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Jharkhand's tribal population has, since post-independence, persistently experienced a slower population growth than the non-tribal groups. The low natural rate of increase of the tribal population does not suffice to explain this slow growth. In the recent past, substantial tribal outmigration to other states over a long period appears to have been a major cause of this trend. However, as this paper proposes, the gradual drying up of demand for migrant labour, displacement and subsequent disruption of livelihood patterns, inaccessibility to healthcare and other services have placed the tribals at a disadvantage. This is manifest clearly in slower declines (or even increases) in mortality levels among Jharkhand's tribals.

ARUP MAHARATNA, RASIKA CHIKTE

Jharkhand, a new state created in 2000 by carving out much of the erstwhile 'south Bihar', has historically been the homeland of a large tribal population. Indeed the significance of the tribal population in Jharkhand region is well known for several reasons other than the purely demographic, as it has historically been the seat of a series of tribal rebellions, unrest, movements even up to the present. This said, a study of the demographic phenomena of the tribal population is crucial for a better understanding of this region's development problems and possible remedies. The present paper examines the broad demographic patterns and changes in the tribal population of Jharkhand since independence in a comparative perspective.

I Growth of Tribal Population and Socio-Economic Indicators: 1951-1991

Table 1 presents information on long-term changes in population, literacy, female-male ratios for the total population, and tribal (i.e., scheduled tribes, ST) and scheduled castes (SC) groups over four decades starting from 1951 for Jharkhand vis-à-vis Bihar and all-India. As can be seen, Jharkhand has always been a region of tribal concentration. While tribal people constituted around 36 per cent of the total population of the region in the early 1950s, their share declined noticeably to around 27 per cent by the beginning of the 1990s. And this was accompanied by a rise in the share of the SC population during this period. Furthermore, these patterns of differential change in the relative population share between the ST and SC populations in Jharkhand appear somewhat the same for all Bihar – both before and after the separation of Jharkhand. Strikingly, a declining tribal share observed in these eastern regions contrasts rather sharply with steady rises at the all-India level (and in many other states).

The differential movements in the proportion of population of these two broad social groups appear quite consistent with their respective rates of population growth. Indeed, the decline (the rise) in relative share of total population for ST (SC) matches well with their lowest (highest) growth rates of population over the entire post-independence period. While rates of population growth in the region comprising today's (truncated)

Bihar have been the least (across all social groups vis-a-vis those in Jharkhand, erstwhile Bihar, and whole of India), there appears to have been even a decline in the absolute size of the tribal population. Indeed it is clear that the long-term population increase as per census counts has been slowest for the tribal population in the entire region including Jharkhand, while the SC community has experienced the highest growth among all groups. Note too that this slow growth of the ST population seems to have been a regional feature, as this does not tally with the (highest) growth rate of the ST population at the all-India (Table 1).

However, it is noteworthy that increases in the literacy level – albeit from extremely low levels – have been much larger among the ST population both in Jharkhand and Bihar, notwithstanding high levels of remaining illiteracy. This, however, is in some contrast with almost uniform levels and increases in literacy between STs and SCs at the all-India level over the period. Notable too is Jharkhand's faster pace of urbanisation than in areas of present day Bihar over these four decades. Thus the slowest growth of the ST population in Jharkhand region appears even more bizarre in face of its much faster urban and industrial (including mining and manufacturing) growth. For example, one recent study of district level indices of social development shows that most of the areas belonging to Jharkhand region (except Santal Parganas and Palamu) fall in the category of 'most developed' in the ranking of districts of undivided Bihar [Pathak and Pandey 1994].¹ The NSS 48th round (conducted in the early 1990s) also found the area owned per tribal household (1.11 ha) to be many-fold larger than of SCs (0.15 ha) in (erstwhile) Bihar. Indeed, according to a recent NCAER's Human Development Survey (in 1994), the proportion of tribal population in absolute poverty in this state – though it is nearly 50 per cent – is smaller than that of their SC counterparts (by about 10 percentage points) [Chakrabarty and Ghosh 2000].

The sex ratio of the general population has – almost unidirectionally – become less favourable to females over these years, across social groups and regions considered, but it has always remained more balanced in the aggregate tribal population than others. While a relatively high tribal sex-ratio points to their comparatively more balanced gender relations and weaker anti-female discrimination (vis-à-vis non-tribal communities) the

remarkably large declines in the sex-ratio among all social groups (tribal and non-tribal) – being largest within the geographical area of present-day Bihar – seem rather disturbing.

