income; iv) female economic activity rate as percentage of male; and v) wage equality between women and men for similar work.

Table 9.3: Work Participation Rate by Sex and Location for India and Andhra Pradesh

Location / Year		Andhra Pradesh		All India	
		Male	Female	Male	Female
1	*2*	*3*	*4*	*5*	*6*
Rural	2004-05	60.5	48.3	54.6	32.7
	1993-94	63.1	52.0	55.3	32.8
Urban	2004-05	56.0	22.4	54.9	16.6
	1993-94	54.4	19.8	52.1	15.5

Note : Principal and Subsidiary status.

Source : NSSO Reports.

However, the concern is with the quality of women's work and not just with their numbers[3]. The nature of work that women do is concentrated in unsecured, unskilled jobs which are poorly paid, and lack any upward mobility and opportunity. In Andhra Pradesh about half (48.7 per cent) the women workers in rural areas are casual labour and about 47 per cent are self-employed (Table 9.4). About 70 per cent of all women workers and 78.5 per cent in rural areas are engaged in agriculture related activities in the state. For men, the percentage employed in agriculture is 57 of the total workers and 66 in rural areas. Women account for 64 per cent of the total workforce engaged in agriculture activities in the state. Nevertheless the situation now appears to be somewhat better, especially when compared with the situation in the early 1990s. Women workers gained in terms of regular wage/salaried employment and self-employment between 1993-94 and 2004-05.

Table 9.4: Distribution of Workers by Nature and Activity in Andhra Pradesh

Location and Sex		Nature			Activity	
		SE	RE	CL	Non-Agrl	Agrl
1	*2*	*3*	*4*	*5*	*6*	*7*
2004-05	Rural Male	48.4	9.7	41.9	33.6	66.4
	Rural Female	47.2	4.0	48.7	21.5	78.5
	Urban Male	42.8	38.6	18.6	93.1	6.9
	Urban Female	48.7	30	21.2	82.3	17.7
1993-94	Rural Male	48.8	8.1	42.8	24.4	75.6
	Rural Female	45.3	1.8	52.5	16.3	83.7
	Urban Male	38.0	40.0	21.4	88.7	11.3
	Urban Female	46.2	17.4	36.4	69.2	30.8

Note : **SE** – Self-employed; **RE** – Regularly Employed; **CL** – Casual Labourer; **Agrl** – Agriculture.

Source : NSS 61st (2004-05) Round.

[3] For this purpose the following indicators are used in the Gender Gap Report of WEF: i) number of days/weeks paid maternity leave allowed; ii) maternity leave benefits (percentage of wages paid in covered period); iii) female professional and technical workers (as a percentage of total); iv) availability of government provided childcare; v) impact of maternity laws on the hiring of women; and vi) equality between women and men for private sector employment.

Box 9.1: Women's empowerment and child well-being: A Review

Power is a relational concept that operates at the personal, intra-household and community levels. Feminist theorists have identified four dimensions of power, viz., 'power from within', 'power to', 'power with' and 'power over' (Wong, 2003). **Power within** refers to personal psychological power, and empowerment is the process whereby someone develops a sense of self-confidence and self-respect that was previously lacking. It is critical in terms of overcoming internalized oppressions which often underpin more tangible and structural forms of power. **Power to** is the capacity to make decisions and take actions to change one's circumstances. This is typically linked to notions of human capital development stemming from access to economic resources, information, education and other services. **Power with** focuses on collective action, and the ability to solve problems and claim citizenship rights through co-operation and networks. **Power over,** however, can be viewed as both negative and positive. It can be negative in the sense that it entails forcing others to do something against their will, but such power may be necessary to overcome unequal power structures and bring about more fundamental social, political and economic transformation. Ideally this fourfold framework should be seen as inter-connected and dynamic, and about both process and outcomes. Given the traditional responsibility of women for nurturing and care, it is often assumed that advances in women's status will have a positive spillover impact on child well-being through access to greater power and resources in the private and public spaces (Jones et al, 2007).

A recent concise and comprehensive review on the linkages between women's empowerment and child well-being brought out clearly that there are four mechanisms for transmitting the effects of women's empowerment to child well-being They include maternal education, economic empowerment, intra-household decision-making power ('power to' dimension) and community level empowerment (power with and power over dimensions). Maternal education, a critical dimension of women's empowerment – is positively associated with better child education, health and nutrition outcomes. Women's economic empowerment, that is greater access for women to financial resources not only improves the status of women within the household but also leads to more investment in their children. As a result of greater economic resources, psychological confidence and/or knowledge, women's empowerment may translate into better outcomes for children because mothers are more likely to advocate the interest of their children in intra-household bargaining and to be taken seriously by their male partners. Finally, greater individual and household level empowerment may spill over into the empowerment of women at the community level and a more active role in demanding or even providing better child-related services (Jones et al, 2007). In view of these propositions, a few measures have been formulated to assess women's empowerment and child well-being.

The discrimination against women engaged in the labour market with respect to wages is a universal phenomenon. This discrimination is visible in all kinds of work, whether regular wage/salaried or casual. The average female wage rate in India as well as in Andhra Pradesh, in paid 'public works' programmes is also lower than for men. The average wage rate, in any kind of work, in Andhra Pradesh is lower than the all-India average. However, the difference between male and female workers is relatively lower than at the all-India level.

According to the 2001 Census the total population of the state of Andhra Pradesh was about 76.2 million (55.4 rural and 20.8 urban), and the number of women was 37.6 million (27.4 m. rural and 10.2 m. urban) constituting 49.4 per cent. For 2005 the total population is estimated at 79.7 (57.8 and 21.9) million and the number of women at 39.5 (28.7 and 10.8) million.

The NSS 61st (2004-05) round on work participation estimates that there are about 40 (31.4 and 8.6) million workers in total and 16.3 (13.9 and 2.4) million female workers, comprising 40.7 (44.1 and 28.1) percent of the workforce, during 2004-05.

The sex ratio of population in AP was 974 (977 and 960 in rural and urban areas) in 1993-94 and it increased to 983 (988 and 969) in 2005, whereas the sex ratio of workers would be around 684, 789 and 388 respectively in total, rural and urban areas in 2004-05 (Table 9.5).

Table 9.5: Sex Ratio of Workers by Nature and Activity in Andhra Pradesh

Location	Population	Workers	Non-Agriculture	Agriculture	Self-employed	Regular	Casual
1	2	3	4	5	6	7	8
2004-05							
Rural	988	789	505	933	769	325	917
Urban	970	388	154	446	198	135	198
All	983	684	264	896	534	181	730
1993-94							
Rural	977	807	519	859	721	175	953
Urban	960	350	262	920	408	146	572
All	974	695	381	862	658	157	900

Note : Both Principal and Subsidiary Status.

Source : Calculations based on NSS 61st (2004-05) Round workers distribution ratios are applied to estimated population

This indicates that the sex ratio, which was in fact against females, was relatively lower for workers than the general population. Among workers, the sex ratio for those engaged in non-agricultural activities is more unfavourable to female workers. Moreover, while the sex ratio in the general population has increased between 1993-94 and 2004-05, the sex ratio has declined among workers in general and in non-agriculture in particular. The sex ratio is higher among casual labourers than the self-employed. In regular wage work, the sex ratio is abysmal.

Further, the employment of women in the emerging and fast growing sector like information technology (IT) is far behind that of men in general. In the IT sector in Andhra Pradesh, which is one of the few states with a significant share of IT sector in India, the number of women employed is much behind the number of men when compared with the all-India average as well as the other

southern states. While the share of women working in the IT sector is 18 per cent at the all-India level, it is 13 per cent for Andhra Pradesh, 19 per cent for Karnataka and 28.4 per cent for Tamil Nadu.

In general it can be surmised that female work participation rates are lower than that of males all over the country as well as in Andhra Pradesh. However, they are the highest in Andhra Pradesh among all Indian states. Most of the woman workforce is concentrated in activities which are unorganized, informal, seasonal, insecure, menial and poorly paid. Besides the work participation levels, the quality of employment and discriminatory wages, a further important dimension to economic empowerment is the control women have over their incomes.

9.1.b Empowerment that transforms unequal structures

Sex ratio, child sex ratio, political participation and violence in private and public spaces are considered to assess empowerment that transforms unequal social and political structures.

Sex Ratio: Missing Girls

Missing females is a matter of concern in the perspective of human development which is a major problem in India. The child sex ratio has been in favour of males for the last 50 years (Table 9.6). The low child sex ratio in India is largely attributed to the strong son preference. A balanced child sex ratio reflects the fulfillment of strategic gender needs. It can be seen as one of the outcomes of the empowerment process of women.

The child sex ratio imbalance has further worsened with a sharp decline by 2001, which raises serious concerns regarding the value attached to women in Indian society. It indicates deliberate interference with natural birth patterns in order to achieve a desired sex ratio of children.

Table 9.6: Sex Ratio in India and A P

Year	0-6 Years Age		Overall	
	India	AP	India	AP
1	*2*	*3*	*4*	*5*
1961	976	-	941	981
1971	964	-	930	977
1981	962	1000*	934	975
1991	945	978*	927	972
2001	927	960	933	978

Note : *0-4 years

Source : Census of India

Political Participation[4]

This refers to the equitable share of women in the political decision-making structure and their voice in the formulation of policies. Although women constitute nearly half the population, their representation in political bodies and decision-making structures is not commensurate with their numbers. The 73rd and 74th amendments of the Indian Constitution have provided for 33 per cent representation for women in local bodies which include Zilla Parishad, Mandal Parishad and village panchayat. Even when women are elected to local bodies there are instances where they are not allowed to exercise their official powers. Men exercise de facto control, in the name of the elected women, usually their wives. But political representation has certainly become a first step for women to gain political power. There are also instances in local elections of 2000-02 when 6.2 percent of women were elected for unreserved seats at the Zilla Paridhad level, 10 percent for the posts of Chairpersons and 5 percent at the ward members level (State Election Commission, 2000-02).

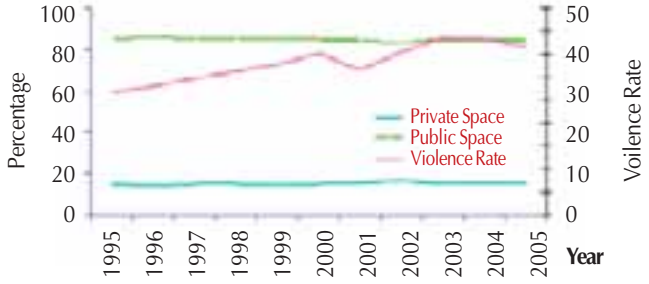
Violence against Women

Violence against women and girls is not only a major health problem but also a human rights concern. Violence

[4] The indicators are: i) number of years of a female president or prime minister in the last 50 years; ii) women in government at ministerial level (percentage in total); iii) seats in parliament held by women (percentage in total); and iv) female legislators, senior officials and managers (percent in total).

has indirect effects on society and becomes a drain on the economically productive workforce and generates a climate of fear and insecurity. Women can experience physical or mental abuse throughout their lifecycle, in infancy, childhood and/or adolescence, or during adulthood or older age. Violence has severe health consequences for the victims, and is a social problem that warrants an immediate coordinated response from multiple sectors. Women have been targeted by many kinds of abuse and violence in public as well private spaces, and are not safe in any country.

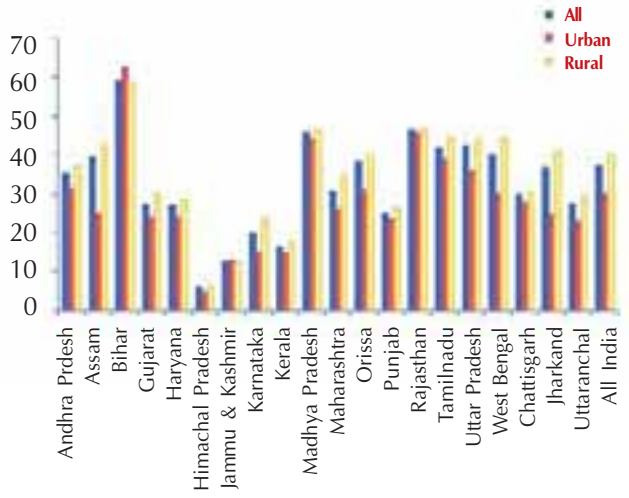
Figure 9.1: Violence Against Women in Andhra Pradesh Percentage in Private and Public Space (in the total) and Violence Rate (Number of Cases per lakh Women)



In India a nationwide survey shows that 52 per cent of women suffer at least one incident of physical or psychological violence in their lifetime[5]. A study by the Centre for Women's Development Studies says that every hour five women face cruelty at home[6]. The NFHS (II) reports one in five married women in India experiences domestic violence from the age of 15. According to the Indian National Crime Records Bureau's unique 'crime clock 2005' which tracked criminal activities in 2004, the country reported one molestation every 15 minutes; one crime against women every 3 minutes; one dowry death every 77 minutes; one rape every 29 minutes; one murder every 16 minutes; and one sexual harassment case every 53 minutes.

According to the recent estimates of NFHS (2005-06) III, about 35 per cent of ever-married women have reported experiences of spousal violence in Andhra Pradesh. The incidence is higher in rural areas (37 per cent) when compared to urban areas (31 per cent) and the state ranks tenth among the twenty major Indian states (see Figure 9.2).

Figure 9.2: Domestic Violence-Percentage of Ever-married women who have experienced spousal violence, NFHS III (2005-06)



But the state has the highest incidence of violence against women in terms of total crimes, both private (within the household or domestic) and public (see Figure 9.1). The violence rate (i.e. crime incidents per lakh women) for 2005 in Andhra Pradesh was about 36, the highest among the major Indian states, and the contribution of the state to the total crimes against women in India was the highest at 13 per cent. Moreover the violence rate has increased, especially during the last decade (i.e. 1995 to 2005).

9.1.c Child Well-being

Overall development of children includes health and education. The global community as well as the national government has accepted that health and education of children are not merely basic needs but fundamental rights. Articles 24 and 28 of the Convention on the Rights of the Child (CRC) refer to health and education. Articles 26, 27 and 18.3 outline provisions for a child's welfare such as social security, adequate standard of living and child-care.

However, there are millions of children who are deprived of these needs and rights. The World Health Organization reported that currently around 11 million

[5] See International Center for Research on Women (ICRW) (2000), Domestic Violence in India: A Summary Report of a Multi-site Household Survey, New Delhi.

[6] See Crimes Against Women: Bondage and Beyond (2002), Centre for Women's Development Studies, New Delhi

Box 9.2: Child Trafficking in Andhra Pradesh

Sale and prostitution of girl children has become a major problem in the state especially in Coastal Andhra. About 17 districts have been identified as high incidence districts for child trafficking, viz Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, and Prakasam in Coastal region, Kadapa, Anantapur, and Kurnool, in the Rayalaseema region, Hyderabad, Medak, Nalgonda, Khammam, Nizamabad and Warangal in the Telangana regions of the state. Coastal Andhra Pradesh particularly has become a high supply zone for trafficking in children (National Human Rights Report 2001 and USAID Report). Women, girls and boys are supplied for prostitution, begging, and cheap child labour. The state's share among persons trafficked for sexual exploitation is nearly 40 percent. 26 percent of women or girls enter into the trade between the age of 14 -16 years, 20 percent between 16-18 years and 16 percent before the age of 14 years.

The GOI report on 'Sexual Exploitation and Trafficking of Children' identified poverty as the prime cause of child trafficking. Besides social and religious factors and traditional prostitution in the communities of Dommara, Vaddera and Erukala, a number of factors at the macro level relating to poor opportunities and access to resources and macro policies like liberalisation and modernisation have marginalised the poorer sections, especially women and children, pushing them into the sex trade. Fisher folk, tribals, dalits, migrant labour, domestic servants, traditional handloom weavers and rural artisans are some of the vulnerable social and occupational groups prone to women and child trafficking. Andhra Pradesh, Assam, Bihar and Delhi reported the highest percentage of sexual abuse and sexual assault among both girls and boys, and young adults and children photographed in the nude.

The GOI has formulated a National Plan of Action to combat trafficking and commercial sexual exploitation of children and minors, in 1998. The Government of Andhra Pradesh formed a committee in 2002 and issued GO No 1 in 2003 for rescue and rehabilitation of such children.

children under 5 years and 600,000 women die each year, mostly in the developing world. One million newborn babies never survive beyond 24 hours. These figures are quite shocking. Survival itself is a major problem for a child and many of those who survive are deprived of disease-free healthy life and appropriate education. Unfortunately such deprivation is very common in India. Children in Andhra Pradesh are not an exception to such deprivations which is why overall child development is poor in Andhra Pradesh, as seen in the low value of the Child Development Index.

Well-being means that children have the capabilities or the strengths to undertake and perform activities or enter into successful relationships that are appropriate for their age and level of development. These abilities and strengths include physical health[7] and development, appropriate social and emotional functioning, and cognitive growth. Safe motherhood (during pregnancy and after birth) is one of most important aspects that affect child health. Another important aspect is safe childhood that includes breastfeeding, immunization which prevents childhood disease and the timely treatment of other illness, and nutrition level. Though the performance of Andhra Pradesh has improved over time, child health in the state is not fully secured.

Child survival is threatened by infant mortality. In Andhra Pradesh, according to NFHS III (2005-06), the infant mortality rate at 53 (per 1000 live births) indicates that one baby in every 19 live births dies before its first birthday. About three-fourths of IMR is contributed by neonatal mortality (i.e. in the first month of the life). In terms of child survival Andhra Pradesh is lagging behind the other southern states, especially Kerala and Tamilnadu.

Child schooling is another important aspect of child well-being. Both pre-school and school education is critical in the child's cognitive growth. The performance of the state in terms of child schooling has already been discussed in chapter 8 (Education). It indicates that though the state has been doing well since the 1990s it fell short of the goal i.e. universal elementary education. There are still 10 to 12 lakh children in the age group 6 to 14 years who are not in school. Moreover the quality of schooling is a cause of concern in the state.

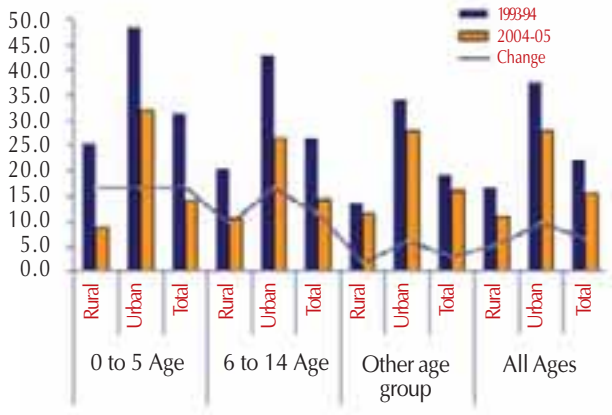
Infants and young children are completely dependent upon parents and caregivers to achieve physical well-being. The socio-economic conditions at the household level definitely influence physical well-being of children. But children living in rural areas, and belonging to socially

[7] Good nutrition, preventive health care, physical activity, safety and security, substance abuse prevention, and reproductive health are the key components of physical well-being that children need to survive and thrive.

backward castes like SC/STs and economically backward households are in a vulnerable condition. The gender dimension adds to the vulnerability that threatens the wellbeing of children. The adverse sex ratio and the lower nutrition level of girls are a few instances of such gendered deprivation.

The poverty dimension indicates that the percentage of children living in households which had consumption levels below poverty line (BPL) in the state has improved during the last 10 to 15 years period (see Figure 9.3). About 15 per cent of children in 0 to 5 and 6 to 14 age groups are living in BPL households in 2004-05. The unique feature of Andhra Pradesh is that poverty levels are higher among the urban population when compared to the rural population. There has been a dramatic decline in the poverty level especially in these age groups both in rural and urban areas, as compared to a decade ago (1993-94). One of the reasons for this could be a decline in Total Fertility Rate (TFR) across all economic classes.

Figure 9.3: Percentage of Population by age group, Living in BPL Households: A P



Early childhood care and education (ECE) are very important. Access to ECE is important not only in preparing a child to enter school but equally or more important in relieving older siblings, especially girls, from the responsibility of taking care of younger children in the family. There is evidence that children who have been through ECE are socially prepared, active and grasp concepts quickly when they enter primary school.

In India and Andhra Pradesh, ICDS *anganwadi* centres have been the prime source of early childhood care and education. The coverage under ICDS[8] anganwadi centres (AWC) seems to be inadequate in Andhra Pradesh both in absolute and relative terms. According to NFHS III (2005-06), only 27.5 per cent of children below 6 received any service from an AWC in the past year. Andhra Pradesh was one among those states with the lowest ICDS coverage. There were around 9 million children under 6 in 2001, and they would number around 8 million in 2006. Of these only 2 million children are covered. Hence the presence of ICDS programme in the state could not improve nutrition levels among children significantly.

The advantage of the state is its demographic dividend. The number of children who should be covered in ICDS has been decreasing owing to negative growth rate in younger age population in the state. This dividend would help universal coverage soon if there are more efforts at the policy and implementation levels.

9.2 Patterns of Women's empowerment and Child well-being: Inter-district Analysis

We have already discussed two gender related measures (GDI and GEMI) representing women's empowerment at the district level in chapter 2. Here regional disparities are discussed where districts in the state of Andhra Pradesh are classified in two ways: the traditional classification into three regions Coastal Andhra, Telangana and Rayalaseema based on socio-economic and historical administrative conditions[9], and a classification into five agro-ecological divisions of North Telangana, South Telangana, North Coast, South Coast, and Rayalaseema[10].

[8] Since Independence, there were several measures to improve child health and education while increasing the coverage of related services. In the process, the Integrated Child Development Services (ICDS) was initiated in 1976 at the national level and in Andhra Pradesh. Under the ICDS programme, anganwadi centres (AWC) were established to provide children with health, nutrition and pre-school education services from birth to six years and nutritional and health services to pregnant and breastfeeding mothers.

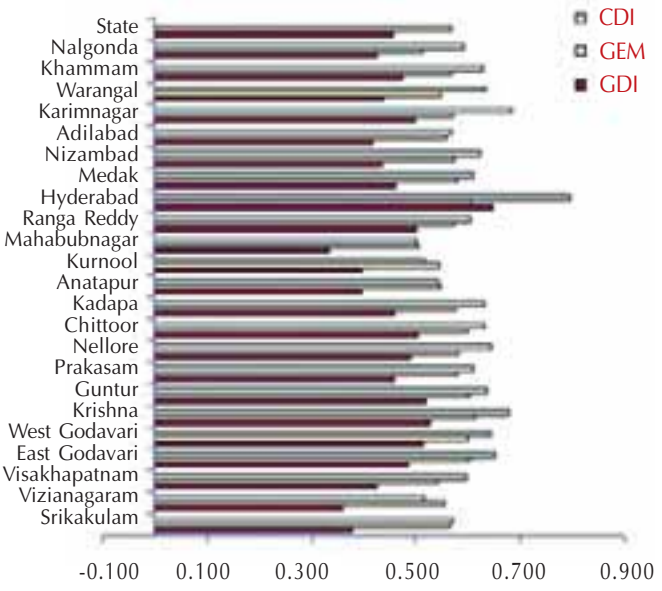
[9] Coastal Andhra consists of 9 districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore. Telangana comprises 10 districts - Adilabad, Karimanagar, Khammam, Warangal, Nizamabad, Medak, Mahabubnagar, Ranga Reddy, Nalgonda and Hyderabad. Rayalaseema comprises Chittoor, Kadapa, Kurnool and Anantapur.

[10] North Coast comprises Srikakulam, Vizianagaram, Visakhapatnam; South Coast comprises East Godavari, West Godavari, Krishna, Guntur, Prakasham and Nellore; North Telangana comprises Adilabad, Karimanagar, Khammam, Warangal, Nizamabad; South Telangana comprises Mahbubnagar, Ranga Reddy, Nalgonda and Hyderabad. Rayalaseema has the same four districts.

Intra-state differences in economic development and cultural characteristics are reflected in the regional categorization.

In addition to GDI and GEM we have Child Development Index (CDI) which represents child well-being, across districts and regions. The dimensions covered for CDI are: health, education and poverty (see Technical Note for details).

Figure 9.4: Gender (GDI) and Child (CDI) Development and Gender Empowerment Measure (GEM) Index for Districts in Andhra Pradesh, 2001



An analysis of gender and child related indices shows that Coastal Andhra had high Gender Empowerment Measure (GEM) and Child Development Index (CDI), followed by Telangana. However Rayalaseema has the lowest gender empowerment and child development indices among all the sub-regions. South Coastal from the Coastal region comprising the districts of East Godavari, West Godavari, Krishna, Guntur, Nellore and Prakasam has the highest GEM and CDI followed by the North Coastal in GEM. North Telangana stands next to South Coastal in CDI but is behind South Telangana in terms of GEM. There is a close relationship between GDI and GEM in South Coastal, North Coastal and South Telangana regions. However in Rayalaseema the situation is more anomalous in that the GDI is next only to South Coastal but GEM is the lowest among all sub regions. On the other hand, while North Telangana has the lowest GDI the GEM is above that of Rayalaseema. This shows that high GDI may not always lead to gendered development indicated by a high GEM.

Consistent economic growth, high literacy and low work participation rates for women, with high female and child sex ratios, high sex ratio in enrolment and high political participation are some of the characteristic features of the South Coastal which has traditionally been a developed region. Along with these, the incidence of violence on women is also high in this region. In contrast, South Telangana has low female literacy rate, low work participation rate, lowest sex ratio for both females and girl children and school enrolment, and also low wage ratio in both agriculture and non-agriculture. Relatively backward regions like the North Coastal and South Telangana have high GEM but low CDI because of lack of amenities (education and health) for child development. Thus one can see a close correspondence between women's empowerment and child well-being across the sub regions of the state. The extension of this analysis to the district level may throw some more light on these relationships.

Table 9.7: Correlations Matrix

Indices	HDI	GDI	GEM	CDI
1	*2*	*3*	*4*	*5*
HDI	1			
GDI	0.936	1		
GEM	0.640	0.740	1	
CDI	0.537	0.636	0.662	1

Note: 1. The indices refer to 2001; 2. All the correlation coefficients are significant at 1 per cent level

A simple correlation matrix (Table 9.7) among four indices (HDI, GDI, GEM and CDI) across districts of Andhra Pradesh reveals that child development is highly correlated to gender development and gender empowerment as compared to human development. The correlation between CDI and GDI and GEM is more or less same and hence it seems to be counter intuitive in the sense that gender empowerment is expected to contribute to child development to a greater degree than gender development. This calls for an assessment of the relationship among different components of gender empowerment and child development through unpacking the two indices of GEM and CDI.

The same level of association between child development (CDI) and gender development (GDI) and empowerment (GEM) may be due to two reasons: one, the inclusion of the components relating to power over dimensions of empowerment might not have brought synergies among the different components of power to (as reflected by GDI) dimension of empowerment; and two, as a consequence, this might not have contributed to the improvement of child development. The zero order correlation coefficients among the different elements of empowerment and child development reveal that the elements of power over dimension are in general not correlated to the components of power to dimension. The related insignificant correlation coefficients provide substantial evidence to this. However it is interesting to note that there is a significant negative relation between violence on women and female income. This implies that the districts with higher female income experienced low levels of violence on women in both public and private spaces. Apart from this, a highly significant positive relation is registered between political participation and sex ratio: adult as well as child sex ratios. This gives an indication that in districts with higher participation of women in politics, the issues relating to unequal social structures may be positively addressed. It can be concluded that the inclusion of power over dimension of empowerment has not led to any significant improvement in building up synergies among the different dimensions of empowerment.

The power to dimension of women's empowerment (income, education and health) is significantly correlated to different dimensions of child development compared to the power over components. Further, transmission of women's empowerment could be seen strongly (in terms of relationship with number of components of empowerment) in safe births; infant mortality rate; child schooling; immunization; and children in unstable and poverty households; in that order. Further it is also evident that: the districts which experience relatively higher poverty also experience higher incidence of female child mortality; the low level of education among women is closely associated with instability in income levels; the districts which witness high incidence of violence on women also have low levels of safe deliveries; districts in which a high proportion of children completed the full cycle of immunization also have a favourable adult sex ratio; the greater access to resources like education, health and income (power to dimension of women's empowerment) for women contributes more to the survival dimension of child development. The dimensions of women's empowerment (especially power with and power over) may not contribute to child survival to the same extent as power to dimensions but may contribute to other dimensions like right to protection and right to participation. Thus, the overall development of children can be ensured in an environment where women experience empowerment in all its dimensions. The forthcoming analysis throws more light on the relation between the overall dimensions of women's empowerment and overall development of the child.

9.3 State Intervention, Women's empowerment and Child Well-being: Household level Analysis[11]

The government of Andhra Pradesh has provided a larger space for women's self-help groups in its strategy for poverty alleviation and women's empowerment. This is seen in the women's groups promoted under Development of Women and Children in Rural Areas (DWCRA) programme; the adoption of the model of South Asia Poverty Alleviation Programme (SAPAP) with suitable improvements to develop and implement Andhra Pradesh District Poverty Initiatives Project (APDPIP); and, the Andhra Pradesh Rural Poverty Reduction Project (APRPRP) (Galab and Chandrasekhar, 2003).

Our analysis is confined to an assessment of the Indira Kranthi Patham (IKP), earlier called *Velugu,* which is a component of DPIP. IKPis meant to eradicate poverty in all its forms, including child labour, through establishing strong and vibrant people's institutions for the poor in the form of women's Self Help Groups (SHGs) and their federations and forging alliances between these institutions and non-poor organizations, the state, the corporate sector and NGOs (Non-Governmental Organizations) to tackle the conditioning factors that are perpetuating poverty, and supporting demand-driven economic projects to increase and consolidate economic gains on a sustainable basis.

[11] This section is based on the Mid Term and End Term Appraisal Reports of the District Poverty Initiatives Programme.

It seeks not only to mobilize communities but also provide support to facilitate linkages with credit institutions to create investment opportunities for the poor in economic activities. The formation of women's self-help groups and their federations at village and mandal levels intended to generate micro-processes to influence the institutions, formal and informal, and policies for improving the livelihoods of the poor, is central to IKP. One of the major expected outcomes of the project is empowerment of women.

The project adopts the framework of women's empowerment as conceptualized earlier in terms of the four dimensions of power - 'power from within', 'power to', 'power with' and 'power over' that operates at the personal, intra-household and community levels. Considerable emphasis is laid on access to information and social capital in the project since this is an important element of empowerment strategy. The poor usually have no access to information regarding various programmes and institutions and, as a result, they are deprived of the benefits from these initiatives. Simultaneously, improving the density and quality of social relations among women leads to an enhancement in individual as well as in community social capabilities of women. As a result of the increasing level of awareness and social capital that is being generated in the project, it is assumed that women are becoming more empowered.

The following analysis of the contribution of DPIP to women's empowerment and child well-being deals with all the four dimensions of empowerment, and the dimensions not covered in the earlier sections at the state and the district level (power within and power with) could be accommodated in this programme.

9.3.a Psychological Empowerment[12]

An important dimension of empowerment entails facilitating the disempowered to develop a positive sense of identity, self-value and confidence. This psychological component promotes self-belief in women that they can act at personal and social levels to improve their condition. It involves an escape from 'learned helplessness'. This newfound sense of self-confidence was discussed by a number of respondents. A group member from Atlur, for example, poetically noted that before participation in self-help groups, "*women were like a frog in a well*". Another self-help group member from Amrabad in Mahabubnagar district emphasized how membership had empowered her and other participants to overcome deep-rooted feelings of fear and inferiority. It should be noted, however, that while psychological empowerment does not automatically result from group membership it is closely linked to group leadership and its commitment to capacity-building. In some sites, women members clearly appreciated their leaders, the time they invested in the group and the sense of unity that had been created by a shared sense of confidence in addressing the challenges of life.

There has been less discussion in theoretical literature about the links between women's psychological empowerment and child well-being than on other dimensions of empowerment. On the one hand, feminist analysis on the gendered division of labour would suggest that women's psychological empowerment will not necessarily translate into improved child well-being. It could be argued, for example, that overcoming internalized gendered oppression might lead some women to conclude that they should not have to shoulder the primary responsibility for childcare and that the burden of care stands in the way of personal self-fulfillment. Indeed, this attitude was clearly something that a number of male respondents feared. For example, the husband of a self-help group member from the village Seethampet of Srikakulam district complained, "*because of self-help groups women have become spoiled. Now*

[12] This section has been adapted from the paper 'Ripple Effects or Deliberate Intentions? Assessing Linkages Between Women's Empowerment and Childhood Poverty', by Nicola Jones, Madhuri Mukherjee and S. Galab, (2007)

they are not taking care of the needs of children and men. They are even confronting men in some cases." However, a broad body of empirical evidence suggests that as women become more confident and develop 'power within' they are most likely to address practical gender needs, including demanding better child-related services. This came out convincingly in a majority of our interviews with members of self-help groups, and it could be seen that a new sense of self-value and self-esteem emerged as a necessary (but insufficient) condition for women to take action at the household and community levels to improve their children's well-being[13].

9.3.b Empowered to take action

The access to resources enhances the economic status of women. The improved economic status coupled with the participation of women in decision-making at the household level may result in household budget allocations more in favour of women and children. The access to land has increased for the households whose female members participated in the DPIP compared to those whose female members had not participated in the DPIP. This is clearly seen in the increased proportion of households possessing land, the relatively larger size of land possessed and the increased proportion of households possessing clear title to land from among participant households in DPIP, in contrast to non-participant households. This is also true of other assets like livestock, agriculture implements and machinery, and financial resources (credit and savings) from formal financial institutions and collective savings.

Resources should be utilized to undertake livelihood activities that generate income to the households. The annual total income per household for the participants of DPIP, compared to non-participants, showed a substantial increase. Women should control this increased income so that they can invest in children's education and health. This calls for participation by women in the household decision–making process as co-partners than merely in a subordinate position under male domination. This may result in the allocation of the budget in favour of women and children. This is possible when women become independent economic agents, which is basically the mandate of the DPIP project. Decisions need to be taken on a number of issues related to production, consumption, health and education at the household level. Sometimes decision-making may become a complicated exercise.

A first indication that the program has made significant progress towards greater empowerment of women is the fact that the share of households where both wife and husband jointly take decisions has gone up significantly compared to the share of those households where the husband alone or wife alone takes decisions. This is evident from the comparison of households participating in SHGs against those who do not. For instance, the percentage of households in which a joint decision is taken on the marriage of a daughter has increased by 3 percent; on purchase of immovable property by 4.3 percent; purchase of durables by 6 percent. There has also been a significant increase in joint decisions on food, debt, savings, education, and family planning. The improvement in women's access to financial resources, viz., savings and credit through the interventions of the programme, has forced men to involve their wives in decisions relating to savings and credit issues, expanding the collective space. This has consequently resulted in expanding the collective space for decision-making on issues relating to livelihoods. The involvement of men in the preparation of micro-credit plans for the family in the case of the members of SHGs promoted by DPIP also might have expanded the collective space for decisions on issues relating to livelihoods. It is interesting to note that the evidence available reveals that the expansion of collective space in decision-making is

[13] Note that this finding is in line with similar research on the positive impact of women's greater physical mobility on child mortality rates in Pakistan (Durrant and Sathar, 2000).

not confined to economic issues, but has extended into non-economic issues like children's education and general health. This is also happening with regard to life cycle events like the marriage of a son/daughter. All issues relating to the family have become the concern of the groups as a whole because the groups have become the fallback support for a member's family during times of need.

Further, women, by and large, could bring issues like the number of children, spacing between births and family planning into the collective space and consolidate the collective space during the period under consideration. Thus women have succeeded in getting issues like control over their bodies to the collective space. What is striking is that domestic management which is not traditionally in the men's domain (like decisions on food) has been brought into the collective space of decision-making. It was reported during fieldwork that men take care of children and cook food when their women go for meetings or attend some work relating to groups in the village or outside the villages. This indicates that the stereotypes of the gendered division of labour seem to be slowly disappearing.

An analysis of household budget allocations and livelihoods would indicate the degree to which the expanding collective space in decision-making has had a positive impact on the lives of women. Household budget allocations reflect the priorities of households. It is pertinent to assess whether these priorities have changed in favour of women due to their participation in the programme. Expenditure on some items has a direct bearing on women while some other items are indirectly related to them. The budget share allocated for clothing for women has increased, as has the share of fuel and lighting. This implicitly indicates that the drudgery of women has come down to some degree. Further, the budget share of food has increased, which might have a favourable impact on women. This is due to the fact that women get the last priority for food under conditions of scarcity and the prioritization disappears when there is improvement in the availability of food. It is, therefore, clear that the expansion of collective space in regard to decision-making has enabled women to reallocate the budget in their favour. In other words, gender sensitivities have crept into the budget allocations. The other issue that merits the attention is whether there is any change in the labour utilisation pattern of women. The data reveal that the time spent by women on family chores, which include fetching water, collecting fuel, childcare, cooking, washing, etc., have increased during the period under consideration. This is very interesting, because despite the reduction in drudgery, which is indicated by household budget allocations, women are not able to reduce the time they spend on family chores. This may be due to the fact that the women are spending quality time with their children, in contrast to the situation at the mid-term appraisal when they had neglected childcare.

9.3.c Empowered to take collective actions

The effectiveness of government programmes for the reduction of poverty in all its forms by improving livelihoods of the poor is mostly determined by the quality of functioning of formal institutions, the mediating structures which implement those programmes. The quality of services and the accessibility and proximity of formal institutions influence the quality of their functioning. Proximity implies nearness of the institution to the poor. Accessibility could depend on the sensitivity of the institution to the needs of the poor. Formal institutions include government schools, hospitals, public distribution system (PDS) shops, anganwadi, and all other institutions of the line departments of the government, and financial institutions like banks and cooperatives.

The improvement in the education of children might be attributed to different reasons. Increased awareness of the importance of education, particularly for girls, and the problems arising out of child labour might have resulted in the change of preferences amongst the participants in DPIP with respect to providing education to their children. Further, women SHGs have campaigned for better educational services in their areas. The availability of better educational services has led to a change in the potential for educational attainment in their own villages. This may be also true of health services and other institutions. Further, improved service delivery might have resulted in the enhancement in levels of income, thus leading to a change in the consumption basket. This change in the consumption basket, coupled with awareness and empowerment leads to lifting more items from Public Distribution System (PDS).

The field study indicates that there has been a significant positive impact on the functioning of the formal institutions in terms of access to and quality of drinking water, quality of education, sanitation conditions, quality of internal roads, access to communication, and also utilisation of various benefits from the government, wherever village organizations (VOs) and women's federations have taken action to address these problems/issues. For instance, when the problems relating to the access to and quality of drinking water are brought to the notice of VOs which then initiated action to address these issues, the results show a positive and significant impact. This is also evident with respect to the quality of education and quality of internal roads. VOs have also had a significant impact on the improvement of sanitation conditions (which indirectly contributes to health), in accessing better communication and availing government benefits. Irrespective of whether the Panchayati raj institutions or other institutions initiate action on the functioning of these formal institutions, the involvement of VOs had a positive and significant effect.

With regard to education, the percentage of participant households reporting interruptions in schooling of boys/girls, particularly girls, has come down substantially from the Follow up Survey (FUS) -I (mid term appraisal) from 6.86 to 3.33 in case of boys and 10.20 to 3.47 for girls. The percentage of participant households reporting never attending schools for boys declined from 10.36 to 8.18 in FUS-II (end term appraisal). Moreover, the percentage of girls who never attended school declined significantly (5 percent level of significance). The decline was greater in the case of girls who never attended schools (from 11.4 percent in FUS-I to 5.6 percent in FUS-II). With regard to percentage of dropouts among boys, there was a decline of 11.76 for participants as against 4.12 for non-participants. Interestingly, the percentage decline of dropouts for girls is 5.10 for participants. 79 percent of the respondent participant households reported better performance of primary schools as against 77 percent during FUS-I. Thus, there is a clear indication of the improved service delivery of education institutions due to project interventions which has also resulted in better educational outcomes, apart from the improvements in the demand for better quality services by the empowered women.

There has been considerable improvement in antenatal check-ups for participant households over FUS-I. There was a similar increase in the percentage of participant households seeking deliveries in public and private hospitals and by trained birth attendants. The percentage of participant households having immunization cards has also increased (13 percent over FUS-I). The data on breast-feeding shows that the percentage of breast-fed children in Anantapur and Adilabad is significant. Receiving medical treatment for illness by the reporting households has shown highly significant improvement among the participants (56 percent), an increase of 24 percent over FUS-I. There was also a significant improvement in visits by family planning workers. This indicates that safe motherhood and childhood practices are being followed by a large proportion of participants due to the programme which have resulted in improved health seeking behaviour and health awareness.

9.3.d Empowerment to transform unequal social structures

The question to be addressed is whether the improved status of women within the household in the programme areas is also reflected in higher participation in public spaces. Participation of women in the institutions and collective actions of the community is taken up for assessing the empowerment of women within the community which should also contribute to change in the community.

The social networks configured have remained the same during the period under consideration. Simultaneously, there has been a considerable improvement in the level of trust expressed by women in government officials, members of different castes and outsiders during the period under consideration. Since these are the agents of social change, the improved level of trust becomes a fundamental prerequisite for ushering in social change.

The percentage of women who had information on village assemblies of Grama panchayats is higher for the participants (62 percent) compared to those who are not (55 percent), during the period under consideration. The programme has enabled women to widen their social networks, which is evident from the higher participation in social networks by women who are members of DPIP SHGs compared to those who are not.

The participation of women in local politics to ensure proper governance of local political structures is very

essential because local governance has linkages with poverty reduction and growth. Women's participation in governance requires political capability, which refers to the capacity to represent oneself or others, access information, form associations and participate in the political life of communities. In a society of deep inequalities, people belonging to marginalized communities like the scheduled castes and tribes have been generally excluded from participation in state institutions that make the decisions and administer the resources that affect their lives. Similarly, in social relations dominated by patriarchal value systems women have also been excluded from participation in these institutions. The quotas for the SCs and STs and the recent amendments to extend quotas to Other Backward Castes (OBCs) and women through the 73rd Constitutional Amendment enable these disadvantaged sections to participate in political structures and decision-making.

These reforms in local governance are focused primarily on the supply side of the formal system and not on strengthening the demand side actions that enable marginalized groups effectively to utilize the space created through new rules and regulations. Social inequalities, cultural norms, lack of a support system and training still constrain vulnerable social groups and the role of women. In order to assess political capability, two parameters, viz., participation in local governance structures and the voice of the marginalized in local governance are considered. Participation in governance structures is measured in terms of contesting for and getting elected to the positions of Sarpanch, Vice-Sarpanch and Ward Members of Grama Panchayat. Participation in Grama Sabhas is taken to be the voice of marginalized.

The percentage of participant households contesting for seats in Panchayati Raj Institutions (Gram Panchayat, Mandal, and *Zilla Parishad*) has increased over FUS-I (from 1.82 percent to 2.33 percent) and is also higher compared to non-participants (2.33 vs. 1.54). Merely contesting in the elections may not reflect the influence of women's groups; it is the percentage of participant households which win elections which reflects the influence of women. The results reveal that the majority of participant households won the elections as against the non-participants. Women's participation in village assemblies (gram sabhas) and raising issues in these forums indicate the greater empowerment of women to participate more effectively in community level decisions.

Apart from the state institutions, a host of informal social institutions/socio-cultural practices condition the ability of different social groups to respond to the opportunities afforded by the programmes. Some of these institutions affect livelihood choices and the capacity to pursue new opportunities. These institutions can be grouped into three types, viz., institutions promoting caste-based discrimination, institutions promoting gender based discrimination and institutions promoting violation of child rights.

Caste-based discrimination leads to the social alienation of SCs which constrains their participation in the networks that generate bridging social capital to tackle the conditioning factors that affect their livelihoods. Social capital formation and, consequently, livelihoods are affected negatively due to discriminatory practices. Further, social alienation has contributed negatively to the self-esteem and dignity of SCs which in turn, has constrained the formation of human capital. Thus, the formation of social and human capital, and the conversion of these capitals into economic opportunities are severely constrained among SCs. Such practices obstruct the vertical socio-economic mobility of these groups and limit their livelihood options.

Jogini system, barriers to widow remarriage, polygamy and dowry are the institutions promoting gender discrimination. *Jogin / Basvini / Mathamma / Devadasi* is the traditional and religious practice of dedicating girls from SCs at a young age to the local deity in temples and thereby institutionalizing prostitution. The practice of dedicating girls to Hindu gods and goddesses at places of worship is prevalent in certain parts of the state, particularly among the *Madiga* community (Scheduled Caste). These girls are forced to serve the sexual demands of the local landlords. Thus, this system has been producing traditional sex workers. Children of *Jogins / Basvin / Mathamma / Devadasi* are raised by their mothers in single-parent families and are often subject to sexual abuse. Child poverty is another manifestation of this system. The self-esteem and dignity of these families are undermined by this system. This system coupled with untouchability has been perpetuating poverty and social marginalistion constraining the formation of social and human capital and ultimately affects livelihoods negatively.

Polygamy and dowry are the manifestation of patriarchal social values, which seriously erode the self-esteem and dignity of women. The rising cost of marriages among other unproductive expenditure, often financed by borrowing at high rates of interest, has resulted in a high level of indebtedness and eventual dispossession of assets. Despite the increase in the school enrolment rates of girls, the marginalized groups continue to prefer to educate boys than girls. Excessive consumption of alcohol is another important reason attributed by the groups for the growing debt burden. Incidence of child marriage is higher, by and large, among SCs and STs compared to other communities, and among the poor over the non-poor in the entire project areas. Child marriage constrains the formation of human capital and affects the livelihoods of the poor negatively. Child labour is another institution indicative of child poverty. This is very common among the poor although a significant proportion of children among the non-poor are also involved in child labour. The ramifications of child labour thus go beyond poverty also.

The increased participation of women in community initiatives has had an impact on informal institutions too. The action of the Village Organisations against child marriages

had a positive and highly significant contribution in arresting them. Another important institution that has been influenced by the VO is atrocities against women. Wherever the village organization has initiated action, atrocities against women have declined significantly. Thus, the power over dimension of women's empowerment has resulted in taking action in making unequal social structures more equal. Thus the overall empowerment of women leads to child well-being.

9.4 Conclusions

The traditional responsibility of women for nurturing and care implies that advances in women's status viz., empowerment would have a positive spillover impact on child well-being. The four transmission mechanisms of transferring the effects of women's empowerment on child well-being include maternal education, economic empowerment and intra-household decision-making power (power to dimension); and community level empowerment (power with and power over dimensions).

The status of women in the state by different empowerment dimensions shows that the gender differences in terms of education (literacy, schooling and higher education) is relatively lower when compared with the all-India levels, but not in comparison with South Indian states. In terms of political participation of women the state is better placed than all-India. On the other hand, the state has high violence rate against women. This may be due to increased assertion of women in public and private spaces in the state. The female work participation rate is lower than of male but the state has the highest rate among all the states in India. It may indicate as if the women in AP are economically better placed when compared to their counterpart at all-India level. However, most of the female workforce in the state is concentrated in activities which are unorganized, informal, seasonal, insecure, menial and poorly paid. This again indicates they are disadvantaged. Thus, women in Andhra Pradesh are better placed in regard to social empowerment but they are less advantaged in respect of economic empowerment.

Inter-regional analysis indicates that Coastal Andhra has high values of Gender Empowerment Measure (GEM) and Child Development Index (CDI), followed by Telangana and Rayalaseema. It is interesting to find that a close relationship exists between GDI and GEM in the South Coastal, North Coastal and South Telangana. This shows that high GDI may not always lead to high GEM.

In South Costal region high economic growth, along with high value of power to dimensions of empowerment and indicators on women's strategic needs also coincides with high levels of violence. The high value of some

dimensions of empowerment that reflects assertion (by way of entering into decision-making at both household and community levels) of women is leading to an increase in violence on women in public and private spaces. Hence, women's empowerment policies need to be inclusive of men to liberate them from entrenched patriarchal values. On the contrary, relatively backward regions like the North Coastal and South Telangana have a low value of GEM as compared to the South Coastal but higher than North Telangana and Rayalaseema. Historically Telangana was a princely state which might be the cause for continued subordination of women in all aspects reflected in low GEM. Rayalaseema has the lowest GEM which may be because of the factions in the region. The development process can nullify the historic factors which put down women's status but the same development can also increase violence when it leads to their increased decision-making in public and private domains.

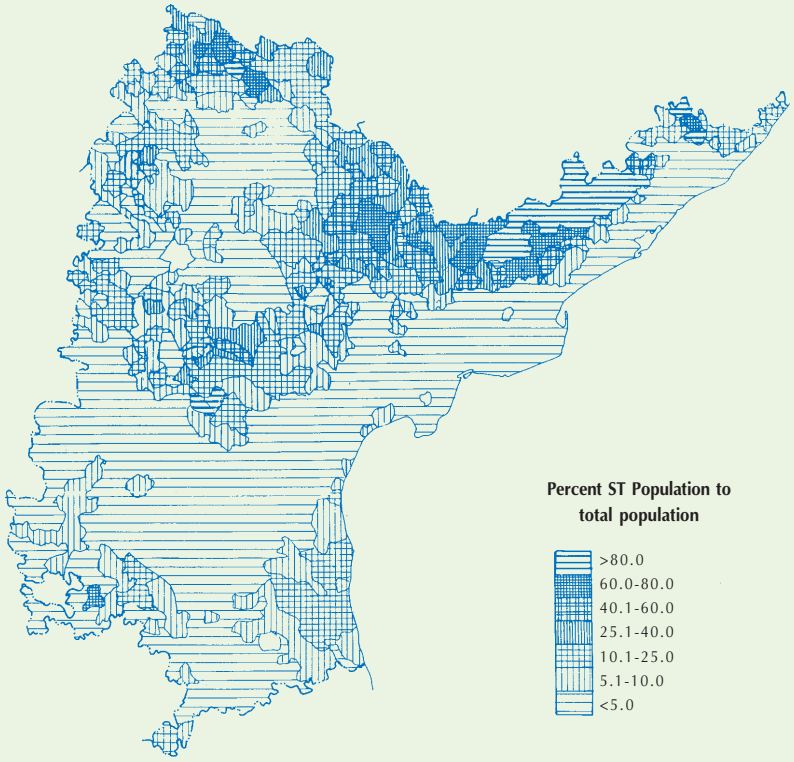
Correlation among four indices, HDI, GDI, GEM and CDI across the districts reveals that there is a high degree of correlation between child development and gender development rather than with human development. Interestingly, child development has almost equal association with both the gender development and gender empowerment. The pattern of relations can be seen to greater effect across the five agro-climatic regions which are at different levels of development. The correlation between GEM and CDI is relatively low in the less developed regions of the North Coast and South Telangana. This may be so either because the empowerment levels of women are not sufficiently strong to negotiate with the policy makers for the enhancement of inadequate social sector infrastructure or the participation may not be strong enough for improving the functioning of institutions delivering child services. Secondly the empowerment of women may not have materialized into decision-making at the household level to invest in child development. The non-inclusion of indicators reflecting decision-making at household and community levels due to lack of data in the calculation of GEM has precluded any conclusion relating to the low correlation between GEM and CDI. However, the high correlation between GEM and CDI in the more developed South Coastal Andhra may be due to a high level of participation by women at the household and community levels. The inference about the high participation by women is indirectly supported by the high level of violence on women due to their assertiveness in the household and the community. The unpacking of the indices of GEM and CDI may further provide insights to explain these variations.

Zero order correlation coefficients among the different elements of empowerment and child development indicate that the elements of power over dimension are not correlated to the components of power to dimension, by and large. The inclusion of power over dimension of empowerment has not led to any significant improvement in building up synergies among the dimensions of empowerment.

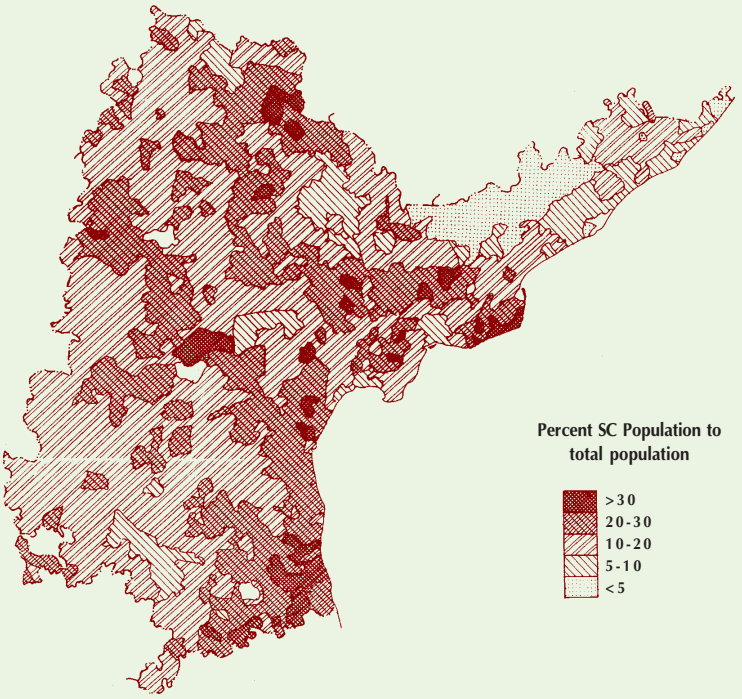
The power to dimension of women's empowerment (income, education and health) is significantly correlated to different dimensions of child development compared to the power over components. This implies that greater access to resources like education, health, and income (power to dimension of women's empowerment) for women contributes more to child survival and development. The dimensions of power with and power over of women's empowerment may not contribute to child survival as in the case of the power to dimension but may contribute to the protection and participation of children in decision-making which affects them. Thus the overall development of children can be ensured in an environment in which women experience empowerment in all its dimensions.

The IKP (DPIP) intervention of the GOAP has resulted in increased access for women to household resources which in turn resulted in a larger share of the family budget in favor of women and children. The field study indicates a significant positive impact on the functioning of the formal institutions wherever village organizations (VOs) and women's federations have taken actions to address problems/issues faced by the community. The increased participation of women in community initiatives has had an impact on informal institutions too. There has been a decline in child marriages and atrocities against women. The participation of women in the public sphere has improved the functioning of institutions delivering child services and in reducing discriminatory practices against women and children.

ANDHRA PRADESH SCHEDULE TRIBE POPULATION
(Mandal Wise) 2001



ANDHRA PRADESH SCHEDULE CASTE POPULATION
(Mandal Wise) 2001



CHAPTER X

10 Marginalised Sections in Andhra Pradesh
The Status of Scheduled Castes and Tribes

There is considerable progress of SC and ST communities in terms of many human development indicators. However, these communities still lag behind the rest of society. Social exclusion, poverty, landlessness, health and, education are serious concerns for these marginalized sections. More focused interventions are needed to enhance the pace of development of these communities.

One important dimension of the notion of inclusive growth is that the benefits of growth should reach socially disadvantaged sections like the Scheduled Castes (SC) and Scheduled Tribes (ST). Even before Independence, the National Planning Committee (NPC, 1937) under the chairmanship of Jawaharlal Nehru had made detailed recommendations on a whole range of social and economic issues relating not only to agriculture and industry but also to wider issues of distribution, social justice and social welfare. Dr. Ambedkar also had a vision for socially and economically disadvantaged sections. There have been several programmes, progressive legislations and constitutional safeguards to help SC and ST. But, the visions of Nehru and Ambedkar have not been realized even after 60 years of Independence. This is also true of Andhra Pradesh.

In this context, this chapter gives an outline of the status of SC and ST in Andhra Pradesh, their problems and prospects in the human development perspective. It presents the prevailing situation in respect of SC/ST and their level of backwardness with respect to parameters such as income, land ownership, health indicators, educational attainments, access to basic infrastructure and basic amenities like water supply, sanitation, electricity etc.

10.1 The Size and Growth of Population

Andhra Pradesh has a sizeable Scheduled Caste and Scheduled Tribe population. The Scheduled Caste population in 1991 (Census) was 10.6 million constituting 15.9 percent

of the total population of the state. The Scheduled Tribe population was 4.2 million constituting 6.3 percent of the total population (Table 10.1). While the Scheduled Castes are distributed throughout the state, the Scheduled Tribes are concentrated in the hilly and forest areas of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Khammam, Warangal and Adilabad districts and the Nallamala forest.

The latest census (2001) figures indicate an increase both in number and percentage of SC and ST in Andhra Pradesh (Table 10.1). In 2001, there were about 12.3 and 5 million SC and ST comprising 16.2 and 6.6 percent of the total population in Andhra Pradesh. The percentage of SC in the population was marginally lower while ST population was nearly 2 percentage points lower in A.P. as compared to all-India. The SC/ST population and their proportion in the total population have increased over time in the state as well all-India.

Table 10.1: Percentage of Scheduled Castes (SC) and Scheduled Tribes (ST) in Total Population in A P

Year	Andhra Pradesh					India (%)	
	Population (in M)			Percent in T P			
	SC	ST	All	SC	ST	SC	ST
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1961	4.9	1.3	35.9	13.8	3.7	14.7	6.9
1971	5.8	1.6	43.5	13.3	3.8	14.6	6.9
1981	7.9	3.1	53.5	14.9	5.9	15.8	7.8
1991	10.6	4.2	66.5	15.9	6.3	16.5	8.1
2001	12.3	5.0	76.2	16.2	6.6	16.2	8.2

Note : 1. Figures in percentages; 2. TP– Total Population

Source : Census of India, Andhra Pradesh.

SC and ST categories are not homogeneous and there are a number of sub-castes/groups within each category. There are about 59 Scheduled Castes in Andhra Pradesh of which the important ones are Mala, Madiga, Relli, adi Andhra and others. Within the Mala and Madiga castes there are about 25 and 18 sub-caste groups. Similarly, there are about 33 Scheduled Tribes in Andhra Pradesh, and the important among them are Gonds, Koyas, Konda Reddies, Savaras and others. As a matter of fact, the surge in the size of ST population in the state during the 1970s is attributed to the inclusion into ST in 1977 of a community called Lambada/sugali, which mostly lives in the plains. When lambadas in Andhra Pradesh were notified as ST, many lambadas from the neighbouring states of Maharashtra and Karnataka migrated to Andhra Pradesh to claim ST status. The lambadas are, in fact, the single largest tribal group and constitute about 40 per cent of the ST population in Andhra Pradesh.

Within the state, there is a wide variation in the percentage of SC and ST in total population across districts. The percentage of SC in the total population was highest in Nellore (22.5) followed by Prakasam (21 per cent) and Chittoor (18.7 per cent) districts in the state. Kadapa is the district with the lowest percentage of ST, (2.4 per cent) and Khammam (26.5 per cent) has the highest in the state. Of the total ST population in the state, the major proportion (about 55 percent) is located in Telangana.

10.2 Education: Literacy and Schooling

It is claimed that education is a universal right and not a privilege meant for some classes of society[1]. The Indian Constitution and many later policy resolutions have stressed universal access to education and enrolment of children in school-going age irrespective of class and caste. Nevertheless, there is no equal access to education across social groups. In the state as well as in India, the SC and ST are the most backward in terms of education. The literacy rate for STs[2] in the state was below one–third of the state average till 1991 (Table 10.2). Further

Table 10.2: Literacy Levels by Caste and Gender in A P

Year	SC			ST			All		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1961	8.5	13.4	3.4	4.4	7.3	1.5	21.2	30.2	12.0
1971	10.7	15.9	5.3	5.4	8.5	2.1	24.6	33.2	15.8
1981	17.7	24.8	10.3	7.8	12.0	3.5	29.9	39.3	20.4
1991	25.9	34.4	17.1	13.6	20.1	6.9	44.1	55.1	32.7
2001	53.5	63.5	43.4	37.1	47.7	34.8	60.5	70.3	50.4

Notes : 1. Figures are in percentage; 2. Literacy is for 5 + population for the years 1961 and 1971 thereafter it has been for 7 + age population.

Source: Census of India, Andhra Pradesh.

[1] S. Radhakrishnan, University Education Commission Report. (Quoted from Karlekar, 1983).

[2] The ST community is not homogeneous and there are variations among different ST groups.

disaggregated by gender and caste, it is seen that ST women are the most backward and the literacy rate of ST women was one-fourth of the state average.

There was a sign of improvement between 1991 and 2001. The gap between the literacy levels of SC/ST and the average increased till 1991 and thereafter it narrowed down to some extent. Also the rate of achievement in terms of literacy levels is observed to be high for STs and SCs when compared to the state average during 1991-01.

An analysis of 1991 and 2001 Census data with respect to the *prevalence of non-literacy* (rather than literacy) is very interesting. It is observed that the non-literacy rate among ST female adults was the highest in rural areas in 1991 as well as in 2001. The non-literacy rate among rural ST female adults was as high as 96.5 in 1991 and it declined to 86.5 by 2001. In the case of rural SC female adults, the non-literacy rates were 89.6 and 71.5 in 1991 and 2001 indicating a substantial improvement in one decade. In the case of rural female adults the non-literacy rates during 1991 and 2001 were 82.4 and 65.8.

The analysis based on NSS data with respect to the illiteracy among adults across different social groups (ST, SC and OBC) presents more recent trends. The level of illiteracy is very high among female adults belonging to ST, SC and OBC in rural Andhra Pradesh. In rural areas the illiteracy rate ranged from 86.3 per cent for ST to 71.6 per cent for OBC in 2004-05. For 'other' (OTH) category female adults, the illiteracy rate in 2004-05 was about 40.6 percent. The decline in illiteracy and the improvement in literacy among ST and SC female adults between 1993-94 and 2004-05 (OBC during 1999-00 to 2004-05) in rural Andhra Pradesh were far from satisfactory as compared to the improvement among OTH female adults in rural Andhra Pradesh.

Though the level of literacy among male adults in rural Andhra Pradesh was better when compared to female adults, illiteracy was very high, particularly among ST and SC male adults, even in 2004-05. The progress in literacy among ST and SC male adults from 1993-94 to 2004-05 (OBC between 1999-00 and 2004-05) in rural Andhra Pradesh was also much less than the progress among OTH male adults in rural Andhra Pradesh. The literacy levels among urban adults are uniformly higher than in rural Andhra Pradesh among all the social categories. The all-India level of adult literacy was uniformly higher than in Andhra Pradesh across all social categories in both rural and urban areas. The increase in literacy for all-India had also been uniformly higher than in Andhra Pradesh between 1993-94 and 2004-05 across all the social groups in both rural and urban areas except for ST in the urban areas.

Moreover, the percentage of households without any literate adult member (A) or without any literate adult female member (F) was much higher among the ST and SC as compared to the OBC or Other categories both in rural and urban A.P. in 2004-05. Between the two scheduled categories, the percentage of such households was much higher among the STs.

These findings suggest that ST female adults could not avail of the desired benefit from literacy campaigns and/or from formal schooling facilities as compared to SC female adults in rural Andhra Pradesh. We find that SC male adults could benefit from literacy campaigns and/or formal schooling facilities to improve their literacy position between 1991 and 2001. Even though the literacy level among adults is much better in urban areas than in rural areas, about 64.7 percent of the ST female adults and about 47.6 percent of the SC female adults in urban areas are non-literate.

Schooling and Educational Deprivation of Children

As in the case of literacy, there is also a significant disparity across social groups in respect of children at school. The percentage of children in the 5-14 age group

attending school was relatively lower among SC/ST than the 'other' communities (Table 10.3). Many children belonging to these marginalized communities especially ST, are out of school and some are even engaged in economic activities. According to NSSO estimates, the percentage of children in the age group 5-14 years attending schools during 2004-05 in ST, SC, OBC and Others communities were 80.4, 86.6, 86.3 and 89.9 respectively in rural areas and 94.3, 90.0, 89.5 and 92.7 respectively in the urban areas of A.P. Gender disparities (i.e., difference between male and female) in school attendance rate across these communities were 22.6, 11.1 and 7.5 respectively for ST, SC and other communities.

The incidence of educational deprivation (i.e. percentage of children who remained out of school) is higher among children belonging to ST and SC communities when compared to 'others'(Table 10.3). Between the SC and ST, the ST children are the most deprived. This is corroborated even by enrolment figures provided by the Education Department (usually suspected of being inflated) and poor enrolment and high drop-out rates were highest among ST children followed by SC and 'others'.

Table 10.3: Percentage of Out-of-School Children Across Social Groups: A P

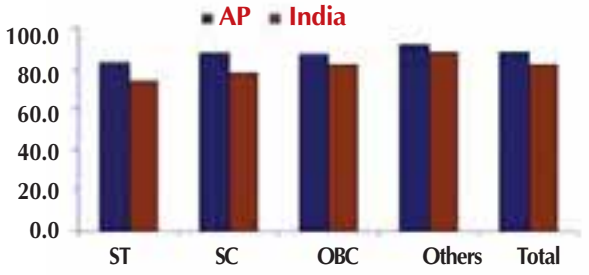
Location	Year	SC	ST	Others
1	*2*	*3*	*4*	*5*
Total	1981	63.8	80.6	57.3
	1991	59.8	73.9	46.9
	2001	23.1	35.9	20.4
Rural	1981	68.1	82.2	63.8
	1991	64.4	76.0	53.0
	2001	24.2	36.8	21.9
Urban	1981	41.1	56.3	38.2
	1991	39.0	51.7	32.5
	2001	17.8	25.3	16.9

Note : 1. Figures presented in percentage. 2. Children of 5-14 years of age.

Source : 1. Census 1981, 1991 and 2001.

A recent estimate[3] based on NSS 61st (2004-05) round, indicates that the performance of the state among major Indian state in terms of the school attendance rate seems to be better. Its performance is better not only in terms of the average for all social groups but also across social groups. The percentage of children (5-14 age group) attending school is relatively higher in Andhra Pradesh across all social groups when compared to the all- India average (Figure 10.1).

Figure 10.1: Percentage of Children (5-14 Age Group) Attending School



Source: NSS 61st Round (2004-05) Employment and Unemployment Survey

Inter-district variations in attendance are much higher for girls than for boys among ST and SC communities. In the case of ST, the low attendance districts are Mahabubnagar, Medak, Guntur and Rangareddi. The gender disparity in attendance is also relatively higher in these districts except for Guntur. For SC and Others, the low attendance districts are Mahabubnagar and Kurnool, where gender disparity in attendance is also higher.

Rural-urban differentials in the school attendance of children are higher for ST compared to other social categories. Further, the attendance of ST girls is pathetically low in the rural areas of Mahabubnagar, Medak, Nizamabad, Rangareddi, Guntur and Nalgonda. For ST children, the low attendance (less than 20) districts are Nellore, Mahabubnagar and Prakasam. The inter-district variations in attendance are much higher for ST (also SC and Others) girls in the rural areas than for boys. We do not find any such difference in urban areas. For children of SC and Others communities, the low attendance districts in the rural areas are Mahabubnagar and Kurnool.

10.3 Health

Health status is measured by indictors such as mortality, morbidity, immunization of children and pregnant women and their nutrition levels. The estimates for all these indicators

[3] As per the estimations using unit level record data of NSS Employment and Unemployment Survey 61st round (2004-05). It is based on usual activity (both principal and subsidiary) status.

indicate that ST and the SC lag behind other communities. Mortality as measured by the crude death rate is marginally higher among the SC and ST. Infant mortality rate (IMR), which is an important indicator in the human development perspective, is highest among the ST (104) followed by SC (97). The great difference between ST/SC and the others in terms of IMR indicates the difference in development across these communities (Table 10.4).

Table 10.4: Health Parameters across Social Groups in Andhra Pradesh

Indicators		1998-99				
		ST	SC	OBC	Others	Total
1	*2*	*3*	*4*	*5*	*6*	*7*
1	TFR	2.75	2.51	2.26	2.00	2.25
2	IMR	104	95	70	47	71
3	Family Planning	48.5	52.2	61.3	63.6	59.6
4	Vitamin A	9.6	23.6	24.0	29.6	24.8
5	No ANC Checkup	25.9	8.1	7.2	2.9	7.3
6	Delivery at home	62.4	32.7	24.5	13.1	25.4
7	HW Visit	26.4	22.8	17.8	12.1	17.4
Nutritional Status of Women						
8	Mean Height (cm)	151.3	149.9	150.9	152.3	151.2
9	% < 145 cm	9.4	16.7	14.0	9.1	12.7
10	Mean BMI	19.1	19.4	19.9	21.7	20.3
11	% BMI < 18.5	44.2	44.8	40.6	26.9	37.4
12	% with Anaemia	48.6	56.0	48.5	47.9	49.8
Nutritional Status of Children						
Weight for age						
13	% below –3SD	7.5	14.2	12.5	4.8	10.3
14	% below –2SD	45.9	43.4	39.1	29.7	37.7
Height for age						
15	% below –3SD	18.5	20.7	15.1	10.1	14.2
16	% below –2SD	49.4	44.6	39.8	32.3	38.6
17	% with Anaemia	68.2	79.6	71.4	69.7	72.3

Note : **1.** TFR – Total Fertility Rate; IMR – Infant Mortality Rate; ANC – Antinatal Care; BMI – Body Mass Index; HW – Health Worker.

Source: NFHS I (1992-93) and II (1998-99).

The nutritional status of women is critical for their own health as well as the health of children. There are different indicators to measure the nutritional status of women. For instance, the height of an adult woman also reflects the level of nutrition during childhood and adolescence. And the height of a woman often indicates the level of risk of difficulty in childbirth and delivering a baby with low birth weight. Current diet also influences nutritional status. Women from scheduled tribes/castes have a relatively poor diet that is deficient in fruits and green, leafy vegetables. Although there is no significant difference in terms of the mean height of the women, the percentage of women below 145 cm is highest among women belonging to scheduled castes. The body mass index (BMI) which is a measure of weight to height is used to assess thinness or obesity. A BMI less than 18.5 indicates chronic energy deficiency in a woman. The mean BMI for SC/ST women is the lowest and the percentage of women whose BMI is below 18.5 is the highest among SC and ST (Table 10.4).

Anaemia is another indicator of nutritional status and it usually results from a deficiency of iron, vitamin B or other nutrients. Iron deficiency is the most widespread form of malnutrition in the world and in India and in Andhra Pradesh it affects about 50 per cent of the population. Across social groups in the state, anaemia was highest among SC women (56 percent). The severe form of anaemia was highest among ST women (3.2 per cent) and SC women (2.6) in the state.

The nutrition status of children, an important aspect of their health and well-being, is expressed in standard deviation units (z-scores) from the median. Children who are under 3 years of age and below 2SD are considered to be *undernourished* and those below 3SD are considered to be *severely undernourished*. While weight for age is a composite measure of both chronic and acute under-nutrition, height for age measures linear growth retardation. Across social groups in Andhra Pradesh, the percentage of children characterized as undernourished was higher among the ST community followed by SC when compared with the 'other' children. Severity of under-nutrition was higher among SC children.

Chronic under-nutrition generally results from a failure to receive adequate nutrition over a long period of time or from chronic or recurrent diarrhea. Moreover, under-nutrition among children is strongly associated with their mothers' nutritional status and is more common in children whose mothers' height is less than 145 cm and body

mass index (BMI) is below 18.5. Ultimately it is strongly related to the living standards at the household level and children of households with a low standard of living are more likely to be undernourished than children of households with a high standard of living.

The other indicator of the health status of the population is access/utilisation of health care services; for this the indicators used are: immunization of children and pregnant women and attention received at the time of delivery. For nearly 62 per cent of ST women and 33 per cent of SC women, child delivery took place at home.

The National Health Policy (1983) gives top priority to providing health services to people residing in tribal, hilly and backward areas as well as to the population affected by endemic diseases and vulnerable sections of society. Therefore, in order to provide better health care to Scheduled Castes and Tribes, the norms for population coverage were relaxed. This is further supported by implementation of programmes like the control of communicable and other diseases and especially undertaking research on diseases to which Scheduled Tribes/ Scheduled Castes are generally prone. Mobile dispensaries and camps organised wherever feasible are catering to their needs at their doorsteps[4].

Information on health care facilities is available by SC village, ST village and all villages, but not on whether these facilities are located in their settlements. This is important for most SC and ST typically live in separate settlements adjacent to the main villages dominantly inhabited by non-ST/SC population. The information available, however, indicates that the SC and ST are at a disadvantageous position in terms of health care facilities.

10.4 Employment Structure

Economic condition in general is an outcome of the occupational structure. Most SC and ST continue in their traditional hereditary occupations, mostly agriculture, which is the principal source of livelihood for these communities.

In rural Andhra Pradesh, for ST, the predominant occupation is agriculture. About 90 per cent of ST and 80 percent of ST are located in rural areas. For more than 80 and 70 per cent of the ST and SC population

Table 10.5: Occupational Structure (Principal Source of Livelihood) by Social Groups in A P

Sector	HH Type	2004-05					1993-94			
		ST	SC	OBC	Others	Total	ST	SC	Others	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Rural	SENA	7.5	8.7	21.1	20.0 (20.7)	17.4	9.7	5.9	17.8	14.8
	AL	43.7	60.7	32.5	20.0 (28.1)	35.7	37.0	69.1	31.8	39.4
	OL	4.0	11.5	10.2	8.8 (9.7)	9.6	5.0	9.2	8.6	8.4
	SEA	35.4	11.6	27.6	40.8 (32.2)	28.4	45.0	11.8	35.0	31.4
	Others	9.3	7.5	8.6	10.5 (9.3)	8.9	3.3	4.0	6.8	6.0
	Total	100	100	100	100	100	100	100	100	100
Urban	SE	62.9	24.5	44.0	45.7 (44.8)	42.8	26.1	20.0	37.6	35.8
	RW/SE	21.5	40.1	31.4	41.5 (36.2)	36.2	41.9	48.6	41.3	41.9
	CL	10.9	28.9	19.1	6.3 (13.0)	15.0	25.8	26.8	16.0	17.2
	Others	4.7	6.5	5.5	6.5 (6.0)	6.0	6.1	4.7	5.1	5.1
	Total	100	100	100	100	100	100	100	100	100

Note : 1. Figures represent per cent of the population; 2. Figure in parenthesis includes both OBC and the 'Other' community for the year 2004-05 and it is comparable with those of the 'other' in 1993-94; 3. SENA – Self-employed in Non-Agriculture; AL – Agriculture Labour; OL – Other Labour; SEA – Self-employed in Agriculture; SE – Self-Employed; RW/SE – Regular Wage or Salaried; CL – Casual Labour.

Source : Estimations based on NSS 61st and 50th round Employment and Unemployment survey raw data.

[4] Under the Minimum Needs Programme, at the national level, 14,723 Sub-Centres, 4,301 Primary Health Centres and 292 Community Health Centres have been established in Scheduled Caste Bastis/Villages with 20 per cent or more Scheduled Castes population, besides 558 Allopathic Hospitals/Dispensaries.

agriculture is the principal source of livelihood (either as cultivators or as agricultural labour). About 35 per cent of the STs are cultivators, while for a majority of SC households the principal source of livelihood was agricultural labour. It seems that STs are better placed when compared to SC in terms of ownership of land (Table 10.5). However, the position of the ST has deteriorated over the last decade (1994-2005). The decline in the percentage of ST households who are cultivators (45 to 35.4 percent) indicates loss of land resources and increasing dependency on agricultural labour (37 to 43.7 per cent). It is to be noted that the percentage of population depending on agricultural labour increased only in the case of ST, whereas it has declined for SC.

Among cultivators, across all social groups including ST, the majority are marginal and small cultivator households. However these groups, especially ST, are unaware of modern methods of cultivation and use outmoded techniques. Besides, they get a low price for their output due to inadequate basic infrastructure coupled with limited access to market.

Work participation rates were nearly the same for OBC, SC and ST, in that order in 2004-05. Child labour (WPR of the 5 to 14 age group) was the highest among STs. There was a sharp decline in work participation during the last decade especially for the ST, which was primarily due to a great decline in child labour. WPR among ST children declined from 32.6 per cent in 1993-94 to 10 per cent in 2004-05 (see Table 10.6).

As mentioned above, agriculture is the main source of employment opportunity for SC and ST households. About 88 and 80 percent of the workforce belonging to ST and SC are engaged in agriculture related activities. Occupational diversification appeared to be negligible, especially among the ST community (see Table 10.7).

10.5 Resource Ownership: Land

Access to land is one of the important indicators of better livelihoods in rural areas. In rural Andhra Pradesh, in terms of land owned[5] and possessed[6], there is little difference across social groups and the SC are, in fact,

Table 10.6: Work Participation Rates across Social Groups in A P

Sector	2004-05					1993-94			
	ST	SC	OBC	Others	Total	ST	SC	Others	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
All Ages									
Rural	55.0	55.7	55.5	51.2 (54.0)	54.4	65.9	59.6	56.0	57.5
Urban	32.8	37.6	43.7	35.2 (39.7)	39.2	44.7	39.0	37.2	37.6
Total	52.0	52.3	52.6	45.6 (49.9)	50.5	63.8	56.9	50.3	52.3
5-14 Age									
Rural	11.0	6.9	8.2	6.2 (7.6)	7.8	34.3	17.9	15.4	17.6
Urban	2.9	0.8	4.0	2.7 (3.4)	3.1	17.1	5.4	6.6	6.8
Total	10.0	5.9	7.2	4.8 (6.4)	6.6	32.6	16.2	12.7	14.8

Note : 1. Workers included both the Usual Principal and Subsidiary status; 2. Figure in parenthesis includes both OBC and Other and that is comparable with those of the 'other' in 1993-94.

Source : Estimations using NSS 61st and 50th Round Employment and Unemployment survey raw data.

better placed in terms of land owned (Table 10.8). Landlessness (in terms of land possessed) became negligible between 1993-94 and 2004-05. However, land available for cultivation is more important in an agrarian economy. All the land owned or possessed may not be cultivated[7] owing to various reasons. As a matter of fact, the land owned by about 45 per cent of population in the state was used only for housing.

In terms of cultivated land the SC and ST appear to be the most and the least disadvantaged when compared with the state average or the 'other' social group. The percentage of population in households with cultivated land is 33 and 54.5 per cent for SC and ST during 2004-5, and the state average is 46.2 per cent. Between 1993-94 and 2004-05 the percentage of population in households with cultivated land declined to a considerable extent across all social groups, but the decline was highest for ST followed by SC (Table 10.8). In other words, landlessness, that is lack of cultivated land, is increasing more among these socially disadvantaged groups. The question is whether increasing landlessness is due to land sales because of economic distress or due to better opportunities available in non-farm activities or for any other cause. As observed with respect to employment, the percentage of population

[5] Land owned – includes land that is leased-out.

[6] Land possessed - includes Land owned and leased-in and excludes land leased-out.

[7] Land cultivated is actual land under cultivation which is either owned or leased-in.

Table 10.7: Distribution (in %) of Workforce between Agriculture and Non-Agriculture Activities across Social Groups in A P										
Sector	Activity	2004-05					1993-94			
		ST	SC	OBC	Others	Total	ST	SC	Others	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Rural	Agriculture	88.5	80.0	67.7	67.6 (67.7)	71.8	89.1	89.7	75.0	79.3
	Non-Agriculture	11.5	20.0	32.3	32.4 (32.3)	28.2	10.9	10.3	25.0	20.7
Urban	Agriculture	36.5	11.1	10.7	6.3 (8.8)	9.9	21.7	30.7	14.7	16.3
	Non-Agriculture	63.5	88.9	89.3	93.7 (92.2)	90.1	78.3	69.3	85.3	83.7
Total	Agriculture	84.0	70.7	56.1	50.8 (54.3)	59.4	84.5	84.3	61.5	67.5
	Non-Agriculture	16.0	29.3	43.9	49.2 (45.7)	40.6	15.5	15.7	38.5	32.5

Note : 1. Usual Principal and Subsidiary Status; 2. Figure in parenthesis includes both OBC and Other and that is comparable with those of the 'other' in 1993-94.

Source : Estimations using NSS 61st and 50th Round Employment and Unemployment survey raw data.

especially ST depending on agricultural labour increased, which indicates the worsening situation for ST in Andhra Pradesh.

Since Independence, the Indian state has considered that problems of land are of pressing urgency. The objective of poverty eradication envisaged progress on two fronts simultaneously, high productivity and equitable distribution. Accordingly, land reforms were introduced to mitigate land-related problems like concentration, tenancy rights, and land for the landless. Because of the severe disadvantage suffered by the SC and ST, these communities were targeted while distributing surplus land in India and Andhra Pradesh so that they gained access to land. But land reform has to be more than the mere redistribution of land to the landless. It is equally important to ensure the availability of other inputs for cultivation to improve the productivity of land. But to what extent have these disadvantaged groups gained access to these agricultural inputs? For instance, the access to irrigation, which is considered a leading input for cultivation, is inadequate for SC and ST. The percentage of population in households with irrigated land is the lowest among SC (13.5 per cent) followed by ST (21.7 per cent) when compared to the 'other' community (30.6) and the state average (22.9 per cent). Availability of other necessary inputs would also be inadequate for SC and ST.

Table 10.8: Percentage of Population who Owned or Possessed any land or Land Cultivated: Rural A P									
Land	2004-05					1993-94			
Ownership	ST	SC	OBC	Others	Total	ST	SC	Others	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Owned	89.5	93.0	91.6	90.48 (91.2)	91.4	84.5	96.1	92.6	92.5
Possessed	97.3	97.8	98.9	99.08 (99.0)	98.6	93.2	88.8	91.4	91.1
Cultivated	54.5	33.0	47.1	51.92 (48.7)	46.2	70.4	45.4	58.1	56.7
Irrigated	21.7	13.5	23.1	30.6	22.9	-	-	-	-

Note : 1. Figure in parenthesis includes both OBC and Other and that is comparable with those of the 'other' in 1993-94.

Source : NSSO, 50th (1993-94) and 61st (2004-05) Round.

We now turn to a further analysis of the data relating to the number of holdings and operated areas across social groups based on the Agricultural Census. It indicates that there has been an increase in the number of holdings and area operated by the SC and ST during the last decade (between 1995-96 and 2005-06) (Table 10.9). But this increase in the number of holdings and area operated for the ST and SC may not be due to land distribution as a part of land reforms. In the changing dynamics of the rural economy in Andhra Pradesh, land transfers have been taking place, horizontally (within a socio-economic class) and vertically (across social and economic classes). It is observed that land owned by the dominant cultivating castes has declined because they are moving out of rural areas and agricultural activities to urban areas and non-agricultural activities. There is a corresponding increase in the control of land by backward communities (Reddy,

2007). The ST and SC therefore might have acquired land through purchase.

However, the share of these marginalized communities, especially SC, in the total number of holdings or operated area is well below their share in total population (around 16 per cent). The share of SC in the total area operated is less than half their share in total population, and the average size of their land holding is much smaller than for any other social group. The situation seems relatively better for the ST as their share in operated area is the same as their share in total population (around 8 per cent) (Table 10.9).

Table 10.9: Number of Holding and Area Operated across Social Groups in A P

Social Group	Holdings		Area		Average Size	
	1995-96	2005-06	1995-96	2005-06	1995-96	2005-06
1	*2*	*3*	*4*	*5*	*6*	*7*
SC	12.85 (12.1)	14.22 (11.8)	10.66 (7.4)	11.36 (7.8)	0.83	0.80
ST	7.54 (7.1)	9.27 (7.7)	10.87 (7.6)	12.12 (8.4)	1.44	1.31
Others	85.64 (80.8)	96.95 (80.5)	122.20 (85.0)	121.41 (83.8)	1.43	1.25
All	106.03 (100)	120.44 (100)	143.73 (100)	144.89 (100)	1.36	1.20

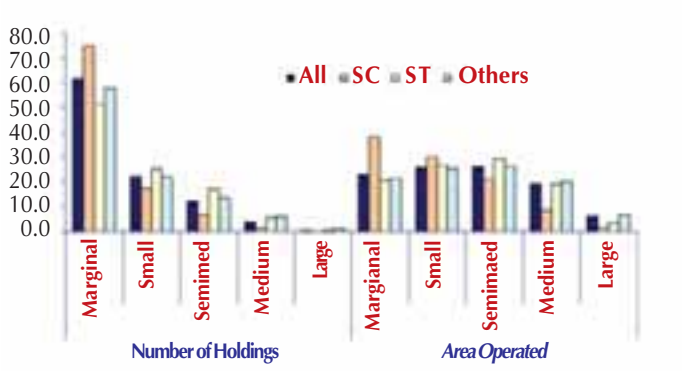
Note : 1. Holdings are in lakhs and Area in lakh hectares; 2. Figures in parenthesis are percentages of respective social group in the total.

Source : Agricultural Census, DES, Hyderabad.

The pattern of land distribution across social groups shows that the number of holdings and area operated has been increasing in the marginal and small size classes while declining in the medium and large holdings classes. For the SC, marginal and small holdings comprised 92 per cent of the total number of holdings but the area under these holdings formed around 66 per cent of the total area owned by them (Table 10.9 and Figure 10.2).

The share of the ST in marginal and small holdings is nearly 80 per cent of total holdings and 50 per cent of the area operated. Though the marginalisation (increasing share of small and marginal farmers) of the peasantry has been taking place across all social groups, it is more in the case of SC.

Figure 10.2: Percentage Distribution of Size Class of Holding across Social Groups in Andhra Pradesh, 2005-06



On the whole, it may be mentioned that access to land is still denied to many SCs. As a result, a majority of them continue to be landless agricultural labourers. Further, since most families who own land, especially SCs, are small and marginal farmers, their capacity to invest in agriculture is very inadequate and their access to credit is negligible. Although STs are relatively better placed in terms of access to land, factors such as traditional cultivation techniques and lack of access to modern technology and inputs including credit, undermines their economic progress.

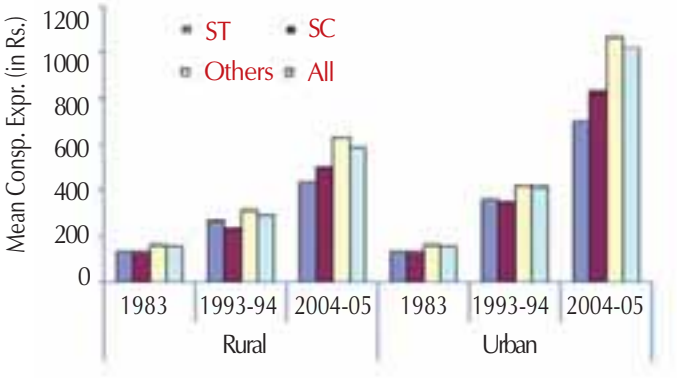
10.6 Income Poverty

Income poverty is only one of the multiple deprivations that the SC and ST have continuously suffered, even after nearly six decades of development planning. Across social

groups, the percentage of population living below the poverty line is the highest among the ST and SC communities.

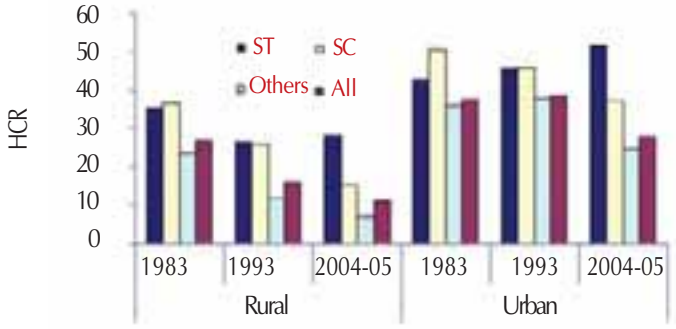
The estimates of mean consumption expenditure using NSS Consumption Expenditure Survey data clearly indicate differences in the level of consumption expenditure across social groups, and how far behind the SC/STs are as compared to the 'other' group (Figure 10.3). Moreover the gap in terms of consumption expenditure between these SC/STs and the 'other' communities has been increasing over a period of time, which indicates increasing economic inequalities across social groups.

Figure 10.3: Mean Consumption Expenditure Across Social Groups in Andhra Pradesh



The head count ratio of poverty measured using NSS Consumption Expenditure Survey data also shows that the percentage of poor is much higher among the SC/STs community indicating wide disparities across social groups in the state (Figure 10.4). Moreover, the disparity, especially between STs and 'others', has been increasing. Although, the overall poverty ratio and the ratio among SCs and

Figure 10.4: Head Count Ratio of Poverty Across Social Groups in AP



the other social groups shows a declining trend, the head count ratio of poverty among STs increased from 26 to 28.3 per cent between 1993-94 and 2004-05. Most of the increase in the poverty ratio among STs was due to an increase in agricultural laborers among STs. It indicates the failure of state policy in targeting initiatives and programmes to marginalized sections like STs and SCs.

10.7 Deprivation of Basic Amenities

Access to basic infrastructure such as education and health services available at the village level and household amenities such as drinking water, sanitation, and electricity is quite poor for STs and SCs.

Of the total twenty six thousand villages in Andhra Pradesh, in 9 percent the entire population was STs. About 20 percent of the villages were predominantly (i.e. 50 per cent or more) inhabited by STs and another 3 per cent by the SCs. Together, these 23 percent villages account for about 7.2 percent of the total rural population in the state. About 5 percent of the total SCs and about 45 per cent of STs population in rural Andhra Pradesh were located in villages which were predominantly inhabited by SCs and STs.

In these villages the availability of basic infrastructure and access to facilities is relatively poor when compared to the 'other' villages (Table 10.10) and the people living

Table 10.10: Access to Basic Infrastructure in A P: Percentage of Villages Predominantly Inhabited by SC and ST, having Facility - 2001

Facility		SC	ST	Others	All
1	*2*	*3*	*4*	*5*	*6*
1	Education	93.3	80.5	98.0	94.4
2	Medical	34.3	51.9	63.9	60.6
3	Tap Water	44.4	8.4	60.1	49.4
4	Post Office	28.4	14.5	62.4	51.9
5	Phone Connection	39.0	8.5	59.0	48.4
6	Transportation	68.7	26.3	84.0	72.2
7	Road Connection	72.0	33.0	81.5	71.6
8	Electricity	100	100	100	100

Note : Villages Predominantly in habited by SC/ST means that above 50 percent of the population is characterized SC or ST.

Source : Computed using Census 2001 Village Directory for Andhra Pradesh.

in these villages, mostly SCs and STs, are more deprived of basic infrastructure. Among SCs and STs, the latter are the worst affected. In ST villages the situation is very bad. About 90 per cent do not have tap water, while 67 per cent do not have road connection and 73 per cent do not have any transportation facility. People living in these STs villages are not connected with the outside world, as there are no proper roads or transportation. Medical services are not available for about 50 per cent of ST villages in A.P.

STs and SCs are also disadvantaged in terms of household amenities (Table 10.11). Though every village and town in the state is electrified, about 32.6 percent of households did not have electricity connection in 2001. The percentage of households without electricity is highest among STs (64.6 per cent) followed by SCs (50.5 per cent), and is higher in rural areas than in urban areas across social groups.

More than 60 per cent of the STs and SCs households live in a single room and about 3 to 4 per cent do not have even that single room. Access to safe drinking water is extremely important for better health and higher human development. But, 52 per cent of the households in general and about 76 and 54 per cent of STs and SCs households do not have tap water (which is considered safe drinking water). The situation with regard to access to other basic facilities was equally bad. On the whole, deprivation in terms of not having access to basic household amenities is in general higher and more severe for ST and SC.

10.8 Atrocities

The Parliamentary Committee on the Welfare of Scheduled Castes and Scheduled Tribes (2004-2005) mentioned that "even after more than five decades of Independence, the Scheduled Caste and Scheduled Tribe people representing over one-fourth of India's population, endure social ostracization". Atrocity is an expression commonly used to refer to crimes against the Scheduled Castes and Scheduled Tribes in India. The roots of atrocity can be found in the caste system. Though untouchability was abolished and forbidden in any form under Article 17 of the Constitution of India, the practice of "untouchability" – the imposition of social disabilities on persons by reason of birth into a particular caste – has continued in one form or the other. A Parliamentary Standing Committee[8] noted that "generally SC/ST people avoided to report crimes and fight cases just to escape police harassment and fear of cases languishing in courts for long." This Committee, since its inception in 1968, has presented to Parliament as many as 176 Original Reports and 169 Action Taken Reports till 2004. In addition, 191 Reports on the Study

Table 10.11: Percentage of Households without selected Basic Amenities in A P, 2001

	Facility	ST			SC			All		
		Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1	No Electricity	64.6	69.5	26.1	50.5	56.6	20.6	32.8	40.3	10.0
2	No Toilet	87.4	93.9	37.4	80.9	89.8	37.2	67.0	81.9	21.9
3	No Tap Water	75.9	80.8	37.7	53.8	58.9	29.2	51.9	59.7	28.1
4	One or No Room	65.6	67.4	51.9	62.1	64.8	49.3	50.9	55.5	36.9
5	No Drainage	70.2	75.2	31.4	56.5	62.8	25.8	48.4	58.6	17.7
6	No Bathroom	14.3	8.4	60.3	22.5	14.2	63.2	39.8	27.1	78.5
7	Traditional Fuel	91.5	96.8	50.4	86.1	93.6	49.3	73.5	87.3	31.4
8	None of the Specified Assets	66.0	69.6	37.5	59.9	64.8	35.9	45.9	53.2	24.0

Note : 1. *Assets* specified in Census 2001 are Banking Services, Radio, Transistor, Television, Telephone, Bicycle, Scooter, Motor Cycle, Car, Jeep, Van; 2. *Traditional Fuel* includes firewood, crop residue, cow dung cake, and charcoal.

Source : Census 2001.

[8] Committee on the Welfare of Scheduled Castes and Scheduled Tribes (2004-2005) Fourth Report.

Tours undertaken by different Study Groups of the Committee have also been laid on the table of both houses of Parliament.

Among major Indian states, Andhra Pradesh is fourth in terms of crimes against SC and ST. In 2005, 31177 and 515 (total) incidents of crime against SC and ST were recorded in the state (Table 10.12). The crime rate (i.e. number of crime incidents per lakh population) was 23.7 and 9.5 for SC and ST in Andhra Pradesh. The corresponding figure at all-India level was 14.5 and 6.2. The crime rate against SC/ST in the state is thus higher than the all-India average. While states like Madhya Pradesh, Rajasthan, and Gujarat had a higher crime rate against SC than Andhra Pradesh, Kerala, Rajasthan and Madhya Pradesh were the leading states in case of crime rate against ST.

Scheduled Caste women suffer from many forms of discrimination and deprivation[9]. Scheduled Caste women are victimized by upper castes because they lack the social position to stand up for their rights individually and because assaulting or raping them reinforces the subordination of the whole SC community to upper castes. Scheduled Caste women do not know their rights and are too powerless individually to hold the judiciary and the executive accountable for enforcing protective laws. The government of Andhra Pradesh has identified the following districts as sensitive from the point of view of crimes against Scheduled Castes and Scheduled Tribes: Chittoor, East Godavari, Mahabubnagar, Nellore, Khammam and Warangal (6 districts).

A study[10] conducted by the National Commission for Scheduled Castes and Scheduled Tribes in 1990 pointed out that various factors were responsible for atrocities. These include economic causes such as land disputes, land alienation, bonded labour, indebtedness, non- payment of minimum wages as well as non-economic causes such as caste prejudice and practice of untouchability, deep-rooted social resentment, political factions on caste lines and refusal to perform (formerly traditional) services like digging burial pits, arranging cremations, removal of the carcasses of dead animals and beating of drum, etc. While the growing number of cases is attributed to growing awareness among the victims about legal recourse, it cannot be denied that, even after so many years of planned development, atrocities continue and are probably increasing[11].

Table 10.12: Incidence of Crimes Committed Against SC and ST in A P and India, 2005

Crimes	SC		ST	
	AP	India	AP	India
1	*2*	*3*	*4*	*5*
Murder	37	669	12	164
Rape	74	1172	34	640
Kidnapping & Abduction	21	258	2	72
Dacoity	0	26	0	27
Robbery	0	80	1	49
Arson	9	210	1	38
Hurt	459	3847	70	767
Prot. of Civil Rights Act	61	291	0	162
SC/ST Prev. of Atrocities Act	1244	8497	196	1283
Other Offences	1212	11077	199	2511
Total Crimes	3117	26127	515	5713
Population (in lakhs)	132	1806	54	926
Crime rate	***23.7***	***14.5***	***9.5***	***6.2***

Note : 1. Crime Rate is incidence for lakh of respective category (SC/ST) population; 2. Population figures are extrapolated for the year 2005 based on annual growth rate during 1991-2001.

Source : www.indiastat.com; Ministry of Home Affairs.

A primary survey in Andhra Pradesh revealed that these crimes take numerous forms. They include murder, rape, parading of a Dalit woman in the nude, social boycott, grievous hurt, beating, attacking Dalit bastis, destruction of property, causing serious injuries, death in police custody, encroachment on Dalit lands, bonded labour, forceful eviction from house sites, harassment due to love relationship with caste Hindu, suicide due to humiliation and excessive beating by the police; being beaten: for riding a cycle,

[9] Sharon Barnhardt, Joshua Chang, Caroline Nguyen, Report on Scheduled Caste Women and Atrocities in Andhra Pradesh, Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, New Jersey USA, January 2003.

[10] Atrocities on Scheduled Castes and Scheduled Tribes – Causes and Remedies.

[11] Three states (Uttar Pradesh, Rajasthan and Madhya Pradesh) accounted for an abnormally high number of cases of atrocities committed on Scheduled Castes /Scheduled Tribes, 63.5 per cent of the total atrocity cases in the country in 2000. Other states (Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Kerala, Maharashtra, Orissa and Tamil Nadu) accounted for 35.5 percent.

wearing nice clothes, for sitting in the bus; harassment of Dalits Sarpanches and Panchayat members, and resentment and insult when a Dalit wins an election. Attempts by the Dalits to assert their self-respect and to break the taboos imposed by the high castes are viewed with hostility and suspicion and met with violence of various types. Whenever Dalits have tried to organize themselves or assert their rights, there has been a backlash from the high caste feudal lords resulting in mass killings, gang rapes and arson[12].

10.9 Political Participation

Scheduled Caste and Tribes constitute a significant portion of India's total population. Yet, they play an insignificant role in politics. A very few are members of elected bodies like Gram Panchayat despite a policy of reservation. Their participation is often controlled and is marked by lack of knowledge and resources.

In terms of statutory representation of SCs and STs in PRI bodies in A.P. there is no deviation from the official quota which means SCs and STs are represented as per the constitutional quota of 15 and 8 per cent in all the tiers of the PRIs in A.P. At gram panchayat level the numbers of elected representatives of SCs are 31243 (15 per cent) and that of STs are 16662 (8 per cent). At mandal parishad level SCs representation is more than the statutory reservation (2586) constituting 17.7 per cent) and that of STs 7.5 per cent (1093). At zilla parishad level the representation of SCs and STs is again higher than the stipulated position i.e., 17.9 and 7.9 percent respectively (Mid Term Review and Appraisal, 2006).

Although the statutory position of SCs and STs in local bodies is satisfactory, they are unable to work effectively in these bodies due to the social hierarchy and inequalities that exist in rural society. Studies have clearly brought out how proxy leadership (upper castes in the villages) controls the panchayats and their decision-making process on behalf of SCs and STs. One such study supported by Ford Foundation in Kurnool district mentions that a large number of elected members, especially SC/ST and backward caste members, are not actively participating in the meetings of the panchayats (Babu, 1998; CESS, forthcoming).

10.10 Resource Allocations

Since the 1980s there has been a steady decline in the allocation of government funds for SC and ST development and welfare projects. There has in general been an inherent lack of interest and seriousness on the part of the planning and implementing machinery to achieve the objectives of the Constitution the benefits secured by the SCs and STs do not appear commensurate with the funds spent so far.

The strategy of a Special Component Plan (SCP) for the development of Scheduled Castes was adopted during the Sixth Five Year Plan. The scheme of Special Central Assistance to SCP was initiated in 1980 and envisaged that the states would prepare Special Component Plans every financial year so as to ensure that a percentage of budgetary funds equal to the percentage of Scheduled Castes in the state would be set aside for their economic development and uplift. This strategy was adopted to ensure adequate flow of financial outlays from the state and central government plans in proportion to the Scheduled Caste population to the schemes and programmes for the development of the Scheduled Castes. Efforts of the state governments were supplemented by Special Central Assistance for SCP by the government of India. Andhra Pradesh was one of the states which formulated Special Component Plans for the development of its Scheduled Caste population. Similarly is the case of Tribal Sub-Plan (TSP).

The allocation and expenditure[13] of Special Component Plan (SCP) funds between 1992-93 and 2003-04 in Andhra Pradesh justify the remarks of Committee of Governors that these welfare concepts which were evolved 20 years ago, have not been satisfactory and there are numerous instances of lesser allocations, transfer of funds and shortfalls in expenditure. The SCP allocations have never exceeded 12 per cent as against the recommended allocation of 15 per cent and over a ten year period, the shortfall in

[12] Sukhadeo Thorat and S. Venkatesan, Caste Conflict, Poverty and Human Development in India, Indian Institute of Dalit Studies. New Delhi, 2004.

[13] In 1995-96 Social Welfare Budget allocation was 8.4 per cent of the total plan outlay and this declined to 2.4 per cent in 2002-03. In 1999-00 and 2000-01 the percentage allocations were 0.7 and 1.5 per cent respectively.

allocation of SCP funds works out to Rs 4097.01 crores. On the same lines, in five years the shortfall in allocations of TSP funds works out to Rs.567.98 crores. Against an allocation of Rs.1082.75 crore for Social Welfare in 2003-04, the allocation in 2004-05 was only Rs.1197.64 crores. The allocation for the welfare of Backward Classes has in fact been reduced. The share in the budget for the 15 per cent SC population works out to only 1.5 per cent. A study by the Centre for Dalit Studies has also concluded on similar lines that the results of the Special Component Plan (SCP) have not been fully satisfactory and that there are numerous instances of lower allocations, transfer of funds and shortfalls in expenditure.

Table 10.13: Share of SCP and TSP in Budget Allocation for Elementary Education and Child Welfare in AP

Year	Elementary Education			Child Welfare		
	Total Expr.	% SCP	% TSP	Total Expr.	% SCP	%TSP
1	*2*	*3*	*4*	*5*	*6*	*7*
2000-01	15691.9	0.020	0.011	1340.6	2.223	7.019
2001-02	16578.9	0.000	0.005	1530.7	3.391	7.526
2002-03	17260.0	0.765	0.340	2222.7	3.050	6.092
2003-04	20103.2	0.395	0.946	2502.8	2.385	6.613
2004-05	21036.5	0.523	2.570	2541.7	2.648	6.252
2005-06	30945.1	0.099	1.642	3613.3	1.896	5.970
2006-07	35763.2	1.344	1.934	3601.6	1.902	6.192

Note : Total Expr – Total Expenditure (Rs. in Millions)
Source : Sreedevi (2007)

Also, when the budget allocation in the state, especially under the heads of elementary education and child welfare, are examined, it shows that the allocations under SCP and TSP were negligible (Table 10.13). At no point of time during the last seven years were the shares of SCP and TSP at the mandatory level i.e. in proportion to the share of SCs and STs in the total population.

10.11 Conclusions

It is a fact that given the sizeable population belonging to SC and ST communities - together comprising one-fifth of the total - in Andhra Pradesh, the level of human development in these communities definitely influences the average level of human development of all social groups. It is not just that the backwardness of these communities is pulling down the overall development, but that there is a violation of the right of these communities to development equally on par with other communities.

The positive discrimination policy of the Indian government as well as of the state government in favour of these communities and subsequent special programmes for their development could have improved their levels of living. Though there has been progress in terms of many development indicators across the SC and ST communities in the state, they still lag behind the 'other' social groups. In the case of education, the gaps between social groups are becoming narrower. However, the pace of progress among these communities has been below expectations. Health conditions among these communities have been improving at a very slow pace. The situation is alarming with respect to economic well-being as the poverty level among the STs has, in fact, increased during the last decade or so. Moreover, landlessness among these communities especially STs, is increasing. These two facts may be causes for concern at the policy level. Land alienation and displacement are the serious problems for STs in the state.

The policy initiative of special assistance through SCP/TSP in terms of budget allocations for the welfare and development of these (SC/ST) communities is still not being fulfilled in implementation.

Given the factual situation of these communities with respect to their human development levels, more focused intervention is needed to enhance the pace of development among these communities.

CHAPTER XI

11 Environment
Natural Resources Base and Environmental Health

There are considerable inter-district differences in endowments, quality as well as distribution of important natural resources. The increasing pressure on these resources poses a serious environmental threat. The low access to sanitation, tap water and use of solid fuel in rural areas have adverse consequences on health and well being of the people.

The physical environment or natural resource base is critical for any kind of development. The quantity, quality and distribution of these resources determine the nature and sustainability of development at the national / regional / sub-regional levels. Further, the relationship between the physical environment and the well-being of individuals and societies, which have both quantitative and qualitative dimensions are multifold and multi-faceted. They are distinctively different in urban and rural settings. While in urban areas the concern is more on ambient environment and its impact on health and overall well-being, in rural areas the poor depend heavily on natural resources for their livelihoods and are most vulnerable to the effects of environmental degradation and other disasters. Therefore, the environmental conditions that impact the health of the poor and the natural resource conditions that affect the income and security of the poor households have been identified as the two most important aspects of the environment that have serious implications for poverty and the overall quality of life in developing countries (Shyamsundar, 2002).

Adverse health outcomes which are due to either traditional hazards related to poverty and lack of development or which are due to modern hazards such as urban air pollution caused by industrial development that lack environmental safeguards are major hindrances

to achieving the goals of human development[1]. In fact, one of the Millennium Development Goals set by the United Nations is ensuring environmental sustainability. The objectives of this goal are to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources, reduce the proportion of people without sustainable access to safe drinking water and sanitation by half by 2015 and achieve significant improvement in the life of slum dwellers (HDR, 2005).

Keeping in view the importance of environmental factors in enhancing the quality of life the broad objective of this chapter is to review the status of natural resources that affect income and security as well as the environmental conditions that affect the health of households in Andhra Pradesh at the state, regional or district levels. Further, a composite environmental index based on district level indicators is constructed for the purpose of ranking the districts on the basis of natural resource base and environmental health/quality.

11.1 Natural Resources Base

11.1.a Land and Soil Resources

The state of Andhra Pradesh has a geographical area of 27.44 million hectares and three climatic zones classified as arid, semi-arid and sub-humid. The state has seven agro-climatic zones based on the range of rainfall received, type and topography of soils. The average annual rainfall received in the state ranges from 500-750 mm in the Scarce Rain fall Zone to about 900-1500 mm in the North Telangana region.