However, among the broad demographic and development indicators (as presented in Table 1), it is perhaps most clearly in the matter of population growth that the tribal people of Jharkhand (and of course Bihar) appear to have fared worse than the SCs and other general populations. This sluggish growth of tribal population (vis-à-vis SCs and others) has been widespread across districts of Jharkhand and somewhat chronic too over the decades between 1951 and 1991 (Table 2). Since the tribals constitute a substantial chunk of Jharkhand's total population, the former's slow population increase must have left some shadow on the region's total population increase. (Note that rates of overall population growth in Jharkhand (and erstwhile Bihar till recently) have been somewhat lower than the all-India figures.) Since a slow growth of tribal population (vis-à-vis non-tribal groups) in Jharkhand appears fairly consistent (and rather robust) across almost all regions of Jharkhand over the entire post-independence period (Table 2), this is unlikely to be an artefact of differential biases in census enumeration. While one could perhaps wonder if this has something to do with conversion of tribals to SCs or other non-tribal categories in this region, this hypothesis has hardly any ready empirical support, and is perhaps inconsistent with long-standing movements for tribal identity and statehood. Moreover, unlike southern and western regions, there is a distinctive difference between the family names of tribes and lower castes (non-tribal) in the eastern region, making movement from one category to other much more difficult.

Thus the record of a slower growth of tribal population in Jharkhand is of course an important question, deserving serious attention and systematic investigation. It is important to note that a relatively slow growth of tribal population has been a long-standing feature of much of the eastern region comprising Bihar, Orissa and West Bengal. This is clearly borne out for the entire post-independence period by information presented in Table 3 (except perhaps West Bengal in 1961-71 and 1981-91). (Even in the 1951-61 decade – when most Indian states registered much larger increases of enumerated tribal population vis-à-vis that of the general population, following the induction of many tribes into the schedule list after its modification of 1956 – Bihar

interestingly witnessed a nearly stagnant tribal population.) It is indeed notable that this phenomenon of a slow growth of tribal population in the eastern region has hardly drawn serious academic attention, even when this appears pretty curious in the light of a fairly fast growth of the aggregate tribal population at the all-India level.² There can be little doubt that this phenomenon

Table 2: Annual Exponential Growth Rates of Population in Jharkhand (by Social Group)

District	Social Group	1951-61	1961-71	1971-81	1981-91	1951-91
Santal Pargana	ALL	1.42	1.75	1.54	2.11	1.7
	SC	3.37	1.24	3.08	1.50	2.3
	ST	-0.14	1.21	1.70	0.67	0.86
Hazaribaug	ALL	2.12	2.42	2.63	2.55	2.43
	SC	3.32	1.93	5.64	2.63	3.38
	ST	0.15	2.00	2.44	2.10	1.67
Ranchi	ALL	1.47	2.00	1.62	1.75	1.71
	SC	3.10	2.59	2.25	2.12	2.52
	ST	1.57	1.41	1.33	1.16	1.37
Palamu	ALL	1.86	2.36	2.43	2.46	2.28
	SC	3.38	2.17	2.23	2.51	2.57
	ST	2.84	2.28	2.02	2.32	2.37
Singhbhum	ALL	1.87	1.73	1.60	1.73	1.73
	SC	2.02	3.67	4.43	1.96	3.02
	ST	3.07	1.48	1.15	1.36	1.76
Dhanbad	ALL	2.46	2.15	3.66	2.35	2.66
	SC	5.93	0.73	3.96	2.28	3.22
	ST	1.14	1.93	2.14	1.56	1.69
Jharkhand	ALL	1.80	2.04	2.13	2.15	2.03
	SC	3.67	1.83	3.75	2.30	2.89
	ST	1.38	1.49	1.54	1.26	1.42

Notes: (1) Jharkhand was created primarily out of erstwhile Santal Pargana and Chhotanagpur region. The Jharkhand region historically used to include following six districts: Santal Parganas, Hazaribaug, Ranchi, Singhbhum, Dhanbad and Palamu. This geographical definition has remained unchanged till 1971. In 1974 Giridih district was created out of Hazaribaug. In 1991, Ranchi was divided into Gumla and Lohardaga; Singhbhum was split into Purbi Singhbhum and Paschimi Singhbhum; Sahibganj, Godda, Dumka and Deoghar districts were created by splitting erstwhile district of Santal Pargana. Thus in 1991 Census Jharkhand had 13 districts. Jharkhand however was further divided in 2001 to comprise of 18 districts. In our study (for the sake of convenience of exposition) we have used the undivided districts of Jharkhand. We have presented relevant information (rates and ratios) for six larger districts out of which these new districts were created.