There have been marginal changes in the land use pattern in Andhra Pradesh over the last few years. The total cultivable area, which includes net area sown, current fallow, fallow other than current fallow and cultivable waste is around 15.60 million hectares or 57 per cent of the total geographical area. While this area has remained unchanged over the years, the net area sown has declined from 41 per cent during the triennium ending 1990-91 to about 37 percent during the triennium ending 2004-05. The decline in net area sown has been accompanied by a marginal increase in cultivable waste, fallow land and land put to non-agricultural uses. During this period, not only has the pressure on land resources increased as is evident from the declining per capita availability of land from 0.235 to 0.205 ha, but the area of under-utilized land has also increased. The increase in under-utilized land[2] (the difference between the total cultivable area, and net area sown), from 28 per cent of the total cultivable area to about 33 per cent during this period is a cause of serious concern in the state.

Along with quantitative aspects, qualitative aspects are also important in assessing the natural resource base. The NRSA estimates that almost 19221.93 sq.km of land in the state, which is about 7 per cent of the total geographical area and 12.31 per cent of the cultivable area, is categorized as degraded[3] and that 45627.15 sq.kms are total wastelands[4] (NRSA, 2005). The total wasteland, which is roughly 29 per cent of the total cultivable area, has in fact increased when compared to the 1995 figures of 22 per cent. When we take a closer look at the quantitative and qualitative

[1] According to the World Bank (1992) the most immediate and life-threatening environmental problems facing developing countries which adversely affect the quality of life are unhealthy water, inadequate sanitation, soil depletion and land degradation, indoor smoke from cooking fires and urban air pollution.

[2] Although underutilized land includes Current Fallow, Other Fallow, Cultivable Waste and Grazing Land and Pastures, following Reddy, et al. (2005), only the first three categories have been considered as under-utilized land in this paper.

[3] This includes salt affected, marshy/swampy, gullied/ravine, land with/without scrub, mining/ industrial waste, shifting cultivation, degraded pastures and grazing as well as degraded land under plantation crops.

[4] Wastelands here include degraded land plus other major categories such as under-utilized or degraded notified forest land, barren or rocky land, coastal sands etc.

aspects of land resources, we can observe that the percentages of underutilized land and wastelands to total cultivable area are almost the same indicating their close relationship in determining the land use pattern. The economic cost of land degradation is substantial when we consider the treatment cost which, as estimated in an earlier study, is about 1.20 per cent of the state gross domestic product (SGDP) and 3.63 per cent of the state gross domestic product from agriculture (Reddy, 2003).

Considerable inter-district differences are observed in both quantitative and qualitative aspects of land resources in Andhra Pradesh. The total cultivable area as a percentage of the total geographical area (excluding Hyderabad) ranges from 34 per cent in Vishakapatanam in Coastal Andhra to over 70 per cent in Mahabubnagar, Medak and Nalgonda districts of Telangana. In per capita terms, land availability is lowest in the districts in Coastal Andhra indicating a higher pressure on land resources in this region. For example, the per capita availability of cultivable land is less than 0.20 ha in most districts in Coastal Andhra whereas it is as high as 0.39 ha in Mahabubnagar, 0.35 ha in Anantapur and 0.34 ha in Kurnool. However, in some districts in Telangana like Nalgonda, Medak, Ranga Reddy and Mahabubnagar which have reported a higher percentage of cultivable area, more than 40 per cent of the cultivable area remains underutilized. Moreover, the increasing trend in underutilized land across districts during the triennium ending 1990-91 to 2004-05 is worrisome. There was a decline in underutilized land only in Anantapur from 27 to 21 percent. A recent study stresses the role of economic and technological factors in determining the extent of underutilization of land rather than climatic factors (Reddy *et al.* 2005). In qualitative terms, the percentage of degraded land to total cultivable area is as high as 40 per cent in Kadapa district followed by Visakhapatnam and Chittoor where it is more than 30 per cent. Degraded land in Kadapa district accounts for 13 per cent of the total degraded land in the state (the highest), followed by Chittoor (10.35 per cent) and Prakasam (9.5 per cent). The lowest level of land degradation was observed in West Godavari district.

Water and wind erosion are the major causes of land degradation in the state. Over 90 per cent of the degraded land falls in this category. Another important fact to be noted is that although the percentage of wastelands to total cultivable area has increased between 1995 and 2005, degraded land as a percentage to cultivable land has declined in the state during this period. There has been considerable decline in Mahabubnagar, Nellore, Khammam, Visakhapatnam, and Anantapur districts.

Distribution of agricultural land

The distributional aspects of agricultural land have been assessed from the number and area of operational holdings in the state. The recent Agricultural Census 2005-06 shows that the total number of operational holdings recorded in the state is 12.04 million covering an area of 1.49 million ha as against 11.53 million operational holdings operating an area of about 14.4 million ha during 2000-01 (Government of AP). About 62 per cent of the holdings are marginal holdings of less than 1 ha, and they account for about 22 per cent of the total area operated. The small and marginal holdings together comprise 84 per cent of the holdings with only 49 per cent of the operated area. On the other hand, semi-medium and medium holdings constitute about 16 per cent of the holdings and 56 per cent of the total operated area.

According to the district-wise information given by the 2000-01 agricultural census, the average size of an operational holding in the state is 1.25 ha. This ranges from 0.78 ha in Srikakulam to 2.07 ha in Kurnool and 2 ha in Anantapur. The percentage of small and marginal holdings to total number of holdings is higher in Coastal Andhra region (87 per cent) than Telangana (78 per cent) and Rayalseema (72 per cent). In Srikakulam almost 93 per cent of the holdings are small or marginal covering 68 per cent of the total operated area. In most districts, with the exception of Kurnool and Anantapur, more than 70 per cent of the total operational holdings are either small or marginal in nature. In several other districts like Prakasam, Ranga Reddy, Adilabad, Khammam, Nalgonda, Anantapur and Kurnool while the total number of semi-medium and medium holdings is less than the small and marginal holdings, they account for a significantly higher proportion of the operational area[5].

[5] In some of these districts while the larger land size class constitutes less than 15 per cent of the total number of holdings, the operational area is 40 per cent and above.

Common Property Resources

Common property resources (CPRs) play an important role in the life and economy of the rural population[6]. The NSSO[7] estimates that almost 15 per cent of the total geographical area in India comes under the category of common property land resources, at .06 ha per capita and 0.31 ha per household. In Andhra Pradesh, however, only 9 per cent of the geographical area is categorized as common property land resources and the availability per household is about 0.17 ha which is lower than the national average. However the dependence on CPRs, especially for fuel wood, is high in Andhra Pradesh.

A classification of land utilization pattern shows that the percentage of CPRs[8] to total geographical area across districts ranges from 21 per cent in Nellore to one per cent in Srikakulam whereas for the state as a whole it is 10.54 per cent. The districts with a relatively larger area under CPRs are Nalgonda (19 per cent), Ranga Reddy (17 per cent), Warangal (16 per cent) and Prakasam (15 per cent). The proportion of CPRs in the districts of Coastal Andhra is relatively low. In per capita terms, the availability of CPRs ranges from 0.002 ha in Srikakulam to about 0.10 ha in Nellore. For the state as a whole, the per capita availability of CPRs is 0.04 ha.

Linkage between private property, common property and underutilized land in AP

The system of utilization of common and private property has evolved over centuries. A correlation analysis of the relationship between private property resources (which include operational holdings and current fallows) and common property resources (which include cultivable waste, pastures and grazing land, and other fallow lands) across various districts in Andhra Pradesh points to some interesting conclusions. It is seen that there is a complementarity between private property and common property land resources for which the estimated correlation coefficient[9] is found to be 0.6 and significant at 1 per cent level. The correlation coefficient between under-utilized land and common property land is 0.7 and that between under-utilized land and private property land is 0.9[10]. The positive correlation coefficients with high values indicate that if the objective is to bring down the area of under-utilized land then attention has to be given to both common property and private property land resources instead of focusing on only one.

11.1.b Water Resources

The Water Conservation Mission of Andhra Pradesh has estimated the water resources (surface and groundwater) to be 108.15 BCM (3820 TMC), of which 62.29 BCM (2200 TMC) are currently being utilized for drinking, agriculture and power generation. According to the Mission, the per capita annual water resources are about 1400 CM, and utilization is about 800 CM. The current percentage of withdrawal of water in Andhra Pradesh is 58 per cent and it is identified as a water scarce region[11] (EPTRI, 2003). Irrigation alone consumes more than 70 per cent of the water utilized but this still falls short of the needs.

Irrigation development as well as management is of utmost importance in Andhra Pradesh. The percentage of net irrigated area to net sown area was 36 percent during the triennium ending 2004-05 and had declined by one percentage point since the triennium ending 1991-92. More importantly, almost six districts in the Coastal Andhra region registered a decline in the percentage of net irrigated area. Kadapa and Chittooor in the Rayalseema region however recorded a slight increase in the area

[6] Common property resources (CPRs) have been defined in a number of alternative ways in the literature.

[7] The National Sample Survey Organization (NSSO) 54th round surveyed the common property resources in India. According to the NSSO the CPRs include village pastures and grazing grounds, village forests and wood lots, protected and unclassed government forests, wastelands, common threshing grounds, watershed drainage, ponds and tanks, rivers, rivulets, water reservoirs, canals and irrigation channels (NSSO 2000).

[8] Since we do not have information on CPRs from NSSO at the district level, we have tried to estimate the extent of CPRs from land use statistics given in the Statistical Abstract of Andhra Pradesh. In this alternative definition, CPRs include cultivable waste, other fallows, and pastures and grazing land (Kadekodi, 2001).

[9] Although the correlation coefficient is marginally lower than the all India figure of 0.8 estimated by Kadekodi (2001).

[10] The partial correlation coefficients, in the first case controlling for private property land and in the second case controlling for common property land resources have been compared with the original bivariate correlation and the inference is that the control variables have no effect, thereby ruling out the possibility of a spurious correlation.

[11] As per the UN indicator if the percentage of withdrawal is more than 40 per cent the country or region is considered as water scarce.

irrigated. Nizamabad, Warangal and Khammam in the Telangana region also showed a more than marginal increase in the area irrigated.

The under-utilization of capacity in large and medium projects and the degeneration of age old-water harvesting and storage systems such as tanks and ponds are very high in the state. The gap between capacity created and actual utilization increased from 23.5 per cent in 1950-51 to 46.2 percent in 1991-92 and to 56.4 per cent in 1995-96 for major and medium irrigation projects[12] . The declining trend in canal and tank irrigation is accompanied by exploitation of groundwater which has become a dominant source of irrigation in the state. The percentage of well irrigation, which was only 33 per cent in the state during the triennium ending 1992, rose to 51 per cent by the end of the triennium ending 2004-05. The increase in well irrigation in Nizamabad and Adilabad was as high as 40 percentage points. In several other districts in the Telangana and Rayalaseema regions the increase in well irrigation was considerable during this period. The increasing dependence on groundwater for irrigation has resulted in declining groundwater tables. In some regions the trend is alarming and has resulted in wide spread desertification (Reddy and Behra, 2003).

The groundwater assessment in 2004-05 indicates that out of the 1229 groundwater micro basins, only 757 or (62 per cent) are safe. The rest are either overexploited (187 micro basins), or critical (82 micro basins) or semi-critical (203 micro basins). In Rayalaseema and Telangana, only about 43 and 54 per cent of the groundwater basins are safe whereas in Coastal Andhra, 86 per cent are safe. A cause for worry is that the number of safe groundwater basins is very low in Medak, Anantapur, Kadapa, Ranga Reddy and Nizamabad districts (Government of AP)[13] .

[12] See Reddy (1998) quoted in Reddy and Behera (2003).

[13] The National Water Policy enunciates periodic assessment of groundwater resources. The state is divided into 40 drainage basins and 81 sub-basins of major and minor rivers. Based on local drainage, geomorphology and hydrogeology these 81 sub-basins are further divided into 1229 groundwater micro-basins of 100 to 300 square kilometers. (http://www.aponline.gov.in/apportal/departments/departments.asp?dep=20&org=148)

The state government adopted the watershed development programme as a part of concerted efforts to improve dryland agriculture through various land and water management initiatives. Over 9637 watershed projects were undertaken across 22 districts in Andhra Pradesh (as on February 2005) covering an area of 42 lakh ha. More than 30 per cent of the total number of watersheds is in the dry regions of the state, in Anantapur (1204), Mahabubnagar (1077) and Kurnool (981) districts, covering an area of 5.0, 4.4 and 4.3 lakh ha respectively. These three districts together constitute more than 32 per cent of the total area brought under the watershed development programme. Nearly 40 per cent of the rain-fed area has been brought under watershed programmes in the state and across districts it ranges from over 70 per cent in Ranga Reddy, Nalgonda and Chittoor districts to 2 per cent in West Godavari district. In Anantapur district however, despite low irrigation coverage, the rainfed area brought under watershed programme is distressingly low at less than 50 per cent.

Although the quality of surface water is generally good, rivers like Godavari, Krishna, Musi and Pennar are polluted in different stretches mainly due to industrial, domestic and agricultural pollution. The state is also facing a serious concern over the increasing deterioration in the quality of water in the state. Andhra Pradesh has both coastal and semi-arid hard rock regions, therefore problems of coastal salinity and fluoride are the most common problems of groundwater quality in the state. The groundwater in about 0.5 M ha is of poor quality mostly due to geological salts, and on the coast due to marine influence (EPTRI, 2003). East Godavari, West Godavari, Krishna, Guntur and Prakasam districts are affected by salinity problems whereas Nellore, Anantapur, Nalgonda, Ranga Reddy, Adilabad and also Prakasam are affected by fluoride problems. In 36 mandals (East Godavari (6), West Godavari (17) and Krishna (13) of the state the groundwater quality is found to be unsuitable even for irrigation purposes. Water quality in lakes like Kolleru and Pulicat and also in several tanks is deteriorating because of industrial and domestic wastewater discharges.

11.1.c Forest Resources and Biodiversity

Forests, which perform multiple functions and provide multiple benefits, constitute the second largest land use

category in the state. Although the contribution of forestry to GDP is meager at one per cent (in 2001), this ignores the contribution of non-marketed benefits such as subsistence fuel wood, fodder and many other non-timber forest products. In Andhra Pradesh, the recorded forest area is about 63814 sq kms or 23 per cent of the total geographical area. Although this is close to the national average in percentage terms, it is still far below the required minimum (33 per cent) for maintaining the ecological balance. The reserved and protected forests are 50479 (79 per cent) and 12365 sq. kms (19 per cent) respectively and the remaining are unclassified forests. One-fourth of the actual forest cover in the state is in Khammam and Adilabad districts, which incidentally have the highest percentage of area under legally designated forests in the state. In Khammam about 53 per cent of the geographical area is under forest, and in Adilabad, 44.84 per cent. These districts contribute respectively 13 and 11 per cent to the total area under forests in the state. The per capita availability of forest area is also very high in Khammam (0.38 ha) and Adilabad (0.35 ha) districts, which is well above the state average (0.1 ha).

However, forests were depleted both in extent and quality in the state during the eighties and nineties when compared to the 1970s. According to some estimates about 41 per cent of the forest cover in India has been degraded to some degree. It is claimed that 78 per cent of the forest is subject to heavy grazing and the domestic demand for timber and fuel wood is very high. About 50 per cent of the forest is said to be at risk from forest fires (World Bank, 2001). The assessment of forests by the Forest Survey of India in 2003 based on satellite imageries shows that open and dense forest comprises only 16.15 per cent of the total geographical area of the state. The forest area in the state recorded a marginal increase (from 43290 to 44637 sq.km) during 1997-2001 but has declined since 2001, and was 44419 sq.kms in 2003 (a marginal decline of 218 sq.kms). During this period (1997-2001) the districts in which forest area increased to a considerable extent were Chittoor (209 sq.km), Guntur (114 sq.kms) and Vizianagaram (110 sq.kms). Between 2001 and 2003, in almost 11 districts forest area declined, including some districts like Guntur and Chitoor which had showed improvements in the previous assessment. While in Warangal and Guntur districts forest area declined by 126 sq.kms, districts like Prakasam (100 sq. km) have recorded a marginal increase in forest area during this period (2001-2003).

Qualitative changes are also very important. The NRSA (2005) has reported that the degradation of forests is very high in some districts in the state. The percentage of degraded forest, which was around 38 per cent during 1995 in Andhra Pradesh, had declined to about 31.5 per cent by 2005. However, the decline during 1995-2000 was more than the decline during 2000-2005. In districts like East Godavari, West Godavari, Mahabubnagar, Kadapa, Anantapur and Kurnool, the percentage of degraded forests actually increased between 1995 and 2005. In some districts, although the percentage of degraded forest area initially showed a decline until 2000, a reversal of the trend was visible in 2005[14].

Participatory forest management[15] has been under implementation in the state since 1992. It began as Joint

[14] For example, in Nellore about 18 per cent of its geographical area is designated as forest; the percentage of degraded forest in the district, which was 71 per cent in 1995 declined sharply to 33 per cent by 2000 before increasing to 60 per cent.

[15] It is being implemented through village level organizations called Vana Samrakshana Samithis (VSS) and Eco Development Committees (EDC). Joint forest management combining a strategy of production, improvement and development of forests with the involvement of local communities organized into VSS was more of a partnership between the forest dependent communities and the government. On the other hand, CFM is intended to be a democratic process through delegation of decision-making and aims at decentralizing the entire process of planning and implementation, with the state forest department/ government acting as facilitator and provider of technical and infrastructure support. The primary concern of CFM is poverty alleviation through forest development.

Forest Management (JFM) and has been termed Community Forest Management (CFM) since 2002.

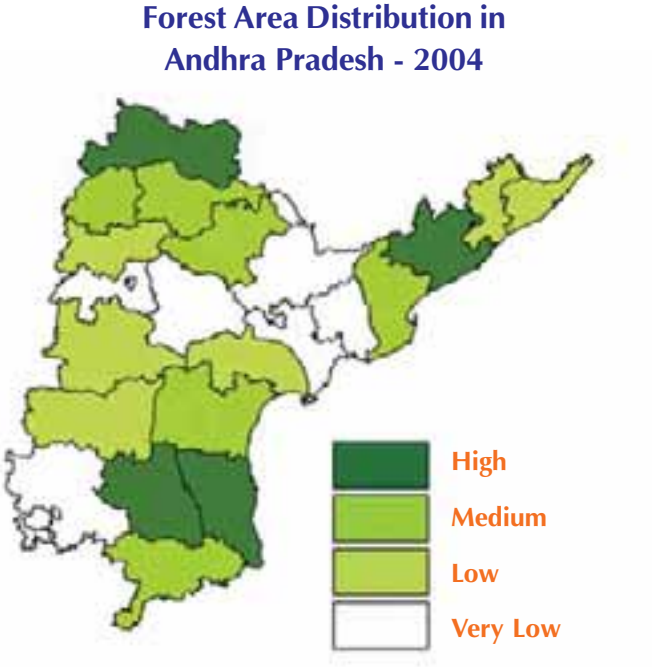
Biodiversity is defined as the variety of living organisms and the ecological complexes of which they are part, including diversity within and between species and ecosystems. Biodiversity manifests at species, genetic and ecosystem levels. Andhra Pradesh, with its varied topography from the hilly regions of the Eastern Ghats to the shores of the Bay of Bengal, supports a variety of flora and fauna. In terms of floral diversity the state reports 2531 angiosperms belonging to 1835 genera and 700 families. There are about 1800 species of medicinal plants alone in the state. Rare and endemic species such as *cycas beddomei*, *perrocarpus sanatalinus*, *terminalia pallida*, *syszyium alternifolium*, *shorea talura*, *S.tumbaggaia*, *psilotum nudum* etc. are found in the state. A variety of mammals like the tiger, panther, wolf, wild dog, hyena, sloth bear, gaur, black buck, chinkara, chowsingha, nilgai, cheetal, sambar etc. are also found in the state (EPTRI, 2003).

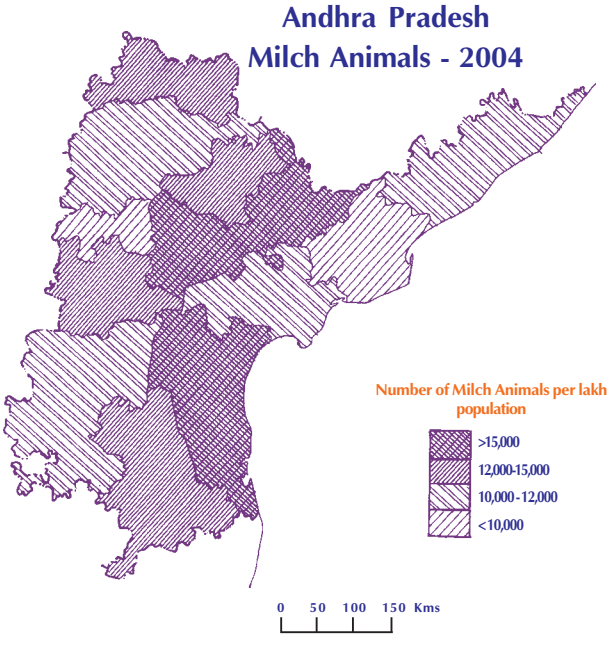
Other than forest resources, Andhra Pradesh also has considerable area under mangroves along the coast in East Godavari, Guntur, Krishna and Prakasam districts. These are part of the coastal ecological zone and are not only productive but also act as a buffer between fresh inland water and saline seawater. Apart from yielding a number of important products like fuel wood, fodder, honey etc, the mangroves protect the coastal belt from erosion and storms. According to the Forest Survey of India (2001), the area under mangroves decreased from 495000 ha in 1987 to 333000 ha in 2001. The expansion of area under aquaculture farms was an important reason for this reduction.

11.1.d Livestock

Livestock is an integral part of the rural economy and has the potential to improve the livelihoods of the landless, and small and marginal farmers who comprise the majority of the poor. According to the 17th Livestock Census, Andhra Pradesh had 5 per cent of the cattle, 10.9 per cent of the buffaloes, 34.8 per cent of the sheep, 5 per cent of the goats and 4.2 per cent of the pigs in the country. Over a period there has been a marginal decline in the number of total bovines in the state whereas the number of small ruminants has increased considerably. Between 1997 and 2003 there has been a great increase in cross-bred cattle in the state while the indigenous cattle population has declined.

There have been considerable changes in the composition of livestock across districts although there are differences in the magnitude. It is seen that the composition





of livestock is moving in favor of small ruminants (sheep and goat). Between 1987 and 1999 small ruminants increased in number across most districts in the state, although the increase was more in some districts in Telangana and Rayalseema. In a few districts like Mahabubnagar, Anantapur and Kadapa, the small ruminants outnumbered the total bovines[16].

11.1.e Fisheries and Coastal Resources

Andhra Pradesh is an important maritime state. It has a coastline of 974 km, and a continental shelf of 3.30 million hectares and has more than 500 landing centres. Despite the long coastline, the share of seawater fish in total fish production is lower than of freshwater fish. Although seawater fish production increased from 1.5 lakh tonnes in 1994-95 to 2.6 lakh tonnes in 2003-04, the catch per unit of effort in respect of several commercially important species like elasmobranches, ribbon fish, catfish, carangids and penaeid shrimps is very low in the state. The fishery potential of North Coastal Andhra in the depth zone of 50-100 M appeared to be greater and the maximum catch is from this zone. The traditional fishing grounds (15-25 M) have been showing a declining trend (EPTRI 2003). Between 1993-94 and 2003-04 freshwater fish production increased from 1.95 lakh tonnes to 6.5 lakh. In districts like Krishna, Nellore, Kurnool and Khammam, freshwater fish production has increased greatly but there has been a sharp decline in districts like Vizianagaram, Visakhapatnam and Chittoor. The expansion of aquaculture in a state, where the monthly per capita consumption of fish is only 0.11 kgs in rural and 0.08 kgs in urban areas, was initially to cater to the demand from North Eastern states and later for exports. The spread of aquaculture has had adverse environmental and social implications. In several areas the conversion of farmlands for aquaculture has seriously affected the groundwater resources. The effluents from the fishponds let into the sea without any treatment is also adversely affecting the coastal ecosystem (EPTRI, 2003).

[16] It is often argued that the presence of small ruminants is one of the causes of pastureland degradation. However, based on micro evidence it has been argued that the shift to small ruminants is a result of degraded commons, as they can survive in such environments (Reddy, 1999).

11.1.f Mines and Minerals

Mineral resources are among the core inputs for industrial development. Andhra Pradesh is the second largest storehouse of mineral resources[17] in India. The state stands second in the production of mica mainly found in Nellore and Visakhapatnam districts. The single largest deposit of barytes (with an estimate reserve of 70 million tonnes of grey barytes) in the world is in Kadapa district[18]. Beach sands are found all along the coastal stretch from Srikakulam to Prakasam districts and also along the Godavari, Krishna, Nagavalli and Vamsadara river channels. Andhra Pradesh has the second richest bauxite deposit in the country with reserves of 750 million tonnes (30 per cent of all India reserves) of metal grade bauxite in Visakhapatnam and East Godavari districts. Coal reserves of 14021.50 million tonnes are found over large tracts of Adilabad, Karimnagar, Khammam and Warangal districts. Dolomite is found in Khammam, Kurnool, Anantapur, Warangal and Kadapa districts. Manganese ore with an estimated reserve of 7.5 million tonnes of low-grade manganese is found in Vizianagaram, Srikakulam, Adilabad and Prakasam districts.

Over 16 per cent of the diamond reserves in the country are in Andhra Pradesh. Tungsten, which is useful in alloys and electronics, is mostly found in East and West Godavari districts with nearly 30 per cent of the tungsten reserves in India. Rich reserves of natural gas have been also discovered in the state recently. With continuous surveys and offshore exploration for gas in KG Basin, the discovery of 9 trillion cubic feet (tcft) of gas reserves, the biggest gas find in India in three decades, was made by the Reliance Industries Limited (RIL) in October, 2002 in deep waters, 150 Kms off the Andhra Pradesh coast near Kakinada. The wide variety of minerals produced in the state is being traded or utilised in several industries like power, metals, alloys, cement, chemicals, paint, cosmetics, glass, ceramics, refractory, refinery etc.

[17] A total of 48 minerals were located with vast resources of coal, limestone, slabs, etc. and good resources of oil and natural gas, manganese, asbestos, iron ore, ball clay, gold, diamonds, graphite, dolomite, quartz, tungsten, stetatic, feldspar, sand etc. which could be exploited.

[18] See (www.apind.gov.in)

11.2 Status of Environmental Health

Diseases caused by poor water supply and sanitation are the source of most of the illnesses attributed to poor environment. According to a study by the World Bank (2001)[19], environmental factors account for about 20 per cent of all the diseases in Andhra Pradesh. More than 90 per cent of this is associated with traditional environmental problems such as lack of access to protected water supply and sanitation, and indoor air pollution resulting from the use of biomass fuels. Environmental factors account for 22-23 per cent of diseases in rural areas, and for 18-19 per cent of diseases in urban areas (World Bank, 2001). Children are most vulnerable to illnesses due to poor household environment and deaths of children under five account for nearly two-thirds of such cases. The next vulnerable group is rural women who are particularly affected by exposure to smoke from dirty cooking fuels, in addition to the impact of unsafe water and poor sanitation. Bacterial contamination presents the highest and most immediate health risk affecting 65 per cent of those depending on dangerously contaminated water. It accounts for 11.3 per cent of the total diseases in the state and 60 per cent of the environmental health burden (EPTRI 2003).

11.2.a Access to safe drinking water

Access to safe drinking water and sanitation is important for health and the overall quality of life. Lack of access to safe water increases the vulnerability of the poor[20]. According to the 2001 Census, only 48 per cent of the total households in the state have access to tap water which is considered to be a relatively safe source of drinking water. Among the rest, 26 percent have access to hand pump, 16.5 per cent to open wells and 7 per cent to tube wells. It indicates that a vast majority of the households depend upon various groundwater sources for drinking water.

Within the state, there are wide variations in access to tap water across districts. In a few districts like Hyderabad, West Godavari, Chittoor, Anantapur and Ranga Reddy more than 60 per cent of the total households have access to tap water. Overall, access to tap water is poorer in the districts of Coastal Andhra region than in districts in both Telangana and Rayalseema. In Srikakulam and Vizianagaram only 10 and 18 per cent of the total households respectively have access to tap water. Hand pump is the second most important source of drinking water in almost all districts in Andhra Pradesh.

There is a rural-urban gap in the coverage of households with access to tap water and the coverage in rural areas is much lower than the urban levels. While nearly 70 per cent of urban households (3.0 m households) have access to tap water, only 40 per cent in rural (5.1 m households) areas are covered. Only in West Godavari and Chittoor districts do more than 60 per cent of the rural households have access to tap water followed by Nizamabad, Ranga Reddy, Medak, Nalgonda and Anantapur with more than 50 per cent of the total households.

The National Habitation Survey of drinking water status in rural habitations[21] reports that only 43 per cent of the habitations are fully provided[22] with drinking water. Except Chittoor, in almost all other districts the majority of habitations are only partially covered. In Visakhapatnam, a considerable number of habitations do not have proper supply of drinking water. The National Habitation Survey 2003 also points out that the water quality in over 70 per cent of the total habitations in Nalgonda is affected by fluoride. The percentage of fluoride-affected habitations is also very high in Anantapur (23 per cent), Karimnagar (20 per cent), Prakasam (17 per cent) and Guntur (14 per cent) districts.

[19] This study is based on National Family Health Survey of 1992-93 and a sample of almost 90,000 households, including 60,000 children born in the five years preceding the study.

[20] The distribution of households having specific principal sources of drinking water within dwelling or within premises in Andhra Pradesh is much below the all-India figures.

[21] The Department of Drinking Water Supply, Ministry of Rural Development, carries out the National Habitation Survey. The first nation-wide rural habitation survey to assess the status of rural drinking water supply coverage was conducted through the state governments in 1991. The results were revalidated during 1993-94, verified in 1996-97 and updated in 1999-2000 (ddws.nic.in). At the time of preparation of this report, the 2003 data was not validated.

[22] Full coverage means that the entire population in all the habitations including the main habitation is provided with drinking water, as per the existing norms and guidelines of the Mission. Partially Covered means that supply of drinking water is less than 40 litres per capita per day. Habitations which have a safe drinking water source/ point (either public/ private) within 1.6 k.m. in plains and 100 meters in hilly areas but the capacity of the system ranges between 10 lpcd to 40 lpcd, should be categorized as Partially Covered (PC) (ddws.nic.in).

11.2.b Sanitation facilities

Access to sanitation facilities, which is an important intermediate environmental health indicator, is distressingly low in Andhra Pradesh. Data from the 2001 Census show that nearly 67 per cent of the households in the state do not have latrines within the house. Of the households which have sanitation facilities, only 18 per cent have water closet facilities while 8.5 per cent of the households use pit latrines and 6.32 per cent use other types of latrines. The rural-urban differences in sanitation facilities are considerable. While among the urban households only about 22 per cent do not have latrines in their houses, it is as high as 82 per cent among rural households[23].

The situation is slightly better in the rural areas of a few of the coastal districts like Krishna, East Godavari and West Godavari despite the fact that even in these districts, about 70 per cent of the households do not have latrines. However, inter-district variations for rural areas are low in terms of non-availability of sanitation facilities. In urban areas, as expected, Hyderabad is an exception where more than 90 per cent of households have sanitation facilities. Among other districts, the coverage is better in Ranga Reddy and Krishna districts where only 12 and 14 per cent of the households do not have sanitation facilities. But in districts like Vizianagaram, Adilabad and Srikakulam, the percentage of households without any sanitation facility is as high as 40 per cent. Across regions, Rayalseema has the maximum number of households without latrines in both urban and rural areas.

About 40 per cent (6.7 m households) in the state have bathrooms within the house. The coverage is as low as 12.63 per cent in Srikakulam and 18.60 per cent in Vizianagaram. In rural areas, there is a bathroom in the house in about 27 per cent of the households whereas this is so in about 78 per cent of households in urban areas. In rural areas the coverage ranges from 8.35 per cent in Srikakulam to 42 per cent in Kurnool. In urban areas, in Hyderabad it is about 94 per cent followed by Karimnagar (86 per cent) whereas Srikakulam has the lowest.

The provision of drainage facilities in the state is also very inadequate. Nearly half the households in the state do not have any drainage facilities. In Hyderabad over 90 per cent of the households are connected to closed drains, but in other parts, around 38 per cent of the households with drainage are connected only to open drains.

11.2.c Indoor Pollution

Solid biomass fuels which are used mostly in traditional stoves in households, which also rarely have adequate ventilation, emit smoke containing quantities of harmful pollutants in the immediate proximity of people leading to serious health consequences (World Bank, 2002). It is observed that the concentration of suspended particulate matter (SPM) during a cooking session is 3-6 mg/m^3 and CO is 5-50 PPM (parts per million). The exposure of human beings to total suspended particulate (TSP) in India is well above the prescribed limits. Women and children are the worst affected from indoor pollution[24]. According to the NSSO 55th round almost 76 per cent of rural households in India and 87 per cent of rural households in Andhra Pradesh rely on firewood and chips for fuel.

Nearly 50 per cent of the total households in Andhra Pradesh do not have a separate kitchen within the house (2001 Census). The rural-urban differences (41 per cent for rural and 75 per cent for urban areas) are more striking than variations across districts. Households without a separate kitchen inside the house and households who cook in the open are as many as 30 per cent each in rural areas. The corresponding figures in urban areas are only 16 and 9 per cent. In addition to not having a separate kitchen, more than 70 per cent of the households in the rural areas of the majority of districts use solid fuels for cooking resulting in indoor pollution. The adverse effects of indoor pollution include respiratory infections in young children; complications for women exposed during

[23] Differences are also observed in the types of latrines available across regions and across urban and rural areas. While the water closet is the important type of latrine reported in urban areas, it is pit latrines in rural areas, with the exception of the Coastal Andhra region where water closets are used even in rural areas.

[24] Indoor pollution is an important traditional environmental hazard related to poverty and lack of development.

pregnancy; chronic lung diseases; associated heart diseases in adults and cancer. It is estimated that in India, up to 0.5 m deaths of children under 5 years, 0.34 lakh cases of chronic respiratory disease in women under 45 years and 800 cases of lung cancer are attributable to indoor air pollution due to the use of solid fuels by households (World Bank, 2002).

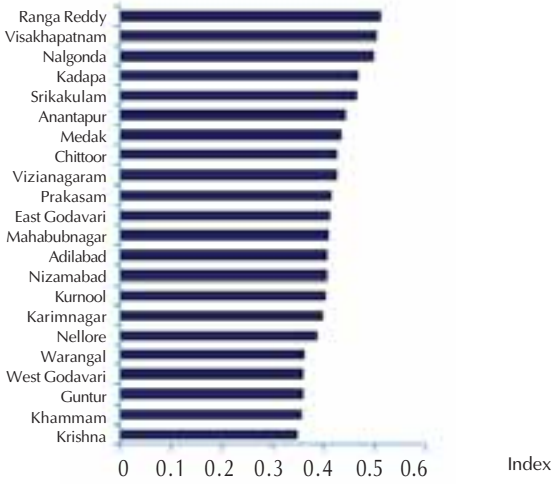
11.2.d Urbanisation and Environment

The rapid growth of urbanization together with lack of proper environmental safeguards has been a cause of serious concern. The deteriorating urban environment is the cause of many health hazards such as cancer, heart diseases, stress, etc. Andhra Pradesh is one state in India which has been experiencing rapid urbanization. These set of issues are discussed in the chapter on 'Urban Challenges' (see Chapter 13).

11.3 Environmental Index

A variety of intermediate and impact indicators can be used to assess and monitor changes in natural resources and environmental health conditions especially for assessing poverty-environment interactions[25]. For example, assessing an environment related illness like diarrhea, the incidence of diarrhea can be taken as an impact indicator whereas access to safe drinking water, sanitation, waste disposal practices are all intermediate indicators. On similar lines we have attempted to construct a composite environmental index incorporating various dimensions of natural resources and environmental health[26]. In this chapter, however, as the focus has been to present the status of environmental health and natural resources conditions we confine our analysis to those intermediate indicators for which data have been available across districts. The natural resources considered for this purpose are land, water and forest resources; for environmental health the proportion of households without access to tap water and sanitation facilities and clean fuel are considered. We had serious data limitations in including more indicators in the analysis, especially to incorporate the qualitative dimensions of various resources. To give an example, we were unable to include biodiversity which undoubtedly is an important indicator while constructing a dimension index for forests. Similar difficulties were faced with regard to other resources as well. While constructing the index we have given more weights to rural areas.

Figure 11.1: Environmental Index across Districts of AP



Despite these limitations, the analysis carried out here throws important insights on the status of natural resources and environmental health across Andhra Pradesh. The higher the value of the index, the worse is the status of the district. Krishna (0.347), Khammam (0.355) and Guntur (0.358) districts have the lowest values for the environmental index and thus are the best three districts in terms of natural resources and environmental health (Figure 11.1). Fifteen out of the 22 districts (excluding Hyderabad) have an index between 0.400 and 0.500. Ranga Reddy (510) and Visakhapatnam (0.503) districts occupy the bottom positions in the ranking.

11.4 Conclusion

The quality, quantity and distributional aspects of the physical environment or natural resource base are critical for any kind of development. The environmental conditions that impact the health of the poor and natural resource conditions that affect the income and security of the poor households are important in sustaining development at all levels - national/ regional or sub-regional. A review of the status of the natural resources and other environmental conditions in Andhra Pradesh at the state,

[25] For a review of the indicators that can be used to assess poverty – environment interactions, see Shyamsundar (2002).

[26] For Data and Methodology, see Technical Note in Appendix I in this report.

regional or district levels and the environmental index at district level leads to interesting conclusions. There are inter-district differences in endowment, quality as well as distribution of important natural resources like land, water and forests. The declining per capita availability of land accompanied by an increase in under-utilized and degraded land exerts increasing pressure on land resources, which needs to be reversed. The declining trend in canal and tank irrigation and the increased dependence on wells also has an impact, seen in declining groundwater levels which is very serious in some regions. Some districts, which are relatively richer in natural resources endowment, are still marginalized for lack of adequate infrastructure facilities like irrigation. Although efforts have been made to improve the natural resources conditions in the state, more attention needs to be given to the districts which are lagging behind. This is also true with regard to environmental health conditions. There is a wide gap between urban and rural areas with regard to access to tap water, sanitation facilities and use of solid fuels for cooking, which has serious consequences on the health and well-being of people.

CHAPTER XII

12 Institutions and Governance

Democratic vis-à-vis Participatory Institutions and Good Governance Initiatives

The performance of the state in terms of functional devolution to PRIs is poor. The development of the new parallel institutions for service delivery have sidelined the constitutional bodies like PRIs in rural areas. The assessment of these institutions reveal that they have performed some services well. However, there is a need to integrate these new institutions with the PRIs to ensure greater involvement of poor.

12.1 Introduction

The concept of (good) governance has emerged as the essential part of sustainable human development. Experience from different countries has shown that while good governance can help secure human well-being and sustained development, it is equally important to recognize that poor governance could erode individual capabilities as well as institutions and community capabilities to meet even the basic needs of sustenance for large segments of the population, particularly the poor, the disadvantaged and the marginalized sections. It is a well-established fact that human deprivation and inequalities are not merely the result of economic factors; rather they go hand in hand with social and political factors rooted in poor governance (UNHDR, 2001).

Democratic decentralisation is considered vital for overall development. It is argued that decentralisation leads to improved governance and better delivery, hence improving livelihoods and alleviating poverty. The relationship between decentralisation and governance is manifold. Decentralisation leads to transparency in policies, responsiveness of the policy makers, accountability of implementers, openness and enhanced flow of information, and hence reduces corruption. All these aspects are indicators of good governance. Decentralisation is often argued to be a more effective and efficient framework for delivering

pro-poor programmes[1]. Though there is diversity on the definition and paradigms of governance (see Box 12.1), there is consensus that equity and justice in public decision-making are the objectives of good governance. All men and women deserve equal opportunities to improve or maintain their well-being; and efficiency and effectiveness of public actions. These objectives are promoted through: a) Rule of law; b) Transparency; c) Responsiveness; d) Public Accountability; and e) Participation[2].

In fact, decentralised governance relies on local institutional structures especially for the delivery of pro-poor programmes. Decentralisation is often understood, especially in the Indian context, as devolution of powers to the locally (at district, block and village level) elected constitutional bodies i.e., the *panchayti raj* institutions[3] (PRIs). These democratic institutions played an effective role in the early decades after independence; but over time their powers have been eroded[4] probably because of the absence of constitutional mandate, which left the fate of these institutions to the whims and fancies of the state governments. Over the years state governments curtailed their powers in order to centralise governance structures. The 73rd amendment of the Indian Constitution in 1993 made an attempt to resurrect these institutions. While the amendment helped in strengthening and systematising these institutions in terms of conducting regular elections, constituting state finance commissions, etc., the option of devolution of powers, crucial for their vibrancy, is still in the hands of the state governments. Moreover the 73rd amendment requires devolution of functions (29 in total), functionaries and funds, as per the 11th schedule, in all states. But most of the state governments in India have not implemented this[5].

Box 12.1: Conceptualizing Governance – Some Approaches

The World Bank

Governance is defined as the manner is which power is exercised in the management of a country's economic and social resources. The World Bank has identified three distinct aspects of governance (1) the form of political regime; (2) the process by which authority is exercised in the management of a country's economic and social resources for development; and (3) the capacity of governments to design, formulate and implement policies and discharge functions.

United Nations Development Programme

Governance is viewed as the exercise of political, economic and administrative authority in the management of a country's affairs at all levels. It comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences.

Organization for Economic Cooperation and Development

The concept of governance denotes the use of political authority and exercise of control in a society in relation to the management of its resources for social and economic development. This broad definition encompasses the role of public authorities in establishing the environment in which economic operators function and in determining the distribution of benefits, as well as the nature of the relationship between the ruler and the ruled.

Commission on Global Governance

Governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest.

Source : Adapted from Human Development in South *Asia, 1999 — The Crisis of Governance, Oxford, p. 29.*

[1] The perceived benefits of decentralisation range from stimulation of economic growth, alleviation of rural poverty, strengthening civil society and reducing the responsibilities of the centre (Manor, 1999) for, political accountability is often greater at the local level (Seabright, 1996). While decentralised systems are found to be superior in terms of intra-regional targeting efficiency, their delivery systems target better in low poverty regions and worse in high poverty regions (Bardhan and Mookherjee, 2000).

[2] See Balakrishnan and Sadashiva (2004).

[3] The approach of direct democracy has been adopted in Madhya Pradesh by making the *Grama Sabha* central to planning and implementation (Manor, 2001a).

[4] These institutions have gone through three different phases - of ascendancy (1956-1966), stagnation (1966-1976) and decadence (1976 till early 1990s). A few states like West Bengal, Karnataka and Andhra Pradesh tried to revive these institutions during the 1980s.

[5] The centre is now contemplating further amendment to the Constitution making devolution mandatory, as the states are not yielding to pressure. The progress of Activity Mapping was reviewed in detail in the second meeting of the Committee of Chief Secretaries of States, held in June 2005 and the first meeting of the Council of State Ministers of Panchayati Raj, held in Kochi on 5-6 August 2005, where it was resolved that Activity Mapping ought to be completed within a specified time frame.

12.1.1 Decentralization of Institutional Setup: Andhra Pradesh

The state of Andhra Pradesh stood second in introducing the *Panchayati Raj* system in India in order to establish democratic institutions at the grass root level. In the recent past, however, Andhra Pradesh had adopted different institutional arrangements in the name of participatory institutions as decentralised delivery systems. These emerging institutions effectively by-passed the democratic institutions and are also known as parallel institutions or community based organisations (CBOs) or user committees. Financially these institutions are much stronger than the PRIs.

The rationale for promoting these institutions include: a) user groups understand the day-to-day problems better than the elected and political representatives, b) PRIs have failed to deliver benefits over the last five decades[6], and c) PRIs are known for being controlled by the local elite ('elite capture') and political patronage. However, contradictory views are held on the role of these institutions

regarding their effectiveness and their linkages with the PRIs (see GoI, 1998; Sastry, 2000; Manor, 2001 and Sitaram, 2002). It is argued that these institutions have not only weakened the PRI bodies but are also potentially damaging to development. Hence, the convergence of PRIs and CBOs is needed as it a) improves accountability; b) addresses the inadequacy of powers and funds of PRIs; and c) improves the sustainability of programmes. It may be noted that PRIs are permanent constitutional bodies unlike the CBOs. Moreover, a comparative study of Andhra Pradesh and Madhya Pradesh[7] observed that DWCRA (Development of Women and Children in Rural Areas), a participatory institution, has delivered pro-poor benefits in a better manner.

It is often argued that CBOs insulate development from politics. Manor (2001) counters: "This notion is a myth - and a dangerous myth at that. 'Politics' - that is, the interplay of interests and forces in pursuit of power, resources, status, etc. - is pervasive." Elite capture was found to be a serious problem even the case of community-driven development in West Africa (Platteau, 2004). To what extent these participatory institutions function above political and class interests (elite capture) and deliver pro-poor benefits is a moot point. This chapter attempts to understand the coverage and nature of impact of some important programmes implemented under participatory institutions in AP during the last decade.

Important issues in this regard include: how do the parallel institutions function and perform in achieving the stated programme objectives? Have these institutions improved the delivery of pro-poor policies? What are the linkages between participatory and democratic institutions? Is there a need for integration between these two types of institutions? These aspects would be examined in the context of some of the important CBOs in the state. These include: watershed committees and associations, water user associations, joint forest management committees, education committees, mothers and health committees, thrift committees, etc. During the mid nineties these initiatives were part of a generic programme *Janmabhoomi*, introduced by the then CM. Though the Janmabhoomi programme has been discontinued by the present government, most of the programmes and projects are still in place. A few initiatives like village education committees have been discontinued while others have acquired new names (DPIPor *Velugu* is now amalgamated with other programmes and rechristened as *Indiramma*) Indira Kranti Pathakam.

[6] This is a misconceived notion, as the PRIs were never given a chance in terms of rights and responsibilities. Financial devolution has hardly taken place in most states. This amounts to devolution of responsibilities without any adequate finances.

[7] While decentralization in AP strengthened the participatory institutions, MP emphasized the strengthening of democratic institutions and the Grama Sabha.

Though socially disadvantaged people were elected to offices in PRIs owing to reservation[8], there is still an invisible wall between the village elite and other communities particularly in the backward regions. The elite filled the 'opportunity vacuum' created by the reservation policy, by parallel bodies where there is no reservation for any group. This contradicts the popular argument that participatory institutions serve the interests of the users and the poor. Moreover, these parallel institutions are not apolitical. These bodies often form a nexus with the political functionaries in PRIs or at higher levels of the political system.

12.2 Performance of Democratic and Participatory Institutions: An Assessment

12.2.a Panchayati Raj Institutions (PRIs)

The *Gram Panchayats* (GP) stand at the base of the three-tier structure of local governance with the *Mandal Parishad* at the intermediate level and the *Zilla Parishad* at the district level. Along with 22 Zilla Parishads and 1095 Mandal Parishads, there are 21943 Gram Panchayats in AP covering a population of more than 55 million people. It is necessary to highlight the lack of a clear definition of what a GP is in Andhra Pradesh. The population of a GP varies from 300 to more than 3,000. This does, in fact, raise a question on the economic viability of smaller GPs.

The responsibilities of GP include: a) Implementing land reform measures, including consolidation of land holdings and cooperative management of community lands; b) Implementing programmes related to agriculture, animal husbandry, cottage industry, pre-primary and primary education, health and sanitation, women, children, destitute people and people with disabilities; c) Resource planning by preparing an inventory of human and natural resources and other assets at the village level; d) Preparing and prioritizing plans/programmes to harness these resources to meet local needs and aspirations; and e) Disseminating technology to increase farm and related production; expanding services like health, veterinary and sanitation services in their jurisdiction. Mandal Parishads co-ordinate rural development activities within their jurisdiction and consolidate panchayat plans into a Mandal Parishad plan. The Zilla Parishad[9] organizes data collection and consolidation of Mandal Parishad plans, allocation of funds and approval of Mandal Parishad budgets.

The present status of functional devolution in AP shows that its position is lowest among a few important states. Out of 29 items specified in the 11th schedule, it transferred functions in respect of sixteen (16) subjects of which five (05) subjects are with funds (agriculture, drinking water supply, minor irrigation tanks, social forestry, primary and secondary education and khadi and village industries) and only two subjects are with functionaries (drinking water supply and minor irrigation tanks). Thirteen (13) functions still remain to be transferred; twenty-four (24) subjects with funds; and twenty-seven (27) subjects with functionaries. By contrast, in Karnataka all the 29 subjects/departments have been transferred to panchayats with funds, functions and functionaries. Kerala comes

[8] As per the reservation policy, seats in PR bodies and their president posts are reserved on the following quota system. Scheduled castes: 15 percent; Scheduled Tribes: 7.5 percent; Backward castes: 33 percent and Women: 33 percent. The remaining 11.5 percent of seats are left for other caste (forward castes) males. Within the category of women the same reservation policy is followed i.e., 55.5 percent of the 33 percent are reserved for SCs, STs and BCs. This leaves less than 30 percent of the seats (including women) for the forward (elite) classes.

[9] According to the Panchayati Raj Act, the ZP will have seven standing committees, which have since been formed. The chairman of ZP will be the chairman of four committees, the vice-chairman of ZP of one committee and two women members of two committees. In the present mandal system there is no provision for formation of standing committees whereas under earlier Panchayati Samitis (PS) there was provision for 7 standing committees. The Act, at the gram panchayat level, provides for the constitution of 'beneficiary committees' for the execution of works of the GP and 'functional committees' for agriculture, public health, water supply, sanitation, family planning, education and communication. However, in practice there is no evidence of such committees having been formed by the GPs. (Reddy, 2003).

next, followed by West Bengal and Madhya Pradesh (Report of the Tenth Five Year Plan Working Group 2001).

Status of Activity Mapping in States and UTs

The key objective of Article 243G is to ensure that panchayats at all levels function as institutions of self-government. To this end, an essential step is to undertake activity mapping relating to developed functions with a view to attributing each activity to the appropriate level of Panchayat, keeping in mind the principle of subsidiarity. It was agreed during the first Round Table in Kolkata that all states and UTs would undertake activity mapping by the end of 2004-05, using the activity mapping model evolved by the Union Ministry of Rural Development. It was also recommended that a measure of irrevocability could bear on devolution through legislative measure or, alternatively, by providing a strong legislative framework for devolution through executive orders. The progress of activity mapping, as on March 2006, indicates that AP is at the lower end of the spectrum as for as devolution and activity mapping are concerned. APis also among the 11 states that signed a MoU with the centre for completing activity mapping within a specified time frame.

12.2.b Participatory Institutions

Andhra Pradesh has had a long history of informal financial services purely as a local initiative. Women's savings and credit movement gathered momentum in 1993, in Nellore district. Social mobilization enables the poor to build their organizations at the grass roots level, in which they participate fully and directly, and take decisions on all developmental issues. These emerging participatory groups known as community based organizations (CBOs), user groups (UGs) or parallel institutions (PIs) are some times also referred to by the generic term Self Help Groups (SHGs). The development of these groups or institutions has been phenomenal in Andhra Pradesh accounting for 60 per cent of the groups in India. These groups have become almost an integral part in the program design for the entire spectrum of development efforts in the state since the late nineties. While the PRIs provide only limited scope for creating user or functional groups[10], there are more groups now than ever before. Each village now has 7 to 10 groups on an average and each group has 10 to 15 members. As a result, at least 150 people would have their own identity as a group member: in PRIs it is limited to 7 to 15 people (ward members). Regular meetings of these groups facilitate opportunities for people to interact and discuss various issues[11].

Based on their activity profile the groups are organized under three categories viz., a) *Natural resource based* (Water Users' Association -WUA; Watershed Development Committees - WDC; and Vana Samrakshana Samithis - VSS); b) *Employment generation* (Development of Women and Children in Rural Areas - DWCRA; Development of Women and Children in Urban Areas - DWCUA and Chief Minister's Empowerment of Youth -CMEY), and c) *Human resources development* (Mothers' Committee and School Education Committees).

The general impact or performance of some of the important CBOs is examined below with specific focus on human resource development. Aspects like conduct of meetings, attendance in the meetings, issues discussed, etc., are also considered as part of human resource development along with education, training, skills and health aspects.

Watershed Development Programme (WDP)

The 1994 watershed guidelines have spelled out that the responsibility of watershed management should be shifted to village panchayats once the 73rd amendment

[10] While there could be functional committees under the PRIs in the villages this is hardly ever followed in the absence of proper devolution of powers.

[11] Officials visit these groups and discuss issues, when members can voice their views. Group leaders (presidents) as well as members get opportunities to travel outside their village in order to meet officials, attend training programmes, demonstration sites, etc.

comes into force. However, only a very few states have delegated the authority and a few other states have made considerable progress but the state of Andhra Pradesh has done little on this. On the other hand, it is spearheading the spread of watershed through the framework which ensures that the control and command mechanisms remains in the hands of the state (for a review, see Reddy, *et al.* 2001).

The potentials of Watershed Development Programme (WDP) appear to be quite high in attaining financial capital (as a result of better wages and employment) that has a direct bearing on poverty. The benefits of watershed development in rain-fed regions come from *in situ* moisture availability, which indicates that the impact is expected to be moderate in fragile resource regions. WDP seems to be improving the status of education, health and gender, although these are not directly intended in the programme. There is, however, a clear bias against the poor when it comes to access to livelihood capital.