(2) Annual exponential growth rate = $(\ln P_{t+10} - \ln P_t) / 10 \times 100$

Source: Census reports.

Table 1: Long-Term Trends in Broad Demographic and Related Indicators, Jharkhand, 1951-91

State	Year	Total Popn	Percentage ST Popn to Total Popn	Percentage SC Popn to Total Popn	Long-Term Growth Rate** (1951-91)			Literacy Rate by Social Group			Percentage of Urban Popn to Total Popn*			Sex Ratio (f/m)		
					All	SC	ST	All	SC	ST	All	SC	ST	All	SC	ST
					Jharkhand	1951	9,697,254	35.38	8.41	–	–	–	17.87*	5.77*	6.78*	11.49
	1991	21,843,911	27.66	11.85	2.03	2.89	1.42	41.39	18.45	27.52	21.25	922	922	975		
Bihar @	1951	30,528,693	2.03	13.90	–	–	–	18.57	4.67	5.75	7.40	998	1030	996		
	1991	64,530,554	0.89	15.47	1.87	2.14	-0.18	29.73	14.25	22.00	10.40	907	911	924		
Bihar(erstwhile)	1951	40,225,947	10.07	12.57	–	–	–	18.40	4.88	6.72	8.42	989	1017	1007		
	1991	86,374,465	7.66	14.55	1.91	2.28	1.23	38.48	15.11	26.55	13.14	911	914	970		
India	1951	356,879,394	5.29	–	–	–	–	24.02	7.47	6.23	17.97	947	957	988		
	1991	838,583,988	8.08	16.48	2.14	2.54*	2.70*	52.21	30.06	29.60	25.73	927	922	972		

Notes: ** Long-term annual exponential growth rate, 1951-91 = $(\ln 1991 \text{ popn} - \ln 1951 \text{ popn}) / 40 \times 100$

Sex ratio = Females per 1000 males

Figures refer to 1961; See note 1 to Table 2

@ Bihar exclusive of Jharkhand

Source: Census of India, relevant volumes, various years; Singh, Sharan, Jayaswal, Chaudhary (1999).

has wider significance from the standpoint of both tribal and non-tribal populations in the region.

Broadly speaking, data errors aside, there are two possible hypotheses (not necessarily mutually exclusive) in explaining this slower growth of tribal population in Jharkhand. One relates to a slowness of natural increase, which in turn may be related to either low birth or high death rates or both. The second hypothesis relates to a process whereby tribal people are likely to be experiencing a comparatively large net outmigration from the region. In fact the existing literature on the demography of Bihar (and to some extent of Jharkhand) – while scattered and limited with somewhat casually formulated indications, supporting either of the two³ – seems to offer no (single) conclusive explanation for the slow growth of tribal population in this region. The present paper reviews and attempts to stylise the available evidence pertaining to these hypotheses. It emerges that substantial outflows of tribal population from this region seem to have been a relatively prominent factor for the slow increases in the tribal population in the earlier decades, while the explanation for the more recent decades increasingly rests on slower improvements or even worsening of tribal mortality and health.

II Differentials in Fertility, Mortality and Natural Rate of Growth

As population growth is basically a net outcome of interactions between three major components, namely fertility, mortality and migration, let us begin by examining the trend in the natural rate of population growth. As mentioned earlier, a systematic analysis of levels and trends of fertility and mortality indicators (let alone for tribes) in Jharkhand region is seriously constrained by a remarkable lack of demographic (especially civil registration) information. The erstwhile Bihar (of which Jharkhand has been a region) is well known for low levels of civil registration coverage, especially until the 1980s.⁴ Even though there are a few available time series of estimated birth and death rates for erstwhile Bihar [Pathak and Pandey 1994:146, Table 2], such series are almost non-existent separately for Jharkhand or for its ST and SC social groups. Consequently, there is hardly any systematic study of the natural rates of growth of tribal population in this region. Relatively low birth and high death rates for the tribes of Bihar and Jharkhand have sometimes been held responsible for their low population growth [Chand 1994:408-09], but these statements often appear poorly substantiated or mere speculations and ‘overgeneralisations’ of local-level information on specific tribes.

On the other hand, some indirect estimates based on census age distribution data have portrayed undivided Bihar’s tribal demographic regime as being one of relatively high birth and death rates, with a relatively slow rate of natural increase (after adjusting for migration) [Sinha and Thatte 1994:403]. The validity of such indirect estimates crucially depends, however, on the appropriateness of assumptions involved relating to quality of data and the model used, which often remains unknown. First, even a small variation in the parameter value used (say C15) can produce, depending upon the choice of the model stable population, quite substantial change in the estimated birth and death rates. Relatedly, since the selection of the model table in specific circumstances is substantially subject to the researcher’s own judgment and assumptions (implicit or explicit),

the indirect estimates need to be interpreted cautiously. Somewhat relatedly, large migration flows, which have for a long time been a characteristic feature of undivided Bihar, especially among the tribals of the Jharkhand region, confounds the difficulty of applying indirect techniques, which are frequently contingent upon a closed (national) population.

Before we discuss the pattern of changes in tribal demographic parameters in Jharkhand, it would be useful to begin with a background on broad demographic changes in erstwhile Bihar. In Table 4 we present estimated birth, death and natural rates of the growth of total population of erstwhile Bihar (in which Jharkhand constituted about a quarter of the population). As can be seen, although there have been secular declines in (estimated) birth and death rates, the Bihar figures have always remained higher than the corresponding national averages. After having been much lower till the early 1980s, the estimated natural rate of population growth of Bihar has surpassed the corresponding all-India rate. The estimated natural rates of population growth in Bihar turn out almost always to be lower than growth rates of the enumerated populations. This discrepancy could reflect several possibilities including underestimation of natural rates and/or of net in-migration. As we would see, the latter is unlikely and is indeed in conflict with evidence of net outmigration from Bihar, especially in the post-independence period.

It is noteworthy that the rate of growth of enumerated population in the present state of Bihar (i.e., exclusive of Jharkhand) in the 1990s has been one of the highest, and it has indeed surpassed the all-India figure by as much as 7 percentage point. Since the birth, death and natural growth rates in Table 4 refer to erstwhile Bihar (and only up to 1997), they as such can hardly be a guide to explaining the recent (i.e., in 1991-2001) spurt in

Table 3: Exponential Average Annual Rate of Growth of Population, Tribal and Total, Eastern Indian States and All-India 1951-1991

	Bihar (Erstwhile)		Orissa		West Bengal		Eastern India		India	
	ST	Total	ST	Total	ST	Total	ST	Total	ST	Total
1951-61	0.38	2.0	3.5	1.9	5.7	3.3	2.5	2.4	4.6	2.0
1961-71	1.6	1.9	1.8	2.2	2.1	2.4	1.7	2.4	2.2	2.2
1971-81	1.7	2.2	1.5	1.8	1.7	2.1	1.7	2.4	2.7	2.2
1981-91	1.3	2.1	1.7	1.8	2.2	2.2	1.7		2.3	2.1
1991-2001		2.4								

Source: Sinha (1994, 1990).

Table 4: Birth, Death and Natural Population Growth Rates, Bihar and India 1951-2001

	Bihar			India		
	CBR Per 1000	CDR Per 1000	Natural Growth Rate (Enumerated Decadal Growth Rate) per 1000	CBR Per 1000	CDR Per 1000	Natural Growth Rate (Enumerated Decadal Growth Rate) (per 1000)
1951-60	43.4	26.1	17.3 (19.8)	41.7	22.8	18.9 (21.5)
1961-70	41.9	23.3	18.6 (21.3)	41.2	19.0	22.2 (24.8)
1971-80	41.4	19.3	22.1 (24.1)	37.1	15.0	22.1 (24.7)
1981-90	36.9	13.3	23.6 (23.5)	32.5	11.4	21.1 (23.9)
1991-97\$	31.9	10.3	21.6 (27.1)# (28.4)@ (23.2)^	28.4	9.3	19.1 (21.3)

Notes: # Erstwhile Bihar (inclusive of Jharkhand); @ Present Bihar (i.e., exclusive of Jharkhand); ^ Jharkhand; \$ Rates of growth of enumerated population refer to 1991-2001.