In the case of social capital (measured in terms of membership in SHGs) poor households are better off as SHGs are meant for the poor. Social capital, in fact, has a weak relationship with all other capitals except human capital, especially for poor households. This indicates that higher social capital can lead to better human resource development viz., education and health and may also lead to empowerment of vulnerable sections like women and the poor. Strengthening the social capital base and ensuring community participation is a difficult job demanding a lot of time and effort from the implementing agencies. Only the best projects are found to have devoted substantial time towards social mobilisation when compared to two to three months spent on social mobilisation in others. More importantly, preparing the villages for enhanced potential, especially social mobilisation, to receive and absorb technology is a prerequisite for the sustainability of watershed programme. The new guidelines or approach should provide for at least 12 months for this preparatory phase. Recognition of the importance of the total involvement of local communities in the implementation and also ensuring their cooperation is critical to the success and sustainability of the programme.

In general watersheds implementation requires calling for grama sabha (GS) meetings and watershed committee (WC) meetings. Though the number of GS meetings varies across watersheds, WC meetings are more regular in most cases (Reddy, et al. 2005). Participation is quite good in both meetings. As far as the implementation phase is concerned, there are variations across watersheds depending on the programme implementation agency. For instance, the focus of the Rural Development Trust (Anantapur NGO) was more on the WSA (Watershed Association)/ WSC (Watershed Committee), while the Krishi Vignana Kendra (Medak NGO) focused more on the WDT (Watershed Development Team) and the GO PIAs (Project Implementing Agency) on the GS. WSA and WSC are the main implementing arms at the village level, and WDT is largely a technical advisory body to the WSC and the PIA while the GS is more of an opinion / consensus builder. This indicates that the approach of the RDT is directed towards greater participation of the local community in the implementation process than the other two. On the other hand, KVK seems to have followed the conventional approach of emphasizing technicalities. The other NGO, PIA in Prakasam, has followed neither, due to conflicts in the village. In fact, the local contractors did not allow the PIA to carry out any work in the village, as they were not given the works. Therefore, the impact of WDP on human development is dependent on the PIA on the one hand and the existing socio-political conditions at the village level on the other.

A recent study conducted in nine districts of A.P. (Vizianagaram, East Godavari, Prakasam, Chittoor, Anantapur, Karimnagar, Khammam, Medak and Mahabubnagar) on the functioning of watershed committees said: In Telangana districts the functionality of the WCs is poor both in terms of investments made in the processes and the impact of the programme. On the contrary, in Coastal Andhra, the overall performance of WCs is better in the sense that stakeholders are more knowledgeable about the functioning of WCs and actively participate in the programme. In Rayalaseema districts the programme is implemented in an intensive way largely through the support of local NGOs which helped in better

functioning of committees in these areas (DRS Survey, 2006).

Water User Associations (WUA)

The objective of WUAs which were introduced during the late 1990s is to improve production, efficiency and equity. WUAs are expected to have a direct bearing on water availability and crop production. If there is a positive impact, there is a possibility of secondary effects like employment, income, and human resource development. Water users refer to any individual or society using water for domestic, non-domestic, agriculture, power or any other industrial purpose. Each water user area is further divided into 6-12 territorial constituencies (TC). There are 10292 WUAs, of which 9797 are working. Second term elections were held for WUAs in 17 districts in 2003 and in the remaining districts in 2004 and 2005.

The impact of WUA shows that there has been an increase in the average area irrigated of the sample households in the canal systems. The increase in area irrigated is more in the case of middle and tail reaches which were suffering from water shortages prior to the WUAs. But the qualitative impact observed in terms of improved productivity of paddy, appears to be more in the middle and head reaches[12]. A sharp decline is observed in tank irrigation WUAs and the secular decline in tank irrigation could not be checked.

The democratic process is measured in terms of conducting and attending meetings and the decision-making process (collective / majority). Though GB meetings should be held once a year and Executive Committee meetings twice a year, they are not conducted regularly. While GB meeting was conducted only at the beginning of the formation of WUA, on an average only one EC meeting was conducted in a year. The EC meets whenever the need arises. Participation in the meetings is very poor. The issues discussed mainly pertain to crop or system development. Democratic decision-making is more or less absent in the canal systems. Important issues like fund collection and allocation are rarely discussed. Even on simple issues, in a majority of cases decisions were made either by the irrigation department or the Presidents themselves. In tank systems also the Presidents mainly took decisions, though the democratic process was adopted occasionally. Further, the role of the irrigation department is marginal in the tank systems when compared to canal systems. Nevertheless, in most cases farmers stated that the decisions taken in the meetings were implemented.

A recent study (DRS Survey, 2006) noted in its assessment of the performance of WUAs that there is wide variation across regions not only in terms of the type of source of irrigation, but also in terms of institutional capacities and processes in place. It is generally observed that WUAs under canal irrigation system are functioning better as compared to tank irrigation systems. Across the regions, it is observed that statutory General Body Meetings are held as per the norms and the water cess is also collected annually in both canal and tank areas. Penalty for defaulters of payment of cess is not found across all the regions.

Vana Samarakshana Samithis (VSS)

In compliance with National Forest Policy of 1988, Vana Samrakshana Samithis (VSS) were introduced under Joint Forest Management (JFM) Programme for the management and protection of forest resources[13]. There are 8343 VSS (2005-06) in the state managing 23.18 lakh hectares of forest area. About 7.85 lakh hectares of degraded forests have been treated through these VSS[14].

[12] Canal systems in all the locations have experienced increased productivity of paddy, while tank WUAs have experienced negative growth. Within the canal systems the rate of change is higher in the middle reaches followed by head and tail reaches. Middle reaches appear to have benefited most in quantitative and qualitative terms.

[13] Each household living in the hamlets / villages / cluster of villages, and depending on the forest for its daily needs, has an option of a membership in VSS. All SC / ST become members in VSS automatically. Of the two adult members from each household one must be a woman. All the members of VSS shall elect a 15 member Managing Committee of which at least 5 members shall be women.

[14] Members of VSS, individually and collectively, shall be responsible for: a) ensuring protection of forest against encroachment, grazing, fires and thefts of forest produce, b) carrying out development of forests in accordance with the approved plan, c) awareness building regarding the importance of forests. Members of VSS shall have the power to apprehend forest offenders and hand them over to the authorities concerned to take action under the provisions of the relevant forest acts and rules. Members are entitled to 25 percent of the "Compounding fees" collected from such offenders.

Around 15 lakh people, including 7.5 lakh women and 7.87 lakh SCs/STs, are benefiting from the programme[15].

The JFM programme in its present form, in fact, falls short of expectations in ensuring better livelihood opportunities to the poor dependent on forests. Primarily the focus of JFM is not livelihoods, but *forest regeneration*. Income gains from forest related activities are not substantial,[16] irrespective of the status of the forests. There is a gain in wage employment but it may not be sustainable in the long run. A distinct improvement has been observed

in the educational and health status of the households. But the improvements are not only through JFM but also owing to government intervention programmes like 'back to school' and improved *chullas*, etc. Capacity building of VSS members in terms of skill development was not up to the expected levels. In the absence of any systematic approach in this direction, the improvements and impact appear to be marginal. On the other hand, social cohesion and cooperation are generally strong in the forest areas and becoming stronger with intervention. However, social cohesion between the villages has declined due to boundary conflicts arising over demarcation of VSS land. Social status and self-esteem of women are found to be on the rise[17]. JFM has had a positive impact on migration and there is a decline in migration across land-owning households of all size classes. The improved social capital conditions have a potential to enhance human capital.

Chief Minister's Empowerment of Youth (CMEY)

The Chief Minister's Empowerment of Youth Programme[18] (CMEY) was launched during 1996-97 primarily with the objective of generating employment opportunities for unemployed youth. The programme is based on "Group Strategy". A group of 15 or more young people between the age of 18 and 35 years may form a "Youth Association" to take up economic activities suited to their educational background, skills, aptitude, local resources and needs. Under the scheme the unemployed youth are extended financial assistance for taking up self-employment. The objective of the movement[19] is to empower youth to participate effectively in the development of rural youth, by providing opportunities for employment and creating in them a sense of accomplishment. This ultimately should result in the improvement of their quality of life. The programme covers the entire state to cover all habitations including urban areas.

Some of activities include: a) Imparting of six modules of Training Programmes on Health Awareness and AIDS Control, Environmental Awareness on Clean and Green, Education for all, Functioning of Schools, Social Reconstruction, Leadership, Personality Development and skill Development; b) Generation of thrift - A total minimum thrift amount of Rs.5000/- accumulated over 6 months in regular intervals collected from all the group members during the weekly meetings and deposited in the group savings bank account. The common monthly minimum effective thrift (COMMET) of the Youth Association is calculated by taking the least amount saved and rotated in a month in the given six-month period[20]; c) Group

[15] All the identified forest fringe villages have been covered under JFM stream. The funds from various sources like World Bank aided Andhra Pradesh Forestry Project, Employment Assurance Scheme and other schemes including Centrally Sponsored Schemes are being utilized for implementation of JFM.

[16] In the nine sample villages of the three districts (Adilabad, Vizianagaram and Kadapa).

[17] Women are found more pro-active in their interactions with FD officials.

[18] The entire movement is based on the principles of diligence, self-help, cooperation and a sense of patriotism. This programme emphasizes the promotion of sound morals, self-sacrifice and the establishment of firm social order through healthy discipline. There was a total target of 53,296 CMEY units to be grounded during the period 1996-2003 as proposed under the program. But till date only 38615 CMEY units were set up.

[19] The eligibility criterion is that the family income of the youth association members shall not exceed Rs.11, 000 per annum.

[20] This amount shall be taken into consideration only if it is rotated by Youth Association members among themselves.

behaviour - spread over a period of six months to be evaluated on a marks system; d) Release of financial assistance for taking up self- employment[21].

Mothers Committee (MC)

The Mothers Committee (MC) was started in 1998 in the Integrated Child Development Scheme (ICDS), which was introduced in India in 1975. Mothers Committees[22] are formed with mothers of ICDS beneficiaries. There are about 54000 MCs in the state. The prime objective of ICDS and MC is to achieve reduction in infant and child mortality rates and the achievement of optimal physical, mental and psychosocial development of children. As part of the community mobilization exercise, MCs have been formed in villages with mothers of children enrolled in Anganwadis / Early Childhood Care and Education (ECCE) centres as members. These committees actively participate in the developmental activities of the school. They conduct periodic meetings to discuss the activities of ECCE Centres and take necessary steps for the enrolment and retention of girls in primary school. One recent study commissioned by UNICEF[23] on the working of Mothers Committees observes that low prestige, limited political influence and the labor intensive nature of MCs did not create a sufficiently attractive incentive structure to ensure active participation. (Jones et al. 2007).

School/Village Educational Committees and Parent Teachers Associations

The commitment to universal elementary education recognized the need for decentralized planning and management of school education and for active community participation in the management of education at the village level. In pursuance of community participation, The Andhra Pradesh School Education (Community Participation) Act, 1998 was passed and School Committees (at present 72,919) constituted in every government and government-aided school in the state. The School Committee consists of five members of whom four should be parents (from different socio-economic backgrounds) of the children enrolled in the school and the Headmaster as the Member Convener[24]. A parent shall cease to be a member of the committee when he has no child enrolled in the school.

Village Education Committees (VEC) were visualized as part of the decentralized management structures under District Primary Education Programme (DPEP) to establish a link between the school and the community. The VEC is expected to take up the task of management for ensuring community participation[25]. The role of Village Education Committees has been predominantly in areas related to accessibility and participation of children, particularly girls. It is found that in all the surveyed districts that the VECs: a) do not hold meetings regularly; b) that members, particularly the dalit members, are not aware of the decisions of VEC; c) record maintenance of minutes is poor and that there is no follow-up action; d) Chairman/ Panchayat President often takes up contract works for school buildings; e) where a woman is chairman of VEC, the HM and Sarpanch take a lead role; f) minutes of meetings are never circulated. Instead, the Head Master obtains signatures of the members before the decision is arrived at; g) There is no control over teachers who were absent from duty unofficially. Unfortunately VECs were

[21] with the following pattern: Revolving fund - 100 times the COMMET or Rs.1.00 lakh, whichever is less; Government of A.P. Grant - Margin Money - 50 times the COMMET or Rs.0.50 lakh.

[22] The Committee is formed in a meeting with representatives of local NGOs, all the members of DWCRA, other Self Help Groups, elected women member of Panchayat, Sarpanch and Upa Sarpanch of the village. The Committee will have eight members of whom one will be elected as President of the group.

[23] The study was carried out in four mandals selected across the three main agro-climate regions of Andhra Pradesh on the basis of a) community poverty status and human development indicators; and b) caste composition. The four selected mandals were Amrabad (Mahabubnagar district in south Telagana); Kataram (Karimnagar district in north Telagana); Atlur mandal (Kadapa district in Rayalaseema) and Seethampet (Srikakulam district in Coastal Andhra).

[24] Where there is no Headmaster, the most senior teacher shall be the Convener. Of the four parents, there shall be at least two women and one person elected from among SC, ST, BC or minorities. The Chairman of the Committee is elected from the parent members. The Committee Members are elected by public voting, and they elect the Chairman of the committee. The headmaster will act as the Coordinator of the Committee. Elections are held once in two years.

[25] Village Education Committees are formed to facilitate and ensure participation and involvement of local community in the educational process at village level.

given up in 2005 and now efforts are being made to revive them[26].

A recent survey in nine districts of AP observed that people in hamlets were unaware of the existence of such (SEC) committees (DRS, 2006). The PTAs are practically non-functional in all the surveyed districts. The HM of the school takes care of maintaining the records of such minutes/agenda as chairman of PTAs in all the places. The common points of agenda that were separately discussed in the PTA meeting across these nine districts (PTA mandated meet two times usually) are: a) The enrolment of children who have dropped out; b) Regular attendance of children; c) School uniform and strengthening mid-day meals; d) To conduct health camps for students and the responsibility of parents for keeping their children clean when sending them to the school; and e) Parents are requested to give preference to the education of girl children. Though it is recorded that such meetings have taken place three to four times in a year, in reality nothing has happened. Parents do not show any interest, nor do they receive information about PTA meetings. However, they remain on paper and occasionally a rally would be taken out for enrolment of drop-outs.

Self-Help Groups and Development of Women and Children in Rural Areas (DWCRA) [27]

Because of the problem of distribution of the benefits of macro-economic growth at the household level, micro-level strategies like micro-finance have been initiated at the grass root level. It has generally been observed that organizing women around thrift and credit services is effective in alleviating poverty and empowering women. The government of Andhra Pradesh responded to the need and provided a space for women's self-help groups[28] (SHGs) under the programme Development of Women and Children in Rural Areas (DWCRA). SHGs are functioning not only in DWCRA but also in other government programmes and NGO initiatives.

There are about 6.35 lakh women SHGs in Andhra Pradesh with a membership of 80.21 lakh rural poor women and 2,01,732 SHG's that were formed under the Department of Women Empowerment and Self-Employment. Several schemes under DRDA have helped women earn an additional income of up to Rs.2000/- per month depending on the economic activities they take up. For taking up various income-generating activities, DWCRA women are given special training on skill up-gradation. The SHG groups are assisted under DWCRA / SGSY scheme in the form of revolving funds to each group. Between 1998-99 and 2003-04 about Rs. 170 crores were provided as assistance to 1.93 lakh groups. NABARD, commercial banks and Regional Rural Banks are also providing credit at a concessional rate of interest to the groups under "SHG-Bank linkage" program for taking up income generating activities. The assistance per group ranges from Rs.20000 to Rs. 1,00,000. Between 1998-99 and 2003-04 about Rs.1500 crores was mobilized as credit, covering 1,65,093 groups. The groups are liable for repaying the credit amount within the repayment period.

SHGs of DWCRA have helped in reducing dependence on money-lenders in rural areas though there are variations across the districts. SHGs seem to have performed better in developed districts like East Godavari when compared to a backward district like Mahabubnagar. Credit has enabled women to undertake production oriented economic activities related to agriculture, animal husbandry, and Industry Service and Business (ISB) sectors. One reason for this could be that a large proportion of women from traditional artisan families have become

[26] The recent amendment to the Andhra Pradesh Education (Community Participation) Rules 1998 brought out an ordinance (No. 9 dated 2-11-2006) that revived the once abandoned village education committees (VECs). As per the latest amendment, School Education Committees will be renamed as School Education Management Committees (SEMCs). Earlier, elections were held to the executive committees (ECs) and now the members are to be nominated by the minister-in-charge. Another feature of the new amendment is that nomination of the members to the ECs is by the minister in rural areas and by the Municipal Commissioner in urban areas.

[27] This section draws from Galab and Rao, 2004.

[28] The SHG is the primary unit and the building block of the SHG Federation model. The SHGs, 15-25 in number, are federated at the village/cluster level as a Village Organisation (VO). These VOs are then federated at the mandal level as a Mandal Samakhya (MS). Almost all the groups across the State began monthly individual savings of Rs. 30 with each DWCRA group consisting of 15 women. In AP, a three-tier structure is emerging as the SHG Federation model.

members of the groups to further strengthen and expand their on-going economic activities. In fact, such groups are observed to be more successful (BASIX, 1999). The net result is that some members who were working for wages or were unemployed have become self-employed with the help of SHGs. An additional income to the tune of Rs. 10-30 per day on an average has contributed to a considerable improvement in the incomes of the poorest of the poor and enabled the near poor to cross the poverty line. But targeting of poor households is quite low at 56 percent (Reddy and Prakash, 2003). A large proportion of beneficiary adult female family members have full employment under the DWCRA scheme and in addition are providing employment to some male members. Many of the beneficiaries canvassed have taken up kitchen garden activities near their homes. This has brought changes in the quality of consumption that would improve the nutritional status of children, pregnant and lactating mothers among the DWCRA families (YFA, 1996). Similarly, part of the additional income is also spent on the health of the family (Kanchanya, 1998). Most of the eligible DWCRA members have undergone family planning. In fact, the dramatic decline in the decadal growth rate of population has also been attributed to the phenomenal growth of SHGs in the state (James, 2002). A majority of the children of the beneficiaries are going to school as the women have become aware of the need for basic education. Thus, women are able to improve their access to health care and education to some extent. However, the groups in more remote villages and Scheduled Tribes have not benefited as much as villages in more accessible areas and other caste beneficiary households (YFA, 1996; Kanchanya, 1998).

SHGs have helped women to take up tasks like marketing and non-traditional enterprises. Women are now in better control over their labour, resources (saving, credit and income), freedom to move and interact, and reproductive choices. They are also able to handle some of the issues relating to their lives independently. This indicates that the 'power within' dimension of empowerment has been strengthened to some extent due to participation in SHGs. However, the absence of collective initiatives by women members to negotiate their gender, caste, class and other interests vis-à-vis institutions of the market, the state, the community and family reveals that empowerment is still limited when dealing with the external world.

How widespread and sustainable this process is, is a moot point. Though attendance in meetings is quite

Box 12.2: Need for Synergy: Strategy / Framework for Synergy

The argument has always centred on how to bring the parallel institutions under the purview of PRIs. These linkages are expected to increase the accountability of participatory institutions. According to one study which looked into legal aspects of the involvement of PRIs in NRM in three Indian States - Maharashtra, Madhya Pradesh and Rajasthan, - the existing legal framework provides the requisite basis for the interrelationship between the panchayats and user groups. The advantages of user groups as smaller and specialized entities can be explored within the Panchayati Raj framework by the mechanism of committees. However, the efficacy of Panchayati Raj institutions and associated user-groups can be assessed in relation to their conduciveness in realization of rights at the local level. This is particularly important when widespread emphasis is being attached to the rights of the local people in the discourse of participatory natural resource management (Upadhya, 2005).

Decentralization is being actively considered by the GOAP by interfacing between the PRIs and CBOs. The various CBOs that the government has created have resulted in many parallel structures, thereby weakening the panchayats. The multiplicity of organizations has created confusion and has also resulted in conflict/s. Interface has become an important part of the agenda of the government in order to help make the numerous CBOs more effective and sustainable and to strengthen the PRIs. It must however be recognized that the inter-linkages would have a limited role and effect on the process of decentralization and good governance unless definitive measures are taken up by the government to devolve functions, funds and functionaries to the PRIs, ensuring decentralized planning and convergence. Empowering the PRIs would necessitate the higher authorities to disempower themselves. Devolution of power and authority from the state government to the three-tier PRIs would create space and opportunity to ensure better accountability.

Interface between the PRIs and the CBOs would usher in better mechanisms of accountability. Linkages are necessary to sustain and strengthen the CBOs and make them accountable to *all* the stakeholders in the Gram Sabha. The linkages already created and established by the various Acts and other mechanisms have helped in creating only a token representation to PRI members. The non-voting powers bestowed on the ward members and the Sarpanches has diluted their presence and participation. Also, the Gram Sabhas are used, if at all, for beneficiary selection. The Gram Sabha should become an important forum for micro-planning where the different stakeholders meet to plan for the resources that are available to achieve convergence. Convergence cannot take place through a government order (Sitaram, 2002).

high (76 percent) (Reddy and Prakash, 2003), about 39 percent of groups do not hold meetings while 23 percent of the groups are not maintaining accounts. Though the illiteracy of members is the main reason, groups do not see the need for maintaining accounts because external grants and funds are equally distributed. While 78 percent of SHGs save regularly, some groups discontinue savings, once the revolving fund is availed by the group. The selection of leaders is democratic in 87 percent of the groups. Leaders were imposed when the members did not show the initiative to become leaders. Leadership rotation was absent and hence development of leadership among members is lacking. The leader manages all activities regarding accounts, loans and attendance and the involvement of members is marginal. The grading of DWCRA groups according to their functioning by the Government of Andhra Pradesh has brought out that 18, 63 and 19 percent of the groups are found to be in A, B and C categories respectively. Thus, only 18 percent of the groups are functioning very well. Only the extensive and intensive participation of women in the process can sustain the movement. The cost of such participation needs to be compensated in one form or other. Besides, initiatives such as piped water supply and LPG would reduce time and drudgery in fetching water and fuel wood.

Another interesting study on the politics of policies in Andhra Pradesh has analysed DWCRA and made the following observation: "DWCRA can probably be called a successful scheme as it has helped to empower women in the sense of making them more self-confident and financially stronger and more independent". However, it pointed out that "the weakness of the programme is that it has proved to be very difficult to generate sustainable and profitable self-employment for women". Moreover, the age-old tradition of patriarchy is not questioned in the programme. Important issues such as literacy and family planning are taken up – and quite successfully in some districts but other strategic gender needs such as child marriages and dowry are not addressed at all (Mooij, 2002).

District Poverty Initiatives Programme (DPIP)

Andhra Pradesh District Poverty Initiatives Project (APDPIP) and Andhra Pradesh Rural Poverty Reduction Project (APRPRP) in the most backward mandals of all the districts in the state cover the former South Asia Poverty Alleviation Programme (SAPAP) groups and also DWCRA groups in these mandals. The Mid Term Appraisal (MTA) to assess the impact of District Poverty Initiatives Programme (DPIP) interventions on the different dimensions of poverty for the target communities has focused on the contribution of DPIP interventions in key areas of which women empowerment is one. While assessing the impact of the project[29] on empowerment of women, the MTA report observes: "The logic of the project to use improved access to resources to empower women and overcome social barriers is corroborated by the fact that the change in the share of women who receive high respect in their family and who were not subject to domestic violence was indeed significantly lower in control than in intervention areas where women also have significantly higher participation in family matters relating to income generating activities, debt and savings, as well as family planning. In fact, the improvements in women's participation seem to transcend the realm of the family and extend to the community level: the change in the share of women who always know or participate in village assemblies, who are aware of other types of community institutions, and who are able to freely interact with government officials and villagers of other caste or religion is significantly higher in intervention than in control villages." (Dev *et al.* 2003).

12.3 Linkages between Democratic and Participatory institutions

At present, the linkages between democratic and participatory institutions are rather formal in nature. PRI representation is mandatory in all the participatory institutions though there are no functional linkages between them. In villages that are politically active, however, a lot of groundwork was necessary for formulating the mutually agreeable participatory institutional structures such as WCs, WUAs, etc. Relationships between democratic (PR bodies) and participatory institutions can

[29] The study covered a sample of 2641 households spread across 256 main villages and 306 habitations both in project and control villages in three districts of A P. namely Srikakulam, Adilabad and Anantapur. Women's empowerment is measured in terms of their bargaining power within the household and their participation at community level decision-making.

be broadly described as, a) conflict ridden, b) competitive checking, c) political nexus and, d) passive observation. Conflict-ridden villages are always torn between two party-affiliated political groups or factions. Development programmes are rarely introduced in these villages. Even if they are, they will be forced to be withdrawn due to persistent conflict. Initial compromises brokered by the officials often fail to hold firm as factions are deep-rooted.

In some villages political groups work in a competitive situation (competitive politics). The competition is for gaining maximum credit for their developmental activities. In such situations, panchayats seek involvement in the day-to-day activities of the participatory institutions, especially when the leaders of the panchayats and these bodies belong to different parties. The purpose is to check whether the benefits favour the party followers. Our broad finding, based on the information from across a range of cases is that this takes place more often in the villages where a shift in power has taken place. In some cases there is a nexus between PR bodies and participatory institutions irrespective of the control over positions by different groups. There are many variations on this theme, but it takes two main forms. One is the division of spoils (contracts) between the groups i.e., works were shared in 50:50 ratios between the two groups. This type of arrangement tends to occur more frequently in 'reserved' (for social groups or women) PR constituencies. Allocation of posts between groups depends on their relative (bargaining) power and information. Another form of nexus or compromise is the sharing of positions in PR and parallel institutions between two groups. Sharing of spoils and compromise between groups is possible when the groups are equally strong. In the absence of a strong opposition the more powerful group takes over, especially when their party is in power at higher levels of the political system.

The lines between inter-group conflicts based on economic divisions and those based on political differences are blurred. This is due to a significant trend: the tendency either for politicians to turn into contractors or for contractors to turn into politicians. This, in turn, is mainly the result of the financial incentives in programmes like watershed development and water user associations. Not only are the financial flows to these programmes much higher than the funds available to PRIs, but the institutional arrangements have also facilitated the access of the village people to funds. While this is a good indicator of decentralisation, its misuse appears to be more widespread in the absence of transparency and accountability. As a result, even the powerful and dominant groups at the village level prefer positions on participatory institutions to positions on PRIs. This narrowing of the gulf between money and politics at the village level is a reflection of the trend at higher levels of the political system. In effect, the means by which the programmes have been permitted to operate have assisted the percolation of money politics down to the base of the political pyramid.

The most common scenario is that of passive observation. Key reasons for the situation of passive observation include non-existence of competing economic interests (contractors) and political equations at the village level. Passivity can also be viewed in terms of indifference. People are indifferent to the programme due to the non-participatory approach in this generally docile community. In many cases, the office bearers of participatory institutions are nominated and composed of all the castes. Villagers generally attend the meeting only once, i.e., at the time of formation of committees. Though officials often visit the villages, no meetings are conducted. There is no participation in taking up or prioritizing the issues. Members of PR bodies often feel that these parallel institutions are created to deliver specific programmes and hence are temporary. Consequently they feel that there is no need to interfere or create conflict in the working of these institutions. At the same time the associations of PRIs demand that these programmes should be brought under their purview. In the case of participatory institutions, only water user associations were formed as a federation and due to the demand for total de-linking from the PRIs.

12.3.a Institutional and Functional Linkages

The Standing Committees at the Mandal level can perform the role of monitoring and arbitration. Monitoring can not only be regulatory but also be an incentive, encouraging the CBOs to perform better by arranging for monetary incentives. The Committees at the MP (Mandal Parishad) arbitrate when there is a dispute between different GPs due to overlapping of functions and jurisdiction (watershed area). The functional Committee of the GP should be involved in planning and implementation for those activities at the MP that also involve implementation.

Funds may be released in the manner already described for GP.

APPR Act, 1994, provides for six functional standing committees at the gram panchayat (GP) level. The self-help groups, numbering seven to ten, operating at the village level also represent more or less the same or similar types of activities. The gram sabhas shall co-opt one or more representatives of the SHGs into the respective standing committees of the gram panchayat. For instance, members of the village education committee will be co-opted as members of the standing committee on education at the gram panchayat level. In a mandal, the mandal panchayat will co-opt in an open meeting of the mandal panchayat samiti, a member/members from amongst the co-opted members on the standing committees on education in all the gram panchayats, to the standing committee on education of the mandal panchayat. The Zilla Parishad in turn will co-opt, in an open meeting, from amongst the co-opted members of standing committees on education of all the mandal panchayats in the district. The mechanism for selecting members in the other standing committees from the SHGs will be similar, starting from the gram panchayat level to the Zilla Parishad level.

The success of the benefits flowing from attaining the symbiosis between SHGs and PRIs will depend to a large extent on three things: i) Strengthening of the PR institutions themselves, ii) bringing convergence of development programmes and institutions being implemented in the state by different agencies and line departments and iii) building the capacity of the Self-Help groups (Report of the Task Force 2002).

Here we propose a model that rationalises the existing functions in the light of the prevailing situation at the ground level. The functions/items enshrined in the 11th Schedule of the Constitution can be broadly divided into three major areas/activities namely, Core/Basic Functions, Welfare Functions and National Resource Management (NRM) Functions. Here our approach is 'bottom-up', as most of these activities are currently being carried out at the village level mainly by CBOs (in AP). Besides, we assume that, given the capacity of PRIs, their involvement in activities would be different from one function to another. This not only addresses the issue of over-burdening PRIs but also negates the arguments regarding lack of capacity of PRIs.

The core/basic functions such as drinking water supply, health and sanitation including primary health centres and dispensaries, education including primary and secondary schools, roads, bridges and other amenities, etc, are the functions delegated to PRIs since their inception. The CBOs handling such activities such as Education Committees and Health Committees which are going to be integrated into the standing committees of PRIs are late entries in this area of operation. In this scenario PRIs, given their long experience in handling these schemes, would be the dominant bodies in terms of planning, implementation and monitoring of these functions (strong linkage). Members of the CBOs representing Standing Committees will act as pressure groups for efficient implementation and equitable distribution of the benefits.

The second area of discharging welfare functions such as poverty alleviation programmes, women and child development, social welfare of weaker sections such as SC/ST and physically challenged persons and other functions (rural housing and managing Public Distribution System) require that PRIs take a greater responsibility, of course working in tandem with CBOs looking after some of these functions (moderate linkage). Mention may be made of DPIP (Velugu) SHGs, Mothers Committees and Disabled Groups etc. In this scenario, an interface between PRIs and CBOs is desirable.

In the third area, Natural Resource Management (NRM) activities such as water, watersheds, forests, agriculture, etc, the interface of PRIs with CBOs is expected to be weak, which means that CBOs which manage water resource such as Watershed Committees (WCs), Water Users Associations (WUAs) and Forest resources (VSS/FPCS) need to be given a larger role as they are found to be very effective in managing such resources. Most of the functions require technical skills and deep knowledge of the management of the resource. These CBOs formed around such resources are found to have high stakes and PRIs which are governance institutions are found wanting in handling such resources and their capacities inadequate. At the most, PRIs can be monitoring institutions and the CBOs can be made accountable to the constitutionally elected bodies. In NRM activities low interface is envisaged between PRIs and CBOs. In NRM, PRIs can function mainly as a watchdog. The picture which is visualized at village

level may be replicated at mandal and district levels[30]. Thus the bottom-up approach of the planning process synergising PRIs and CBOs is complete.

12.4 Urban Governance and Human Development

The government of Andhra Pradesh has introduced various initiatives in order to improve overall governance in a number of fields. During the last decade fourteen such initiatives were put in place. These include: Best practices in school education, Neeru-meeru, Power and Public Sector Reforms, Property Tax Reforms, Services Outsourcing, Single Window System (SWS), e-Governance Initiatives (e-Seva, e-Procurement, Online performance tracking), Citizen Charters, Rythu Bazars, e-Panchayats, etc. Some of the initiatives (including e-seva centers, rythu bazars, e-procurement and electricity reforms) have gained instant popularity and appreciation. The success of e-seva centres is reflected in their adoption across the country. The rythu bazar is rated as one of ten best practices in the country (UNDP, 2002) and they are immensely popular among all sections of the population[31]. The performance of AP electricity department has been rated as the best in country for two years in a row after the reforms. Similarly, the continuation of e-procurement approach by the present government is an indication of its effectiveness.

The few systematic studies undertaken to assess the impact of the initiatives[32] on service delivery have pointed out the merits and shortcomings of the initiatives. A study of the three customer focused service delivery reforms that were undertaken by the Metro Water Board (Hyderabad Metropolitan Water Supply and Sewerage Board) in the late 1990s, namely Metro Customer Care (MCC), The Single Window Cell (SWC) and Metro Water's Citizen Charter shows clearly that, prior to reforms in the 90s, active and strong accountability relationships between elite politicians, professional networks and senior managers

were insufficient to sustain organizational changes at the section level and achieve measurable improvements in service delivery performance. Post-reform analysis shows that sustained improvements in service delivery were contingent upon the establishment of multiple formal accountability mechanisms that enabled strong accountability relationships to operate between external actors and Metro Water staff (senior managers and front-line workers). The most critical of these relationships, which deepened organizational change and sustained service delivery performance over the long term, were those that triangulated between citizens, front-line workers, and senior mangers. This accountability dynamic has been the key to Metro Water's overall success, which encompasses measurable improvements in service delivery, as well as strengthened viability as a semi-autonomous, financially independent organization (Caseley, 2003).

A study on smart governance with reference to Andhra Pradesh reflected upon the various strengths and weaknesses of the policies anchored for a decade, from 1994 to 2004. Numerous factors, from party cadre (of the political party in power), influence of regional authorities, priorities of groups. etc., have cornered the direction of implementation and it has been pointed out that it was wedded with contradictions at various levels that led to corruption, favouritism, influence of party cadre etc. This, in turn, damaged the image of the government despite its commitment to good governance and modern management (Mooij, 2003).

12.5 Decentralized Governance and Human Development

Andhra Pradesh has spearheaded a new approach of creating a number of parallel institutions for service

[30] At district level apex agencies such as District Water Management Agencies (DWMA) looking after watersheds and District Rural Development Agencies (DRDA), District Forest Agency and Drinking Water and Sanitation bodies (looking after Swajaladhara Programme that is in the offing) need to be synergised with varying degrees of responsibilities with Zilla Parishads.

[31] This is reflected in overcrowded bazars in most places and throughout the day. In fact, people complain about the paucity of parking space during peak hours.

[32] The salient features of these major initiatives and some account of their performance are available from official accounts.

delivery at the local level, for decentralized governance. In the process it has earned the dubious distinction of bypassing or sidelining the constitutional bodies like PRIs in rural areas. Though this approach, in a larger framework, reflects the 'politics of development', it need not be brushed aside as a purely politically manipulated tool. The assessment of initiatives revealed that the parallel institutions have, in fact, performed some of the services well. They were instrumental in keeping the developmental programmes continuing at the local level, rather than becoming passive observers of administrative methods. Line departments take charge of implementing developmental programmes in most states where the devolution of powers to PRIs has not taken place. Similarly, the good governance initiatives, especially in the urban areas, have helped in curtailing red tape and rent seeking in some cases. Though the attempt to eliminate intermediaries has brought the citizens in contact with the line departments, some of these initiatives suffer from proper implementation rather than improper design.

The impact of these parallel initiatives on livelihoods is limited. While the impact is clear in the case of institutions that deal with natural resource management (NRM) like water, watersheds and forests, it is less clear in other areas. The reason could be that NRM initiatives are oriented towards resource development through pumping of substantial financial resources. The others are more focused on capacity building or human capital development. The sustainability of positive impacts through initiatives in NRM is questioned, as they have not addressed or improved social capital[33] at the community level. On the other hand, the parallel institutions have helped to create awareness among communities on a large scale so that the communities have gained clarity on their rights and the role of officials.

Though they have not gained immediate tangible benefits, the new awareness would have converted into empowerment that in turn could have resolved the delivery dilemmas in the long run. The intangible gains through participation could be converted into tangible human development like improved literacy, health, etc., provided these initiatives are sustained and are inclusive of the poorest of the poor and other vulnerable groups. Awareness and empowerment is clearly visible, especially among women, at the village level in recent years. More women are contesting in elections over and above their prescribed quota of 33 percent. In the recently held elections to urban bodies (municipalities and corporations) women members won nearly forty percent of the posts, seven percent more than the quota.

While the impact of parallel institutions on human development is unequivocal, the impact is very limited. The main reason is that 'elite capture' is widespread among these parallel institutions (See Reddy and Prakash, 2003; Reddy and Jenkins, 2004; Reddy and Reddy, 2005; Reddy, et. al., 2005). In fact, it is argued that parallel institutions are used to accommodate the elite who lost their positions in PRIs due to reservations (Reddy and Jenkins, 2004). This is more so in the case of NRM institutions, which have greater allocation of funds. Even in the case of self-help groups which are mainly meant for the poor, the coverage of the poor is only 56 percent (Reddy and Prakash, 2003).

One way of dealing with this is to integrate these institutions with the PRIs. Given their constitutional standing and reservation, PRIs are likely to ensure greater involvement of the poor in these institutions. Besides, bringing the CBOs under the PRI umbrella ensures accountability as the PRI act as a monitoring agency/watch dog. The model suggested in this chapter advocates three levels of linkages between PRIs and the parallel institutions. At present PRIs lack the skills and capacities to implement the NRM initiatives, where PRIs can act as a monitoring agent. On the other hand, PRI should be handed the full responsibility (implementing, monitoring, etc.) of core functions like drinking water, education, health, etc. In welfare activities they should be given the intermediary responsibilities with partial involvement in implementation. Such a division of responsibilities between PRIs and CBOs, while avoiding the overburdening of PRIs, would ensure proper accountability and monitoring of the CBOs

[33] Here social capital is defined in terms of the involvement of the community in the important activities and functions of the programmes. Devolution of powers, which would empower the communities and make them autonomous and self-sufficient, has not taken place.

CHAPTER XIII

13 Urban Challenges

Urban Demography, Poverty, Employment, Migration and Infrastructure

More than one fourths of Andhra Pradesh population is living in urban areas. During the last two decades the states' share in India's urban population is declining. The urbanization process in Andhra Pradesh is leaning towards metropolitan cities by-passing small and medium towns.

Growing urban population is contributing to much of the increase in population every year in the world. It is observed that almost 80 per cent of the population growth world-wide in 1990-2010 will be in urban areas. Population projections indicate that about 60 per cent of the world's population will live in cities in the next 10 to 15 years and that most of the growth in the urban population will take place in developing countries.

As cities are considered to be the centers of technological transformations they have a critical role to play as purveyors of technical information, ideas and tools which are central to increasing productivity, incomes, and ultimately the overall quality of life. However, the growing trend of urbanization is worsening a number of problems, such as inadequate housing and urban services (water, sanitation, transport and so on), spiraling land prices and construction costs, proliferation of slums, pollution and deterioration of the urban environment where the challenges of air and water pollution, solid waste management and water conservation grow more critical every day.

In this context this chapter examines the urban challenges with respect to the process of urbanisation, economy, poverty, employment, migration, infrastructure and civic amenities in Andhra Pradesh.

13.1 The Process of Urbanisation

India is one of the developing countries which are contributing most to the growth in urban population. India's urban population is the second largest in the world. According

to UN Population Fund (UNFPA), urbanisation in India is increasing at a faster rate than in the rest of the world and, by 2030, 40.7 per cent of the country's population will be living in urban areas. It is observed that about 61 per cent of the urban population growth in India is due to the natural increase in urban areas, 22 per cent due to rural-urban migration and 17 per cent due to reclassification of rural areas as urban (UNFFPA, 2007).

Metropolitanisation

The nature of urbanization in India has been described as top-heavy. In other words, the urban process in India is becoming a process of creating metropolitan cities. More than one-third of the total urban population (285 million in 2001) of India was concentrated in 35 'million plus' cities. The small and medium towns accounted for only about 22 per cent of the urban population. Andhra Pradesh is one of the states in India which have experienced rapid urbanization and the process of urbanization in the state is similar to the overall pattern in India.

Table 13.1: Trends in Urbanisation in Andhra Pradesh

Year	Towns	Pop (U)	Pop (T)	% Urban	Growth(U)	Growth(R)	URGD
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1961	212	6.28	35.98	17.4	15.75	15.62	0.13
1971	207	8.41	43.50	19.3	33.92	18.15	15.77
1981	234	12.49	53.55	23.3	48.62	16.99	31.63
1991	213	17.81	66.36	26.9	42.64	18.22	24.42
2001	173	20.80	76.20	27.3	16.33	13.95	2.39
2006	-	22.20	80.71	27.5	-	-	-

Note : 1. ***Pop*** – Population in millions; 2. ***U***–Urban; ***T***–Total; ***R***–Rural; 3. ***URGD*** – Urban-Rural Growth Difference.

Source: 1. Census of India, Andhra Pradesh, Town Directory; 2. Sudhakar Reddy (2007).

According to Census 2001, more than one-fourth of the population in India (27.8 per cent) as well as in Andhra Pradesh (27.3 per cent) lived in urban areas. Of the total population of 76.2 million in Andhra Pradesh, about 20.8 million people were living in urban areas (Census 2001). As per the Census projections, the size of the urban population in Andhra Pradesh would have been 22.2 million in 2006. The level of urbanization in the state has been a little less than the national average since 1901 (except in 1951 and 1991). Urban growth gathered momentum in the state only after the 1940s. The rate of growth in urban population in the state was higher than the national average since the 1980s.

In Andhra Pradesh, while the number of cities and medium towns has been increasing, the number of small towns has declined during the last four decades, and the urban population is concentrated in the big cities. The number of cities (i.e. class I towns) increased from 11 to 39 during 1961-2001 and their percentage in the total number of towns increased from 5 to 23 in this period. Importantly, the share of the cities in total urban population increased from 43 to 76 per cent (See Table 13.2). Moreover, the process of urban agglomeration (UAs) is growing fast in the urban topography of Andhra Pradesh. While the number of UAs increased from 4 to 37, their share in the total number of towns (2 to 21 per cent) and urban population (32 to 69 per cent) increased during 1971-2001 (see Table 13.3). It is noteworthy that Hyderabad Urban Agglomeration (HUA) alone accounts for one-fourth, and together with Visakhapatnam and Vijayawada, for about 35 per cent of the urban population in the state (Ramachandraiah, 2003).

The number of medium towns (including Class II and III towns) increased from 58 to 89 as did their share in the total number of towns (from 28 to 51 percent) during 1961-2001 but their share in the total urban population

Table 13.2: Concentration of Population in UAs and Isolated Towns in Anddhra Pradesh

Year	Cities		Medium Towns		Small Towns		Primacy	
	No	Population	No	Population	No	Population	@	#
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1961	5	43	28	32	67	25	20	5.3
1971	6	48	37	35	56	17	21	4.9
1981	9	54	50	37	41	9	20	4.2
1991	15	67	59	29	26	4	24	4.1
2001	23	76	51	22	26	2	28	4.3

Notes : 1. ***No*** - Number; **@** is the ratio of population of the largest urban unit to the urban population of the state; **#** is the ratio of population of the largest urban unit to the second largest urban unit in the state; *The percentage of one city out of total 212 towns was 0.5. When we rounded of the figure to zero decimal it had come to zero.

2. ***Cities*** are places having population of one lakh and above; ***Medium Towns*** include the towns with population ranging from 20,000 to 99,999 and ***Small Towns*** include towns with population below 20,000.

Source : 1. Census Town Directory; 2. Sudhakar Reddy (2007).

declined from 32 to 22 per cent during the same period (see Table 13.2).

However, there was an overall decline in the number of small towns (from 142 to 45), their share in the total number of towns (from 67 to 26 per cent) and in urban population (from 25 to 2 per cent) during 1961-2001. This indicates that small towns may disappear from the urban topography of Andhra Pradesh in the coming years.

Table 13.3: Concentration of Population in UAs and Isolated Towns in Andhra Pradesh

Year	Urban Agglomerations				Isolated Towns			
	Towns (A)		Population		Towns		Population	
	No	%	in lakhs	%	No	%	in lakhs	%
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1971	4	1.9	26.9	32.1	203	98.5	57.1	67.9
1981	4	1.7	39.6	31.7	230	98.3	85.3	68.3
1991	15	7.1	87.9	49.4	198	92.9	85.4	50.6
2001	37	21.4	144.2	69.3	136	86.4	63.9	30.7

Note : ***No*** - Nuber; ***A*** - Number of Towns characterized as Urban Agglomerations; **%** - per cent of Towns and Population to total number of Towns and total urban population.

Source : 1. Census; 2. Sudhakar Reddy (2007)

The magnitude of urban population and its concentration in big cities has its own repercussions in terms of regional disparities and the quality of life of the people living in urban areas.

The level of urbanization varies across districts. Hyderabad is 100 per cent urbanized followed by Ranga Reddy[1] (53.3 per cent) Visakhapatnam and Krishna (each 30 per cent). In some districts like Srikakulam, Vizianagaram, Prakasam, Mahabubnagar and Medak the share of urban population is below 20 per cent. The decadal growth of urban population in the state during 1991-2001 was 15 per cent. A few districts viz., Ranga Reddy, Adilabad, Nalgonda and Chittoor have recorded a growth rate of more than 20 per cent. The increasing employment opportunities in and around Hyderabad probably resulted in the high growth rate in Ranga Reddy district (Ramachandriah, 2003). However, many districts have shown a fall in the share of urban population during 1991-2001.

[1] If ten municipalities which are a part of Hyderabad Urban Agglomeration but located in Ranga Reddy district are excluded the level of urbanization in this district would be very low.

Deurbanisation

The growth of urban population in a particular region depends upon natural growth, net migration, emerging new towns as well as dying / declassified old towns in that region. It is observed that the natural growth of population (63 per cent) is the dominant source for growth of urban population in Andhra Pradesh during 1981-91 followed by net migration (20 per cent) and the newly emerged towns (18 per cent)[2].

It may be noted that there has been an increase in urban population over the last century. The total number of towns increased till 1951 and started declining thereafter. Small towns in the state are disappearing and contributing to this kind of de-urbanisation (i.e. declining number of towns).

When one examines the phenomenon of *deurbanisation* at the town level for the period 1991-2001 in AP, it is observed that 82 individual towns[3] with a population of around 15.6 lakh that existed in 1991 were declassified as they did not qualify under the *urban criterion*[4] in 2001. Many of them are small towns.

At the same time, around 100 new individual towns with a population of 8.95 lakh were added in 2001. As a matter of fact many of these new towns became part of growing urban agglomerations. Urban growth would have been much higher if the number of towns that were declassified so far in each census could have continued to be listed.

Very few towns (among those that existed both in 1991 and 2001) have shown negative growth of population but this does not indicate a process of *deurbanisation* because many of these individual towns were part of cities so that the movement of people from one (crowded) area to another area within the city increases the population of one individual town and while it declines in another.

[2] The impact of declassification of towns is significant and negative where it contributed to negative growth of one percent of urban growth.

[3] In most of these towns there has not been a decline in population and density but there is a change in the structure of employment where the share of primary sector increased.

[4] Since 1961 there has been an objective criterion to classify a rural area as urban: when a village has more than 5000 population; the density of population is more than 400 persons per sq km; and more than 75 per cent of male workers are engaged in non-agricultural activity.

13.2 Urban livelihood: Economy, Migration, Employment and Poverty

It is said that urbanisation is a socio-economic outcome of the process of economic development and industrial growth[5]. In fact urbanisation has been associated with industrialization but manufacturing activity in urban premises is a later trend[6]. Towns evolved originally as market or trading centres and have traditionally been known more for their service sector activities than for industry. But the industrial revolution changed the urban landscape where manufacturing activity became prominent. In developing countries the service sector has tended to expand as fast as industry. The process of urbanization is one of modernization, growth of industry, and promoting technology and services. Therefore, cities are seen as engines of economic growth, and social and human development.

13.2.a Urban Economy

Historically, in Andhra Pradesh, there were towns with specialization in manufacturing, crafts, and those serving administrative purposes. During the colonial period, the commercialization of agriculture and the increasing trade in agricultural commodities led to the emergence of some new towns especially in coastal Andhra Pradesh. Also there was a process of *deurbanisation* because of colonial rule and the consequent deindustrialization, as many towns with specialization in manufacturing activity such as handlooms had disappeared from the urban landscape of Andhra[7].

Urbanization in Andhra Pradesh was rapid especially during the 1970s and 80s. The commercialization of agriculture after the green revolution speeded the urbanization process in the state. This took place on the one hand, as part of the agricultural surplus moved to urban areas and manufacturing activity; on the other, through trade in agricultural commodities and inputs. The capital mobilised through agricultural surplus moved into agro-processing and other industrial activities. The industrial structure of the state in the 1960s and 70s was dominated by agro-based industries and the share of non-agro-based industries increased later[8].

Industrially backward Andhra Pradesh made considerable progress in the 1970s and 80s through massive central public sector investment in heavy and capital intensive industries. The private sector also contributed. However, most of this industrial progress was concentrated in a few pockets of Andhra Pradesh and more specifically in and around the cities. The growth of industry during the 1960s and early 1970s was more dispersed and thereby led to an increase in the number of industrial towns. The concentration of industrial activities in a few pockets from the late 1970s increased the process of urban agglomeration in 1980s.

Along with industrial activity, the service sector, especially related to information and communication technology is booming in urban Andhra Pradesh. However, most towns have become service oriented in the recent past. According to the 2001 Census, of the total 173 towns in Andhra Pradesh about 168 towns are predominantly service towns as more than 40 per cent of their workforce is engaged in the service/tertiary sector. Very few towns of Andhra Pradesh are predominantly industrial/ manufacturing towns.

The urban economy in the state is growing fast as well as in India and contributing significantly to the state as well as national income. According to an estimate, in Andhra Pradesh the contribution of the urban economy is 41.8 per cent of the total net income of the state (DES, 2006). By sectors, the contribution of the urban economy in the state was about 4 per cent of the net income in agriculture, 40 per cent of industry / secondary and 61 per cent of service / tertiary sectors. Per capita income in the urban economy in 2004-05 was Rs. 36,252 (in current prices) which was 1.5 times higher than the state average (rural urban combined) of Rs. 23,807.

[5] Trade, commerce and industry grew with the emergence of the mercantile community. Numerous towns came up to serve non-agricultural activities. Urban areas are basically trade/business centres, industrial towns and administrative headquarters. Therefore, urban growth both in terms of population and economy depends upon the growth of industry, trade and other services. Some urban centres were known for their specializations in trade/business, industry and other services.

[6] i. e. since Industrial Revolution.

[7] Telugu-speaking region of the former Madras Presidency.

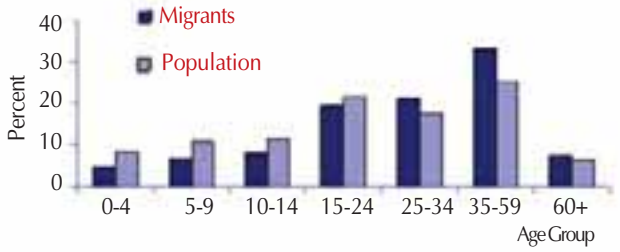
[8] The urban scene of Andhra Pradesh was dominated by primary towns followed by industrial and service towns. Over time the per cent of industrial towns increased indicating the shift in the economic base of towns. The predominance of industry especially in cities indicates the concentration of economic activities.

13.2.b Migration

Migration is an important factor contributing to urban population growth and it has a bearing on the urban economy. Both push factors like rural and agrarian distress, and pull factors like better employment opportunities encourage rural-urban migration. The class of migrants ranges from the severely poor to the large-scale industrialist and business class with plenty of capital. Accommodating these classes of migrants and providing basic amenities and infrastructure for them is a serious challenge for urban local governments.

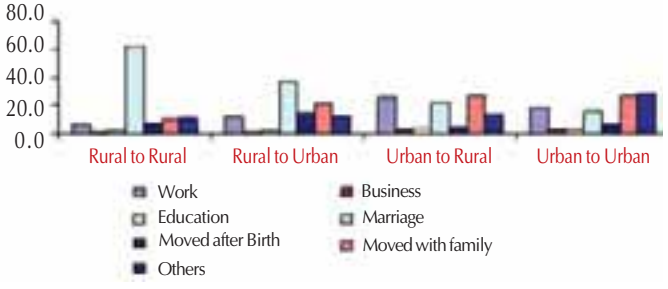
As per the 2001 Census, of the total population of 76.2 million in AP, 30 percent (i.e. 22.8 million) were migrants. Around 7.26 million, or 30 per cent of the total migrants in the state, are located in urban centres. The

Figure 13.1: Age Distribution (%) of Migrants in Urban AP, 2001



share of migrants in urban population (20.8 million) is around 34.9 per cent. Of the total migrants in urban Andhra Pradesh, 55.5 per cent came from within the respective districts and 36.9 per cent from other districts of the state, and around 7 per cent from outside the state but within India. It was observed that the proportion of migrants to the total population in the urban sector varies between cities and non-city urban areas where it was higher for non-cities as compared to cities. It is also to be noted that non-city urban areas attract migrants mostly from within their respective districts whereas cities attract migrants from other districts within the state and outside state.