Source: Sinha (1994); Sinha and Gotpagar (1994); RG (1999); Department of Family Welfare (1997); Jain (1967).

(truncated) Bihar's population growth. Notably, the overall population growth in Jharkhand, though somewhat higher than the all-India rate, is far less than that of Bihar. The removal of Jharkhand region from erstwhile Bihar must have made a major contribution to this recently recorded jump in population growth in newly divided Bihar, since the entire slow-growing tribal population was now outside its jurisdiction.

Table 5 presents three indicators of fertility for tribal and non-tribal groups in Jharkhand, Bihar and India in the contemporary period. The information on reproductive performance separately for ST and SC groups in Jharkhand is remarkably scanty. For example, our indirect estimates based on census-enumerated proportions of population below 15 years during some early decades after independence indicate marginally lower birth rates of the tribal population than the SC levels. Similar is the case with CBR estimates based on information on annual number of births collected by NCAER and the registrar general's office. [Remarkably low fertility and birth rates for all groups in 1978 should be treated as being exceptional and abnormal, as this was the year following the promulgation of the emergency in 1977 when a ruthless and coercive sterilisation programme was carried out.] In fact, a special survey by the registrar general's office in 1984 reported the period fertility rate (i.e., TFR) for ST being, though lower than the SC level, higher than that of the non-ST/SC group. The lowest completed fertility of the older cohort of tribal women (i.e., average number of children ever born to tribal women aged 40-49 years) is indicative of a rise in tribal (period) fertility from its past lower level. This is likely to be what is known as a 'pre-transition fertility rise' (i.e., a rise of fertility in the early modernisation period before it finally starts declining). This rise in fertility is related to changes in lifestyles, customs and values and limited material improvements favourable to reproductive performance – especially at the early stage of modernisation marked by negligible prevalence of modern contraception, which was almost certainly the case with many tribal communities during several decades after independence. Some such standard fertility-raising changes include a reduction in breastfeeding intensity and duration, a reduction in postpartum abstinence, a reduction in widowhood, and reduction in sterility due to improvement of public health services [see Nag 1980; Dyson and Murphy 1985 for details].⁵

The NFHS data for the 1990s however confirm the onset of fertility decline across the broad social spectrum in these regions (including Jharkhand), but the pattern of social differentials in fertility has continued, albeit with narrowing gaps over time. For instance, the NFHS-1 results for the early 1990s posit tribal fertility to be lower – albeit marginally (about half a child per woman) – than that of the non-tribal population in erstwhile Bihar. In the NFHS-2 report for the late 1990s, however, the tribal fertility appears to have been lower by a larger gap (nearly 1.5 births per woman) than that of the SCs, while the gap with non-SC/ST groups has remained almost unchanged. Assuming negligible data biases, what seems to have happened is a uniform (absolute) reduction of fertility (by about one birth) both among tribal and caste population groups, as against almost unchanged fertility levels of the SC community over the 1990s. Given an almost total equivalence in tribal fertility between erstwhile Bihar and Jharkhand (which was the home of almost the entire tribal population of the former, see Table 1), Table 5 is broadly suggestive of Jharkhand's somewhat lower tribal fertility (and birth rate) as compared to non-tribal groups, especially SCs. This

is in conformity with the finding of recent researches, namely, that tribal fertility in the Indian subcontinent has generally been lower – until perhaps very recently – than that of non-tribal groups, especially SCs [Maharatna 2000, 1998]. While a lower tribal fertility does not appear surprising within this larger tribal perspective, it is difficult – without looking into differential patterns of mortality and migration – to be certain whether this could be a major explanation for the slower growth of tribal population in Jharkhand.