Figure 13.2: Percentage Distribution of Migrants in AP by Reason for Migration in each Stream, 2001



The age distribution of migrants in comparison with that of population indicates that the percentage of younger age group was lower among migrants than in the population and for older age groups it was vice versa. The per cent of 35 to 59 year olds which is the most productive age group, was relatively higher among migrants as compared to their share in total population (see Figure 13.1)

The streams of migration in Andhra Pradesh show that about 53 per cent of the total migrants moved from rural to rural, 5 per cent moved from urban to rural, 14 per cent from rural to urban and 10 per cent from urban to urban, as per the 2001 Census (see Figure 13.2). The net migration to urban areas from rural areas is 9 per cent of the migrants. Marriage was the most common reason for migration, and it was very high in rural to rural migration, especially among women. Another significant reason was 'moved with family' as the dependants (younger and old age) in the family would follow the working member of the family.

The work participation rate among migrants in Andhra Pradesh was higher in total (52 per cent) and in urban areas (39 per cent) than in the general population in 2001. For 19 per cent of the urban migrants in the state work/ employment and business was the reason for migration.

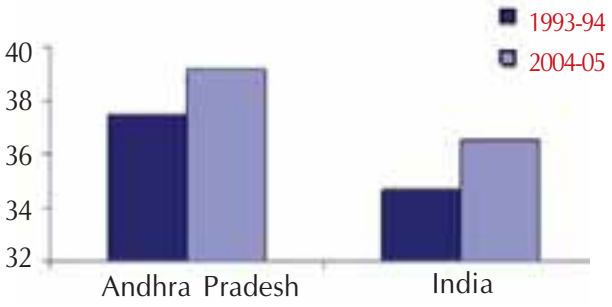
13.2.c Employment

The structure of employment in urban areas shows considerable heterogeneity. In rural areas, agriculture is the major activity and many of the non-agricultural activities are related to agriculture. Whereas, in the urban sector, though non-agriculture is main source of livelihood, it has multiple sub-activities. The organized workforce in urban areas is higher than in rural areas.

In Andhra Pradesh, of the total workforce of 40 million in 2004-05, 8.6 million comprising 21.5 per cent were located in urban areas and the share of urban in total workers had increased by two percentage points from 19.4 per cent in 1993-94 (see Figure 13.3). It may be noticed that in AP the share of urban in the workforce is lower than that of the population. The work participation

rate in urban AP increased from 37.5 per cent in 1993-94 to 39.2 per cent in 2004-05 which is higher than the all-India average. The growth of the urban workforce between 1993-94 and 2004-05 in Andhra Pradesh was 1.87 per cent which is lower than the growth of 3.82 per cent between 1983 and 1993-94. In this respect the performance of the urban sector in the state when compared to the all-India average was better in the 1980s, but in the 1990s the state lost its advantage. The growth of employment at all-India level was 3.11 and 3.3 per cent respectively for the two periods.

Figure 13.3: Work Participation Rate in Urban Sector



Of the total workforce in the urban sector in AP in 2004-05, about 90 per cent was concentrated in non-agricultural activities (84.6 per cent in 1993-94). Among non-agricultural activities, trade (24.7 per cent), community services (19.5 per cent), manufacturing (19.3 per cent), transport (11.2 per cent), construction (8.9 per cent), and finance (4.9 per cent) activities accounted for a significant share of the urban workforce in the state in 2004-05 (see Figure 13.4). When compared to the situation in 1993-94, while the share of the workforce in agriculture, community service and electricity sectors declined in 2004-05, this decline was compensated by an increase in the share of all the other sectors. The urban workers in non-

Figure 13.4: Percentage Distribution of Urban Workers by Industry Category

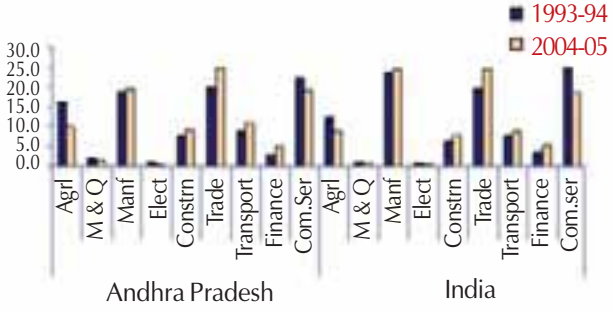
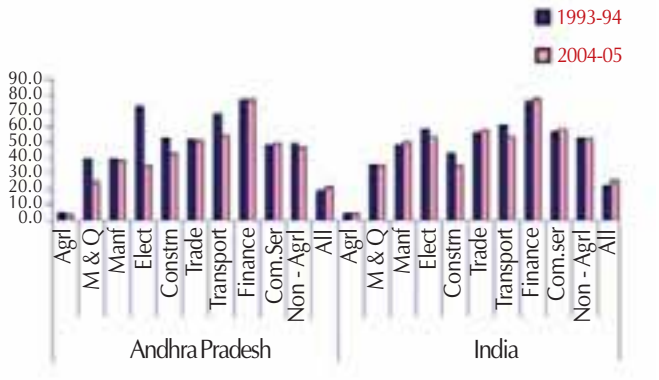


Figure 13.5: Share of Urban to Total Workers in each Industry Category



agricultural activities constituted about 46.6 per cent of the total non-agricultural workers in the state in 2004-05, which had, in fact, declined from 49.3 in 1993-94. Urban workers account for about 77 per cent of the total workers engaged in financial activities in the state (2004-05). The share of urban workers is higher than their share in total population in all industry categories except agriculture and mining & quarrying (see Figure 13.5).

The employment structure in urban Andhra Pradesh indicates that the share of the primary/agriculture sector is shrinking and is being replaced by an increase in the share of secondary and tertiary/service sectors (see Figure 13.4). For instance, between 1993-94 and 2004-05 the share of agriculture in total urban workforce in the state declined from 16 to 10 per cent, whereas the share of the secondary sector increased from 28.8 to 29.8 and the tertiary sector has shown a 5.4 percentage point increase from 54.8 to 60.2 per cent during this period. Within non-agriculture, the growth of the workforce is higher in the service sector (2.8 percentage points) than the secondary sector (2.2 per cent) during the same period. The share of manufacturing alone increased from 19 to 19.5 per cent and the workforce in this sector grew at a rate of 2.1 per cent. These facts indicate that the dominance of the service sector has been increasing in the urban economy.

Within the service sector, employment in information and communication technology (ICT) related activities has been growing fast in Andhra Pradesh. More than 90 per cent of the employment generated in this sector (ICT) is located in urban areas especially in big cities like Hyderabad and Visakhapatnam.

The quality of employment appears to be improving in urban areas. In urban Andhra Pradesh, between 1993-94 and 2004-05, while the percentage of the self-employed and regular salaried workers in the total workforce increased from 40.1 to 44.5 per cent and 34.1 to 36.2 per cent respectively, there was a concomitant decline in the percentage of casual labour from 25.3 to 19.3 per cent. It must be noted that increasing self-employment may not indicate an improvement in quality of employment as it includes a whole gamut of activities from street vendors and hawkers to well- established businessmen and shopkeepers. In fact the National Commission on Enterprises in Unorganised Sector (NCEUS) has pointed out the adverse conditions of the self-employed in the urban sector.

One of the pressing issues in the urban economy is unemployment, especially among the young and educated. The unemployment rate of the urban labour force in Andhra Pradesh was 4 per cent by usual status, 5.2 per cent in current weekly status (CWS) and 7.9 per cent in current daily status (CDS) in 2004-05. A relatively higher rate of employment in CWS and CDS when compared with usual status indicates higher level of seasonal unemployment in the state. The unemployment rate is even higher among educated adults (See Table 5.4 in Chapter 5).

13.2.d Poverty and Inequality

As already pointed out, Andhra Pradesh is distinctive among Indian states because the urban poverty ratio in the state is higher than the rural ratio (see Chapter 4). While the rural poverty ratio in the state is much lower than the all-India average, urban poverty is much higher, because the rate of decline in rural poverty was higher than in urban poverty. While the rural poverty has declined by 16 percentage points during the last two and half decades from 27.31 per cent in 1983 to 11.20 per cent in 2004-05, urban poverty has declined by just 9.5 percentage points from 37.49 to 28 per cent during the same period. In comparison, urban poverty in India declined by 16.97 percentage points from 42.27 to 25.7 per cent in this period. One of the many reasons for high urban poverty in AP could be the migration of the rural poor to the urban areas.

In addition, the urban economy of Andhra Pradesh also experienced growing economic inequalities. As mentioned in an earlier chapter, the gini coefficient of per capita consumption expenditure, especially in urban areas, has been increasing during the last two and half decades, which indicates adverse distribution (see Chapter 4). It can be inferred that the increasing wealth in the urban economy is concentrated in certain sections and that policy measures are not in place to correct this accumulation and promote trickle down benefits of economic growth. It is also observed that due to the increase in inequality, the decline in poverty levels had slowed down, which otherwise would have been higher.

13.3. Human Development, Civic Amenities and Environment

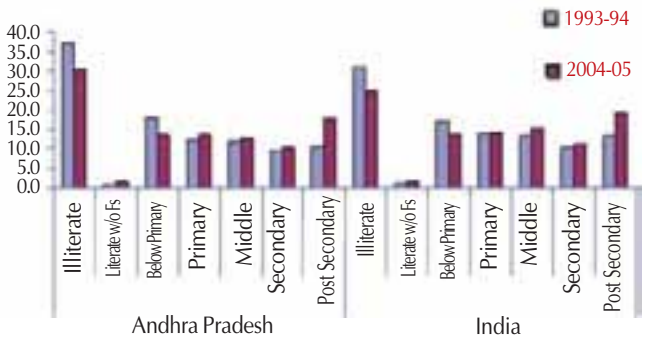
One of the factors contributing to rapid urbanisation is the availability of better basic infrastructure in urban areas when compared to rural areas. Because of this advantage, urbanisation is also seen as better economic and human development. However, the rapid growth of urbanization but without proper environmental safeguards has been a cause of serious concern. The deteriorating urban environment is the cause of many health hazards such as cancer, heart diseases, stress, etc. This deterioration in environmental safeguards may reverse the process of human development.

13.3.a Education and Health

The levels of education are higher in urban areas in general and in Andhra Pradesh in particular, given the urban advantage in education infrastructure when compared with rural areas.

According to the 2001 Census, the urban literacy rate in Andhra Pradesh was 76.4 per cent which was well above the rural average in the state (55.5 per cent) but below the all-India urban average (80.1 per cent). About 28.1 percent of the urban population in AP had completed secondary education and above in 2004-05 (NSS 61st round), whereas it was below 5 per cent in the rural population. However, urban AP is lagging behind the all-India average for urban population which was 30.2 per cent (see Figure 13.6).

Figure 13.6: Percentage Distribution of Urban Population by Education Levels



It is observed that though the performance of urban Andhra Pradesh in terms of education is relatively better than rural areas in the state, it has been relatively poor when compared with many other Indian states especially in south India, as well as the all-India average. In fact the performance of AP is only just better than the most backward states in India like Bihar, Madhya Pradesh and Rajasthan.

The positive aspect of urban educational infrastructure is that physical access to schools is easier as schools are within the neighbourhood and have a number of students from their vicinity. School infrastructure may be optimally utilized as they have enough students. But there are negative aspects also in many urban schools. These are: overcrowding, high teacher-pupil ratio, bad condition of school buildings, absenteeism of teachers etc. especially in government schools. In addition, there is increasing privatization of schools. The consequence is the increasing cost of schooling. According to District Information on School Education (DISE) more than 50 per cent of schools and 60 per cent of the enrolment at the elementary level are in the private sector in urban Andhra Pradesh.

When it comes to health, the performance of Andhra Pradesh in general is lagging behind although it is doing well in terms of a few demographic indicators such as fertility decline and therefore decline in population growth. According to NFHS III (2005-06), the total fertility rate (TFR) of urban Andhra Pradesh is 1.73 which is less than that of India (2.07).

The state is better than the all-India average in terms of infant mortality rate, antenatal care and institutional deliveries. The IMR of urban Andhra Pradesh in 2005-06 was 33, well below that of rural Andhra Pradesh (64) and urban India (42). Around 98 per cent of pregnant women had antenatal care in the urban areas of AP whereas it was 91 per cent in urban India. While the percentage of institutional deliveries was 85 per cent in urban AP, it was 69 per cent in urban India. In terms of the nutritional status of children, about 29.1 per cent of children below 3 years were found to be underweight in urban AP; for urban India it was higher at 36.4 per cent. About 72.0 per cent of urban children in AP are anaemic whereas it was a little higher in India (72.7 per cent). Nevertheless, the performance of urban AP in these indicators is relatively poor when compared to the south Indian states.

Though the urban population has an advantage in health care because of higher awareness, greater access to health facilities and advanced medical technology, the disease profile of urban areas and prevalence rate is as high as in rural areas. Some of the more common tropical diseases are more prevalent in urban areas. Further, the changing nature of urban lifestyle itself leads to a new set of illnesses among the urban population. The spread of new variants of diseases like *chickungunya* and epidemics such as HIV/AIDS are mostly concentrated in urban areas of Andhra Pradesh.

The access to health care facilities is relatively better in urban areas when compared to rural areas in general and in Andhra Pradesh in particular. Though urban areas have more health care facilities in both the public and private sectors, most are secondary and tertiary level health care facilities. In urban Andhra Pradesh corporate hospitals and privatization of health care are increasing rapidly which in turn are increasing the cost of health care. This has far-reaching implications on household budgets, especially of the poor, in the state. Moreover, urban areas do not have primary level health facilities like rural primary health centre (PHCs).

13.3.b Housing

Shelter is the most important basic human need along with food and clothing. Housing has become very expensive for the urban poor in particular and middle classes in general. The soaring price of land with the effect of the real estate boom recently has severely affected the capability of urban residents to obtain shelter. Housing is a nightmare

for the urban poor, and soaring rents reduce the affordability of decent housing. Many therefore live in over- crowded housing.

According to the Census 2001, 1.64 lakh people are houseless in Andhra Pradesh. About 0.67 lakh, or 40.7 per cent, are located in urban areas. Clearly, the incidence of people without shelter in urban areas is more than their share in the total population of the state.

Of 16.8 million households in the state, 4.2 million are located in urban areas. About 68 thousand, comprising 2 per cent of the total urban households did not have even one room and about 1.47 million comprising 35 per cent of the total urban households were living in a single room house. Most of these households had more than three members. About 90 thousand households lived in dilapidated houses (Census, 2001). It is observed that only 8 per cent of the total beneficiaries of different housing schemes of the Government of Andhra Pradesh were from urban areas, a pointer to the neglect of housing for the urban poor.

Moreover, safety and security concerns of urban life are important. Three major threats to the safety and security of urban areas, especially cities, are crime and violence; insecurity of tenure and forced evictions; and natural and human-made disasters.

13.3.c Urban Water Supply

One of the basic amenities urban people are deprived of is access to water, especially drinking water. The present condition of water supply in almost all the municipalities in the state is below the national standard. Water shortage is as high as 75-100 per cent in 9 municipalities, between 50-75 per cent in 24 municipalities, between 25-50 per cent in 26 municipalities and below 25 per cent in 32 municipalities. There is no deficit only in 12 municipalities although the distribution systems need immediate upgradation (Reddy and Behra, 2003). According to CPCB (2000), out of the 32 class I cities, 25 have less than 100 lpcd (litres per capita per day), 6 between 100-200 lpcd and one between 200-300 lpcd in Andhra Pradesh. The picture of per capita water supply is similar in class II towns. In the 30 of 34 towns, the water supplied is less than 100 lpcd and between 100-200 lpcd in 4. Moreover treatment of sewerage is totally inadequate, as most of the towns do not have proper underground sewerage systems. Again most of the sewerage flows into open drains causing groundwater pollution. In Hyderabad city where the water supply is 670 MLD and the estimated sewage is 536 MLD only 25 per cent is treated.

13.3.d Industrial Pollution

The increasing number of extremely polluted industrial areas like Patancheru, Bolaram, Katedan, Azambad etc. in and around Hyderabad and some in Vishakapatnam and Vijayawada are a negative offshoot of industrial growth in the state especially during the last few decades. Among the different industries fertilizers, pharmaceuticals, bulk drugs, pesticides, dye and dye intermediaries, textiles, paper and pulp and sugar are highly polluting, and cause air and water pollution.

About 173 units were identified as polluting industries in the state (as on 31-12-2002). Of these 29 were closed and 144 have the facilities to comply with the standards. A large number of highly polluting industries discharge their effluents into rivers and lakes and coastal waters. Some studies have noted that anthrop-ogenic matter such as industrial effluents and domestic sewage has resulted in a deteriora-tion of water quality, causing mass mortality of fish. Of the sixty such industries in Andhra Pradesh, 18 units were closed and the others now have the requisite facilities for treatment or disposal (MoEF, 2002-03). About 60 per cent of the industries are classified as red (having effluent treatment facilities) but the percentage is lower in both green and orange industries in the state.

13.3.e Solid and Hazardous Wastes

Disposal of solid and hazardous waste is becoming an environmental problem. In Andhra Pradesh 32 Class I cities generate solid wastes of about 3943 MT/day (Metric ton per day) of which only 285 MT/Day are treated. The per capita solid waste generated in Class I Cities is 0.364 kg/day (CPCB, 2000). The physical composition of solid waste shows that 61 per cent is ash and fines, 34 can be composted and the remainder is paper, plastic, glass, textiles etc. More than fifty percent of the solid waste generated in the state is accounted for by Hyderabad. About eighty per cent of the waste is lifted on a regular basis but only 40 per cent is sent for composting or manure pits (APPCB, 2000).

The major hazardous waste generating industries include petrochemicals, pharmaceuticals, cement, paint and dye, pesticides, petroleum, fertilizers, asbestos, inorganic chemicals and general engineering industries. According to one estimate, about 6878 metric tonnes of hazardous wastes are generated in the state, of which only 51 per cent is recyclable. More than 60 per cent of the hazardous waste is generated in Medak and Ranga Reddy districts. There are no illegal[9] dumpsites in twelve states and four union territories in India whereas Andhra Pradesh is at the top with 42 illegal hazardous waste dumpsites followed by Karnataka with 18 illegal sites (MoEF, 2006).

13.3.f Air Pollution

Air pollution generated by human activities has been a cause of concern in urban and industrial areas in the state. The common pollutants are sulphur dioxide (SO_2), nitrogen oxides (NO_x), suspended particulate matter (SPM), hydrocarbons (HCs), carbon monoxide (CO), lead (Pb) etc. Vehicular pollution is the major source of air pollution in the state. The number of registered vehicles increased from 3.3 million to 5.4 million between 1998 and 2004. About 82 per cent of the total vehicles registered in the state in 1998-99 were two wheelers which had marginally declined to 79 per cent by 2003-04. But the number of four wheelers increased slightly during the same period. In Hyderabad city the annual average values of major pollutants like SO_2, NO_x and RSPM all show an upward trend especially since 2001. Noise pollution, which is a severe health hazard, is often neglected. The main sources of noise pollution are heavy traffic and commercial areas in the city. The levels of noise pollution assessed in different parts of the city are found to be 15 to 20 decibels above the normal limit. In commercial areas the noise level ranges from 64.8 to 78.9 decibels, whereas in residential areas it ranges from 61.5 to 83.8 decibels. In industrial areas, the noise level ranges from 59.2 to 67.2 decibels (Reddy and Behra, 2003).

13.4 Slums: The Underprivileged

Slums are an integral part of urban India. Poor households, poor quality shelter, inadequate water supply, unsanitary conditions and high incidence of sickness are characteristics of slums. Andhra Pradesh has the maximum number of cities/towns (77) reporting slums among all the states in India. The NSS report on Conditions of Urban Slums 2002 notes that Andhra Pradesh accounted for 14.9 per cent of the slums in India and the state is ranked third after Maharashtra (32.2 per cent) and West Bengal (15.7 per cent). As per the 2001 Census there are about 5.2 million people (25 per cent of the urban population) living in slums in Andhra Pradesh. The percentage of slum population to total population ranges from less than 2 per cent in Mahabubnagar and Srikakulam to 16.85 per cent in Hyderabad and 15.66 per cent in Ranga Reddy. The percentage of slum population to total urban population is very high in most districts in Telangana and Rayalseema and in a few districts in Coastal Andhra. In some districts, though the level of urbanization is relatively low, a considerable proportion of the urban population is living in slums.

Urban localities which are notified as slums by respective municipalities, corporation or local bodies are termed as notified slums whereas a not-notified slum is a compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together with inadequate sanitary and drinking water facilities, in unhygienic conditions, if at least 20 households live in that area (NSSO, 2002). About 85 per cent of the slum households are living in notified slums in the state. The density in notified

[9] As per the directives of the Supreme Court all the State Pollution Control Boards are required to carry out an inventory of hazardous waste dumpsites and are required to make an assessment with regard to the extent of soil and ground water contamination in and around such dumpsites.

slums is higher than in slums that are not notified. On an average 205 households live in notified slums as against 112 households in not-notified slums.

In Andhra Pradesh, 82.7 per cent are notified slums as compared to 50.6 per cent at the all-India level. The majority of slum households live on public lands (about 60 and 71 per cent of the notified and not- notified slums respectively). Deprivation of basic amenities is very high especially in the slums that are not notified. For example, while 87 per cent of the notified slums have access to tap water only 46 percent of the non-notified slums have this facility. Water logging is a major problem in slums when it rains (37 and 69 per cent of the notified and not-notified slums are affected in the state). The sanitary conditions are very poor in slums, especially those which are not notified. While as many as 68 per cent of the not-notified slums do not have any latrine facilities, the corresponding figure is 10 per cent for notified slums. Similarly more than 60 per cent of the slums do not have any drainage facilities (NSSO, 2002).

13.5 Hyderabad: The Emerging Cyber City

With a population of 7 million, Hyderabad is the capital city of the state of Andhra Pradesh and home to a number of prestigious institutions, such as the Indian School of Business (ISB), and key Indian public sector and defense enterprises. The city is also home to many major Indian pharmaceutical and biotechnology companies[10]. A number of multinational companies (MNCs) have set up key operations in Hyderabad[11]. There are good employment opportunities especially for the educated in and around Hyderabad in a broad range of fields, including IT, ITES, biotechnology, pharmaceuticals, textiles, food processing, safety and security, and defense. Hyderabad is well connected nationally and internationally with an international airport.

The city of Hyderabad was founded on the banks of the river Musi in 1591 by Sultan Mohammed Quli Qutub Shah with an area of 1.2 sq Km. The city of Hyderabad has the rare distinction of having been the capital of a number of ruling monarchs since its foundation and continues to be the capital of Andhra Pradesh since its formation in 1956[12]. As a capital it was not only a centre of administration but also for trade and business activities. Though located in a landlocked region of the sub-continent, the city was well connected with the world outside through the port of Machilipatnam which was developed as a maritime gateway to the Deccan and Golconda. The road connecting Hyderabad with Machilipatnam linked the city to the coast and thereby the global market through maritime trade. This link and trade activity contributed to the prosperity of the region and the city for several centuries (Baru, 2007).

The city of Hyderabad had thus been a global trade centre for a long time and continued its global status especially in the era of information and communication technology revolution in the recent past. Hyderabad is one of the most favoured destinations for IT companies, both Indian and foreign. With the establishment of the Hi-tech city, Hyderabad has also got the tag of Cyberabad.

As per the 2001 Census the city of Hyderabad has a population of around 5.7 million which increased by 32.2 per cent during the last decade from 4.5 million in 1991. The city comprises an urban agglomeration (UA) which consists of the Municipal Corporation of Hyderabad (MCH), ten surrounding municipal towns, Secunderabad Cantonment, Osmania University, four census towns and some outgrowth, which include rural settlements with a total area of 778 sq. Kms. Much of the spatial expansion in the last two decades in the Hyderabad Urban Agglomeration (HUA) has occurred in the surrounding municipalities. These towns recorded a high growth rate of 71 per cent

[10] including Dr. Reddy Labs, Shanta Biotech, Aurobindo Biotech, and Bharat Biotech.

[11] such as Microsoft's India Development Center and Google's India Center etc.

[12] It was the capital of the Nizam's state of Hyderabad and its predecessor kingdom of Golconda.

in the nineties as compared to only 18.7 in the core city (i.e. MCH). Several of these towns have been growing at high rates from the eighties onwards. Together, their share of population in the HUA has increased from about 23 to 30 per cent while there has been a corresponding decline in that of MCH. The core city (MCH) has a very high population density. The only other high density zone is Gaddiannaram which is the smallest municipal town in Andhra Pradesh[13] (Ramachandraiah, 2003).

Hyderabad, has recorded a high growth rate of population after becoming the capital of the integrated state of Andhra Pradesh in 1956, and especially since 1971. Since the erstwhile MCH area was already crowded much of the growth since 1981 has occurred in the suburban municipalities.

13.5.1 Migration

Given its advantages of being a global trade/business centre Hyderabad attracts a wide variety of migrants (from poor casual labourer to well established capitalists, industrialists and businessmen) not only from other parts of the state but also other states of India and abroad. About 1.4 million persons comprising 25 per cent of the total population of the Hyderabad UA in 2001, are migrants to the city.

Table 13.3: Inter-district Urban in-migrants to Hyderabad-Rangareddy Districts, 2001

Sno	Region/Zone	Percent
1	*2*	*3*
1	North Telangana	12.8
2	South Telangana	38.4
3	North Coastal Andhra	3.5
4	Godavari-Krishna Delta	25.1
5	South Coastal Andhra	5.5
6	Rayalaseema	6.4
7	Unclassified	8.4
	Total	**100**

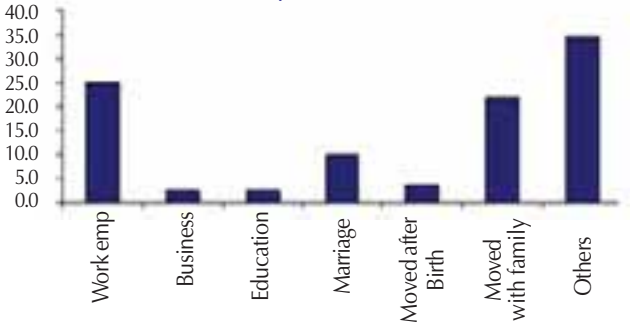
Note : 1. South Coast – Nellore and Prakasam; GK Delta – East&West Godavari, Krishna and Guntur.

Source : Census of India.

[13] The MCH and its surrounding municipalities have now been constituted into a single entity, Greater Hyderabad Municipal Corporation (GHMC) with effect from April 2007.

Although it is not possible to derive directly region-wise details of migration to Hyderabad city from any source of data, an attempt is made through an indirect method (see Table 13.3). According to the Census 2001 five south Telangana (38.4 per cent) and four Godavari-Krishna Delta (25.1) districts are major contributors to inter-district urban in-migrants to Hydrabad and Rangareddy districts (that is, Hyderabad city). Of the total migrants, about 27.6 per cent stated that the reason for migration was work/ employment or business. Another major reason was 'moved with family' and 'moved after birth'. The dependent members of the migrant families may have to move along with the family. Marriage was yet another major reason for migration (see Figure 13.7).

Figure 13.7: Distribution (%) of Migrants in HUA by Reason, 2001



13.5.2 Education in Hyderabad

The city of Hyderabad is not only a place of work but also a place of learning and a centre for many educational institutions ranging from lower to higher levels, offering a wide variety of courses in general, technical and vocational streams both in the public and private sectors. Many of the educational institutions in the city are serving not only the students from the city but also students coming from other parts of the state as well as from the rest of India.

Nevertheless, elementary education is the most important and a fundamental right of every child whether living in urban or rural areas. It is observed that the school attendance rate among 5 or 6 to 14 years age group children is relatively higher in urban areas when compared with rural children. But the attendance rate in Hyderabad city was relatively lower than many other urban centres in the state. Though there is no data at the city level to support

this statement, we can compare attendance rate of urban children of Hyderabad and Rangareddy districts with that of the other districts in the state. Based on the 2001 Census data, the attendance rate in Hyderabad district was 79.2 per cent and for Rangareddy district urban area was 78.5 per cent. These are lower than the attendance rate among the urban children (81.6 per cent) of the most backward district in the state, Mahabubnagar.

Conditions of Government Schools

There are 820 government schools in the city. Of these 267 schools have their own buildings and 211 are functioning in rented buildings. A large number (342) are operating in the community hall, most of them are single room structures built in slum areas. They have neither proper lighting nor ventilation, and no drinking water and toilet facilities. It is common in these localities for students of all the elementary classes to sit in a single-room hall in cramped conditions. These schools get undeclared holidays whenever there is any cultural activity in the locality. Parents in these localities who have some capacity to pay school fees send their children to nearby private schools[14].

A survey conducted in 2004 by a non-governmental organization of 391 schools serving around 68 thousand students in the Old City[15], found that about 69 per cent of students dropped out in 2002-03; 410 teacher posts were remaining vacant; 259 schools had no drinking water facility; 270 schools did not have electricity; 121 had no toilets; 174 were functioning in rented buildings; 137 buildings were not in good condition; and most of those schools had only two rooms.

13.5.3 Health Care in Hyderabad

Hyderabad as the capital city has an advantage in health and medical care facilities. Health care facilities in the city, particularly the large number of secondary and tertiary level hospitals, serve not only the people living in and around the city but also people from more remote parts Andhra Pradesh. But the rapid expansion of health care facilities particularly in the private sector is a cause for concern because of the increasing burden of health care expenditure on individual households, especially the poor. Another disadvantage is the inadequacy of primary health centres in the city.

Disease Profile in Hyderabad

A study[16] based on the information[17] collected for 34 diseases from the Fever Hospital which is a major referral hospital for infectious diseases for the poor and low-income families in the city shows that the number of in-patients has been more than 11,000 every year, with the number going up to 15,703 in 2005. A positive feature is the lower number of deaths over the last five years, though the number has not fallen below 100.

Of the 34 diseases, 14 diseases are the major causes of morbidity and mortality. Some of these are diarrhea, malaria, enteric fever and viral pyrexia/fever, which account for more than 90 per cent of the morbidity cases and an even higher share of deaths. Diarrhea and viral pyrexia/fever are the two major causes of hospitalization of the poor in the city. It may be noted that both these diseases are related to lack of clean drinking water, poor sanitation and low resistance. Though the number of cases of rabies and tetanus are fewer, the diseases are fatal, accounting for over half of all deaths. 2005 seems to have been a very bad year with a very high number of hospitalization cases. Diphtheria is known to have been controlled through immunization but has resurfaced and the number of cases is increasing each year, and had crossed 800 (the highest in five years) in the first nine months of 2006. After tetanus and rabies, diphtheria is the third important cause of mortality followed by diarrhea.

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[14] "Government Schools these?", *Andhrajyothy*, Telugu Daily, Hyderabad, 24 May 2006.

[15] PUCAR – Peoples Union for Civic Action and Rights, Hyderabad.

[16] Sheela Prasad and C. Ramachandraiah (2007) "Health Services and Disease Profile of Hyderabad City: A Pilot Study" a report submitted to the Federal Ministry of Education and Research (BMBF), Germany.

[17] To get an overview of the types of diseases prevailing in Hyderabad, information was collected for 34 diseases from the Ronald Ross Institute of Tropical Diseases, popularly known as the Fever Hospital, in the city. It is a major referral hospital for infectious diseases for the poor and low-income people. The patients thus hail from areas beyond the MCH also. The information has been collected for five years from 2001 to September 2006 in addition to monthly data for 2005 and 2006. The data pertains to the number of in-patients (cases) and morbidity.

The number of out-patients visiting the hospital has also been continuously increasing with 2005 recording the highest number. What is disturbing is that even while the number of new patients is rising, the number of visits by the old patients (repeated visits) is also increasing. This indicates that even if the patients are not admitted to the hospital, they are not becoming free from health problems and are thus forced to visit the hospital frequently. The disease pattern thus indicates the inadequate provision of clean drinking water and environmental sanitation in the slums of the Hyderabad city.

13.5.4 Basic Amenities in Hyderabad

One of the pull factors in urban migration is better infrastructure and other civic amenities. Similarly, Hyderabad as the capital city has an advantage in infrastructure and civic amenities. However, the kind of urbanization in the state that is regionally unbalanced and disproportionately tilted to large metropolis has over-strained the resource base in cities, especially in Hyderabad.

With the effect of the real estate boom and consequent soaring prices of land, housing and house rents, the affordability of housing has been affected for the middle class and lower income households. The increasing influx of migrants and floating population along with inadequate road infrastructure and (public) transport system in addition to the increasing number of private vehicles has worsened traffic problems.

With respect to water supply, the situation has improved now with the availability of water from the river Krishna, as compared to 10-15 years ago. Nevertheless per capita water consumption in Hyderabad is lower than in many other cities in India. This could be attributed to inadequate water supply. Though there has been an improvement in drainage and garbage clearance and solid waste management, it is inadequate given the ever-increasing population in the city.

13.6 Conclusions

Urbanisation is a natural consequence of the process of industrialization and rapid population growth. While population growth acts as a push factor for sending people out of rural areas to ease pressure on land, the industrialization process pulls them by providing employment opportunities and better infrastructure and service facilities in the urban centres. Although urbanization is considered an inevitable part of development, it has its own challenges too. The uneven distribution of urban population which is concentrated more in cities by-passing small and medium towns overstrains the resource base of the cities. The small and medium towns are neglected. This is affecting the quality of urban life.

Andhra Pradesh is one of the major Indian states in which more than one-fourth of the population lives in urban areas. However, the contribution of the state to total urban population in the country has shown a declining trend. The urban process in Andhra Pradesh is leaning towards metropolitan centres leading to unbalanced regional urbanization.

Though the performance of the urban sector is relatively better than the rural sector in the state, its performance is relatively poor when compared with the urban sector of many other states and the all-India average. Poverty and inequality levels in the urban sector in the state are relatively higher when compared with the rural sector, as well as in comparison to all-India levels.

CHAPTER XIV

14 The Way Forward
Conclusions and Policy Implications

The progress of the state in human development is impressive. But there are significant divides in the progress- regional, Rural-Urban, Social, Gender and Child. In some areas there is signs of improvements while in some, the divides are sharp and continue persist. There are strong social, economic, and political reasons for raising human development following inclusive growth approach.

This chapter recapitulates the main findings and discusses policy implications for improving human development in Andhra Pradesh. As mentioned in the introductory chapter, A.P. is unique in several respects. Some of these unique features are: its history of social movements; it was one of the few states which adopted the green revolution; development of participatory institutions including self-help groups; its remarkable progress in technical education; its innovative poverty alleviation strategies; its distinctive demographic experience, and the state was at the forefront in economic reforms. The experience of Andhra Pradesh with these unique features raises several far-reaching issues on the strategies to be followed in improving human development.

One of the conclusions of the report is that there has been a 'turnaround' in economic growth and fiscal performance of A.P. in recent years. However, growth has to be broad-based and benefit all sections of society. In other words, the focus should be on 'inclusive growth' as there is still a considerable degree of poverty, inadequate human development, problems in agriculture, insufficient quantity and quality of employment , significant regional, social and gender disparities and problems in delivery systems. There has been considerable progress in A.P. in all these components of inclusive growth but this has not been sufficient for achieving broad-based and equitable development.

The outcomes on human development in a state depend on historical factors, macro policies of the Central

Government, policies of the State Government including budget allocations and effective governance.

There have been several social movements in A.P. such as women's movements, *dalit* movements, tribal movements, agrarian and farmers' movements, regional identity movements and human rights movements. All these movements are aimed at acquiring due spaces for different sections of the population and regions which have been denied their due spaces historically in the economy, society and polity in the development process. As shown in Chapter 3, these movements have had a positive impact on women and marginalized sections. However, there were no important social movements to improve health and education in A.P. In this respect, Kerala and Tamil Nadu score over A.P. This could be partly responsible for the lower levels of human development in A.P. as compared to the other southern states.

The introductory chapter has pointed out some of the adverse impacts of the macro policies of the Central Government on employment and human development in the 1990s. There was an increasing feeling that only few sections of the population such as the rich and the middle class, particularly in urban areas, the corporate sector, foreign institutional investors and the IT sector have benefited from economic reforms. Fortunately, these issues of social exclusion are being discussed by politicians, bureaucracy, policy makers and civil society. The Common Minimum Programme of the UPA government at the Centre also stressed, among other things, the need to focus on agriculture, rural development, employment and social sector. There is some degree of consensus now that the benefits of growth should be shared by all sections of society rather than being limited to a few categories of the population. The 11th Five Year Plan also lays stress on faster and more inclusive growth to bridge the divide. Financial allocations to education have been doubled in the 11th Five Year Plan as compared to the 10th Five Year Plan. These are positive developments and should improve human development in several states.

Similarly, there have been positive developments in A.P. in the first half of this decade as compared to the 1990s. Economic growth and the fiscal situation in A.P. have improved in recent years. In the 1990s, the fiscal situation has deteriorated in the Central and State governments. Andhra Pradesh was not an exception to this. The Report on Currency and Finance 2000/01 of RBI had warned about the deteriorating performance. It said, "the low and declining buoyancies in both the tax and non-tax receipts, constraints on internal resource mobilization due to losses incurred by state PSUs, electricity boards and decelerating resource transfers from the Centre have resulted in the rising fiscal deficits of State Governments, with an accompanying surge in the outstanding stock of debt" (p.34). Fortunately, the fiscal situation has improved in recent years in the states. There seems to have been a turnaround in the total revenue of A.P. in recent years. It increased from 12 to 14 per cent of GSDP in the late 1990s to 15 and 17.3 per cent in 2005-06 and 2006-07 respectively. This gives an opportunity to spend more on infrastructure and the social sector.

It is, however, known that allocation of funds is not enough and we have to examine how efficiently the funds are being utilized and what proportion of these funds are reaching the intended beneficiaries particularly the poor. In this context, decentralized governance and institutions become important for efficient delivery systems to improve human development. As elaborated below, there is a need for synergy between parallel institutions and Panchayati Raj Institutions for better governance.

To conclude, the macro environment in terms of growth and fiscal situation at both the Centre and the state level are much better now than before. There is also greater awareness now about improving delivery services through better governance. Andhra Pradesh should make use of these favourable developments to improve human development in the state.

Based on the analysis in this report, conclusions and policy implications for enhancing human development in A.P. are given below.

14.1. Bridging the Divides

One of the conclusions of this report is that divides in the economy and society in A.P. are significant. In some areas there are signs of improvement while in some

other areas the divides are widening. Bridging these divides should be one of the priority areas for A.P. Government.

14.1.1. Regional Disparities

Regional disparities in economic and social development are the most glaring among the divides. Some districts and mandals have benefited from the on-going growth process while some are untouched by change and have seen little improvement in economic and social conditions. It may be noted, however, that each region in the State has its own problems. Telangana (more in South), North Coastal Andhra and Rayalaseema are more backward. South Coastal Andhra has its own problems.

A comparison of levels of human development index in the early years of this decade shows that 11 districts recorded lower levels of human development as compared to the index value of the state. Of these 11 districts, five (Warangal, Nizamabad, Adilabad, Nalgonda and Mahabubnagar) are from Telangana, three (Kadapa, Kurnool, Anantapur) are from Rayalaseema and three (Srikakulam, Vizianagaram and Prakasam) are from North and South Coastal Andhra Pradesh. Most of the South Coastal A.P. districts showed above average human development in the state. In Telangana, districts like Hyderabad, Rangareddy, Karimnagar, Khammam and Medak reorded higher levels of human development as compared to the state average.

Analysis at the mandal level shows that in 60 per cent of the mandals in Telangana female literacy was less than 40 per cent while this was so only in 23 per cent of mandals in Coastal Andhra and 33 per cent of mandals in Rayalaseema. In the case of women and child development, Coastal Andhra had high Gender Empowerment Measure and Child Development Index, followed by Telangana. However, Rayalaseema has the lowest gender empowerment and child development indices among all the regions.

The disparities seem to be declining in economic growth and education but the divide between backward districts and developed districts is considerable. We have highlighted the regional disparities in the chapters of the report. With regard to the index of infrastructure at the district level the majority of the districts which are below the state average fall in Telangana, Rayalaseema and North Coastal Andhra. The government has been making efforts to reduce regional disparities.

There is a need to invest in infrastructure and social sector and develop institutions for better delivery systems in backward regions.

First, investment should be increased in less developed regions for higher growth and human development. Public investment is crucial for raising physical (irrigation, power, roads etc.) and human (health and education) infrastructure. Resources have to be devoted for infrastructure from central assistance including externally aided projects and own state resources. The role of the state government is important in allocating more resources for less developed states. The approach should be more pro-poor in the allocation of resources for different areas in the state. Since private investment is becoming more important in the post-reform period, the government should also act as a facilitator for raising private investment. Private investment will improve if physical infrastructure and skilled labour are available.

Second, problems of the agricultural sector have to be solved in backward areas. There is also the challenge of involving small and marginal farmers in diversification. Investment in irrigation and watershed development are important particularly for dryland areas. Similarly, credit, research and extension have to be improved in backward regions. Agro-processing activities have to be initiated in less developed regions. In order to reduce regional disparities in agriculture, a regionally diversified strategy has to be followed.

Third, technology plays an important role in reducing disparities in both agriculture and industry. The green revolution technology benefited small farmers also. Similarly, bio-technology, information technology and other new technologies can reduce regional disparities. With the spread of education and decentralisation of governance, IT can become a powerful tool in the hands of the people at large for their socio-economic betterment and overall empowerment.

Fourth, more effort is needed to generate productive employment in low income regions. Development of

agriculture and the rural non-farm sector will improve employment and wages in rural areas. Direct employment programmes such as wage and self-employment schemes have to be effectively implemented in less developed areas. There is a need to focus on youth employment also.

Fifth, social sector performance and social inclusion should be improved. In social sectors like health and education, insufficient allocations, especially in the post-reform period, poor quality of services, inadequate access for the poorer sections and lack of accountability of the systems to the community have emerged as major problem areas. Improvement in health and education in backward regions would improve economic growth and human development.

Sixth, to improve accountability and development, there is a need to devolve more finances, functions and powers to panchayats in order to make these institutions self-sustaining. Governance has to be improved in less developed regions.

14.1.2. Rural-urban divide

The other important disparity is the rural-urban disparity. Of course inter-regional disparities are related to these divides. Development and the quality of life are improving more rapidly in urban areas than in rural areas. This is partly due to the poor performance of agriculture in the state. On the one hand, the growth of GSDPin A.P. is more than 7 per cent. On the other hand, the share of agriculture in GSDP has dropped below 20 per cent without any appreciable shift in the proportion of population still dependent on agriculture for livelihood. This has resulted in a large disparity in output per worker between rural and urban areas and the relative impoverishment of rural areas. The government has to take necessary steps to bridge the rural-urban divide. Basically, agriculture and the rural non-farm sector have to be developed further. The former President of India Dr. A.P.J. Abdul Kalam has advocated implementation of the scheme 'PURA' –Providing Urban Amenities in Rural Areas. 'PURA' is a scheme to enhance physical, economic, knowledge, societal and electronic connectivity in rural areas. This scheme should be taken up seriously in A.P. Generally, the performance of many basic services like drinking water, health, education, sanitation, electricity, transport are weak in rural areas.

14.1.3. Gender Divide

There are significant disparities in socio-economic development between men and women in the state. However, as compared to all-India, the higher sex ratio, the total fertility rate, the higher proportion of institutional deliveries, lower infant mortality, lower disparities in male-female infant mortality rates and the lower maternal mortality ratio in A.P. indicate that the social neglect of women and girls is less pronounced in A.P. Social movements relating to women's empowerment could have been partly responsible for the relatively better situation in A.P. But the situation in A.P. is poorer than in the other South Indian states. Though female work participation rates are lower than for males, the state has the highest rate among all the states in India. Most of the women workers are concentrated in activities which are unorganized, informal, seasonal, insecure, menial and poorly paid. Further, the status of women with regard to social empowerment reflected through political participation and violence is lower than in other states. It is true that the self-help group movement in A.P. has improved social empowerment of women. There is a need, however, to improve economic, political and social empowerment and education and health indicators of women in the state.

14.1.4. Problems Relating to Children

Apart from the education and health related problems (to be discussed below), the state faces two problems relating to children. One pressing problem relates to child labour. A number of programmes involving both the state machinery and civil society were initiated in A.P. to eradicate child labour. These were probably responsible for the decline in child labour from nearly 14.8 per cent in 1993-94 to around 6.6 per cent in 2004-05. In spite of this, the incidence of child labour in A.P. is double the all-India average and the state has one of the highest rates in India. Measures to reduce poverty and to improve the quantity and quality of schooling are needed to reduce child labour. Efforts of the government, NGOs like MV Foundation and civil society are important in this context. Another problem relates to child trafficking in A.P. Sale and prostitution of girl children has become a major problem in the state. About 17 districts have been identified as

high incidence districts for child trafficking. Nearly 40 per cent of persons trafficked for sexual exploitation are from A.P. Poverty is considered the prime cause of child trafficking. Besides social and religious factors and traditional prostitution in some communities, a number of factors at the macro level relating to poor opportunities and access to resources have marginalized the poorer sections, especially women and children, pushing them into the sex trade. There have been efforts by the government to rescue and rehabilitate such children. Efforts should be made to reduce poverty among these families apart from rescue and rehabilitation.

14.1.5. Marginalized Sections

Another divide is the disparities in socio-economic development between marginalized sections (SCs & STs) and other groups. There have been various programmes and legal provisions for improving accessibility of these groups to cultivable land, education, health care and basic amenities in the context of 'inclusive development strategies'. Though there has been progress in many development indicators across the SC and ST communities in the state, they still lag behind the 'other' social groups. The gaps between social groups are becoming narrower in education. Health conditions among these communities have been improving at a very slow pace. Atrocities on SCs and STs are also high in the state. Among the major Indian states, A.P. is fourth in terms of crimes against SC and ST. The situation is alarming with respect to economic well-being as the poverty level among the STs has, in fact, increased during the last decade or so. Moreover, landlessness is increasing among these communities, especially STs. The policy initiative of special assistance through SCP/TSP in terms of budget allocations for the welfare and development of these (SC/ST) communities is still not being implemented. It may be noted that without effective steps to enhance access to productive assets including land and, most importantly, employment opportunities through 'affirmative policy action', their lot cannot be improved in a sustainable manner.

Apart from a general approach for the disadvantaged, specific measures have to be taken for the upliftment of tribals. Macro level data substantiate the fact that tribals in the state constitute the poorest category not merely in economic terms but in all aspects of human development. They are deprived of access to quality education and health care; they are resource-poor and their traditional sources of livelihood are dwindling; labour market discriminations and lower skill levels only offer them low productivity work and diversification of occupations is also limited for these reasons. Land alienation, displacement due to big development projects including irrigation are some of the other problems. Therefore, the slow pace of development among the tribals in the state needs to be contextualised in the vicious circle of deprivation and poverty.

14.2. Economic growth and Human Development

Many studies have highlighted the complementarity between economic growth and human development. Economic growth is important for sustaining human development. Similarly, human development is important for sustaining growth and extending the benefits of growth to wider sections of the population. Inclusive growth does not mean that we take economic growth for granted. A.P. has moved into a higher path of growth, similar to all-India, during the last two and half decades. In the 1990s, however, the GSDP growth in A.P. was lower than all-India. One of the reasons could be lower levels of infrastructure in the state. It is true that that there has been an improvement in infrastructure in the state over time. However, in order to sustain the recent higher levels of growth in GSDP, it is necessary to improve infrastructure in A.P.

The components of the human development index show that there is correlation between per capita GSDP

and health/education for many districts. However, we do not find this correlation in some other districts. For example, the rank in terms of per capita income is much higher than of education and health for three districts viz, Visakhapatnam, Medak and Khammam. On the other hand, the ranks for education are higher than for per capita income in West Godavari, Krishna, Nellore, Chittoor, Kadapa and Nalgonda. Similarly, health ranks are higher than for income in the case of Krishna, Guntur, Kadapa, Nizamabad and Karimnagar. It can therefore be inferred that policies have to be framed in such a way that they improve both economic growth and human development.

Policies that improve growth can sometimes lead to problems in environment which in turn may affect human development. For example, intensification of agriculture may adversely affect natural resources like land, water and forests. Similarly, rapid urbanization may lead to an increase in pollution levels and other problems. Sometimes growth policies which may increase wealth for the better-off sections of society can damage the environment and human development of the poor (e.g. big irrigation projects). Although efforts have been made to improve the condition of natural resources in A.P., more attention needs to be given to districts which are lagging behind. There is also a wide gap between rural and urban areas with regard to access to tap water, sanitation facilities and use of solid fuels for cooking. This may have serious consequences on the health and well-being of people.

At the sectoral level, two areas which are important for livelihoods and human development are agriculture and urbanization.

14.2.1 Agriculture

The performance of agriculture has not been satisfactory in the last one and half decades. The state has also witnessed a large number of suicides among farmers. As shown in Chapter 6, long term and short term factors are responsible for this crisis.

The main problems of farmers at present are: (a) supply of spurious inputs -seeds, fertilizers and pesticides; (b) inadequate credit from institutional sources and dependence on moneylenders for credit; (c) lack of water and drying up of ground water (d) farmers spend a lot of money in sinking borewells (e)lack of extension services particularly for commercial crops (f) lack of remunerative prices for many commodities (g) exploitation in marketing (h) lack of non-farm activities in rural areas (i) higher health expenditures of the farmers[1]. NSS Survey shows that 82 per cent of farmer households are in debt, which is the highest incidence of indebtedness in the country.

What are the challenges for achieving higher growth in agriculture and increase in incomes of farmers in A.P.? The supply and demand side constraints have to be removed to increase overall growth in agriculture. The support systems and policy changes have to be tuned in such a way that they improve the productivity and incomes of the small and marginal farmers and focus more on dryland areas.

The well-known challenges in agriculture are: public and private investment in agriculture, land issues including land reforms, research and extension, irrigation and water management, credit, marketing, domestic and external trade liberalization, diversification while maintaining food security and institutional reforms. All these issues have to be addressed for improving agricultural growth and incomes of farmers in Andhra Pradesh.

Irrigation development and water management are crucial. The green revolution in the 1960s and 1970s had been greatly facilitated by the availability of good irrigation infrastructure. However, the existing systems have deteriorated over time and addition to capacity has been negligible due to the decline in public investment. According to the Planning Commission, nearly 35 per cent of the ultimate potential from major and medium irrigation projects in the state is yet to be exploited. In the case of minor irrigation, about 40 per cent of the ultimate potential remains unutilised.

In Telangana and Rayalaseema regions, well irrigation has become the dominant source replacing tanks. Tanks, which used to be traditionally managed by the village communities, are now managed by the irrigation department. With the neglect of maintenance and encroachment of tank beds by richer farmers, most

[1] For more details on the reasons for agrarian crisis in A.P. see report of the Farmers' Welfare Commission (headed by Jayati Ghosh)

of them have become dysfunctional. In the absence of ground water replenishment, mainly through tanks, the failure of wells has become common. Recent farmer suicides in the state are attributed, among other factors, to the failure of wells.

Issues of institutional reform are important, particularly in inputs, marketing and land and water management. They are more important than price and trade policy reforms. On land issues, one priority is to provide credit to tenants and women farmers. Appropriate institutions have to be developed for delivery of inputs, credit and extension particularly for small and marginal farmers. There are different models of marketing: self help group[2], co-operative model similar to dairy, small producer co-operatives and contract farming. It is known that there is very little scope for further expansion of net sown area and land scarcity will become an acute feature of the rural economy. Water is a precious national asset and there are several concerns regarding water resources in the country. Therefore, a judicious use of land and water resources will have to be the central concern of agricultural growth policies. The group approach can be used in getting appropriate inputs and marketing output.

The present government is rightly giving importance to irrigation but a holistic view of agriculture sector is needed.

14.2.2. Urbanisation

Like in other states of India, urbanization is going to be an important challenge for policy makers in the future. Growing urbanization has worsened the problems of inadequate housing, urban services (water, sanitation, drainage, transport etc.), spiraling land prices, construction costs, migration and proliferation of slums, air and water pollution and solid waste management. One peculiar thing about Andhra Pradesh is that according to official estimates, urban poverty (28 per cent) was two and half times the level of rural poverty (11 per cent) in 2004-05. Inequality is also higher in urban areas. Although the performance of the urban sector is relatively better than the rural sector in many other indicators, its performance is relatively poor when compared with the urban sectors of many other states and the all-India average. The state of A.P. is witnessing a 'top-heavy' growth of urbanization with a few large urban centres comprising much of the urban population. The Class I towns are able to provide higher level of water supply which supports the hypothesis that large urban centres will have the financial capability to provide higher level of civic amenities. In view of the importance of urban centres in promoting livelihoods and human development, the situation in A.P. calls for development of water supply, public health, sanitation and transportation infrastructure especially in small and medium towns for promoting a more sustainable and balanced urbanization.

14.3. Poverty and Employment

Poverty alleviation and employment generation are the biggest challenges for the state.

The official poverty ratios show very low levels of rural poverty (11 per cent) and high levels of urban poverty (28 per cent) for A.P. as compared to all-India (28 and 26 per cent respectively) in 2004-05. This is quite contrary to what one would expect in view of the rural-urban differences in per capita income and wages. However, alternative estimates based on Angus Deaton's methodology show that the poverty ratios in A.P. were closer to the all-India pattern i.e., 21 per cent for rural areas and 8 per cent for urban areas. Inequality in consumption represented by the Gini coefficient has increased significantly for both rural and urban areas in the post-reform period – the rate of increase being much higher for urban as compared to rural areas. Higher inclusive growth that increases agricultural growth, the rural non-farm sector, reduction in regional, rural-urban and social disparities is important for faster reduction in poverty. The faster decline in poverty during 1999-2005 in A.P. could be due to low inflation and low relative food prices. Low relative food prices seem to be an important variable that reduces income poverty. In this context, the recent increase in food prices is a concern for the poor.

14.3.1. Poverty Alleviation Programmes

Apart from general economic policies, direct targeted poverty alleviation programmes can help in reducing poverty

[2] Maize procurement by self help groups under *Indira Kranti Padhakam* is one example of successful marketing.

in the state. As mentioned in Ch.1, A.P. is known for introducing innovative poverty alleviation programmes in the last two and half decades. Innovative Public Distribution System (PDS), 'Velugu' or Indira Kranti Padhakam (IKP) for women's empowerment, INDIRAMMA programme for providing housing and other infrastructure to the poor, pensions, land distribution, health insurance (Arogyasri) are some of the important poverty alleviation programmes introduced in the state apart from centrally sponsored self-employment and wage employment programmes.

Despite problems and inefficiency in terms of targeting and effectiveness, these programmes have contributed significantly to reduce the severity of poverty and prevent an increase in poverty. A.P. accounts for the bulk of the self-help groups in the country. This has improved women's empowerment in the state. The National Rural Employment Guarantee Scheme (NREGS) is an important scheme in wage employment programmes. Initial reports of the working of NREGS in the state have been positive although there have been problems at the ground level. NREGS is relatively better implemented in A.P. as the progress is monitored with IT, social audit and post-office involvement. This indicates that if there is political will, it is possible to implement NREGS effectively with a new approach. Apart from raising allocations, the state has to concentrate on monitoring and improving delivery systems in poverty alleviation programmes as the scope for improvement is very high.

14.3.2. Quantity and Quality of Employment

The state has the highest work participation rates in the country. After a sharp decline during 1993-94 to 1999-00, work participation rates and employment growth picked up between 1999-00 and 2004-05. As compared to all-India, the growth rate of employment in A.P. has been lower in the post-reform period. Rural unemployment rate is much higher in A.P. than all-India. Apart from the quantity of employment, quality is a concern in the state. Problems such as low wage rate, seasonality, job insecurity, illiteracy, occupational hazards etc. continue in the state. Around 94 per cent of the workers in A.P. are in the unorganized sector. A.P. is a state with a high incidence of employment in the unorganized/informal economy. Employees in these activities generally do not enjoy employment security (no protection against arbitrary dismissal), work security (no protection against accidents and illness at the work place) and social security (maternity and health care benefits, pensions etc.).

Rural diversification is another important indicator of the quality of employment and this is important for reducing poverty. There has been an improvement in the share of rural non-agricultural employment in A.P. The share increased from 21 per cent in 1993-94 to 28 per cent in 2004-05. Within the rural non-farm sector, there was remarkable growth in transport, storage and communication followed by banking and finance activities. Within agriculture and allied activities, there seems to be some diversification to non-cereal crops. However, risk and uncertainty are associated with diversification. Technology, infrastructure and the market have to be improved in order to shift the farmers to non-foodgrain crops. By any standard, the unutilised potential of food processing is enormous. An expansion of this sector is an ideal way of bringing industry to rural areas, expanding the value chain of agricultural production, providing assured markets for farmers enabling them to diversify into higher value horticultural crops and expanding employment by creating high quality non-agricultural work opportunities in rural areas. There cannot be one policy package for the entire rural non-farm sector. Sub-sectoral policies in different regions are needed.

14.3.3. 'Demographic Dividend': Window of Opportunity

Increase in the share of youth population due to demographic 'dividend' or the 'youth bulge' seems to be one of the sources of future economic growth in Andhra Pradesh. The proportion of people in the age-group 15-24 years has increased over time. Although the proportion of youth in the labor force has been declining because of the increase in school and college enrolment rates, their high proportion in the labor force indicates that the problem of youth unemployment and underemployment would remain a serious policy issue for many years to come. Youth unemployment also leads to many social problems. The demographic dividend or youth 'bulge' is expected to increase the working age group and reduce the dependency ratio. In other words, the bulge in the working

population will lead to acceleration in growth. However, the poor employability of the workforce due to deficiencies in educational attainment and training may hamper the advantages due to demographic dividend. The 'demographic dividend' argument ignores the fact that available workers are not automatically absorbed to deliver high growth. Savings and investment may increase because of reduction in dependency ratio. However, 'deficit' in education and 'employability' of the workforce may hamper the advantages of this dividend. The problems of the working poor, unemployment and joblessness among youth are other related problems. These need to be remedied in order to take advantage of the opportunity of growth that the demographic dividend is supposed to give in Andhra Pradesh.

14.4 Challenges in Social Sector

A look at the performance of the social sector in A.P. shows that there are basically six issues which need to be addressed. These are: (i) low levels of human development; (ii) slow progress in some of the indicators of human development; (iii) significant regional and social disparities; (iv) low levels of social sector expenditures; (v) low quantity and quality of education and health and (vi) privatization of education and health.

14.4.1 Revenue Deficit and Social Sector Expenditures

Social sector expenditure as a percentage of GSDP in A.P was between 6 to 7 per cent in the last four years (2002-06). The expenditure on education and health has been lower in Andhra Pradesh as compared to the all states average. The Fiscal Responsibility and Budget Management Act (FRBM) and the incentives by the Twelfth Finance Commission for reducing revenue deficit have led to a reduction in revenue deficit in many States. The revenue deficit which was around 2.5 per cent in 2000-01 declined to 1.6 per cent in 2004-05 and to 0.02 per cent in 2006-07. It may be noted that most of the expenditure on education and health at the state level is spent on revenue account. Therefore, if there is an attempt to reduce revenue deficit, the expenditures on education and health may suffer. Therefore, the government of A.P. should not reduce expenditure on the social sector in order to reduce its revenue deficit. Otherwise, the governments would have to consider shifting most of the expenditures on health and education to the capital or plan account. In fact, Andhra Pradesh should increase expenditures on education and health considerably in order to raise human development.

14.4.2 Education

There are three aspects that the Government has to address for improving literacy and primary education in rural areas. First, more resources have to be allocated to education, particularly to primary education, from the budget. As mentioned earlier, the Central Government increased allocations to education in the 11th Plan. The performance of A.P. has not been impressive when it comes to the financial resources available for education. Andhra Pradesh should increase budget allocation to education. Although considerable progress has been made in terms of literacy and schooling in the last one and half decades, A.P. continues to remain one of the average states in terms of education. The performance in school attendance is better than literacy because adult literacy is low. Infrastructure is poor in rural areas. There is a need to spend more on rural areas. Second, the quality of education in terms of curriculum, better infrastructure and teaching has to be improved. There is a demand for private education in the state. Quality in public schools should be improved. Third, retaining children in schools is more difficult than enrolling them. While the demand factors are important in influencing the extent of literacy and drop-out rates, access or supply or quality factors influence enrolment rates. Poverty in backward regions and rising demand for labour in developed regions are the most important reasons for drop-outs. The indirect cost of education (uniform, transportation etc.) is substantial and hence dampens the demand for education. From the demand side, generation of productive employment and minimum wages would go a long way towards reducing family dependence on children.

Specific policies are required to address gender and social disparities. The mid-day meal scheme can help increase attendance, improve nutrition and reduce drop-out rates. Similarly, there is also a need to focus on pre-school education in ICDS. Retaining of children in schools needs social mobilization of the community against child

labour and for education and intensive institutional arrangements. Such attempts are very successful at the micro level as demonstrated by NGOs like the MV Foundation. Also, there is a need to involve PRIs in primary education at the local level. We have not looked at issues on higher education in the report. Continuation and improvements in achievements of higher and technical education in the state is important to keep its place in the country.

14.4.3 Health

In the case of the health sector, four aspects have to be addressed to improve performance. First, public expenditure on health is lower than in many other states and there is a need to allocate more resources to this sector. However, along with this the efficiency of public spending has to be improved. Primary health care services should be accountable to the local governments and ensure better services for the money spent. Due to lack of adequate resources, there was stagnation in the size and degeneration in the quality of care at the public hospitals. There is overcrowding and more than full capacity utilization of public hospitals, particularly at the secondary and the tertiary levels. There is still widespread unmet demand for medical care among the poor and the government should expand facilities in the public sector to meet this demand. The recent investments in the secondary level hospitals and perceptible improvement in the quality of care attracted more and more patients particularly from the poorer sections. Thus public hospitals at present are self-targeted, i.e., used mostly by the poor. The major weakness in the public health care system is the poor performance of the primary health centres, mainly due to staff absenteeism. In rural areas Registered Medical Practitioners (RMPs) dominate as compared to qualified doctors. Health infrastructure is also poor in rural areas. There is a need to involve Panchayati Raj Institutions (PRIs) in the health sector at the local level. The government should encourage community participation to improve the functioning of the public health care system.

The second issue is how to make the private sector accountable. The share of the private sector in the total health care sector is high and has increased over time. One cannot ignore, therefore, the role of private sector in the state. The private sector in medical care has outgrown the size of the public sector through the direct and indirect incentives given by the state. Public policy should focus on mechanisms to enforce the stipulation that private hospitals which have utilized the financial incentives, land grants, etc. should provide free care to the poor. Otherwise the role of the state should be confined to regulation of quality and pricing of medical care. Instead of direct regulation, the state should create independent regulatory institutions with representation of all stakeholders like consumer societies, NGOs, government officials, private medical establishments, etc. to ensure basic standards in the quality and pricing of medical care. The government should promote institutions to regulate the private sector.

Third, there is a need to promote community health insurance schemes (e.g. SEWA's scheme) in order to provide health services at low cost to the poor in rural areas. A.P. has introduced *Arogyasri* programme. The effectiveness of this scheme can be judged only in the future. Fourth, health sector development has to be integrated with the overall process of development. For example, there is no synergy between the processes directed at improving drinking water facilities, sanitation and public hygiene, access to elementary education, nutrition and poverty alleviation and the processes that improve access to public health and medical services. An integrated approach is important to improve the performance of the health sector.

14.5. Institutions and Governance

This report has examined the issue of institutions and governance by addressing the following issues: how do the parallel institutions function and perform in achieving stated programme objectives? Have these institutions improved the delivery of pro-poor policies? What are the linkages between participatory and democratic institutions? Is there a need for integration between these two types of institutions? These aspects are examined in the context of some of the important community based organisations (watershed committees and associations, water user associations, joint forest management committees, education committees, mothers and health committees, thrift committees, etc.) in the state.

The parallel institutions were instrumental in keeping the developmental programmes continuing at the local level, rather than becoming passive observers. Line departments take charge of implementing developmental programmes in most states where the devolution of powers to PRIs has not taken place. Similarly, the good governance initiatives, especially in the urban areas, have helped in curtailing red tape and rent seeking in some cases. Though the attempt to eliminate intermediaries has brought citizens in contact with the line departments, some of these initiatives suffer from improper implementation rather than improper design. The impact of parallel initiatives on livelihoods is limited. While the impact is clear in the case of institutions that deal with natural resource management (NRM) like water, watersheds and forests, it is less clear in other areas. The reason could be that NRM initiatives are oriented towards resource development through the pumping of substantial financial resources. Others are more focused on capacity building or human capital development.

Though the parallel institutions have not resulted in immediate tangible benefits, the new awareness would be converted into empowerment that in turn can resolve the delivery dilemmas in the long run. The intangible gains through participation can be converted into tangible human development like improved literacy, health, etc., provided these initiatives are sustained and are inclusive of the poorest of the poor and other vulnerable groups. Awareness and empowerment is clearly visible, especially among women, at the village level in recent years. More women are contesting in elections over and above the prescribed quota of 33 percent. In the recently held elections to urban bodies (municipalities and corporations) women members won nearly forty percent of the posts, seven percent more than the quota.

While the impact of parallel institutions on human development is unequivocal, the impact is very limited. The main reason is that 'elite capture' is widespread in these parallel institutions. In fact, it is argued that parallel institutions are used to accommodate the elite who lost their positions in PRIs due to reservations. This is more so in the case of NRM institutions, which have greater allocation of funds.

One way of dealing with this is to integrate these institutions with the PRIs. Given their constitutional standing and reservation, PRIs are likely to ensure greater involvement of the poor in these institutions. Besides, bringing the CBOs under the PRI umbrella ensures accountability as the PRI act as a monitoring agency/watch dog. The model suggested in chapter 12 advocates three levels of linkages between PRIs and the parallel institutions. The PRI should be handed the full responsibility (implementing, monitoring, etc) of core functions like drinking water, education, health, etc. In welfare activities they should be given intermediary responsibilities with partial involvement in implementation. Such a division of responsibilities between PRIs and CBOs, while avoiding the overburdening of PRIs, would ensure proper accountability and monitoring of the CBOs.

In general, some institutions have collapsed and the performance of the existing public institutions has not been satisfactory. There is a need to revive some of the public institutions and improve the performance of existing institutions. The delivery systems can be improved with the new approach of participatory development, social mobilization, right to information, involvement of civil society and PRIs.

1.4.6 Concluding Observations

Andhra Pradesh has improved its economic growth. The growth rate of GSDP in the last four years has been 7 to 8 per cent per annum. However, the post-reform period has witnessed an increase in disparities across regions and social groups and between rural and urban areas. There is a need to have faster, broad-based and inclusive growth by bridging the divides to improve livelihoods and human development which benefit all sections of the society.

This report has discussed challenges for improving human development and livelihoods which can be achieved with faster and equitable growth. The most important elements of inclusive growth are: agricultural growth, poverty alleviation and employment generation, social sector development and reduction in regional, gender and social disparities. Improving decentralisation and governance are also part of inclusive growth. It is more

challenging for the state to achieve inclusive growth by improving livelihoods and human development than getting 8 to 9 per cent growth in GSDP.

There are strong social, economic and political reasons for raising human development and livelihoods by following the inclusive growth approach. Socially, lack of livelihoods and human development leads to unrest among many people. There is also the economic argument. The measures which raise equity also promote economic growth. In other words, there is no trade-off between equity and growth. Lastly, the political argument is that no government in a democracy can afford to ignore large sections of the working and non-working population. It is increasingly clear that the process of development in A.P. must become more socially and economically inclusive. This is important for reducing exclusion, social tensions, inequality and improve overall human development. Therefore, focused government interventions and an enlightened civil society including NGOs are important for the success of macro policies, sectoral interventions and targeted poverty alleviation programmes of the government and to go beyond Millennium Development Goals.

The state has to learn lessons from the failures of the last 50 years and focus on the above priority areas in the next decade or so in order to become one of the top performing states in human development.

APPENDIX - I

Technical Note
Andhra Pradesh Human Development Report

I. Human Development Index (HDI)

Human Development Index (HDI) is a summary measure of human development. It measures the average achievements of a state/district on three basic dimensions of human development.

- A decent standard of living
- Knowledge
- A long and healthy life

The HDI is a simple average of the three indices reflecting three dimensions of Human Development.

$$HDI_j = \frac{1}{3}\sum I_{ij}$$

Where, HDI_j is Human Development Index of jth district/state and I_{ij} is normalised dimension index for the 'i'th indicator in jth district/state.

The normalized dimension index, I_{ij} is given by

$$I_{ij} = (X_{ij} - X_i^*)/(X_i^{**} - X_i^*),$$

where X_{ij} refers to the attainment of the j^{th} district/state with respect to the i^{th} indicator and X_i^{**} and X_i^* are the maximum and the minimum goal posts for the i^{th} indicator respectively.

State Level HDI

State level Human Development Indices are constructed using the latest data. The indicators used for three dimensions of human development are:

- *Decent standard of living*: Average Monthly Per Capita Expenditure (MPCE);
- *A Long and healthy life*: Infant survival rate and life expectancy; and
- *Knowledge*: Adult (15+ age) literacy and school attendance rate of children (6-14 years).

The goal posts for the indicators have been fixed at absolute levels to permit inter-temporal comparisons of HDI (see Table A1.1).

Table A1.1: Goal Posts for State Level HDI

Sno	Indicator	Minimum	Maximum
1	Average Monthly Per Capita Expenditure at 1993-94 prices (Rs.)	100	1500
2	Adult Literacy Rate (15 + age)	0	100
3	School Attendance Rate (of Children 6-14 Years)	0	100
4	Infant Survival Rate (Per 1000)	850	1000
5	Life Expectancy	25	80

The weights used for combining the two sub-components of health and education are taken from the National Human Development Report (NHDR) of India.

$$HDI_j = \frac{1}{3}\sum I_{ij}$$

Where,

I_1: Normalised index of Average MPCE

I_2: Normalised Composite Indicator on Educational attainment, defined as

$I_2 = \{(2/3 * I_{21}) + (1/3* I_{22}) \}$ where I_{21} is Normalised Index of Adult Literacy Rate (15 years+) and I_{22} is Normalised Index of School Attendance Rate (6-14 years)

I_3: Normalised Composite Indicator on Health attainment, defined as

$I_3 = \{(2/3 * I_{31}) + (1/3* I_{32}) \}$, where. I_{31} is normalised index of Infant Survival Rate (15+) and I_{32} is Normalised index of Life Expectancy. The Infant Survival Rate (ISR) is defined as 1000 minus Infant Mortality Rate (IMR).

District Level HDI

Due to data constraints the HDI at district level was assessed using a different set of indicators.

(1) *A decent Standard of Living* : Per Capita income (DDP) at 1993-94 prices. An alternative was to use the district level MPCE estimates by pooling NSSO central and state samples. However these estimates are not available for 1993-94.

(2) *Knowledge* : A composite indicator comprising Adult Literacy Rate (2/3 weight) and School Attendance Ratio (1/3 weight).

(3) *A long and healthy life (Longevity)*: Infant Survival Rate (1000 – Infant Mortality Rate).

Table A1.2: Goal Posts for District Level HDI

Sno	Indicator	Minimum	Maximum
1	Per Capita Income at 1993-94 prices (Rs.)	1000	30000
2	Adult Literacy Rate (15 + age)	0	100
3	School Enrolment Rate (6-14 Years)	0	100
4	Infant Survival Rate (Per 1000)	900	990

As in case of state level HDI, the goal posts for the district level indicators have also been fixed at absolute levels to permit inter-temporal comparisons of HDI.

$$HDI_j = \frac{1}{3}\sum I_{ij}$$

I_1 – normalized Per Capita Income at 1993-94 prices)

I_2 – normalized Composite Indicator on Educational Attainment, defined as $I_2 = \{(2/3 * I_{21}) + (1/3* I_{22}) \}$, where I_{21} is normalized adult literacy rate (15 years+) and I_{22} is normalized School Enrolment Rate (6-14 years))

I_3 – normalized Infant Survival Rate defined as 1000 minus Infant Mortality Rate

II Human Poverty Index (HPI)

Human Poverty Index (HPI) is a measure of capability deprivation popularized by UNDP as an alternative to income poverty. The HPI recognizes that human deprivation is multi-faceted and seeks to measure the levels of deprivation in a society with respect to health, education and basic material needs. The dimension indicators considered for HPI are the same as those for HDI. While the HDI measures the achievement levels, the HPI measures the deprivation levels.

The indicators used for HPI:

Poverty is an ideal indicator of deprivation in decent standard level of living. However, reliable estimates are not available of poverty head count ratios at the district level. Therefore, we have used indices of deprivation of basic household amenities. A combined indicator of adult illiteracy rate and percentage of children (6-14) not attending school is used for measuring deprivation in education. For deprivation in health, we have used infant mortality rate (IMR).

Basic Amenities Deprivation Index (BADI)

The basic amenities deprivation index is meant to capture the lack of access to a set of fairly basic household amenities that are expected to contribute to a decent level of living. The basic amenities deprivation index is given by

$$p_i = (1/n)\sum_i^n D_{ij}$$

Where, P_i is the basic amenities deprivation index for i^{th} district and D_{ij} is the proportion of population in i^{th} district suffering deprivation with respect to j^{th} amenity.

We have considered the following amenities

Dwelling : Proportion of people living in households with at most one dwelling room.

Drinking water: Proportion of people living in households without drinking water facility.

Electricity: Proportion of people living in households without electricity connection.

Toilet : Proportion of people living in households without lavatory.

Fuel for cooking : Proportion of people living in households using traditional fuel.

HPI is the weighted average of deprivation indices of three dimensions - basic amenities deprivation (P_1), Deprivation in education (P_2) and Deprivation in health (P_3)

$$HPI_j = [1/3 \sum p^{\varepsilon}_{ij}]^{1/\varepsilon}$$

j – 'j' th Distirct

i – 'i' th Dimension (i=1, 2, 3)

The parameter ε is used to give weights to the indicators of deprivation. When ε =1, the HPI is a simple average of its dimensions. As the value of ε increases, greater weight is given to the dimension in which the level of deprivation is the most. In this report the values of ε is fixed at 3, as in most UNDP reports.

III Gender Development Index (GDI)

While the HDI measures average achievements of a society in respect of the three basic dimensions of human development, the gender development index (GDI) adjusts the average achievements to reflect the disparities between men and women in the following dimensions.

Income - apportioned income for males and females, based on the shares of male and female workers in total workforce and the ratio of average male wage rate to average female wage rate.

Education : Adult literacy (1/3rd weight) of females and males, and school attendance (2/3rd weight) of boys and girls of 6-14 age group.

Health - longevity represented by infant survival rate of males and females; and

For each dimension, an equally distributed index (EDI) is computed to take into account gender disparities.

$$EDI_{ji} = [\{SFP * (FI_{ji})^{1-\varepsilon}\} + \{SMP * (MI_{ji})^{1-\varepsilon}\}]^{1/1-\varepsilon}$$

i - 'i'th indicator

j – 'j'th district

SFP - Share of Female Population

FI - Female Index

SMP - Share of Male Population

MI - Male Index

Though we have gender-wise data for education and health dimensions, for the income dimension such separate data is not available. Therefore an indirect method has been adopted using the ratio of female to male in rural agricultural wage rate and the share of male and female in total workforce.

The share of men and women in total GDDP is calculated using the following formula.

$$MSI_j = (1 - FSI_j)$$

$$FSI_j = \frac{W_{fj} * SW_{fj}}{W_{fj} * SW_{fj} + SW_{mj}}$$

j – 'j'th District

FSI – Female share of income

MSI – Male share of income

W_f – ratio of female to male in rural agricultural wages

SW_f – Share of females in total workforce

SW_m - Share of males in total workforce

The GDI is a simple average of three dimensions of equally distributed indices (EDIs).

Gender Empowerment Measure (GEM)

A composite index assesses the degree of women's empowerment. The UNDP Gender Empowerment Measurement (GEM) is a composite indicator that captures the dimensions of women's control in three key areas. One, political participation and decision-making power, as measured by women's and men's percentage share of Parliamentary seats; two, economic participation and decision-making power; and three, power over economic resources as measured by women's and men's estimated earned income. This definition is adopted in measuring the GEM for Andhra Pradesh at the state level and also at the sub-state level (districts). The dimensions considered and the indicators selected within the dimensions are presented below.

Gender Empowerment Indicators

The Gender Empowerment Measure (GEM) is analogous to the gender development index (GDI). However

the dimensions covered in the GEM are beyond those of the gender development index (GDI). The GDI is a gender adjusted HDI and both the indices cover three important dimensions such as income, education and health, whereas the GEM, in addition to these, also covers other dimensions such as political participation and violence on women both in private as well as public spaces. As the measurement of empowerment is done at the sub-state level (district level) some modifications had to be introduced to make it operational. This study has adopted the following for measuring women's empowerment.

For **Gender Empowerment Measure** (GEM), among the four dimensions of **power within, power to, power with and power over** only two - **power to and power over -** were considered for the construction of GEM across districts. The variables taken to indicate the **power to** dimension are: Education; Health; and Income. In addition, i) child sex ratio; ii) political participation - as a percentage of women elected against unreserved seats; and, iii) physical violence on women in both public and private spaces, have been taken to indicate the **power over** dimension of women's empowerment. The GEM is a simple average of all these six variables normalized to a common unit after standardisation.

However the **power within and the power with dimensions** of empowerment along with other dimensions have been covered in a recently concluded study (CESS, 2004 & 2007, Jones et al. 2007). These dimensions (power within and power with) have not been covered at the state and district level analyses but have been analysed at the sub-state level.

IV. Child Development / Well-being Index

The Convention on the Rights of the Child is the first legally binding international instrument to incorporate the full range of human rights - civil, cultural, economic, political and social. It spells out the basic human rights that children everywhere are entitled to: to survival; to develop to the fullest; to protection from harmful influences, abuse and exploitation; and to participate fully in family, cultural and social life. The four core principles of the Convention are non-discrimination; devotion to the best interests of the child; the right to life, survival and development; and respect for the views of the child.

Child development index (CDI) is constructed for the districts taking the first two basic rights the **right to survive and the right to development**. The other two rights could not be included for analysis because of lack of data. The indicators for the index of right to survival are: i) Safe motherhood (maternal care); ii) safe childhood (immunisation); iii) poverty (proportion of children in the below poverty line (BPL) households (rural areas); and, iv) vulnerability (proportion of children in unstable income households (rural areas)). Right to Development has been assessed by: i) health (Infant Mortality Rate); and ii) education (proportion of children attending school in the age group of 6-14). The CDI is a simple average of the six variables standardised to a common unit following the method used for HDI.

V. Environmental Index

Given the fact that any analysis pertaining to environment and natural resources is constrained by data availability especially at regional and sub-regional levels, we have tried to identify a set of indicators which broadly indicate the conditions of natural resources and environmental health across districts in Andhra Pradesh. For assessing the condition of natural resources the main focus is on indicators related to land, water, and forests and to a limited extent to fisheries and minerals. For environmental health indicators we have selected indicators related to both modern and traditional health hazards. Data published by different state and central government departments, the National Sample Survey Organisation and the Census of India 2001 are the major sources of data. We have relied mostly on secondary sources of data published since 1990.

The environmental index has two dimensions: (1) status of natural resources, and (2) status of environmental health. The important natural resources taken into account for developing the environmental index are land, water and forest resources. The indicators used for constructing the index for land are per capita availability of cultivable

land, per capita availability of common property resources, proportion of under-utilized land and proportion of degraded land to total cultivable land. These indicators are given 50, 10, 30 and 10 per cent weights. Indicators considered for constructing the index for water resources are level of ground water exploitation and proportion of unirrigated area which are given equal weights. Similarly for the index for forests, the indicators are per capita availability of forests and the proportion of degraded forests with 50 per cent weights for each. A dimension index for the status of natural resources has been developed by giving 40 per cent weights each for land and water and 20 per cent for forests. Dimension indices for per capita land, CPRs and forests have been calculated using the method used for HDI.

Similarly a dimension index for environmental health is developed by taking into consideration indicators such as: proportion of households without access to tap water (60 per cent weight), households without sanitation facilities (20 per cent weight), and households using solid fuels for cooking (20 per cent weight). While doing so two-thirds weight has been given to rural areas. Finally, a composite environmental index is developed from dimension indices giving 70 per cent weight to dimension index for natural resources and 30 per cent weight to dimension index for environmental health.

VI. Infrastructure Index

The infrastructure index is relative in nature i.e. the relative position of the sub-region (for each indicator individually) with respect to the average (see, CMIE, 2000:2). Infrastructure index is constructed based on the following indicators: a) Road and railway route length; b) Villages electrified; c) Gross irrigated area; d) Bank branches; e) Post offices; f) Telephone connection; g) Primary and middle schools; and h) Hospitals and beds.

The raw values of the indicators representing different dimensions of infrastructure are normalised to neutralise the scale unit in the following manner: a) Road and railway route length per 100 square kilometres; b) Percentage of villages/hamlets electrified; c) Gross irrigated area as a percentage of gross cropped area; d) Bank branches per lakh population; e) Post offices per lakh population; f) Telephone connection per 100 population; g) Number of primary and middle schools per lakh population; and h) Number of hospitals and beds per lakh population. The values of these transformed indicators are normalised using the following equation.

$$I_{ij} = \frac{Y_{ij}}{Z_j} * 100$$

I_{ij} – Index value of 'i'th region/district for 'j'th indicator;

Y_{ij} – Value of 'i'th region/district for 'j'th indicator; and

Z_j – Value of the state average for 'j'th indicator.

One may also follow the simple method used for Human Development Index (HDI) to normalise the indicators.

$$I_{i,j} = \frac{X_{ij} - Min_j}{Max_j - Min_j}$$

X_i – Actual value of 'i'th region for the 'j' indicator.

Min_j – Minimum value of the 'j'th indicator across regions.

Max_j – Maximum value of the 'j'th indicator across regions.

This normalization exercise scales down the range of a particular indicator value between 0 and 1.

A sum of the values of all the indicators, where equal weight is given to each indicator, is taken for the composite index of infrastructure.

$$IDI_j = \sum I_{ij}$$

IDI_j – A composite index of infrastructure development for the 'j'th region/district.

If one is interested in giving different weights for different dimension or indicators of the infrastructure, the above equation (2) may be written as

$$IDI_j = \sum W_i * I_{ij}$$

One may choose to construct either a simple-unweighted index which is nothing but the average value of the selected indicators where each indicator is given

equal weight or a weighted index by giving different weights to different indicators depending on their importance. The latter is complicated in the sense that there could be varied principles behind determining the weight of each individual indicator. On the one hand, one can follow one's own (subjective) value judgement on the importance of a particular indicator in deciding its weight. On the other hand, weights can be determined by the statistical significance of the indicators following different statistical methods.

With respect to the information related to infrastructure facilities at the state and district level, the Directorate of Economics and Statistics (DES) provides data on the number of educational and health institutions, telephone connections and post offices, banking facility, villages with electricity connection, length of roads (different types and under different management) and rail route and area irrigated. It covers both rural and urban areas. It is reported in the CMIE district profile documents/reports. On the other hand, the Census of India enumerates village level infrastructure in Village Directory documents/reports. It covers all the aspects mentioned above but is limited to rural areas. The present analysis takes into consideration both (DES and Census) sources of data and analyses the infrastructure situation in Andhra Pradesh at sub-regional and district level.

APPENDIX -II

State Level Tables

Table: A2.1 Human Development Indicators across Major States in India

Sno	State	MPCE		IMR		Life Expectancy		Adult Literacy		Schooling	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Andhra Pradesh	224	261	70	53	61.8	63.9	41.5	50.9	65.9	87.6
2	Assam	226	277	88.7	66	55.7	59.9	66.3	74.8	75.5	87.1
3	Bihar	179	201	89.2	62	59.3	65.2	37.7	48.4	53.3	65.2
4	Gujarat	263	322	69	50	61.0	63.6	59.1	68.2	74.7	85.6
5	Haryana	275	344	73	42	63.4	67.0	53.4	64.9	77.2	87.2
6	Himachal Pradesh	270	343	56	36	63.0	65.0	60.4	74.1	87.0	95.0
7	J K	316	354	45	45	62.0	63.0	56.3	59.8	81.2	88.1
8	Karnataka	218	255	65	43	62.5	64.4	51.0	61.8	73.3	88.3
9	Kerala	279	420	24	15	72.9	73.3	90.2	90.6	93.4	97.6
10	Madhya Pradesh	221	202	85	70	54.7	58.6	43.1	54.4	61.1	78.4
11	Maharashtra	210	304	51	38	64.8	68.3	63.0	72.9	82.4	89.1
12	Orissa	201	176	112	65	56.5	59.9	46.7	58.8	64.0	80.2
13	Punjab	316	374	54	42	67.2	70.9	56.7	68.5	80.2	89.0
14	Rajasthan	252	254	73	65	59.1	62.5	38.5	47.6	58.5	78.0
15	Tamil Nadu	218	294	68	31	63.3	68.4	61.3	70.7	82.4	96.1
16	Uttar Pradesh	216	278	100	73	56.8	63.8	42.8	52.2	60.6	77.5
17	West Bengal	235	274	75	48	62.1	67.7	60.7	67.5	67.9	82.9
	All-India	**201**	**416**	**79**	**57**	**61.8**	**65.4**	**52.1**	**61.8**	**68.5**	**82.1**

Note : 1. Rural and urban combined; 2. Life Expectancy is in Years

Source : 1. NSSO 50th and 61st Round EUS; 2. NFHS I & III

Table A2.2 : Growth of GSDP across Major States in India						
Sno	States	2001-2/04-5	1990-91/2000-1	1980-1/1990-1	1980-1/1992-3	1993-4/2004-5
1	*2*	*3*	*4*	*5*	*6*	*7*
1	Andhra Pradesh	6.42	6.11	5.50	5.54	5.74
2	Assam	5.24	2.58	3.51	3.57	3.22
3	Bihar	4.58	4.71	4.55	3.78	4.54
4	Gujarat	9.30	8.11	4.96	4.94	6.01
5	Haryana	7.20	6.06	6.24	6.00	5.97
6	Himachal Pradesh	6.72	7.72	4.91	4.94	6.36
7	Jammu&Kashmir	5.12	6.11	2.94	3.16	4.58
8	Karnataka	6.07	7.92	5.16	5.39	6.73
9	Kerala	9.01	7.15	3.51	3.91	5.58
10	Madhya Pradesh	5.61	6.41	4.46	4.40	3.92
11	Maharastra	7.86	6.58	5.85	6.09	5.15
12	Orissa	8.44	4.41	4.20	3.83	4.36
13	Punjab	4.73	4.35	5.18	5.04	4.27
14	Rajastan	7.28	7.82	6.39	6.35	5.55
15	Tamil Nadu	4.80	7.54	5.24	5.27	4.84
16	Uttar Pradesh	5.31	4.80	4.83	4.65	4.00
17	West Bengal	6.96	7.41	4.60	4.73	6.81
18	Delhi	8.44	7.40	7.32	7.59	8.10

Note: Growth rate is derived from exponential trend equation.
Source: Computed using CSO data

Table A2.3: Growth of Per Capita GSDP across Major States in India						
Sno	States	2001-2/04-5	1990-91/2000-1	1980-1/1990-1	1980-1/1992-3	1993-4/2004-5
1	*2*	*3*	*4*	*5*	*6*	*7*
1	Andhra Pradesh	5.10	4.77	3.33	3.39	4.69
2	Assam	3.46	0.90	1.37	1.39	1.71
3	Bihar	2.80	2.41	2.43	1.66	2.18
4	Gujarat	7.68	6.15	3.00	3.03	3.94
5	Haryana	5.50	3.58	3.81	3.60	3.50
6	Himachal Pradesh	5.02	6.08	3.08	3.07	4.73
7	Jammu&Kashmir	2.51	3.17	0.40	0.63	1.69
8	Karnataka	4.83	6.29	3.20	3.51	5.18
9	Kerala	7.88	6.33	2.13	2.55	4.88
10	Madhya Pradesh	3.54	4.34	2.10	2.04	1.86
11	Maharastra	6.41	4.51	3.56	3.81	3.21
12	Orissa	7.17	2.94	2.39	2.00	3.10
13	Punjab	2.90	2.46	3.30	3.14	2.58
14	Rajastan	5.32	5.32	3.84	3.87	2.96
15	Tamil Nadu	3.76	6.44	3.80	3.90	3.76
16	Uttar Pradesh	3.29	2.49	2.54	2.41	1.54
17	West Bengal	5.57	5.72	2.41	2.55	5.27
18	Delhi	5.44	3.48	3.14	3.48	4.36

Note : Growth rate is derived from exponential trend equation.
Source : Computed using CSO data.

Table : A2.4 Structural Transformation Across States: Share of Agriculture in Employment and GSDP: 2004-05				
States	Share of Agriculture in Total Rural + Urban) Employment (%)	Rank based on employment share	Share of Agriculture in GSDP (%)	Ranks based on share in GSDP
1	2	3	4	5
Kerala	35.5	1	16.5	3
Tamil Nadu	41.3	2	12.5	2
West Bengal	45.7	3	23.5	7
Punjab	47.6	4	38.6	16
Haryana	50.3	5	29.3	12
Maharashtra	53.2	6	9.6	1
Gujarat	54.9	7	20.1	5
Andhra Pradesh	58.5	8	24.7	8
Karnataka	60.7	9	19.2	4
Uttar Pradesh	60.9	10	33.3	15
Rajasthan	61.7	11	27.6	9
Orissa	62.4	12	28.2	10
Himachal Pradesh	64.1	13	20.5	6
Assam	66.0	14	32.0	13
Bihar	68.8	15	32.7	14
Madhya Pradesh	69.2	16	28.3	11
All India	**56.7**	—	**21.7**	

Note : Employment includes principle and subsidiary.

Source : 61st Round of NSS Employment and Unemployment Survey for employment data and CSO for GSDP data.

Table : A2.5 State-wise Growth of Employment in India										
Sno	States	Rural			Urban			Rural and Urban		
		1993-00	1999-05	1993-05	1993-00	1999-05	1993-05	1993-00	1999-05	1993-05
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1	Andhra Pradesh	0.29	1.24	0.72	0.27	3.82	1.87	0.29	1.76	0.95
2	Assam	1.30	3.65	2.36	3.55	3.32	3.45	1.56	3.61	2.48
3	Bihar & Jharkand	1.87	2.06	1.96	-0.56	3.79	1.39	1.59	2.26	1.89
4	Gujarat	2.02	1.85	1.94	7.17	4.40	5.90	3.34	2.61	3.01
5	Haryana	0.76	5.68	2.97	1.94	5.33	3.47	1.06	5.59	3.09
6	Himachal Pradesh	-0.12	2.26	0.96	1.59	9.94	5.30	-0.01	2.82	1.27
7	Karnataka	0.13	3.06	1.45	3.31	3.39	3.35	0.94	3.15	1.94
8	Kerala	1.27	1.62	1.43	1.20	0.62	0.93	1.25	1.37	1.31
9	MP & Chattisgarh	0.68	2.15	1.35	2.87	4.57	3.64	1.06	2.62	1.76
10	Maharashtra	0.39	2.54	1.36	2.05	4.78	3.28	0.93	3.32	2.01
11	Orissa	0.59	2.37	1.39	-0.20	3.44	1.44	0.49	2.49	1.40
12	Punjab	1.96	2.22	2.08	5.13	3.54	4.40	2.85	2.62	2.74
13	Rajasthan	0.50	2.64	1.46	1.11	3.94	2.38	0.61	2.88	1.63
14	Tamil Nadu	-1.36	-0.35	-0.90	6.84	4.58	5.81	1.12	1.56	1.32
15	UP & Uttaranchal	0.61	3.64	1.98	0.65	4.40	2.34	0.62	3.79	2.05
16	West Bengal	0.37	2.96	1.54	0.53	3.43	1.84	0.42	3.10	1.63
	India	**0.71**	**2.45**	**1.50**	**2.36**	**4.14**	**3.16**	**1.09**	**2.86**	**1.89**

Note : 1. Employment includes both the Principal and Subsidiary status workers; 2. Compound Annual Growth Rate (CAGR); 3. For the year 2004-05 Bihar, MPand UPrefer to pre-reorganized status..

Source : Various Report of NSS Employment and Unemployment survey

Table : A2.6 Percentage of Workforce in Non-Agricultural Activities across major states in India							
Sno	State	Rural			All		
		1993-94	1999-00	2004-05	1993-94	1999-00	2004-05
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	Andhra Pradesh	20.70	21.2	28.2	32.9	34.6	41.5
2	Assam	20.80	32.3	25.7	29.0	39.8	34.0
3	Bihar	15.70	19.4	24.3	24.9	26.9	31.2
4	Gujarat	21.30	20.2	22.7	37.7	40.5	45.1
5	Haryana	28.10	31.5	35.9	43.4	47.2	49.7
6	Himachal Pradesh	19.70	26.4	30.4	23.4	30.4	35.9
7	Karnataka	18.80	17.9	19.0	34.3	37.5	39.3
8	Kerala	43.60	51.7	58.0	51.5	61.5	64.5
9	Madhya Pradesh	10.20	12.9	16.4	22.3	26.1	30.8
10	Maharashtra	17.40	17.4	20.0	40.8	43.7	46.8
11	Orissa	19.10	21.8	31.0	26.9	29.3	37.6
12	Punjab	25.30	27.4	33.1	42.6	46.7	52.4
13	Rajasthan	20.10	22.3	27.1	31.3	34.0	38.3
14	Tamil Nadu	29.50	32.1	34.6	44.8	53.6	58.7
15	Uttar Pradesh	20.00	23.8	26.9	32.2	36.5	39.1
16	West Bengal	36.70	36.4	37.3	52.8	53.3	54.3
	All India	**21.60**	**23.7**	**27.3**	**36.0**	**39.6**	**43.3**

Note : 1. Principal and Subsidiary Workers
Source : Various Reports of NSS Employment and Unemployment Survey.

Table : A2.7 Growth Rate of Unemployment and Real Wages across major states in India				
State	Unemployment		Real Wages	
	1993-2000	1999-2005	1993-2000	1999-2005
1	2	3	4	5
Andhra Pradesh	4.9	8.2	4.3	1.5
Assam	0.4	0.8	2.4	3.5
Bihar	4.6	1.5	5.1	3.4
Gujarat	-0.8	-1.4	3.4	1.1
Haryana	-5.2	12.2	2.8	0.8
Karnataka	-0.3	13.3	3.8	0.8
Kerala	9.6	6.2	5.5	3.6
Madhya Pradesh	7.5	13.7	0.9	3.4
Maharashtra	8.0	10.9	3.1	-0.5
Orissa	1.1	10.9	1.7	5.9
Punjab	7.6	25.7	0.2	0.0
Rajasthan	17.8	12.8	3.4	0.6
Tamil Nadu	0.6	2.3	6.5	0.0
Uttar Pradesh	3.2	4.3	2.9	1.5
West Bengal	13.0	-6.5	2.8	0.2

Note : Real Wages considered are for male casual workers
Source : Himanshu (2007).

Table : A2.8 Percentage of Indebted Farming Households (HH) by Source of loan and distribution of outstanding loan, 2003

States	Percentage of indebted farming hhs in the total rural hhs. (all sources)	Percentage of Indebted farmer hhs. by source of loan		Percentage distribution of out standing loan by sources	
		Formal	Informal	Formal	Informal
1	2	3	4	5	6
Andhra Pradesh	82	54	77	31.4	68.5
Bihar	33	23	84	41.7	58.5
Gujarat	52	63	49	69.5	30.5
Haryana	53	76	50	67.6	32.5
Karnataka	62	57	55	68.9	31.2
Kerala	64	96	40	82.3	17.6
Madhya Pradesh	51	64	66	56.9	43.0
Maharashtra	55	92	30	83.8	16.2
Orissa	48	68	46	74.8	25.1
Punjab	65	58	70	47.9	52.1
Rajasthan	52	38	81	34.2	65.8
Tamil Nadu	75	59	67	53.4	46.5
Uttar Pradesh	40	47	70	60.3	39.7
Uttaranchal	7	65	44	76.1	23.9
West Bengal	50	51	73	58.0	42.1
All India	**49**	**56**	**64**	**57.7**	**42.4**

Note : Formal and Informal is more than 100% because farmers borrow from multiple sources.
Source : Calculated from NSS Report no.498 (NSSO, 2005)

Table : A2.9 Sex Ratio at Birth and of the Child (Age Group 0-4 across Major States in India, 2001-2003

States	At Birth			Children of 0-4 age		
	Total	Rural	Urban	Total	Rural	Urban
1	*2*	*3*	*4*	*5*	*6*	*7*
Andhra Pradesh	932	923	963	955	959	943
Assam	904	903	917	939	937	967
Bihar	861	861	860	906	908	889
Gujarat	862	876	827	853	870	812
Haryana	807	816	765	787	791	766
Himachal Pradesh	803	799	865	867	869	830
Karnataka	943	939	956	967	972	953
Kerala	892	880	932	941	935	959
Madhya Pradesh	922	929	882	909	910	903
Maharashtra	887	908	852	894	904	874
Orissa	934	940	880	941	946	894
Punjab	776	780	761	785	788	775
Rajasthan	855	849	893	884	885	882
Tamil Nadu	953	972	909	943	954	918
Uttar Pradesh	853	853	856	882	882	882
West Bengal	937	948	886	950	956	921
India	***883***	***888***	***866***	***905***	***909***	***888***

Source: Registrar General of India

Table :A2.10 Infant Mortality Rate (IMR) across Major States in India

States	1992-93	1998-99	2005-06	Rank (2005-06)
1	*2*	*3*	*4*	*5*
Andhra Pradesh	70	66	53	11
Assam	89	70	66	14
Chattisgarh	-	81	71	16
Gujarat	69	63	50	10
Haryana	73	57	42	6
Himachal Pradesh	56	34	36	3
J&K	-	65	45	8
Karnataka	65	52	43	7
Kerala	24	16	15	1
Madhya Pradesh	-	88	70	15
Maharashtra	51	44	38	4
Orissa	112	81	65	13
Punjab	54	57	42	5
Rajasthan	73	80	65	12
Tamil Nadu	68	48	31	2
Uttar Pradesh	-	89	73	17
West Bengal	75	49	48	9
All India	**77**	**67**	**55**	**-**

Source: Compiled from Fact Sheets of NFHS-3 at State Level, Ministry of Health and Family Welfare, Government of India

Table : A2.11 Six High HIV/AIDS Prevalence States of India, 2005		
States	STD clinics*	ANC clinics*
1	2	3
Andhra Pradesh	22.8	2.00
Karnataka	13.6	1.25
Maharashtra	10.4	1.25
Tamilnadu	9.2	0.50
Manipur	12.2	1.25
Nagaland	3.5	1.63

Note : *Percent of high risk group attendees in clinics
Source : NACO 2005;

Table : A2.12 Number of Primary Health Centres (PHCs), Sub-Centres and Community Health Centres (CHCs) Functioning and availability of each facility per 10 lakh population, Rural India, 2005

State	in Number			Per 10 lakh population		
	Sub Centre	PHCs	CHCs	Sub Centre	PHCs	CHCs
1	2	3	4	5	6	7
Andhra Pradesh	12522	1570	164	216	27	3
Assam	5109	610	100	209	25	4
Bihar	10337	1648	101	129	21	1
Chhattisgarh	3818	517	116	218	30	7
Gujarat	7274	1070	272	219	32	8
Haryana	2433	408	72	154	26	5
Himachal Pradesh	2068	439	66	361	77	12
Jammu & Kashmir	1879	334	70	234	42	9
Jharkhand	4462	561	47	200	25	2
Karnataka	8143	1681	254	226	47	7
Kerala	5094	911	106	208	37	4
Madhya Pradesh	8874	1192	229	186	25	5
Maharashtra	10453	1780	382	181	31	7
Orissa	5927	1282	231	183	40	7
Punjab	2858	484	116	173	29	7
Rajasthan	10512	1713	326	225	37	7
Tamil Nadu	8682	1380	35	259	41	1
Uttaranchal	1576	225	44	237	34	7
Uttar Pradesh	20521	3660	386	145	26	3
West Bengal	10356	1173	95	171	19	2
Delhi	41	8	0	45	9	0
India	***146026***	***23236***	***3346***	***187***	***30***	***4***

Note : 1. The number of health facilities are as on September, 2005
Source : Statistical Abstract, India

Table : A2.13 Percent Distribution of Households According to Protein Energy Adequacy Status							
S No.	State	1975-79		1988-90		1996-97	
		Protein	Calorie	Protein	Calorie	Protein	Calorie
1	2	3	4	5	6	7	8
1	Kerala	55.7	36.0	71.5	39.7	83.5	49.3
2	Tamilnadu	84.4	72.4	62.1	32.1	65.5	33.7
3	Karnataka	93.3	80.7	91.4	62.1	82.8	45.0
4	Andhra Pradesh	76.0	60.9	82.6	58.5	74.5	51.0
5	Maharastra	84.1	53.7	88.0	49.5	80.8	44.0
6	Gurajarat	84.0	53.8	92.8	52.7	89.1	48.8
7	Madhya Pradesh	78.5	46.5	96.0	78.4	-	-
8	Orissa	-	-	51.2	23.9	76.1	53.7
	Average	77.9	57.8	83.5	53.3	79.5	47.6

Note : Figures represent percentage of households which are having protein and energy adequately according RDA (Recommended Dietary Allowance).

Source : NIN (1999)

Table A2.14: Anthropometrical Measures of Women and Children across Major states in Indian						
Sno	States	Percentage of Women with BMI <18.5 kg/m		Percentage of Children (below - 2 SD) Underweight		
		1998-99	2005-06	1992-93	1998-99	2005-06
1	2	3	4	5	6	7
1	Andhra Pradesh	37.4	33.5	49.1	37.7	32.5
2	Assam	27.1	36.5	50.4	36	36.4
3	Bihar	39.3	44.6	62.6	54.4	56.0
4	Gujarat	37	36.3	50.1	45.1	44.6
5	Haryana	25.9	31.3	37.9	34.6	39.6
6	Himachal Pradesh	29.7	29.9	47	43.6	36.5
7	Jammu & Kashmir	26.4	24.6	44.5	34.5	25.6
8	Karnataka	38.8	35.5	54.3	43.9	37.6
9	Kerala	18.7	18.0	28.5	26.9	22.9
10	Madhya Pradesh	38.2	42.1	57.4	55.1	56.7
11	Maharashtra	39.7	36.2	54.2	49.6	37.0
12	Orissa	48	41.4	53.3	54.4	40.7
13	Punjab	16.9	18.9	45.9	28.7	24.9
14	Rajasthan	36.1	36.7	41.6	50.6	39.9
15	Tamil Nadu	29	28.4	48.2	36.7	29.8
16	Uttar Pradesh	35.8	35.7	59	51.7	42.2
17	West Bengal	43.7	39.1	56.8	48.7	38.7
	All India	**35.8**	**35.6**	**53.4**	**47**	**42.5**

Note : 1. The Body Mass Index (BMI) is the ratio of the weight in kilograms to the square of the height in meters (kg/m). The BMI data presented is percentage of ever-married women with BMI below 18.5 kg./m ;
2. For Underweight the figures are for children born 1-47 months prior to survey.

Source : 1. National Human Development Report 2001, 2. National Family Health Surveys

Table : A2.15 Percentage of Births Attended by Health Professionals, Major States of India								
Sno	States	1992-93			1998-99			2005-06
		Rural	Urban	All	Rural	Urban	All	All
1	2	3	4	5	6	7	8	9
1	Andhra Pradesh	39.7	78.3	49.3	58.5	85	65.1	74.9
2	Assam	14.1	56.8	17.8	18.9	64.6	21.5	31.0
3	Bihar	14	52	18.9	20.8	52.3	23.5	28.9
4	Gujarat	32	65.7	42.6	41.8	74.2	53.5	63.0
5	Haryana	24.1	52.5	30.3	34.8	66.1	42	48.9
6	Himachal Pradesh	22.2	67.4	25.6	37.2	78.4	40.4	47.8
7	Jammu & Kashmir	25.4	67.2	31.2	36	81.2	43.1	56.5
8	Karnataka	40.3	77.2	50.9	47	86.4	59.2	69.7
9	Kerala	87.6	95.7	89.7	92.8	99.4	94.1	99.4
10	Madhya Pradesh	22.1	61.1	30	21.2	62.3	30.1	35.0
11	Maharashtra	37.6	77.8	53.1	43.8	84.1	59.7	68.7
12	Orissa	15.6	48.7	20.5	30.5	61.4	33.7	44.0
13	Punjab	44.7	60.1	48.4	58.1	78.2	62.7	68.2
14	Rajasthan	17.4	45.2	21.8	29.3	63	36.2	41.0
15	Tamil Nadu	59.7	91.8	71.2	78.4	95.1	84.1	90.6
16	Uttar Pradesh	11.6	44.2	17.2	17.5	52.3	23	27.7
17	West Bengal	23.1	66.5	33	36.2	81.7	44.5	47.6
	All India	**25**	**65.3**	**34.2**	**33.5**	**73.3**	**42.3**	**46.6**

Note : 1. Doctors, Auxiliary Nurse Midwife, Lady Health Visitor and other Health Professionals not including traditional birth attendants and others.

Source : 1. National Human Development Report 2001, 2. National Family Health Surveys

Table : A2.16 Percentage of Births Delivered in Medical Institutions, Major States of India								
Sno	States	1992-93			1998-99			2005-06
		Rural	Urban	All	Rural	Urban	All	All
1	2	3	4	5	6	7	8	9
1	Andhra Pradesh	20.7	69.6	32.9	40.4	78.6	50.0	64.4
2	Assam	7.4	50.1	11.1	15	59.9	17.6	22.4
3	Bihar	7.7	41.4	12.1	12.4	39.9	14.7	19.5
4	Gujarat	23.7	62.1	35.6	33.2	69.4	46.4	52.7
5	Haryana	11	36.8	16.7	14.9	47.1	22.3	35.7
6	Himachal Pradesh	12.6	22.2	16	25.5	72.2	29.0	43.0
7	Jammu & Kashmir	17.8	47	21.9	28.6	74.8	35.9	50.2
8	Karnataka	25.8	66.6	37.5	38.7	78.8	51.1	64.7
9	Kerala	85.4	94.7	87.8	91.5	99.4	93.0	99.3
10	Madhya Pradesh	7.4	49.7	15.9	12.3	49.8	20.4	23.2
11	Maharashtra	25.3	73.3	43.9	34.6	80.9	52.8	64.6
12	Orissa	9.7	39.8	14.1	19.3	54.7	22.9	35.6
13	Punjab	21.3	36.2	24.8	32	56	37.5	51.3
14	Rajasthan	7.2	35	11.6	15	47.9	21.7	29.6
15	Tamil Nadu	48.7	89.8	63.5	73.1	92.6	79.8	87.8
16	Uttar Pradesh	6.5	34.1	11.2	11.7	37.3	15.7	20.6
17	West Bengal	21.4	66	31.5	31.5	80.1	40.4	42.0
	All India	***16***	***57.6***	***25.5***	***24.6***	***65.1***	***33.6***	***38.7***

Note : 1. Public or private health facility/institution including non-governmental organisation (NGO)/Trust.

Source: 1. National Human Development Report 2001, 2. National Family Health Surveys

Table A2.17: State-wise Progress of Mid-day Meal Scheme in 2003-04					
Sno	States	Number of children covered (in Lakhs)	Quantity of Food grains allocated (in MTs)	Percentage of off-take of Food grains	Extent of coverage of cooked-Meal Programme
1	2	3	4	5	6
1	Andhra Pradesh	77.2	178278	0.9	Full
2	Bihar	88.7	245300	0.7	Partial
3	Chhattisgarh	28.3	56572	1.1	Full
4	Gujarat	30.0	60090	0.7	Full
5	Haryana	15.8	45871	0.9	Partial
6	Himachal Pradesh	6.2	18445	1.0	Partial
7	Jammu & Kashmir	7.4	22163	Nil	Not implementing
8	Jharkhand	22.5	51796	0.4	Partial
9	Karnataka	53.5	145853	0.6	Full
10	Kerala	21.7	43330	1.0	Full
11	Madhya Pradesh	77.3	165835	0.9	Partial
12	Maharashtara	97.2	223587	0.8	Full
13	Orissa	46.3	123425	0.9	Partial
14	Punjab	15.6	45490	0.5	Partial
15	Rajasthan	76.8	168919	0.8	Full
16	Sikkim	0.8	1537	0.8	Full
17	Tamil Nadu	55.3	110599	0.7	Full
18	Uttar Pradesh	163.8	491247	0.8	Foodgrains
19	Uttaranchal	7.9	15744	1.3	Full
20	West Bengal	102.7	305988	0.8	Partial
	All India	**1056.7**	**2684067**	**0.8**	

Source: MHRD

Table: A2.18 Incidence of Cognizable Crime Committed Against SC/STs and Crime Rate across major states in India						
States	Incidence		Population		Crime Rate	
	SC	ST	SC	ST	SC	ST
1	*2*	*3*	*4*	*5*	*6*	*7*
Andhra Pradesh	3117	515	132	54	23.7	9.5
Assam	282	216	19	35	14.8	6.1
Bihar	2101	565	181	84	11.6	6.7
Gujarat	1307	237	38	81	34.0	2.9
Haryana	288	0	45	-	6.4	-
Himachal Pradesh	55	10	16	3	3.5	3.9
Karnataka	1780	161	91	45	19.5	3.6
Kerala	345	82	32	4	10.7	21.3
Madhya Pradesh	4810	2112	125	206	38.4	10.3
Maharashtra	865	224	104	92	8.3	2.4
Orissa	1439	602	65	87	22.0	6.9
Punjab	140	0	77	-	1.8	-
Rajasthan	3795	863	108	79	35.3	10.9
Tamil Nadu	1206	13	124	7	9.7	1.9
Uttar Pradesh	4496	7	404	4	11.1	1.7
West Bengal	12	12	196	47	0.1	0.3
Delhi	21	1	26	-	0.8	-
India	**26127**	**5713**	**1806**	**926**	**14.5**	**6.2**

Note : 1. Population is in lakhs; 2. Crime Rate is incidence for lakh of respective category (SC/ST) population; 3. Population figures are extrapolated based on the growth (CAGR) during 1991-2001.

Source : www.indiastat.com; Ministry of Home Affairs.

Table : A2.19 Crude Death Rates in Southern States					
Year	AP	Karnataka	Kerala	Tamil Nadu	All India
1	2	3	4	5	6
1971	14.6	12.1	9.0	14.4	14.9
1981	11.1	9.1	6.6	11.8	12.5
1991	9.7	9.0	6.0	8.8	9.8
2002	8.1	7.2	6.4	7.7	8.1

Source : Sample Registration System

Table : A2.20 Crude Birth Rates in Southern States					
Year	AP	Karnataka	Kerala	Tamil Nadu	All India
1	2	3	4	5	6
1971	34.8	31.7	31.1	31.4	36.9
1981	31.7	28.3	28.0	28.0	33.9
1991	26.0	26.9	20.8	20.8	29.5
2002	20.7	22.1	18.5	18.5	25.0

Source : Sample Registration System

Table : A2.21 Infant Mortality Rates in Southern States					
Year	AP	Karnataka	Kerala	Tamil Nadu	All India
1	2	3	4	5	6
1971	106	95	58	113	129
1981	86	69	37	91	110
1991	73	77	16	57	80
2002	62	55	10	44	63
2005	57	50	14	37	58

Source : Sample Registration System

Table : A2.22 Trends in Total Fertility Rate in Southern States				
Year	AP	Kerala	Tamil Nadu	All India
1	2	3	4	5
1971–73	4.5	4.0	3.8	5.1
1976–78	4.3	3.1	3.7	4.6
1981–83	3.9	2.8	3.3	4.5
1986–88	3.6	2.2	2.6	4.1
1991–93	2.8	1.7	2.2	3.6
1996–98	2.5	1.8	2.1	3.3
2001–03	2.2	1.8	2.0	3.0
NFHS-1, (1992–93)	2.29	2.00	2.48	3.39
NFHS- 2, (1998–99)	2.25	1.96	2.19	2.85
NFHS- 3, (2005–06)	1.79	1.93	1.80	2.68

Source : 1 Sample Registration System
2. NHFS-3 Fact sheets

Table : A2.23 Maternal Mortality Ratio in Southern States				
States	MMR(1997)	95 percent CI	MMR (2003)	95 percent CI
1	2	3	4	5
AP	220	(155-286)	195	(132-257)
Karnataka	266	(202-331)	228	(169-287)
Kerala	149	(91-207)	110	(59-161)
Tamil Nadu	167	(111-224)	134	(83-185)
India Total	327	(311-343)	301	(285-317)

Source : Sample Registration System, 2006

Table : A2.24 Maternal and Reproductive Health Situation in Southern States, India					
States	At least three ANC*	Consumed IFA for 90 days*	Institutional Delivery*	Postnatal care*	Reproductive tract Infections**
1	2	3	4	5	6
Andhra Pradesh	86.0	39.3	68.6	69.8	13.7
Karnataka	79.3	40.0	66.9	61.0	19.2
Kerala	93.9	77.3	99.5	87.7	41.3
Tamil Nadu	96.5	43.2	90.4	89.6	17.1
India Total	50.7	22.3	40.7	36.4	32.3

Source : National Family Health Survey (1989-99)

Table : A2.25 Family planning particulars in Southern States, India				
States	Current use of any Modern method	Female sterilization	Male participation	Unmet need
1	2	3	4	5
Andhra Pradesh	67.0	62.9	3.5	5.0
Karnataka	62.5	57.4	2.3	10.2
Kerala	57.9	48.7	6.8	9.0
Tamil Nadu	60.0	55.0	2.7	8.9
India Total	48.5	37.3	4.1	12.8

Source : National Family Health Survey (1998-99)

Table : A2.26 Number per 1000 Households with no Literate Adult (A) / Female (F) Adults across Social Groups								
State	ST		SC		OBC		Others	
	A	F	A	F	A	F	A	F
1	2	3	4	5	6	7	8	9
Rural: 1999-2000								
AP	693	877	522	772	477	765	240	502
Kerala	155	286	53	183	25	85	20	65
all-India	476	745	413	724	320	630	198	449
Rural 2004-05								
AP	499	649	392	654	397	619	233	416
Kerala	202	286	83	117	17	48	10	25
All-India	381	619	327	605	257	514	159	341
Urban: 1999-2000								
AP	343	662	268	565	218	444	86	261
Kerala	24	108	27	99	14	110	17	108
all-India	231	484	237	540	140	380	65	249
Urban 2004-05								
AP	220	447	167	330	152	344	78	180
Kerala	-	-	15	49	14	32	6	25
All-India	143	300	148	338	103	242	45	108

Note : *A* - No Adult literate; ***F*** - No Adult Female literate.
Source : NSS Employment and Unemployment Surveys.

District Level Tables

Table : A3.1 Income Dimension of Human Development - Per Capita District Domestic Product (DDP) in Constant (1993-94) Prices across Districts of Andhra Pradesh			
Sno	District	Per Capita GDDP	
		1993-94	2004-05
1	2	3	4
1	Srikakulam	4975	8845
2	Vizianagaram	5664	8316
3	Visakhapatnam	8265	17504
4	East Godavari	7840	12883
5	West Godavari	8161	12975
6	Krishna	8395	12249
7	Guntur	8501	12137
8	Prakasam	7554	11175
9	Nellore	8511	11588
10	Chittoor	7778	10774
11	Kadapa	7488	9642
12	Anantapur	7601	9578
13	Kurnool	7346	9877
14	Mahabubnagar	4766	8996
15	Rangareddy	9360	14948
16	Hyderabad	7686	15743
17	Medak	8838	14366
18	Nizamabad	6193	10082
19	Adilabad	7179	10067
20	Karimnagar	7126	11426
21	Warangal	5452	9598
22	Khammam	7766	13653
23	Nalgonda	6260	9301
	Andhra Pradesh	7416	11756
	CV	**17.9**	**22.6**
	Min	**5382**	**9037**
	Max	**11095**	**20260**
	Range	**5712**	**11223**

Note : 1. DDP– District Domestic Product; 2. C V – Coefficient of Variation.

Source : DES, Hyderabad.

Table : A3.2 Health Dimension of Human Development - Infant Mortality and Survival Rates													
Sno	District	Infant Mortality Rate (IMR)						Infant Survival Rate (ISR)					
		1991			2001			1991			2001		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Srikakulam	74	54	71	55	36	53	926	946	929	945	964	947
2	Vizianagaram	88	50	81	72	46	68	912	950	919	928	954	932
3	Visakhapatnam	69	42	58	60	36	50	931	958	942	940	964	950
4	East Godavari	53	44	51	39	31	37	947	956	949	961	969	963
5	West Godavari	48	40	46	41	29	38	952	960	954	959	971	962
6	Krishna	34	28	31	32	26	28	966	972	969	968	974	972
7	Guntur	37	26	31	34	23	29	963	974	969	966	977	971
8	Prakasam	47	34	45	41	32	40	953	966	955	959	968	960
9	Nellore	44	33	42	42	30	39	956	967	958	958	970	961
10	Chittoor	44	40	43	43	29	40	956	960	957	957	971	960
11	Kadapa	44	28	41	43	26	39	956	972	959	957	974	961
12	Anantapur	70	37	63	56	34	54	930	963	937	944	966	946
13	Kurnool	70	47	64	49	38	47	930	953	936	951	962	953
14	Mahabubnagar	72	38	69	61	35	58	928	962	931	939	965	942
15	Rangareddy	56	26	46	46	25	38	944	974	954	954	975	962
16	Hyderabad	23	23		22	22		977	977		978	978	
17	Medak	52	24	48	43	23	40	948	976	952	957	977	960
18	Nizamabad	43	36	42	37	30	40	957	964	958	963	970	960
19	Adilabad	55	35	50	51	28	44	945	965	950	949	972	956
20	Karimnagar	37	24	31	33	22	29	963	976	969	967	978	971
21	Warangal	56	39	53	45	27	41	944	961	947	955	973	959
22	Khammam	47	30	43	43	28	40	953	970	957	957	972	960
23	Nalgonda	53	38	52	51	30	48	947	962	948	949	970	952
	Andhra Pradesh	54	31	49	47	29	43	946	969	951	953	971	957
	CV	**26.0**	**24.2**	**28.8**	**21.5**	**19.4**	**24.7**	**1.49**	**0.89**	**1.48**	**1.04**	**0.60**	**1.08**
	Min	**34**	**23**	**23**	**32**	**22**	**22**	**912**	**946**	**919**	**928**	**954**	**932**
	Max	**88**	**54**	**81**	**72**	**46**	**68**	**966**	**977**	**977**	**968**	**978**	**978**
	Range	**54**	**31**	**58**	**40**	**24**	**46**	**54**	**31**	**58**	**40**	**24**	**46**

Note : 1. ISR is derived from IMR (i.e. ISR = 1000-IMR); 2. C V – Coefficient of Variation.

Source: Irudaya Rajan and Mohanchandran (2007)

Table : A3.3 Education Dimension of Human Development - Schooling and Adult Literacy Levels across Districts of Andhra Pradesh

Sno	District	Schooling						Adult Literacy					
		1991			2001			1991			2001		
		Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Srikakulam	43.5	64.8	46.1	76.3	79.5	76.6	25.2	57.1	29.3	43.7	70.4	46.8
2	Vizianagaram	40.1	64.5	44.4	70.5	80.6	72.3	21.9	56.8	28.0	36.8	68.8	53.7
3	Visakhapatnam	39.0	68.4	50.5	71.0	81.3	74.8	21.5	65.9	39.6	38.4	75.2	42.9
4	East Godavari	44.5	60.7	48.2	75.2	76.5	75.5	37.7	62.0	43.7	55.3	72.8	59.6
5	West Godavari	51.2	64.8	54.0	77.5	78.3	77.6	43.5	63.7	47.8	66.8	78.0	69.0
6	Krishna	50.6	67.1	56.5	76.2	77.3	76.6	38.7	64.6	48.1	58.7	75.0	63.9
7	Guntur	46.9	61.9	51.2	71.2	75.9	72.5	34.5	57.3	41.1	52.0	70.6	57.4
8	Prakasam	45.1	66.6	48.5	71.6	78.1	72.5	29.7	56.8	34.3	46.7	69.9	50.4
9	Nellore	48.2	68.6	52.8	76.5	78.0	76.8	34.5	63.8	41.6	54.5	75.1	59.3
10	Chittoor	58.1	70.6	60.5	78.2	81.4	78.9	36.7	67.3	42.8	56.4	77.6	61.1
11	Kadapa	53.0	66.2	56.1	77.0	77.4	77.1	35.3	59.6	41.2	52.9	68.6	56.4
12	Anantapur	42.0	59.2	45.9	71.5	75.1	72.4	29.3	56.1	35.8	42.8	65.4	48.7
13	Kurnool	32.0	55.7	38.2	61.6	69.0	63.2	28.7	54.0	35.3	41.6	63.8	47.0
14	Mahabubnagar	28.7	65.6	33.0	57.6	81.6	59.9	20.4	57.6	24.5	33.2	71.2	37.4
15	Rangareddy	39.2	67.1	51.8	73.3	78.5	75.9	25.9	63.7	44.4	43.6	75.0	61.3
16	Hyderabad		69.6	69.6		79.2	79.2		68.3	68.3		77.1	77.0
17	Medak	33.0	66.2	37.8	68.1	81.9	70.0	21.9	59.2	27.2	38.5	72.5	43.5
18	Nizamabad	36.7	61.0	41.8	70.0	77.7	71.4	21.9	53.3	28.0	39.0	67.3	44.1
19	Adilabad	36.2	63.6	42.8	67.7	82.8	71.7	19.0	49.3	25.9	36.1	63.2	43.5
20	Karimnagar	45.4	72.5	51.6	77.0	86.1	78.8	22.9	54.3	29.0	40.7	68.7	46.2
21	Warangal	41.7	69.9	47.1	77.2	84.6	78.5	24.6	63.6	32.3	42.3	75.9	49.1
22	Khammam	42.5	72.6	48.6	71.5	83.8	73.7	27.3	62.1	34.5	42.8	73.9	49.2
23	Nalgonda	44.2	75.7	48.1	73.9	86.4	75.5	26.4	64.6	30.9	45.0	76.4	49.3
	AP	43.0	66.3	49.2	72.0	79.1	73.8	29.4	61.9	38.3	46.8	73.1	54.2
	CV	16.6	7.0	16.0	7.2	4.9	6.4	24.3	8.3	26.6	18.7	6.1	18.0
	Min	28.7	55.7	33.0	57.6	69.0	59.9	19.01	49.31	24.52	33.18	63.18	37.4
	Max	58.1	75.7	69.6	78.2	86.4	79.2	43.47	68.26	68.26	66.75	77.96	76.96
	Range	29.4	20.0	36.6	20.6	17.4	19.3	24.46	18.95	43.74	33.57	14.78	39.56

Note : 1. *Schooling* is percentage of Children 5-14 Age group Attending School and *adult literacy* is for the age group 15 years and above; 2. *C V* – Coefficient of Variation.

Source : Census of India, Andhra Pradesh.

Table : A3.4 Normalised Indices and Rankings of three Dimension of Human Development across Districts of Andhra Pradesh													
Sno	District	Dimension Indices						Dimension Ranking					
		Income		Education		Health		Income		Education		Health	
		1993-94	2003-04	1991	2001	1991	2001	93-94	2003-04	1991	2001	1991	2001
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Srikakulam	0.137	0.271	0.349	0.567	0.322	0.522	22	22	18	16	22	20
2	Vizianagaram	0.161	0.252	0.335	0.599	0.211	0.356	20	23	19	10	23	23
3	Visakhapatnam	0.251	0.569	0.432	0.535	0.467	0.556	6	1	10	18	18	19
4	East Godavari	0.236	0.410	0.452	0.649	0.544	0.700	8	7	8	7	15	5
5	West Godavari	0.247	0.413	0.498	0.719	0.600	0.689	7	6	3	2	11	6
6	Krishna	0.255	0.388	0.509	0.681	0.767	0.800	5	8	2	3	2	2
7	Guntur	0.259	0.384	0.445	0.624	0.767	0.789	4	9	9	9	3	3
8	Prakasam	0.226	0.351	0.390	0.578	0.611	0.667	13	12	13	13	10	13
9	Nellore	0.259	0.365	0.453	0.651	0.644	0.678	3	10	7	6	6	9
10	Chittoor	0.234	0.337	0.487	0.670	0.633	0.667	9	13	4	4	8	11
11	Kadapa	0.224	0.298	0.462	0.633	0.656	0.678	14	17	6	8	5	8
12	Anantapur	0.228	0.296	0.392	0.566	0.411	0.511	12	19	12	17	19	21
13	Kurnool	0.219	0.306	0.363	0.524	0.400	0.589	15	16	17	21	20	17
14	Mahabubnagar	0.130	0.276	0.273	0.449	0.344	0.467	23	21	23	23	21	22
15	Ranga Reddy	0.288	0.481	0.468	0.661	0.600	0.689	1	3	5	5	12	7
16	Hyderabad	0.231	0.508	0.687	0.777	0.856	0.867	11	2	1	1	1	1
17	Medak	0.270	0.461	0.308	0.523	0.578	0.667	2	4	22	22	13	14
18	Nizamabad	0.179	0.313	0.326	0.532	0.644	0.667	19	14	20	19	7	10
19	Adilabad	0.213	0.313	0.315	0.529	0.556	0.622	16	15	21	20	14	16
20	Karimnagar	0.211	0.360	0.365	0.570	0.767	0.789	17	11	16	15	4	4
21	Warangal	0.154	0.296	0.373	0.589	0.522	0.656	21	18	14	11	17	15
22	Khammam	0.233	0.436	0.392	0.574	0.633	0.667	10	5	11	14	9	12
23	Nalgonda	0.181	0.286	0.367	0.580	0.533	0.578	18	20	15	12	16	18
	Andhra Pradesh	***0.221***	***0.371***	***0.419***	***0.607***	***0.567***	***0.633***	**-**	**-**	**-**	**-**	**-**	**-**

Note : 1. See Technical note for the computation of normalized indices; 2. C V – Coefficient of Variation.

Source : 1. Computed using Economic Survey of Andhra Pradesh 2005-06 for Per Capita District Income, Census data for Adult Literacy and School Attendance, Irudaya Rajan's Study for Infant Mortality Rates.

Table A3.5: Selected Demographic Indicators across Districts of Andhra Pradesh																
Sno	District	Area	Population		Density		Urbanisation		Sex Ratio		% of 0-4		CSR		% of 60+	
			2001 (M)	Growth 1991-01	2001	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001	1991
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*
1	Srikakulam	5.8	2.5	0.90	438	400	11.0	12.5	1014	1012	8.9	11.4	972	976	7.8	6.9
2	Vizianagaram	6.5	2.2	0.64	346	325	18.3	17.2	1009	1000	8.8	10.4	981	981	7.3	6.3
3	Visakhapatnam	11.2	3.8	1.55	342	293	39.9	39.8	985	975	8.5	10.1	974	1013	6.2	5.4
4	East Godavari	10.8	4.9	0.77	454	420	23.5	23.8	993	998	8.4	10.9	982	996	7.1	6.4
5	West Godavari	7.7	3.8	0.78	494	457	19.7	20.7	991	994	8.2	10.6	973	977	7.9	6.8
6	Krishna	8.7	4.2	1.25	481	425	32.1	35.8	978	969	8.0	10.1	970	961	7.8	7.0
7	Guntur	11.4	4.5	0.84	392	360	28.8	28.9	984	970	8.0	9.8	956	970	8.7	7.9
8	Prakasam	17.6	3.1	1.04	174	157	15.3	16.5	971	970	8.5	10.3	962	967	8.9	8.1
9	Nellore	13.1	2.7	1.10	204	183	22.4	23.8	984	980	8.4	10.0	956	937	8.1	7.1
10	Chittoor	15.2	3.7	1.40	246	215	21.7	19.8	982	966	8.9	10.0	955	971	8.7	7.1
11	Cuddapah	15.4	2.6	1.38	169	147	22.6	24.0	974	955	8.7	10.1	950	976	7.9	6.5
12	Anantapur	19.1	3.6	1.35	191	167	25.3	23.5	958	946	8.6	11.1	965	973	7.5	6.7
13	Kurnool	17.7	3.5	1.73	199	168	23.2	25.8	965	953	9.7	12.4	964	960	6.5	6.0
14	Mahbubnagar	18.4	3.5	1.34	191	167	10.6	11.1	972	973	9.8	12.4	962	996	7.3	6.9
15	Rangareddi	7.5	3.6	3.43	477	340	54.2	47.2	944	941	9.1	11.9	970	958	6.2	5.9
16	Hyderabad	0.2	3.8	1.99	19149	15730	100	100.0	933	933	8.3	10.5	947	957	5.9	5.2
17	Medak	9.7	2.7	1.64	275	234	14.4	14.5	974	970	9.6	11.9	973	991	7.8	7.6
18	Nizamabad	8.0	2.3	1.42	293	255	18.1	20.3	1017	1017	9.2	11.2	965	996	7.5	7.2
19	Adilabad	16.1	2.5	1.80	155	129	26.5	23.1	989	980	9.8	12.2	959	992	6.6	5.9
20	Karimnagar	11.8	3.5	1.40	296	257	19.4	20.6	998	986	8.7	10.3	962	991	8.9	7.9
21	Warangal	12.9	3.2	1.42	252	219	19.2	19.4	973	962	8.9	10.9	963	980	8.5	7.4
22	Khammam	16.0	2.6	1.53	161	138	19.8	20.2	975	961	9.0	11.2	975	990	7.4	6.3
23	Nalgonda	14.2	3.2	1.31	229	201	13.3	11.9	966	962	9.1	11.6	954	995	8.3	7.4
	AP	*275.0*	*76.2*	*1.37*	*277*	*242*	*27.3*	*26.9*	*978*	*972*	*8.8*	*10.9*	*965*	*978*	*7.6*	*6.8*
	CV	**39.8**	**21.5**	**40.6**	**39.6**	**40.5**	**71.9**	**70.1**	**2.0**	**2.2**	**6.2**	**7.5**	**1.0**	**1.8**	**0.89**	**0.79**

Note : **1**. ***Area*** in ('000') Sq. Km; 2. ***M*** - Population figures for 2001is in Millions (Col. 4); 3. ***Urbanisation*** is the percentage of Urban population to the total population; 4. ***CSR*** is Child Sex Ratio of 0 to 4 age group; 5. ***Growth*** is compound annual rate of growth (CAGR); 6. ***% of 0-4*** - is percentage of 0-4 age group population to the total; 7. ***% of 60 +*** is percentage of 60 + years age group population to the total; 8. ***Density*** is number of persons per square kilometers; 9. **C V** – Coefficient of Variation.

Source : Census of India, Andhra Pradesh.

Table : A3.6 Growth of Gross District Domestic Product (GDDP) and per capita DDP across districts of Andhra Pradesh, 1993-94 to 2003-04					
Sno	District	Gr. of DDP		Per capita DDP (in Rs.)	
		1993-2004	1993-2004	1993-94	2003-04
1	*2*	*3*	*4*	*5*	*6*
1	Hyderabad	8.4	6.4	906	1758
2	Visakhapatnam	7.9	6.3	962	2026
3	Ranga Reddy	7.4	4.0	1109	1667
4	Mahabubnagar	7.2	5.9	538	976
5	Warangal	6.6	5.2	611	1045
6	Medak	6.0	4.4	1068	1636
7	Khammam	6.0	4.5	909	1505
8	Nizamabad	6.0	4.6	707	1137
9	Srikakulam	6.0	5.1	550	969
10	East Godavari	5.4	4.6	887	1422
11	West Godavari	5.4	4.6	883	1427
12	Prakasam	5.4	4.4	836	1220
13	Karimnagar	5.3	3.9	816	1248
14	Adilabad	5.3	3.5	821	1094
15	Chittoor	5.0	3.6	872	1179
16	Krishna	4.9	3.7	944	1360
17	Nellore	4.8	3.7	947	1280
18	Nalgonda	4.6	3.3	714	1028
19	Kadapa	4.4	3.0	838	1050
20	Kurnool	4.4	2.7	811	1057
21	Guntur	4.1	3.3	936	1317
22	Vizianagaram	3.9	3.3	635	904
23	Anantapur	3.8	2.4	847	1047
	Andhra Pradesh	**5.7**	**4.3**	**840**	**1300**

Note : 1. Per capita DDP is in 1993-94 prices; 2. Districts are in arranged according their ranking in terms of growth in the GDDP.

Source : Directorate of Economics and Statistics, GOAP, Hyderabad.

Table : A3.7 Infrastructure Index in Andhra Pradesh at District Level, 2004										
Sno	Districts	PD	RD	GIA	Power	Bank	TP	PO	CI_7	CI_9
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1	Srikakulam	435	973	47.6	99.9	5.39	1735	20	1.05	0.984
2	Vizianagaram	343	685	34.5	100	7.86	4055	18	1.01	1.022
3	Visakhapatnam	344	704	37.6	99.7	5.78	1948	34	1.02	0.990
4	East Godavari	454	745	62.6	100	6.96	7741	18	1.29	1.158
5	West Godavari	491	948	87.1	100	7.50	8888	20	1.50	1.272
6	Krishna	480	840	51.3	100	8.57	5199	20	1.24	1.034
7	Guntur	392	748	46.6	100	7.58	4328	19	1.10	1.026
8	Prakasam	174	616	25.5	99.9	7.58	3157	29	0.92	0.960
9	Nellore	204	596	70.1	99.5	7.72	3985	29	1.12	1.173
10	Chittoor	247	772	37.0	99.6	6.93	3922	24	1.01	1.100
11	Kadapa	169	523	32.9	99.9	6.50	3637	32	0.93	1.012
12	Anantapur	190	538	12.5	99.8	6.15	2731	26	0.79	0.848
13	Kurnool	200	497	21.3	100	6.06	2743	22	0.79	0.875
14	Mahabubnagar	191	645	21.7	100	5.44	2259	24	0.81	0.837
15	Rangareddy	477	795	25.9	99.8	6.03	6937	12	1.09	0.921
17	Medak	275	747	29.3	100	6.07	2749	22	0.92	0.916
18	Nizamabad	295	696	59.2	99.9	6.98	3696	20	1.06	1.021
19	Adilabad	154	519	13.3	100	5.74	2789	21	0.73	0.844
20	Karimnagar	295	755	55.8	100	5.39	3811	21	1.04	0.972
21	Warangal	253	648	59.6	99.9	5.82	3233	23	1.01	1.037
22	Khammam	161	564	43.0	100	6.28	3340	23	0.90	0.945
23	Nalgonda	228	772	42.1	99.9	5.72	3121	23	0.95	0.939
16	Hyderabad	17649	959	-	100	15.5	12617	4	10.2	1.398
	Andhra Pradesh	***277***	***666***	***39.8***	***100***	***7.08***	***4121***	***21***	***1***	***1***
	CV	**3.5**	**0.2**	**0.5**	**0.001**	**0.3**	**0.6**	**0.3**	**0.2**	**0.1**

Note : 1. PD – Population Density; RD – Road Density; GIA – Percentage of Gross Irrigated Area to the Gross Cropped Area; Power – Percentage of Villages connected with Electricity; Bank – Number of (Commercial) Bank Branches available per lakh Population; TP – Number of Telephone connection per lakh Population; PO – Number of Post Offices per lakh Population; CI_7 – Composite Index (unweighted) of seven indicators mentioned above (col. 4 to 10) and CI_9 includes above seven plus two more indicators representing education and health infrastructure.

Source: Centre for Monitoring Indian Economy (CMIE) and Directorate of Ecnomics and Statistics (DES) Hyderabad.

Table : A3.8 Percentage of Irrigated Area by Source across Districts of Andhra Pradesh: 2004-05							
Sno	District	% in Net Sown Area				% of Wells in NIA	Other Wells in Total Wells (%)
		Canal	Tanks & Others	Wells	Total		
1	2	3	4	5	6	7	8
1	Srikakulam	33.2	22.1	4.0	59.3	6.7	55.0
2	Vizianagaram	12.0	26.6	5.5	44.1	12.5	56.4
3	Visakhapatnam	11.2	16.4	4.6	32.1	14.3	41.3
4	East Godavari	42.2	8.2	12.3	62.8	19.6	0.8
5	West Godavari	40.4	5.8	30.3	76.5	39.6	7.6
6	Krishna	42.4	7.4	11.3	61.1	18.5	28.3
7	Guntur	42.0	2.8	8.8	53.6	16.4	11.4
8	Prakasam	7.2	5.0	13.6	25.9	52.5	16.2
9	Nellore	20.2	21.4	27.5	69.0	39.9	34.2
10	Kurnool	7.3	2.1	10.3	19.7	52.3	35.9
11	Anantapur	2.2	0.2	8.1	10.5	77.1	13.6
12	Kadapa	5.1	0.6	23.8	29.6	80.4	6.3
13	Chittoor	0.0	4.2	27.2	31.3	86.9	34.6
14	Ranga Reddy	0.3	1.1	20.7	22.1	93.7	20.3
15	Medak	0.4	1.8	23.0	25.2	91.3	12.6
16	Mahabubnagar	2.5	0.8	15.3	18.7	81.8	11.1
17	Nalgonda	10.2	2.6	23.3	36.2	64.4	33.5
18	Warangal	1.4	9.7	52.7	63.7	82.7	78.7
19	Khammam	6.6	16.2	16.8	39.6	42.4	61.3
20	Karimnagar	0.1	2.3	48.5	50.9	95.3	85.8
21	Nizamabad	1.5	3.8	50.3	55.6	90.5	2.4
22	Adilabad	0.9	1.8	10.3	13.1	78.6	27.2
	Andhra Pradesh	***12.9***	***6.1***	***18.2***	***37.2***	***49.1***	***34.1***

Note : 1. *% of Wells to NIA* indicates the percentage of area irrigated under the source of well irrigation to the net irrigated area (NIA); 2. Others Wells in Total Wells indicates the percentage of area irrigated under the source of the 'other wells' which excludes the tube wells, to the area irrigated under the source of well irrigation (including both tube wells and other wells).

Source : 1. Directorate of Ecnomics and Statistics (DES), Hyderabad; 2. Subramanyam and Aparna (2007).

Table : A3.9 Share of the Value of Crop Output and Livestock in the GDDP and their Growth across Districts of Andhra Pradesh										
Sno	District	Crop Output		Livestock		Agriculture		Growth (1993-2004)		
		1993-94	2003-04	1993-94	2003-04	1993-94	2003-04	Crop	Livestk	Agrl.
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1	Srikakulam	30.7	17.8	2.6	4.9	33.3	22.7	-1.3	8.7	0.06
2	Vizianagaram	23.9	18.4	4.4	7.3	28.3	25.7	1.2	5.7	0.60
3	Visakhapatnam	10.9	5.0	3.3	3.6	14.2	8.7	0.8	4.3	0.22
4	East Godavari	27.1	18.5	4.9	8.1	32.0	26.5	5.4	9.1	1.80
5	West Godavari	33.6	22.3	8.8	11.9	42.4	34.1	1.1	6.3	1.01
6	Krishna	27.1	11.2	8.1	9.4	35.2	20.6	1.0	2.9	0.44
7	Guntur	37.5	25.1	6.4	10.1	43.9	35.2	0.9	4.9	0.67
8	Prakasam	29.7	18.9	5.6	6.4	35.3	25.3	2.8	2.7	0.82
9	Nellore	27.1	13.3	6.4	5.8	33.5	19.1	-0.3	3.5	0.14
10	Chittoor	26.6	9.5	9.2	14.9	35.7	24.4	-0.6	6.6	0.63
11	Kadapa	32.7	19.1	4.9	5.3	37.7	24.3	5.6	2.4	1.47
12	Anantapur	34.3	14.2	4.6	7.8	38.8	21.9	-1.8	8.3	0.06
13	Kurnool	38.7	24.5	3.8	6.6	42.5	31.1	0.5	5.7	0.42
14	Mahabubnagar	21.4	15.7	5.1	10.6	26.4	26.3	4.0	10.6	1.51
15	Ranga Reddy	7.4	4.3	10.1	9.9	17.5	14.2	2.9	6.1	0.76
16	Medak	14.5	12.3	4.7	6.8	19.2	19.1	4.6	4.3	0.78
17	Nizamabad	27.3	13.1	3.8	4.3	31.1	17.4	2.9	3.8	0.80
18	Adilabad	21.6	20.3	1.9	3.5	23.5	23.8	2.5	12.2	0.75
19	Karimnagar	22.1	17.0	4.3	6.1	26.4	23.1	3.3	5.5	0.93
20	Warangal	27.8	21.9	4.0	5.1	31.7	27.0	4.8	5.9	1.47
21	Khammam	23.4	15.2	3.2	6.0	26.5	21.2	2.3	8.2	0.80
22	Nalgonda	25.3	14.2	5.1	7.9	30.4	22.1	1.5	7.0	0.73
	Andhra Pradesh	***24.6***	***14.2***	***5.5***	***7.4***	***30.1***	***21.6***	***1.3***	***5.8***	***0.61***

Note : 1. The data considered here is components of Gross District Domestic Product (GDDP); 2. Crop output includes value of output from all the *agriculture and allied activities* excluding *livestock*; 3. Figures presented from col. 3 to 8 are percentages; 4. *Growth* is exponential growth rate.

Source : 1. Computed using Directorate of Ecnomics and Statistics (DES), Hyderabad data.

Table : A3.10 Per Capita Gross District Domestic Product and Per Worker Agricultural (Aggregate Value of Crop) Output across Districts of AP							
Sno	District	Per Capita GDDP		Per Worker Agril. Output		Per Hectare Agril. Output	
		Rs.	Rank	Rs.	Rank	Rs.	Rank
1	2	3	4	5	6	7	8
1	Srikakulam	12914	21	8032	16	22274	12
2	Vizianagaram	12844	22	8133	15	20729	14
3	Visakhapatnam	24858	1	8212	14	23594	10
4	East Godavari	20328	6	17826	2	50923	2
5	West Godavari	20159	7	21916	1	55042	1
6	Krishna	20696	5	15310	4	34417	4
7	Guntur	18540	8	17063	3	40661	3
8	Prakasam	16282	12	11371	8	21301	13
9	Nellore	18416	9	12464	6	28122	6
10	Chittoor	16405	11	7379	18	23464	11
11	Kadapa	15194	14	6812	20	12922	19
12	Anantapur	14492	17	7932	17	9129	22
13	Kurnool	14675	16	11851	7	15844	17
14	Mahabubnagar	13342	20	6063	22	11038	21
15	Rangareddy	20724	3	6629	21	14622	18
16	Medak	21870	2	9437	11	19470	15
17	Nizamabad	13636	19	9311	12	29043	5
18	Adilabad	15637	13	10160	10	12702	20
19	Karimnagar	17543	10	9220	13	26818	8
20	Warangal	14161	18	10585	9	25325	9
21	Khammam	20698	4	12493	5	27167	7
22	Nalgonda	15036	15	7014	19	15938	16

Note : 1. Triennium (TE) 2001-04; 2. Growth Rate of Agricultural Output 1991-92 to 2004-05 (%); 3. The per capita GDDP is at 1999-2000 prices.

Source : Subrahmanyam and Aparna (2007)

Table : A3.11 Work Participation Rate (WPR), Share of Agriculture in the Total Workers, and Growth of Total and Agriculture Workers across districts of Andhra Pradesh

Sno	District	WPR		% of Agrl		Growth (91-01)	
		1991	2001	1991	2001	TW	AW
1	2	3	4	5	6	7	8
1	Srikakulam	48.6	47.4	75.3	68.5	0.63	-0.32
2	Vizianagaram	50.3	52.2	74.3	68.4	1.00	0.18
3	Visakhapatnam	43.1	41.8	61.9	53.4	1.25	-0.25
4	East Godavari	38.5	39.6	65.8	62.1	1.05	0.48
5	West Godavari	43.3	44.1	70.1	69.2	0.96	0.83
6	Krishna	43.3	44.0	65.1	59.0	1.41	0.42
7	Guntur	47.9	49.1	72.7	66.8	1.09	0.23
8	Prakasam	48.6	50.3	78.0	68.4	1.37	0.05
9	Nellore	45.6	45.4	69.9	62.3	1.05	-0.10
10	Chittoor	45.9	46.8	73.8	66.1	1.59	0.47
11	Kadapa	43.9	44.8	71.6	63.3	1.58	0.34
12	Anantapur	46.2	48.8	75.2	67.5	1.91	0.82
13	Kurnool	46.5	49.4	74.7	68.2	2.35	1.42
14	Mahabubnagar	50.2	51.9	81.9	73.2	1.67	0.54
15	Rangareddy	40.8	40.2	54.6	40.5	3.29	0.25
16	Hyderabad	27.4	29.2	0.5	1.7	2.67	15.36
17	Medak	47.8	48.4	77.0	67.7	1.78	0.48
18	Nizamabad	49.6	49.4	64.9	57.0	1.37	0.06
19	Adilabad	44.4	45.1	69.5	61.0	1.97	0.64
20	Karimnagar	50.3	49.0	67.2	58.7	1.14	-0.23
21	Warangal	47.8	48.3	75.4	68.1	1.52	0.49
22	Khammam	45.9	48.3	76.3	72.1	2.04	1.46
23	Nalgonda	48.3	49.1	75.9	67.6	1.47	0.30
	Andhra Pradesh	**45.1**	**45.8**	**69.4**	**62.2**	**1.53**	**0.42**

Note : 1. Figures presented in percentages; 2. *Growth* is CAGR and between 1991 and 2001 for number of Workers; *TW* – Total Workers; *AW* – Workers in Agriculture; *Agrl* – Agriculture; 3. Workers include both the main and the marginal; 4. Agriculture includes Cultivators and Agricultural Labourers; and excludes allied activities such as Animal husbandry, fishing, forestry and logging.

Source: Census of India, Andhra Pradesh.

Table : A3.12 District-wise Work Participation Rate (WPR), the Share of Agriculture, and Growth of Rural Workers and in Agriculture - Rural Andhra Pradesh										
Sno	District	WPR		% of Agrl		Growth (91-01)		Diversification Index		
		1991	2001	1991	2001	TW	AW	1991	2001	Change
1	2	3	4	5	6	7	8	9	10	11
1	Srikakulam	50.8	49.0	79.7	73.2	0.71	-0.15	0.648	0.646	-0.002
2	Vizianagaram	54.2	56.1	81.0	76.2	0.85	0.22	0.645	0.660	0.014
3	Visakhapatnam	52.1	49.4	81.8	74.1	1.00	0.01	0.628	0.674	0.046
4	East Godavari	40.9	41.9	77.1	73.6	1.07	0.59	0.573	0.570	-0.003
5	West Godavari	46.0	46.6	78.2	77.6	1.05	0.97	0.557	0.540	-0.017
6	Krishna	49.5	49.2	81.8	74.9	1.77	0.87	0.551	0.563	0.013
7	Guntur	53.4	54.3	84.5	80.6	1.03	0.55	0.560	0.578	0.018
8	Prakasam	51.4	52.7	84.2	75.1	1.43	0.28	0.591	0.646	0.055
9	Nellore	49.5	48.9	80.2	72.8	1.15	0.18	0.602	0.629	0.027
10	Chittoor	49.6	50.8	82.7	76.6	1.4	0.63	0.634	0.663	0.029
11	Kadapa	47.7	48.1	82.6	74.2	1.65	0.56	0.629	0.662	0.033
12	Anantapur	50.7	53.6	85.6	80.0	1.67	0.98	0.618	0.649	0.032
13	Kurnool	51.6	53.8	85.6	79.2	2.52	1.73	0.581	0.617	0.036
14	Mahabubnagar	52.6	54.2	85.6	77.5	1.71	0.70	0.617	0.655	0.038
15	Rangareddy	49.5	49.1	79.2	69.3	1.88	0.53	0.648	0.679	0.032
17	Medak	50.8	51.2	82.4	73.8	1.73	0.62	0.638	0.675	0.037
18	Nizamabad	53.8	52.9	71.8	63.7	1.52	0.31	0.702	0.729	0.027
19	Adilabad	49.3	50.9	78.6	72.4	1.66	0.82	0.662	0.695	0.034
20	Karimnagar	54.9	52.9	75.2	66.6	1.17	-0.05	0.679	0.714	0.035
21	Warangal	52.2	52.1	83.9	77.3	1.43	0.59	0.622	0.660	0.038
22	Khammam	50.2	52.5	84.8	81.3	2.02	1.60	0.594	0.599	0.004
23	Nalgonda	50.7	51.8	80.2	73.1	1.35	0.40	0.647	0.665	0.018
	Andhra Pradesh	**50.3**	**50.9**	**81.4**	**75.0**	**1.43**	**0.61**	**0.633**	**0.654**	**0.021**

Note : 1. Figures presented are in percentages; 2. *Growth* is CAGR and between 1991 and 2001 for number of Workers; *TW* – Total Workers; *AW* – Workers in Agriculture; *Agrl* – Agriculture; 3. Workers include both the main and the marginal; 4. Diversification Index (1-H) is nothing but a reverse of Herfindahl index which is to indicate the concentration levels.

Source : Census of India

Table : A3.13 Gender Disparity in Work Participation Rate (WPR) and Non-Farm Activity across Districts of Andhra Pradesh

Sno	District	WPR				Disparity Index		% of Worker in NF					
		Female		Male				1991			2001		
		1991	2001	1991	2001	1991	2001	Male	Female	DI	Male	Female	DI
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Srikakulam	40.9	38.4	56.5	56.6	0.724	0.678	32.2	15.0	0.466	39.6	19.8	0.500
2	Vizianagaram	41.7	44.6	59.0	60.0	0.707	0.743	35.2	12.1	0.344	41.3	18.5	0.448
3	Visakhapatnam	29.6	27.8	56.3	55.6	0.526	0.500	48.1	14.9	0.310	56.1	26.9	0.480
4	East Godavari	20.2	20.4	56.8	58.7	0.356	0.348	38.5	22.6	0.587	41.2	27.9	0.677
5	West Godavari	28.6	28.0	58.0	60.2	0.493	0.465	34.9	18.4	0.527	35.1	20.9	0.595
6	Krishna	29.1	29.5	57.0	58.4	0.511	0.505	44.1	17.8	0.404	49.8	22.8	0.458
7	Guntur	38.1	38.7	57.3	59.2	0.665	0.654	37.0	14.0	0.378	42.2	18.4	0.436
8	Prakasam	41.4	42.5	55.7	57.9	0.743	0.734	30.2	11.6	0.384	39.4	20.5	0.520
9	Nellore	33.9	32.2	57.1	58.6	0.594	0.549	37.9	18.0	0.475	45.2	23.1	0.511
10	Chittoor	33.8	35.3	57.7	58.3	0.586	0.605	33.2	14.6	0.440	41.0	21.3	0.520
11	Kadapa	31.7	32.6	55.7	56.8	0.569	0.574	35.8	16.7	0.466	44.4	22.4	0.505
12	Anantapur	36	39.5	55.8	57.9	0.645	0.682	43.3	12.2	0.282	40.5	19.8	0.489
13	Kurnool	37.9	42.2	54.7	56.4	0.693	0.748	33.6	13.9	0.414	30.8	18.7	0.607
14	Mahabubnagar	44.9	47.2	55.3	56.3	0.812	0.838	25.6	10.5	0.410	35.1	16.2	0.462
15	Rangareddy	28.4	25.6	52.4	53.4	0.542	0.479	57.1	24.3	0.426	70.5	35.7	0.506
16	Hyderabad	7.4	8.8	46.0	48.2	0.161	0.183	99.1	98.2	0.991	99.8	99.7	0.999
17	Medak	40.3	41.4	55.0	55.5	0.733	0.746	29.9	14.5	0.485	38.6	23.7	0.614
18	Nizamabad	45.2	44.2	54.2	54.3	0.834	0.814	35.4	34.9	0.986	42.1	43.8	1.040
19	Adilabad	35.6	37.0	53.0	52.9	0.672	0.699	37.2	20.6	0.554	44.5	30.1	0.676
20	Karimnagar	44.3	43.5	56.2	55.5	0.788	0.784	39.2	25.7	0.656	46.0	34.1	0.741
21	Warangal	41.0	41.8	54.3	54.5	0.755	0.767	33.7	13.2	0.392	41.8	18.0	0.431
22	Khammam	35.8	39.5	55.5	57.0	0.645	0.693	32.4	10.8	0.333	37.4	13.9	0.372
23	Nalgonda	41.6	43.1	54.8	54.9	0.759	0.785	32.4	13.3	0.410	42.6	18.4	0.432
	Andhra Pradesh	***34.3***	***34.9***	***55.5***	***56.4***	***0.618***	***0.619***	***38.7***	***17.9***	***0.463***	***46.1***	***23.9***	***0518***

Note : 1. The disparity index is calculated as follows *DI* = female / male where in disparity index approaches 1 indicates the least disparity and vice versa; 2. *FL* – Field Labour.

Source : 1. Census of India, Andhra Pradesh; DES, Hyderabad.

Table : A3.14 Gender Disparity in Wage Rate (Agriculture Field Labour) across Districts of Andhra Pradesh							
Sno	District	Female		Male		Disparity Index	
		1993-94	2004-05	1993-94	2004-05	1993-94	2004-05
1	2	3	4	5	6	7	8
1	Srikakulam	20.72	35.8	31.24	64.6	0.663	0.555
2	Vizianagaram	15.28	46.3	25.42	56.7	0.601	0.816
3	Visakhapatnam	10.56	32.0	16.50	49.8	0.640	0.643
4	East Godavari	21.11	47.5	24.70	55.3	0.855	0.859
5	West Godavari	18.75	52.4	24.83	65.0	0.755	0.806
6	Krishna	23.19	39.3	39.45	66.9	0.588	0.587
7	Guntur	20.78	42.6	32.70	66.0	0.635	0.646
8	Prakasam	19.00	48.8	26.19	54.9	0.725	0.890
9	Nellore	19.41	39.0	25.35	54.2	0.766	0.721
10	Chittoor	16.00	45.8	24.72	49.8	0.647	0.918
11	Kadapa	19.42	41.7	25.53	57.8	0.761	0.721
12	Anantapur	22.36	40.7	29.31	48.5	0.763	0.839
13	Kurnool	16.03	28.5	20.28	50.7	0.790	0.562
14	Mahabubnagar	15.17	35.4	20.13	52.8	0.754	0.671
15	Rangareddy	17.61	34.2	24.47	48.3	0.720	0.707
16	Hyderabad	13.89	35.3	22.16	54.7	0.627	0.645
17	Medak	14.28	41.1	21.78	56.7	0.656	0.725
18	Nizamabad	21.25	36.9	26.78	53.0	0.794	0.695
19	Adilabad	22.00	51.5	27.30	65.7	0.806	0.784
20	Karimnagar	23.89	32.4	27.78	54.6	0.860	0.593
21	Warangal	15.45	41.7	26.67	48.3	0.579	0.862
22	Khammam	21.28	40.2	25.70	52.4	0.828	0.767
23	Nalgonda	20.72	35.8	31.24	64.6	0.663	0.555
	Andhra Pradesh	***18.55***	***40.4***	***26.18***	***55.8***	***0.709***	***0.725***

Note : 1. The disparity index is calculated as follows *DI* = female / male where in disparity index approaches 1 indicates the least disparity and vice versa; 2. *FL* – Field Labour.

Source : 1. DES, Hyderabad.

Table : A3.15 National Rural Employment Guarantee Scheme in Andhra Pradesh
Report for the Financial Year of 2006-2007 as on Date 08. 08. 2007

Total No of Districts under NREGS		19
Total No of Mandals		964
Total No of Gram panchayats		19321
Total No of Habitations		64006
Total No of Job cards Issued		62,49,309
Total No of Adult members enrolled in Job Cards Issued		1,41,53,589

Details		Financial Year of 2006-2007	Cumulative Since Inception
Wage Employment Demanded	Household (Nos)	23,24,404	31,06,897
	Individual (Nos)	34,05,360	47,57,860
Works administratively Sanctioned	Number	4,82,929	6,08,905
	Value (Rs in Lakhs)	44,59,18.75	55,50,98.03
Works in-progress	Number	1,95,427	2,46,075
	Value (Rs in Lakhs)	22,13,56.78	26,49,44.62
Total No of Works Completed	Number	93,103	1,12,432
	Value (Rs in Lakhs)	5,42,05.12	6,49,15.43
Total Expenditure	Wages (Rs in Lakhs)	5,88,56.16	10,22,97.96
	Material and Skilled Wages (Rs in Lakhs)	11,03.20	76,47.98
	Contingency (Rs in Lakhs)	51,98.93	84,20.48
	Total (Rs in Lakhs)	6,51,58.29	11,83,66.41
Wage Employment Provided	Household (Nos)	23,24,404	31,06,897
	Individual (Nos)	34,05,360	47,57,860
	Men (Nos)	15,97,721	22,04,424
	Women (Nos)	18,07,639	25,53,436
	Disabled (Nos)	25,510	34,147
Total No of Person days generated		7,29,77,250	12,55,43,922
Average Wage rate per day per person (Rs.)		80.65	81.48
Average No of days employment provided per Household		31.4	-
Total No of Households completed 100 Days of Wage Employment		80,159	1,17,903
Labour Vs Material (%)		98.21 : 1.79	93.11 : 6.89

Source : Department of Rural Development, Government of Andhra Pradesh, Hyderabad: www.rd.gov.ap.in/nregs/

Table : A3.16 Life expectancy at Birth by Place and Sex in Andhra Pradesh					
Period	Rural	Urban	Total	Male	Female
1970–75	47.3	57.2	48.8	48.4	49.3
1976–80	51.7	60.6	53.1	52.2	54.2
1981–85	57.1	63.8	58.4	57.2	59.8
1986–90	58.3	62.1	59.1	59.1	62.2
1991–95	60.7	65.1	61.8	60.3	62.8
1992–96	61.0	65.5	62.0	61.4	64.5
2001–06	NA	NA	63.9	62.8	65.0

Source : Sample Registration System (Various Issues); NA- Not available

Table : A3.17 District - wise Trends in Total Fertility Rate in Andhra Pradesh			
Districts	1981	1991	2001
Srikakulam	4.1	3.4	2.4
Vizianagaram	4.0	3.4	2.5
Visakapatnam	4.0	3.4	2.2
East Godavari	3.8	3.4	2.1
West Godavari	3.9	3.0	2.0
Krishna	4.3	3.3	1.9
Guntur	4.1	3.2	1.9
Prakasam	4.6	3.5	2.3
Nellore	3.9	3.1	2.0
Chittoor	4.0	3.1	2.2
Cuddapah	4.5	3.4	2.3
Ananthapur	4.9	3.9	2.4
Kurnool	5.0	4.3	3.0
Mahabubnagar	4.9	4.5	3.1
Rangareddy	4.8	3.9	2.6
Hyderabad	4.2	4.1	1.9
Medak	4.6	4.2	2.9
Nizamabad	4.1	3.3	2.5
Adilabad	4.6	3.8	2.7
Karimnagar	4.1	3.4	2.2
Warangal	4.6	4.1	2.5
Khammam	4.7	3.7	2.3
Nalgonda	4.5	4.3	2.6
Andhra Pradesh	4.3	3.4	2.3

Source : 1.Data for 1981&1991, RGI, Occassional Paper No.1 of 1997, Table 2.0, p.88; 2.Data for 2001, Christophe Z Guilmoto, S.Irudaya Rajan: 'District Levels Estimates of Fertility from India's 2001 Census,EPW, Feb 16,2002

Table : A3.18 Reproductive Health Index, Districts of A P			
Districts	RHI*	Districts	RHI**
Mahabubnagar	49.4	Mahabubnagar	45.17
Kurnool	52.5	Vizianagaram	47.98
Vizianagaram	55.1	Kurnool	49.17
Nizamabad	58.0	Nizamabad	50.32
Nalgonda	58.3	Srikakulam	51.24
Anantapur	58.7	Medak	53.11
Srikakulam	59.4	Visakhapatnam	54.83
Medak	59.7	Anantapur	55.92
Kadapa	62.2	Adilabad	56.27
Rangareddy	62.7	Prakasam	57.66
Adilabad	62.7	Khammam	57.93
Prakasam	63.6	Rangareddy	58.07
Khammam	64.6	Kadapa	59.12
Visakhapatnam	65.8	Karimnagar	60.11
Warangal	67.6	East Godavari	62.50
Chittoor	68.6	Warangal	63.74
West Godavari	69.5	Nalgonda	65.15
Karimnagar	69.8	Guntur	65.97
Nellore	70.7	West Godavari	66.39
East Godavari	70.7	Chittoor	68.08
Guntur	71.1	Hyderabad	68.12
Krishna	72.9	Nellore	69.02
Hyderabad	74.2	Krishna	70.36

Note : 1. * Index based on 5 Indices, i.e. TFR, Birth order 4+, Skilled attention at the time of birth, IMR, and Educational attainment of women
2. ** Index based on 6 Indices, TFR, Birth order 4+, Skilled attention at the time of birth, IMR, Educational attainment of women , and % Married<18 years

Table : A3.19 District-wise Selected Indicators of Reproductive and Child Health (RCH) Survey, 2003-04												
Sno	District	AMB	AMG	CUFP	FSt	NANC	FANC	SD	FI	SEFSt	VHW	BO3
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Adilabad	26.6	45.4	56.2	51.7	8.6	39.8	63.0	64.8	17.3	11.8	26.1
2	Nizamabad	20.1	27.7	50.8	49.0	3.8	50.8	69.4	76.8	16.0	24.3	25.7
3	Karimnagar	22.9	33.7	62.3	45.8	0.8	46.7	78.6	81.5	20.9	8.4	21.6
4	Medak	25.6	34.2	57.5	56.2	1.9	65.1	73.1	62.7	10.7	15.9	25.9
5	Hyderabad	7.7	4.1	56.8	53.0	1.4	60.6	93.3	70.8	2.8	1.1	25.6
6	Rangareddy	13.5	32.4	55.4	52.3	7.9	53.6	68.9	51.8	10.4	3.6	33.0
7	Mahabubnagar	33.8	42.6	53.7	52.7	18.3	14.9	57.9	28.2	7.7	3.6	34.0
8	Nalgonda	32.4	52.2	66.1	64.4	5.7	40.3	70.0	74.8	14.3	9.9	21.5
9	Warangal	29.4	38.3	63.7	51.0	1.5	51.7	76.7	58.9	5.7	4.9	20.0
10	Khammam	31.3	40.9	67.3	65.2	3.1	63.5	71.1	78.5	11.5	17.6	16.7
11	Srikakulam	31.8	59.6	64.3	60.3	4.3	57.9	52.7	62.7	17.0	20.7	17.9
12	Vizianagaram	29.2	32.1	66.2	62.2	2.9	43.0	55.9	66.3	14.4	16.4	14.0
13	Visakhapatnam	26.8	25.9	65.9	52.5	16.1	28.2	58.9	50.1	23.4	12.6	22.4
14	East Godavari	38.0	42.8	70.0	66.6	4.9	55.0	87.4	67.1	8.4	13.9	12.1
15	West Godavari	35.3	54.1	71.9	66.0	3.2	42.5	76.7	55.9	8.1	11.2	15.8
16	Krishna	25.7	34.7	73.7	68.6	1.0	57.1	82.1	67.6	12.0	16.5	14.8
17	Guntur	36.5	38.6	70.5	68.0	4.2	29.8	74.4	61.8	14.9	12.5	16.1
18	Prakasam	31.9	55.2	66.2	64.4	3.0	49.5	62.1	66.5	7.9	17.3	26.5
19	Nellore	36.3	38.0	57.0	55.0	1.2	31.9	77.5	48.4	5.9	21.6	14.9
20	Kadapa	18.3	31.7	51.6	48.0	1.1	45.3	69.3	62.5	13.5	19.1	22.2
21	Kurnool	30.0	49.9	57.2	56.0	10.7	15.2	37.6	66.0	3.2	10.6	35.3
22	Anantapur	21.5	38.8	59.8	55.7	3.3	47.2	58.0	67.7	16.4	17.4	21.7
23	Chittoor	24.0	30.7	65.1	61.3	2.2	33.8	63.1	67.5	7.6	20.9	27.4
	Andhra Pradesh	**-**	**-**	***62.8***	***58.1***	***5.3***	***43.9***	***69.0***	***62.9***	***11.4***	***13.2***	***22.5***

Note : AMB/G – Percentage Married Below the Legal Age 21 for Boys and 18 for Girls; CUFP – Percentage of women currently using Family Planning Methods; FSt – Percentage of Female Sterilisation; NANC – Percentage of Women with No Antenatal Checkup; FANC – Percentage Undergone Full Antenatal Care (i.e. at least 3 visits for ANC + at least one TT injection + 100 or more IFA tablets/syrup); SD – Percentage of Safe Delivery (Either institutional delivery or home delivery attended by Doctor/Nurse); FI - Percentage of children age 12-35 months received Full Immunization; SEFSt – Percentage of Women had side effects due to female sterilization; VHW – Percentage of Women visited by ANM/Health worker; BO3 –Percentage of Birth Order 3 and above.

Source : IIPS, Bombay

Table : A3.20 District-wise prevalence of HIV/AIDS (in percent) and number of cases reported in Andhra Pradesh, 2003–04

Districts	Percent of HIV positive (2003–2004)		No. of AIDS cases reported during Jan-Dec 2004	
	ANC Cases	VCTC	AIDS cases	AIDS Deaths
Nizamabad	1.56	7.26	3	1
East Godavari	4.04	27.14	423	11
Krishna	3.67	22.91	452	10
Karimnagar	3.38	14.54	36	8
West Godavari	3.22	22.91	116	9
Nellore	2.99	16.01	572	22
Guntur	2.82	26.26	946	38
Prakasam	2.75	16.65	47	4
Khammam	2.37	13.97	180	8
Kadapa	2.12	9.87	84	1
Nalgonda	2.04	10.04	4	0
Nizamabad	1.56	7.26	3	1
Srikakulam	1.42	13.95	281	0
Warangal	1.38	18.70	241	29
Visakhapatnam	1.32	17.29	174	21
Chittoor	1.27	15.86	580	26
Medak	1.23	10.72	0	0
Vizianagaram	1.09	13.32	36	0
Hyderabad	1.07	8.88	621	68
Kurnool	1.07	16.08	651	24
Anantapur	1.03	0.74	205	15
Mahabubnagar	0.75	6.13	168	3
Rangareddy	0.74	4.82	0	0
Adilabad	0.45	6.34	3	1
Total	1.75	14.44	5,855	298

Source : NACO, NCAER, UNDP, 2006

Table : A3.21 Health Facility Available per ten lakh population, 2004-05								
Sno	District	Hospitals	PHCs	Beds	Dispensaries	Doctor	Contract Doctors	All Doctors
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1	Srikakulam	6	28	376	3	69	10	78
2	Vizianagaram	4	26	295	4	73	6	78
3	Visakhapatnam	5	20	669	3	150	5	155
4	East Godavari	4	17	443	7	102	9	111
5	West Godavari	3	17	228	3	44	9	53
6	Krishna	4	16	359	3	96	9	105
7	Guntur	3	16	490	2	109	11	120
8	Prakasam	3	25	268	3	45	19	64
9	Nellore	4	23	465	5	60	0	60
10	Chittoor	4	23	486	3	130	8	138
11	Kadapa	3	25	330	1	56	19	75
12	Anantapur	5	20	320	2	82	8	90
13	Kurnool	5	20	559	5	130	5	135
14	Mahabubnagar	4	23	289	1	52	9	62
15	Rangareddi	3	10	347	0	42	3	44
16	Hyderabad	7	0	1567	14	335	5	340
17	Medak	5	23	334	3	59	12	71
18	Nizamabad	5	18	409	1	40	27	67
19	Adilabad	6	28	368	2	60	10	70
20	Karimnagar	4	20	288	1	46	13	59
21	Warangal	6	20	479	1	123	6	129
22	Khammam	5	28	299	0	47	4	51
23	Nalgonda	4	21	296	1	46	13	59
	Andhra Pradesh	4	20	449	3	92	9	101

Note : PHC – Primary Health Centres

Source : Computed using Statistical Abstract, Andhra Pradesh

Table : A3.22 Literacy Levels across Districts of Andhra Pradesh										
Sno	Districts	Males			Females			Persons		
		1981	1991	2001	1981	1991	2001	1981	1991	2001
1	Srikakulam	32.7	49.1	67.2	13.0	23.5	43.7	22.7	36.2	55.3
2	Vizianagaram	31.0	45.9	66.0	12.6	22.5	39.9	21.7	31.2	51.1
3	Visakhapatnam	36.5	56.1	69.7	19.0	34.6	50.2	27.8	45.5	60.0
4	East Godavari	41.7	55.3	70.0	28.9	42.3	60.9	35.3	48.8	65.5
5	West Godavari	43.6	59.8	78.0	31.6	47.0	69.0	37.6	53.4	73.5
6	Krishna	48.6	60.6	74.4	34.6	45.5	63.2	41.7	53.2	68.8
7	Guntur	45.3	56.5	71.2	26.6	35.9	53.7	36.1	46.4	62.5
8	Prakasam	40.5	53.1	69.4	18.0	27.1	45.1	29.4	40.3	57.4
9	Nellore	41.0	58.0	73.7	23.1	37.0	56.4	32.2	47.6	65.1
10	Chittoor	43.1	62.6	77.6	20.2	36.4	55.8	31.9	49.8	66.8
11	Kadapa	43.9	63.1	75.8	17.8	32.4	49.5	31.2	48.1	62.8
12	Anatapur	40.8	55.9	68.4	16.2	27.6	43.3	29.0	42.2	56.1
13	Kurnool	40.0	53.2	66.0	17.1	26.0	40.0	28.7	40.0	53.2
14	Mahabubnagar	28.1	40.8	56.6	10.6	18.0	31.9	19.4	29.6	44.4
15	Ranga Reddy	39.1	60.4	75.3	19.3	36.9	56.5	29.4	49.1	66.2
16	Hyderabad	66.7	78.9	83.7	49.2	63.6	73.5	58.3	71.5	78.8
17	Medak	32.0	45.2	64.3	10.9	19.3	38.7	21.5	32.4	51.6
18	Nizamabad	31.9	47.3	64.9	11.7	21.4	39.5	21.7	34.2	52.0
19	Adilabad	27.8	45.1	65.0	9.6	20.6	40.3	18.8	33.0	52.7
20	Karimnagar	31.9	50.8	67.1	11.1	23.4	42.7	21.5	37.2	54.9
21	Warangal	33.1	52.0	68.9	13.6	26.1	54.1	23.6	39.3	57.1
22	Khammam	33.2	50.0	66.1	17.7	30.5	47.4	25.6	40.5	56.9
23	Nalgonda	31.6	50.5	69.2	13.0	24.9	44.7	22.4	38.0	57.2
	Andhra Pradesh	39.3	55.1	70.3	20.4	32.7	50.4	29.9	44.0	60.5

Note : 1. Literacy rate is for 7+ age Population.

Source : Census of India, Andhra Pradesh.

Table : A3.23 District-wise Number of Rural and Partial Urban Mandals in Andhra Pradesh as per the specified levels of Female Literacy Rates in 2001							
Sno	District	Female Literacy Rate					
		<20	20-30	30-40	40-50	>50	All
1	Srikakulam		1	11	22	4	38
2	Vizianagaram		4	20	9	1	34
3	Visakhapatnam	4	4	15	14	6	43
4	East Godavari			4	9	46	59
5	West Godavari					46	46
6	Krishna			1	4	45	50
7	Guntur		3	6	18	30	57
8	Prakasam		6	17	20	13	56
9	Nellore				20	26	46
10	Chittoor			3	25	38	66
11	Kadapa			8	28	15	51
12	Anantapur		3	31	24	5	63
13	Kurnool	2	9	20	17	6	54
14	Mahabubnagar	3	36	16	9		64
15	Ranga Reddy	1	2	14	8	12	37
16	Medak		12	21	7	5	45
17	Nizamabad		8	19	6	3	36
18	Adilabad	2	15	19	10	6	52
19	Karimnagar		4	31	15	6	56
20	Warangal			21	26	4	51
21	Khammam		1	19	15	11	46
22	Nalgonda	1	3	22	20	13	59
	Andhra Pradesh	**13**	**111**	**318**	**326**	**341**	**1109**

Source: Census of India, Andhra Pradesh, 2001.

Table : A3.24 District-wise percentage distribution of Rural and Partial Urban Mandals in Andhra Pradesh as per the specified levels of Female Literacy Rates in 2001							
Sno	District	<20	20-30	30-40	40-50	>50	All
1	Srikakulam		2.6	28.9	57.9	10.5	100.0
2	Vizianagaram		11.8	58.8	26.5	2.9	100.0
3	Visakhapatnam	9.3	9.3	34.9	32.6	14.0	100.0
4	East Godavai			6.8	15.3	78.0	100.0
5	West Godavari					100.0	100.0
6	Krishna			2.0	8.0	90.0	100.0
7	Guntur		5.3	10.5	31.6	52.6	100.0
8	Prakasam		10.7	30.4	35.7	23.2	100.0
9	Nellore				43.5	56.5	100.0
10	Chittoor			4.5	37.9	57.6	100.0
11	Kadapa			15.7	54.9	29.4	100.0
12	Anantapur		4.8	49.2	38.1	7.9	100.0
13	Kurnool	3.7	16.7	37.0	31.5	11.1	100.0
14	Mahabubnagar	4.7	56.3	25.0	14.1		100.0
15	Ranga Reddy	2.7	5.4	37.8	21.6	32.4	100.0
16	Medak		26.7	46.7	15.6	11.1	100.0
17	Nizamabad		22.2	52.8	16.7	8.3	100.0
18	Adilabad	3.8	28.8	36.5	19.2	11.5	100.0
19	Karimnagar		7.1	55.4	26.8	10.7	100.0
20	Warangal			41.2	51.0	7.8	100.0
21	Khammam		2.2	41.3	32.6	23.9	100.0
22	Nalgonda	1.7	5.1	37.3	33.9	22.0	100.0
	Andhra Pradesh	**1.2**	**10.0**	**28.7**	**29.4**	**30.7**	**100.0**

Table : A3.25 District-wise distribution of the Index of Gender Equality in Literacy in Rural & Partial Urban Mandals of Andhra Pradesh as per the specified levels of Female Literacy Rates, 2001							
Sno	District	<20	20-30	30-40	40-50	>50	All
1	Srikakulam		56.7	59.8	64.8	72.9	65.2
2	Vizianagaram		55.0	60.0	67.1	80.4	64.9
3	Visakhapatnam	42.0	46.1	59.0	69.7	79.8	71.3
4	East Godavari			73.2	85.9	87.7	87.2
5	West Godavari					88.9	88.9
6	Krishna			66.9	70.4	85.7	84.9
7	Guntur		51.5	60.5	67.8	80.8	75.8
8	Prakasam		48.1	57.5	63.6	74.0	65.1
9	Nellore				67.3	79.6	76.5
10	Chittoor			56.8	63.5	75.1	71.6
11	Kadapa			53.9	60.6	71.7	65.6
12	Anantapur		52.6	57.0	62.9	72.2	63.0
13	Kurnool	40.9	47.5	55.4	60.9	70.6	60.4
14	Mahabubnagar	40.5	50.4	56.5	67.5		56.4
15	Ranga Reddy	57.8	52.4	55.6	69.0	75.9	71.6
16	Medak		49.8	55.4	63.9	76.1	61.5
17	Nizamabad		49.3	56.3	62.5	71.0	60.9
18	Adilabad	59.4	50.0	56.3	63.3	68.8	62.8
19	Karimnagar		58.1	57.6	64.7	75.4	64.8
20	Warangal			58.2	64.7	75.4	66.1
21	Khammam		54.7	63.8	69.8	76.7	71.5
22	Nalgonda	6.4	49.0	58.1	63.0	71.5	63.7
	Coastal Andhra	42.0	50.3	59.8	67.7	84.0	77.6
	Rayalaseema	40.9	48.7	56.0	62.0	73.2	65.6
	Telangana	35.0	50.6	57.5	65.4	74.0	64.7
	Andhra Pradesh	**38.2**	**50.3**	**57.7**	**65.3**	**79.7**	**70.6**

Source: Census

Table : A3.26 District-wise names of Rural and Partial Urban Mandals with Female Literacy Rate less than or equal to 30 percent in 2001

District Name	Mandal Name	Female Literacy Rate	
		1991	2001
Srikakulam	SEETHAMPETA	12.2	27.0
Vizianagaram	PACHIPENTA	12.6	26.5
Vizianagaram	GURLA	9.2	26.8
Vizianagaram	MENTADA	10.9	26.9
Vizianagaram	DATTIRAJERU	11.1	29.0
Visakhapatnam	GUDEM KOTHA V	8.2	13.5
Visakhapatnam	DUMBRIGUDA	6.6	17.5
Visakhapatnam	G.MADUGULA	6.0	17.6
Visakhapatnam	ANANTHAGIRI	8.2	19.6
Visakhapatnam	MUNCHINGI PUT	6.7	21.4
Visakhapatnam	PEDA BAYALU	5.6	21.7
Visakhapatnam	HUKUMPETA	8.8	22.2
Visakhapatnam	CHINTAPALLE	11.0	24.4
Guntur	BOLLAPALLE	9.5	24.4
Guntur	VELDURTHY	11.3	25.1
Guntur	NUZENDLA	12.2	28.2
Prakasam	PULLALACHERUV	8.2	20.0
Prakasam	TRIPURANTHAKA	10.6	24.7
Prakasam	YERRAGONDAPAL	15.5	26.3
Prakasam	PEDA ARAVEEDU	9.6	28.8
Prakasam	KURICHEDU	13.4	28.9
Prakasam	DONAKONDA	17.0	29.4
Anantapur	D.HIREHAL	14.9	29.0
Anantapur	BOMMANAHAL	16.8	29.3
Anantapur	GUMMAGATA	12.8	29.5
Kurnool	KOSIGI	9.3	16.2
Kurnool	PEDDA KADALUR	6.2	16.8
Kurnool	C.BELAGAL	9.6	20.7
Kurnool	NANDAVARAM	10.3	22.2
Kurnool	KRISHNAGIRI	9.2	24.3
Kurnool	KOWTHALAM	11.0	24.9
Kurnool	ASPARI	11.7	25.6
Kurnool	DEVANAKONDA	11.3	26.5
Kurnool	HOLAGUNDA	12.7	27.0
Kurnool	MANTRALAYAM	14.6	28.0
Kurnool	GONEGANDLA	12.4	29.1
Mahabubnagar	GHATTU	6.1	12.8
Mahabubnagar	DHARUR	6.5	15.1
Mahabubnagar	MALDAKAL	8.9	16.3
Mahabubnagar	DAMARAGIDDA	8.7	20.4
Mahabubnagar	MADDUR	8.0	21.4
Mahabubnagar	AIZA	11.0	22.0
Mahabubnagar	KODAIR	11.2	22.2
Mahabubnagar	NARVA	10.5	22.4
Mahabubnagar	PEDDAKOTHAPAL	11.4	22.9
Mahabubnagar	BOMRASPETA	8.7	23.1
Mahabubnagar	LINGAL	8.0	23.8
Mahabubnagar	MAGANOOR	11.0	24.0
Mahabubnagar	GOPALPETA	13.6	24.0
Mahabubnagar	KOILKONDA	11.9	25.0
Mahabubnagar	PANGAL	12.9	25.2
Mahabubnagar	HANWADA	8.7	25.5
Mahabubnagar	DOULATABAD	12.9	25.5
Mahabubnagar	UTKOOR	12.1	25.6
Mahabubnagar	DHANWADA	11.9	26.0
Mahabubnagar	ITIKYAL	11.5	26.3
Mahabubnagar	NAWABPET	13.3	26.6
Mahabubnagar	VELDANDA	13.1	26.9
Mahabubnagar	CHINNACHITAKU	13.4	27.4
Mahabubnagar	MAKTHAL	14.3	27.7
Mahabubnagar	WADDEPALLE	14.4	27.9
Mahabubnagar	BIJINAPALLE	12.3	28.2
Mahabubnagar	MADGUL	12.3	28.5
Mahabubnagar	UPPUNUNTHALA	13.3	28.8
Mahabubnagar	VANGOOR	16.4	28.9
Mahabubnagar	ADDAKAL	14.5	28.9
Mahabubnagar	GHANPUR	13.6	29.1
Mahabubnagar	TADOOR	12.1	29.2
Mahabubnagar	BHOOTHPUR	14.4	29.3
Mahabubnagar	BALANAGAR	12.5	29.3
Mahabubnagar	TALAKONDAPALL	15.8	29.3
Mahabubnagar	TELKAPALLE	15.5	29.3
Mahabubnagar	BALMOOR	13.3	29.4
Mahabubnagar	PEBBAIR	16.5	29.6
Mahabubnagar	KONDURG	11.8	29.7
Rangareddy	SHABAD	16.8	17.0
Rangareddy	KULKACHARLA	10.1	25.0
Rangareddy	DOMA	9.8	29.9
Medak	TEKMAL	10.7	22.4
Medak	MANOOR	5.5	23.6
Medak	REGODE	8.0	23.9
Medak	KALHER	8.1	24.2
Medak	PAPANNAPET	13.5	25.1

District Name	Mandal Name	Female Literacy Rate	
		1991	2001
Medak	SHANKARAMPET	13.4	25.4
Medak	KOWDIPALLI	7.1	25.5
Medak	KANGTI	7.9	25.9
Medak	DOULTABAD	10.3	26.2
Medak	ALLADURG	11.4	28.4
Medak	NARAYANKHED	13.4	29.6
Medak	YELDURTHY	11.3	29.8
Nizamabad	GANDHARI	7.0	23.2
Nizamabad	LINGAMPET	9.3	24.3
Nizamabad	MACHAREDDY	11.4	26.6
Nizamabad	NAGAREDDIPET	13.6	26.9
Nizamabad	BIRKOOR	15.0	28.2
Nizamabad	TADWAI	11.4	28.3
Nizamabad	PITLAM	12.6	29.1
Nizamabad	SADASIVANAGAR	12.5	29.9
Adilabad	NENNAL	6.8	13.5
Adilabad	INDERAVELLY	15.1	19.9
Adilabad	BEJJUR	7.4	20.1
Adilabad	KOUTHALA	5.6	22.1
Adilabad	DAHEGAON	7.0	22.8

District Name	Mandal Name	Female Literacy Rate	
		1991	2001
Adilabad	KOTAPALLE	7.4	23.0
Adilabad	KERAMERI	6.6	25.0
Adilabad	WANKDI	8.3	25.2
Adilabad	VEMANPALLE	7.4	25.6
Adilabad	LAXMANCHANDA	11.0	26.9
Adilabad	NARNOOR	11.2	27.5
Adilabad	SARANGAPUR	9.6	28.0
Adilabad	SIRPUR	7.0	28.1
Adilabad	MAMDA	9.1	28.8
Adilabad	BHEEMINI	7.5	29.1
Adilabad	DILAWARPUR	12.6	29.3
Adilabad	LAHESRA	10.8	29.5
Karimnagar	MUTTHARAMMA	12.1	24.2
Karimnagar	MALLAPUR	8.7	29.8
Karimnagar	VEMULAWADA	21.5	29.9
Khammam	TEKULAPALLE	12.3	28.2
Nalgonda	GARIDE PALLE	18.1	4.2
Nalgonda	CHANDAMPET	7.9	25.0
Nalgonda	PEDDA ADISERL	12.9	28.6
Nalgonda	GUNDLAPALLE	16.1	29.6

Table : A3.27 Number Non-literate per 1000 Adults among Social Groups in Andhra Pradesh during 1993-94, 1999-2000 and 2004-05

Sno	Category	Andhra Pradesh			All India		
		1993-94	1999- 00	2004-05	1993-94	1999- 00	2004-05
RURAL							
1	ST Males	774	763	697	588	523	458
2	ST Females	922	889	863	843	771	715
3	SC Males	639	585	505	542	475	407
4	SC Females	875	801	754	824	755	685
5	OBC Males		528	475		374	312
6	OBC Females		790	716		675	601
7	OTH Males	492	324	313	349	240	215
8	OTH Females	772	542	406	655	506	434
URBAN							
9	ST Males	487	397	218	250	233	176
10	ST Females	702	618	303	505	455	399
11	SC Males	357	299	237	319	263	193
12	SC Females	627	538	480	620	521	450
13	OBC Males		255	219		179	148
14	OBC Females		488	456		383	339
15	OTH Males	200	115	130	137	89	75
16	OTH Females	440	267	273	322	216	175

Source : NSSO

Table : A3.28 District-wise Literacy Rates for the Age Group 15 years and above, 2001										
Sno	Districts	Non - Literate			LRP+			LMD+		
		P	M	F	P	M	F	P	M	F
	Andhra Pradesh	45.8	34.3	57.5	44.4	54.9	33.9	28.7	37.7	19.7
1	Adilabad	56.5	41.7	71.2	34.2	45.9	22.5	23.4	33.2	13.7
2	Nizamabad	55.9	40.6	70.4	35.3	47.9	23.3	23.6	33.9	13.8
3	Karimnagar	53.8	39.2	68.3	37.4	49.5	25.6	25.7	36.2	15.2
4	Medak	56.5	41.5	71.7	34.2	46.2	22.0	23.6	33.5	13.6
5	Hyderabad	23.0	16.9	29.7	70.6	76.8	63.8	57.8	64.7	50.2
6	Rangareddy	38.7	27.9	50.4	53.4	63.2	43.1	41.3	50.5	31.5
7	Mahabubnagar	62.6	49.3	76.0	29.9	40.8	18.9	21.1	30.0	12.2
8	Nalgonda	50.7	36.6	65.2	37.6	49.3	25.7	25.7	35.5	15.6
9	Warangal	50.9	37.1	65.0	39.6	51.5	27.6	28.5	39.2	17.7
10	Khammam	50.8	40.0	61.7	39.6	49.0	30.0	25.7	33.7	17.5
11	Srikakulam	53.2	39.4	66.3	36.9	49.0	25.4	22.4	32.0	13.2
12	Vizianagaram	57.1	44.2	69.6	35.1	46.4	24.1	20.6	29.1	12.4
13	Visakhapatnam	46.3	35.2	57.4	46.2	56.5	35.9	32.2	41.7	22.8
14	East Godavari	40.5	34.8	46.1	48.0	53.9	42.2	26.0	32.8	19.2
15	West Godavari	31.0	25.4	36.6	51.6	57.5	45.6	27.5	34.1	20.9
16	Krishna	36.1	29.5	42.7	52.2	59.4	44.9	33.0	40.3	25.4
17	Guntur	42.6	32.6	52.6	46.7	56.5	36.8	28.4	36.5	20.3
18	Prakasam	49.6	35.8	63.6	41.6	54.3	28.7	25.0	34.5	15.2
19	Nellore	40.7	30.5	50.9	46.8	56.6	36.9	27.5	35.5	19.6
20	Kadapa	43.6	28.2	59.2	46.9	61.6	31.9	28.4	39.6	17.1
21	Kurnool	53.0	38.4	67.9	39.3	52.2	26.1	24.3	33.8	14.6
22	Anantapur	51.3	36.7	66.5	42.1	55.2	28.4	24.4	33.1	15.4
23	Chittoor	38.9	26.0	51.7	50.4	62.8	37.9	29.6	38.8	20.4

Notes : 1. Rural and Urban Combined; 2. LRP+: Literate person with education level primary and above; LMD+: Literate person with education level middle and above; P - Person, M - Male, F - Female.

Source: Census of India, Andhra Pradesh, 2001.

Table : A3.29 Percent Children in the age group 6 to 14 years Attending Schools in Andhra Pradesh, census 2001									
Social Category	All			Rural			Urban		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
1	2	3	4	5	6	7	8	9	10
Total	77.86	81.24	74.30	76.15	80.45	71.61	82.76	83.53	81.97
CV	0.06	0.05	0.08	0.07	0.05	0.10	0.05	0.04	0.05
ST	64.13	70.97	56.50	63.24	70.38	55.27	74.73	77.91	71.13
CV	0.11	0.08	0.18	0.12	0.08	0.19	0.13	0.13	0.14
SC	76.86	81.01	72.46	75.80	80.51	70.74	82.20	83.57	80.83
CV	0.08	0.06	0.11	0.08	0.06	0.12	0.05	0.05	0.06
Others	79.56	82.43	76.57	78.07	81.90	74.07	83.06	83.68	82.41
CV	0.06	0.05	0.08	0.07	0.05	0.09	0.04	0.04	0.05

Notes : CV: Coefficient of variation in percent attendance across districts.

Source : Computed using Census 2001.

Table : A3.30 Ranking of Districts in AP with respect to Educational Attainment Indices and Gender Disparity Index in Education, 2001					
District	EI_P	Rank-P	Rank-M	Rank-F	Rank- GDI-E
1	*2*	*3*	*4*	*5*	*6*
Hyderabad	78.38	1	1	1	23
West Godavari	73.30	2	3	2	22
Krishna	69.50	3	6	3	20
Chittoor	68.47	4	2	6	16
Rangareddy	67.33	5	5	7	18
Nellore	66.62	6	7	5	19
East Godavari	66.33	7	12	4	21
Kadapa	64.88	8	4	10	13
Guntur	63.78	9	8	8	17
Visakhapatnam	62.12	10	9	9	15
Warangal	60.20	11	10	12	12
Nalgonda	59.40	12	11	14	9
Prakasam	59.30	13	13	13	11
Khammam	58.75	14	17	11	14
Karimnagar	58.64	15	14	15	6
Anantapur	58.05	16	15	17	7
Srikakulam	57.94	17	16	16	10
Nizamabad	54.55	18	18	19	5
Adilabad	54.25	19	21	20	3
Medak	54.08	20	20	21	2
Vizianagaram	53.95	21	22	18	8
Kurnool	53.67	22	19	22	4
Mahabubnagar	46.02	23	23	23	1

Note : EI_P – Educational Attainment Index of Persons (i.e. male and females combined); P – persons; M – Males; F – Females; GDI-E – Gender Disparity Index of Educational Attainment.

Source : Computed from census 2001

Table : A3.31 Drop-out Rate in Andhra Pradesh						
Year	Class I-V			Class I-VII		
	Boys	Girls	Total	Boys	Girls	Total
1	*2*	*3*	*4*	*5*	*6*	*7*
1971-72	69.34	72.53	70.65	77.8	86.91	81.59
1981-82	58.48	62.87	60.31	64.4	73.19	67.98
1991-92	52.15	57.04	54.28	61.17	69.17	64.65
2001-02	35.36	33.64	34.54	51.98	55.77	53.78
2003-04	42.42	42.8	42.61	52.71	55.92	54.27
2004-05	31.77	32.14	31.95	51.96	54.46	53.17
2005-06	24.61	24.85	24.73	50.26	52.37	51.3

Note : Figures are in percentages.

Source: School Education Department.

Table : A3.32 Drop-out Rate in Primary and Upper Primary Stages across District of Andhra Pradesh, 2005							
Sno	District	Class I to V			Class I to VII		
		Boys	Girls	Total	Boys	Girls	Total
1	Srikakulam	10.43	10.76	10.59	32.55	37	34.76
2	Vizianagaram	22.49	22.54	22.52	39.5	44.96	42.25
3	Visakhapatnam	25.26	28.62	26.95	38.11	41.61	39.87
4	East Godavari	14.01	9.19	11.63	40.32	37.69	39.01
5	West Godavari	19.86	15.41	17.66	37.18	33.84	35.52
6	Krishna	6.16	5.96	6.06	30.45	32.34	31.39
7	Guntur	28.2	30.22	29.21	45.4	50.78	48.13
8	Prakasam	27.00	28.94	27.97	54.84	60.7	57.77
9	Nellore	21.39	21.64	21.51	36.03	37.22	36.62
10	Chittoor	9.08	7.7	8.41	18.33	23.58	20.94
11	Kadapa	19.5	17.09	18.33	29.67	34.13	31.88
12	Anantapur	16.81	17.03	16.92	32.51	34.73	33.61
13	Kurnool	27.42	33.86	30.63	48.95	58.37	53.6
14	Mahabubnagar	44.18	48.95	46.56	60	64.44	62.11
15	Rangareddy	25.94	25.03	25.5	32.46	35.18	33.77
16	Hyderabad	27.72	24.07	25.92	13.52	6.98	10.26
17	Medak	46.71	47.87	47.29	58.65	61.43	60.01
18	Nizamabad	34.91	34.17	34.55	54.64	53.91	54.29
19	Adilabad	27.77	27.75	27.76	47.87	51.16	49.5
20	Karimnagar	26.44	25.8	26.12	36.41	31.44	34.01
21	Warangal	41.00	41.67	41.33	55.26	57.22	56.23
22	Khammam	19.71	21.63	20.67	28.11	30.95	29.53
23	Nalagonda	33.76	36.48	35.12	46.88	50.23	48.52
	Andhra Pradesh	**26.76**	**27.32**	**27.04**	**42.14**	**44.32**	**43.22**

Source : Sarva Siksha Abhiyan, Department School Education

Table : A3.33 Percent in Total Population, Growth of Population, percent of Urban and Sex Ratio among SC/STs, 2001

Sno	Districts	% of Population			Growth (1991-2001)			% of Urban			Sex Ratio		
		ST	SC	SC/ST	ST	SC	All	ST	SC	All	ST	SC	All
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Srikakulam	6.0	9.0	15.0	1.23	1.99	0.92	1.6	10.5	11.0	1009	1019	1014
2	Vizianagaram	9.6	10.6	20.1	1.26	3.62	0.67	2.9	20.5	18.3	1025	998	1009
3	Visakhapatnam	14.5	7.6	22.1	1.77	1.66	1.58	3.4	43.5	39.9	1003	984	985
4	East Godavari	3.9	18.0	21.9	0.84	1.17	0.76	5.2	15.4	23.5	1011	993	993
5	West Godavari	2.5	19.2	21.7	1.32	1.60	0.78	8.1	11.8	19.7	1018	985	991
6	Krishna	2.6	17.8	20.4	1.62	1.94	1.26	17.6	15.7	32.1	949	974	978
7	Guntur	4.7	18.3	23.0	1.39	1.32	0.85	18.1	17.3	28.8	962	972	984
8	Prakasam	3.9	21.3	25.2	1.84	1.95	1.06	16.2	8.2	15.3	949	971	971
9	Nellore	9.1	22.0	31.1	1.25	1.03	1.11	12.8	12.3	22.4	961	986	984
10	Chittoor	3.4	18.7	22.2	2.02	1.70	1.41	12.7	11.8	21.7	969	987	982
11	Kadapa	2.4	15.7	18.1	2.63	0.98	1.40	13.3	12.4	22.6	939	975	974
12	Anantapur	3.5	14.1	17.6	1.37	1.47	1.36	12.3	15.3	25.3	935	956	958
13	Kurnool	2.0	17.8	19.8	2.13	1.23	1.75	16.4	18.6	23.2	929	961	965
14	Mahabubnagar	7.9	17.1	25.0	2.06	1.80	1.35	1.8	4.9	10.6	947	973	972
15	Rangareddy	4.1	14.5	18.6	2.98	1.43	3.49	18.0	35.2	54.2	946	973	944
16	Hyderabad	0.9	8.0	8.9	1.97	1.30	2.16	100	100	100	935	985	933
17	Medak	5.0	17.6	22.6	3.57	1.71	1.68	3.3	8.0	14.4	951	992	974
18	Nizamabad	7.1	14.8	21.9	3.24	1.34	1.43	2.5	9.3	18.1	994	1046	1017
19	Adilabad	16.7	18.5	35.3	1.63	1.99	1.81	4.8	23.5	26.5	987	990	989
20	Karimnagar	2.6	18.6	21.2	0.92	3.62	1.43	10.0	12.9	19.4	979	996	998
21	Warangal	14.1	17.0	31.1	1.75	1.66	1.44	2.9	14.6	19.2	944	970	973
22	Khammam	26.5	16.5	43.0	2.02	1.17	1.53	6.0	17.0	19.8	984	969	975
23	Nalgonda	10.6	17.7	28.3	2.22	1.60	1.33	4.6	8.6	13.3	921	972	966
	Andhra Pradesh	**6.6**	**16.2**	**22.8**	**1.84**	**1.54**	**1.39**	**7.5**	**17.2**	**27.3**	**972**	**981**	**978**

Note : 1. Growth is for Population and it is compound annual rate of growth (CAGR) and presented in percentage form.

Source: Census of India, Andhra Pradesh.

Table : A3.34 Literacy Rate among SCs and STs, 2001							
Sno	Districts	Literacy All			Female Literacy		
		ST	SC	All	ST	SC	All
1	Srikakulam	41.9	52.9	55.3	50.4	26.1	43.3
2	Vizianagaram	35.3	49.3	51.1	40.3	26.9	35.2
3	Visakhapatnam	34.3	62.0	60.0	39.5	16.5	28.7
4	East Godavari	44.6	61.1	65.5	42.7	22.1	35.3
5	West Godavari	50.9	68.7	73.5	38.7	14.3	28.2
6	Krishna	43.7	63.9	68.8	73.5	45.7	61.5
7	Guntur	37.3	58.3	62.5	56.5	22.1	40.8
8	Prakasam	38.2	52.9	57.4	31.9	13.3	20.1
9	Nellore	37.4	59.3	65.1	44.7	20.1	37.4
10	Chittoor	44.4	60.0	66.8	45.1	22.4	39.0
11	Kadapa	41.2	54.2	62.8	47.4	27.6	43.3
12	Anantapur	44.5	44.5	56.1	43.7	30.6	42.1
13	Kurnool	42.7	45.8	53.2	39.9	26.2	38.6
14	Mahabubnagar	25.8	32.6	44.4	50.1	22.7	53.0
15	Rangareddy	34.5	51.9	66.2	60.9	38.9	56.3
16	Hyderabad	55.4	69.4	78.8	69.0	46.0	64.2
17	Medak	28.1	39.8	51.6	63.2	35.8	57.8
18	Nizamabad	30.7	40.6	52.0	53.7	27.6	49.1
19	Adilabad	39.7	47.6	52.7	45.1	29.0	40.3
20	Karimnagar	34.2	46.5	54.9	56.4	32.8	50.2
21	Warangal	34.4	50.8	57.1	49.5	30.1	40.4
22	Khammam	37.9	53.4	56.9	40.0	28.7	32.0
23	Nalgonda	35.2	50.7	57.2	43.3	30.9	32.5
	Andhra Pradesh	**37.0**	**53.5**	**60.5**	**55.8**	**35.8**	**49.0**

Note : 1. Literacy rate is for 7 + population; 2. Schooling is for 5-14 age group population.

Source : Census of India, Andhra Pradesh.

Table : A3.35 Environmental Index												
District	Natural Resource (NR) Conditions					Environmental Health					E I	Rank
	Land	Forest	Water	DI	Rank	SDW	Sanitn	Fuel	D I	Rank		
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
Krishna	0.411	0.164	0.216	0.283	5	0.474	0.489	0.565	0.495	6	0.347	1
Khammam	0.247	0.051	0.311	0.233	1	0.630	0.623	0.683	0.639	17	0.355	2
Guntur	0.333	0.111	0.223	0.245	2	0.627	0.578	0.657	0.623	16	0.358	3
West Godavari	0.411	0.214	0.316	0.334	11	0.304	0.538	0.647	0.420	1	0.359	4
Warangal	0.247	0.094	0.401	0.278	4	0.486	0.629	0.709	0.559	12	0.362	5
Nellore	0.305	0.303	0.274	0.292	7	0.548	0.647	0.742	0.607	15	0.386	6
Karimnagar	0.326	0.170	0.375	0.314	9	0.545	0.637	0.674	0.589	14	0.397	7
Kurnool	0.126	0.446	0.525	0.350	13	0.389	0.685	0.807	0.532	10	0.404	8
Nizamabad	0.334	0.213	0.478	0.367	15	0.388	0.618	0.676	0.492	5	0.405	9
Adilabad	0.149	0.130	0.480	0.277	3	0.699	0.723	0.708	0.705	20	0.406	10
Mahabubnagar	0.129	0.176	0.689	0.362	14	0.385	0.666	0.748	0.514	9	0.408	11
East Godavari	0.591	0.119	0.196	0.339	12	0.552	0.588	0.654	0.580	13	0.411	12
Prakasam	0.198	0.132	0.484	0.299	8	0.662	0.681	0.752	0.684	18	0.414	13
Vizianagaram	0.345	0.146	0.297	0.286	6	0.742	0.758	0.751	0.747	21	0.424	14
Chittoor	0.374	0.244	0.526	0.409	16	0.320	0.654	0.709	0.465	3	0.425	15
Medak	0.215	0.112	0.756	0.411	17	0.374	0.625	0.704	0.490	4	0.434	16
Anatapur	0.089	0.290	0.815	0.420	18	0.323	0.707	0.807	0.497	7	0.443	17
Srikakulam	0.480	0.251	0.210	0.326	10	0.841	0.738	0.676	0.788	22	0.465	18
Kadapa	0.281	0.190	0.701	0.431	20	0.433	0.652	0.787	0.548	11	0.466	19
Nalgonda	0.206	0.850	0.594	0.490	21	0.408	0.634	0.707	0.513	8	0.497	20
Visakhapatnam	0.664	0.084	0.358	0.425	19	0.695	0.674	0.665	0.685	19	0.503	21
Ranga Reddy	0.480	0.197	0.745	0.529	22	0.3976	0.5335	0.5924	0.4637	2	0.510	22

Note : SDW – Safe Drinking Water; Santn. – Sanitation; Fuel – Solid Fuel; D I – Dimension Index; EI = Environmental Index

Source : Computed, using different sources of data.

Table : A3.36 Urbanization in the Districts, 1961-2001									
District	Degree of Urbanisation					Urban Growth (decadal)			
	1961	1971	1981	1991	2001	1961-71	1971-81	1981-91	1991-01
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Srikakulam	8.7	10.6	10.9	12.5	11.0	34.73	-22.62	36.04	-3.99
Vizianagaram	—	—	15.9	17.2	18.3	—	—	26.44	13.45
Visakhapatanam	18	22.3	31.3	39.8	39.9	51.44	28.85	62.36	16.99
East Godavari	18.5	19.2	22.2	23.8	23.5	22.78	38.51	31.46	6.58
West Godavari	15.9	17.7	20.8	20.7	19.7	33.89	41.98	22.06	3.07
Krishna	23.5	27.3	32.5	35.8	32.1	39.19	45.99	33.56	1.40
Guntur	20.8	25	27.5	28.9	28.8	13.35	33.08	25.48	8.35
Prakasam	—	11.1	15	16.5	15.3	—	64.27	29.95	2.97
Nellore	11	15.8	20.8	23.8	22.4	13.47	64.85	36.01	5.27
Chittoor	11.5	13.5	16.9	19.8	21.7	40.01	50.31	39.75	25.58
Kadapa	13.2	14.2	19.4	24	22.6	26.27	67.46	45.52	7.85
Anantapur	17.4	17.8	20.8	23.5	25.3	22.16	41.28	40.9	22.93
Kurnool	19.2	20.3	24.5	25.8	23.2	9.67	46.5	30.27	6.43
Mahabubnagar	10	9	10.9	11.1	10.6	8.54	54.18	28.06	8.52
Ranga Reddy	—	—	23.8	47.2	54.2	—	—	219.68	60.79
Hyderabad	62.2	65.9	100	100	100	43.38	22.93	39.16	21.74
Medak	7.7	8.5	12	14.5	14.4	31.73	73.14	51.79	16.75
Nizamabad	14.5	15.9	19.2	20.3	18.1	41.19	54.1	27.98	2.86
Adilabad	15.5	15.9	19.3	23.1	26.5	31.16	54.56	51.92	37.05
Karimnagar	7.1	10.7	15.8	20.6	19.4	83.79	82.8	62.27	8.73
Warangal	14.1	13.4	17.2	19.4	19.2	15.33	57.8	37.87	14.01
Khammam	12.1	13.6	17	20.2	19.8	44.98	59.79	50.7	13.99
Nalgonda	9.3	6.7	11.4	11.9	13.3	-16.98	113.26	30.42	27.84
Andhra Pradesh	**17.4**	**19.3**	**23.3**	**26.9**	**27.3**	**33.92**	**48.62**	**43.24**	**16.33**

Note : Degree of Urbanisation is percentage of urban population to the total.

Source : 1. Census of India; Ramachandraiah (2003)

Table : A3. 37 Number of Towns and Population Size Class of Towns in Andhra Pradesh								
Year	Class I	Class II	Class III	Class IV	Class V	Class VI	Total	Growth
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
Number of Towns								
1901	1	-	11	44	60	-	116	
1911	1	1	12	45	68	3	130	12.1
1921	1	2	13	45	74	14	149	14.6
1931	1	8	11	57	78	20	175	17.4
1941	1	10	21	55	122	2	211	20.6
1951	6	10	34	81	114	31	276	30.8
1961	11	8	50	71	70	1	211	-23.6
1971	13	17	60	75	37	4	206	-2.4
1981	20	30	87	65	28	4	234	13.6
1991	32	34	61	39	14	3	213	-9.0
2001	39	43	46	23	20	2	173	-18.8
Population								
1901	448466	0	422400	551293	417591	0	1839750	-
1911	502104	112874	432145	593317	510692	13962	2165094	17.68
1921	405630	171042	454929	571833	526333	57550	2187317	1.03
1931	466894	509484	357.347	734104	547658	78663	2694150	23.17
1941	739159	739359	567811	726165	883713	9721	3665919	36.07
1951	1807823	743399	869303	1054760	821021	124019	5308707	47.86
1961	2763601	593514	1423825	949011	542407	2150	6274508	15.76
1971	4063441	1121533	1780263	1112492	309493	15305	8402527	33.92
1981	6713188	2016775	2597544	929303	216079	14687	12487516	48.62
1991	11912868	2245198	2945128	587226	113743	8530	17812693	43.24
2001	15495000	2859452	1711686	346008	138710	7445	20503597	14.63

Note : Growth is decadal one.

Source : Census of India, Series 29 Andhra Pradesh – Population Totals, Paper 2 of 2001.

Table : A3.38 Percentage of Households without selected Basic Amenities across Districts of Andhra Pradesh, 1991-2001											
Sno	District	Dwelling		Tap Water		Electricity		Toilet		Traditional Fuel	
		1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
1	2	3	4	5	6	7	8	9	10	11	12
1	Srikakulam	67.3	48.2	92.7	73.1	70.9	44.6	94.8	76.2	90.3	75.1
2	Vijayanagaram	72.6	36.4	88.2	40.0	70.0	25.9	92.5	73.5	90.0	77.1
3	Visakhapatanam	68.4	41.5	81.3	58.7	57.5	14.6	79.4	73.4	75.7	77.1
4	East Godavari	49.3	39.2	76.7	42.1	60.9	36.7	79.9	74.8	84.9	82.1
5	West Godavari	41.0	30.0	69.2	8.4	61.4	3.0	79.8	4.7	84.9	4.9
6	Krishna	55.5	35.4	71.7	37.1	54.8	20.0	71.2	40.1	76.0	44.6
7	Guntur	50.6	44.7	77.0	46.5	60.5	53.0	80.7	81.5	82.1	88.6
8	Prakasam	59.6	36.6	83.3	43.5	61.0	35.6	90.7	76.2	92.5	81.6
9	Nellore	67.2	42.5	75.6	51.5	54.2	31.1	85.7	73.4	89.5	80.5
10	Chittoor	60.8	46.0	77.5	68.4	44.9	38.2	85.5	71.0	90.6	76.0
11	Cuddapah	61.1	63.2	78.5	89.8	40.1	55.4	86.4	85.8	94.2	84.6
12	Anantapur	50.8	67.2	71.1	82.4	46.0	51.9	89.2	83.5	93.0	82.8
13	Kurnool	52.3	59.9	63.3	67.6	54.6	38.0	86.8	64.7	92.8	63.6
14	Mahbubnagar	39.9	47.1	78.8	60.2	69.2	37.8	90.9	64.4	95.4	73.7
15	Ranga Reddy	33.9	44.8	65.1	32.5	40.2	34.3	64.2	60.9	60.8	73.7
16	Hyderabad	29.1	56.1	18.1	49.2	9.6	25.9	12.3	51.9	10.4	61.6
17	Medak	34.9	59.7	73.8	65.6	53.9	33.2	85.5	61.3	89.8	69.6
18	Nizamabad	35.9	65.5	72.0	69.7	41.9	38.6	85.4	77.4	88.8	82.3
19	Adilabad	47.4	66.7	82.7	56.8	60.1	32.6	88.6	71.5	93.7	80.1
20	Karimnagar	37.5	62.8	85.4	46.9	36.1	23.7	85.2	72.0	91.7	83.6
21	Warangal	42.1	58.0	81.5	43.2	51.7	32.0	84.8	74.0	89.2	84.9
22	Khammam	44.8	55.0	83.1	35.2	61.3	27.6	86.1	75.7	88.8	84.5
23	Nalgonda	32.6	59.8	84.0	33.4	55.7	29.7	89.7	73.4	92.8	78.2
	Andhra Pradesh	**49.9**	**50.9**	**75.6**	**51.9**	**53.7**	**32.8**	**81.6**	**67.0**	**84.5**	**73.1**

Note : **Dwelling** – Percentage of households with one or none dwelling rooms; **Tap Water** – Percentage of households without tap water for drinking; **Electricity** – Percentage of households without electricity connection; **Toilet** – Percentage of households without toilet facility; **Traditional Fuel** – Percentage of households using traditional fuel for cooking including fire wood, charcoal, etc.,

Source: Census of India, Andhra Pradesh

Table : A3.39 Selected Child Development/Well-being and Gender Empowerment related Indicators across Districts of Andhra Pradesh, 2001

Sno	Districts	Child Development/Well-Being							Gender Empowerment		
		BPL	SB	USI	IMR	Immn.	PCIS	CDI	WRLB	VR	CSR
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Srikakulam	0.385	57.6	0.772	53	76.8	76.6	0.570	52.1	15.6	972
2	Vijayanagaram	0.408	52.0	0.797	68	73.7	72.3	0.516	48.7	18.2	981
3	Visakhapatanam	0.300	65.8	0.776	50	75.1	74.8	0.597	46.7	67.0	974
4	East Godavari	0.188	73.8	0.777	37	75.0	75.5	0.651	38.1	19.9	982
5	West Godavari	0.211	69.5	0.804	38	78.6	77.6	0.644	45.1	43.7	973
6	Krishna	0.246	78.6	0.772	28	80.8	76.6	0.677	49.1	28.4	970
7	Guntur	0.369	82.0	0.825	29	75.9	72.5	0.637	38.3	32.1	956
8	Prakasam	0.242	66.5	0.775	40	68.3	72.5	0.609	33.3	21.9	962
9	Nellore	0.228	71.6	0.766	39	76.5	76.8	0.644	45.1	45.0	956
10	Chittoor	0.231	67.3	0.800	40	75.8	78.9	0.631	37.9	24.0	955
11	Cuddapah	0.162	65.8	0.782	39	68.5	77.1	0.630	33.3	21.3	950
12	Anantapur	0.391	57.0	0.840	54	73.9	72.4	0.543	38.1	28.0	965
13	Kurnool	0.353	47.4	0.819	47	64.1	63.2	0.517	33.3	27.4	964
14	Mahbubnagar	0.397	60.6	0.813	58	58.9	59.9	0.501	37.9	49.5	962
15	Ranga Reddy	0.246	62.1	0.718	38	58.8	75.9	0.604	33.3	44.3	970
16	Hyderabad	-	92.8	-	22	67.6	79.2	0.529	33.3	77.3	947
17	Medak	0.222	67.2	0.782	40	69.2	70.0	0.610	45.1	36.6	973
18	Nizamabad	0.162	63.6	0.784	40	73.8	71.4	0.624	41.0	34.9	965
19	Adilabad	0.325	60.9	0.815	44	66.1	71.7	0.568	43.3	37.9	959
20	Karimnagar	0.135	76.4	0.786	29	76.0	78.8	0.683	38.9	65.8	962
21	Warangal	0.314	76.1	0.815	41	79.4	78.5	0.633	33.3	51.5	963
22	Khammam	0.238	70.9	0.833	40	79.0	73.7	0.627	33.3	49.1	975
23	Nalgonda	0.289	74.8	0.775	48	58.9	75.5	0.591	33.3	43.4	954
	Andhra Pradesh	**0.275**	**67.8**	**0.792**	**42**	**71.8**	**74.0**	**0.608**	**33.3**	**38.9**	**965**

Note : **BPL** – Percentage of children (below 14 years of age) living in those households which are below poverty line (rural areas); SB indicates Safe Birth – Percentage of institutional deliveries in the total births; **USI** – Percentage of rural children (below 14 years of age) living in households with unstable income (i.e. casual labour households); **IMR** – Infant mortality rate; **Immn.** – Percentage of children with Immunization cards; **PCIS** – Percentage of children (5-14 age group) attending school; **CDI** – Child Development Index; **WRLB** – Percentage of women representatives in Local Bodies in the recent elections; **VR** – Violence Rate (number of cases per lakh women); **CSR** – Child Sex Ratio.

Source: Different Sources.

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