In Table 6 we present results of large-scale surveys on mortality differentials between ST, SC and total population groups in Jharkhand, (erstwhile) Bihar and all-India. The data on overall mortality levels among STs and SCs separately is rather scanty. Even this limited evidence is often based on relatively small number of sample cases (as in NFHS), leaving the possibility

Table 5: Fertility Levels of ST, SC and Other, Jharkhand, Bihar and All-India, 1961-1999

	CBR			TFR			Average No of Children Ever Born to Women 40-49 Years		
	ST	SC	Total	ST	SC	Total	ST	SC	Total
<i>Jharkhand</i>									
1961-71	42.0	43.3	55.0						
1971-81	38.0	40.7	39.9						
1981			33.7			3.9			4.7*
1991			33.7			3.8			4.7*
1996-99 [NFHS-2]			23.7	2.3	2.9	2.8			
<i>Bihar (erstwhile)</i>									
1951-61			44.0			6.2			
1961-71	42.2	42.4	41.9			6.3			
1971-81	38.2	40.5	40.5						
1971 [rural]				5.2*	4.2*	4.6*			
1972 [rural]						5.2			
1981			36.9			5.7	4.6	4.7	4.8
1984 [rural]				6.4	7.0	5.9#	3.8	4.1	4.2
1985						5.4			
1991			36.2			5.3			
1994 (NCAER) [rural]	38	41	37.0	5.1	5.7	5.3			
1990-93 [NFHS-1]				3.4	4.0	4.1#	4.8	5.5	5.3#
1996						4.5			
1997									
1996-99 [NFHS-2]				2.5	3.9	3.1#	4.6	5.4	4.8#
<i>All-India</i>									
1950-60			41.7						
1971			36.9			5.4			
1979 [rural]	32.1	33.8	33.8#	4.1	4.7	4.7#			
1981			33.9			4.9			
1984 [rural]			33.9	5.3	5.4	4.8#			
1991			29.5			4.3			
1990-93 [NFHS-1]				3.6	3.9	3.3#	4.8	5.4	4.8#
1994 (NCAER) [rural]	35.0	35.0	32.0	4.4	4.7	4.3			
1996-99 [NFHS-2]				3.1	3.2	2.7#	4.7	4.9	4.2#

Notes: * TMFR; # non-ST/SC

Source: IIPS, NFHS-2, Jharkhand; IIPS, NFHS-2, Bihar; Registrar General (RG) 1980; 1984a,b; 1999; 1997; Satia and Jejeebhoy (1991); Pathak and Pandey, 1994: Table 9; Chakrabarty and Ghosh (2000); and authors' own calculations of CBRs for 1961-71 and 1971-81 decades for Jharkhand and Bihar on the basis of district level C(15) ratios and the regression coefficients estimated by Parasuraman and Rajan (1990:132); fertility measures for ST, SC and all for 1971 and 1981 for erstwhile Bihar are authors' own calculations based on data on number of births over a year and children ever born by age of currently married women given in respective fertility tables in the census reports.

of large sampling errors. However a cross-sectional (rather than time series) comparison between social groups can be reasonably valid. The problem of a small sample is of course less serious with NSS or SRS data. In any case, notwithstanding possible limitations of data on such mortality indicators as IMR and under-five mortality, the tribal people of erstwhile Bihar (and hence of Jharkhand) do not appear, interestingly, more vulnerable than their SC counterparts. Indeed a lower tribal mortality (both overall and in infancy and childhood years) than that of the SC group emerges from Table 6 as a fairly consistent pattern till perhaps recently (around mid-1990s). In fact the registrar general's special survey on infant and child mortality differentials in 1984 found IMR much lower among the tribal population than that of even non-ST/SC groups in erstwhile Bihar. Note too that the NCAER survey in 1994 has reported the lowest overall death rate among the tribal population at the all-India level. Of course, there might be some influences of differential response biases and sampling errors in these mortality estimates by social groups. This said, it should be stressed that the tribals' relative superiority in mortality is not really new or surprising in the light of the recent researches [Maharatna 2000]. For example, the tribals' (relative) advantage in infant and childhood mortality (vis-à-vis non-tribal population groups, especially SCs) has been found fairly common across space and time in the Indian subcontinent [Maharatna 1998, 2000 and literature cited therein].⁶ The results reported in Table 6 – in conformity with the baseline pattern of differentials – do not appear supportive of the hypothesis of higher tribal mortality as being the key to their slower population growth vis-a-vis SCs in Jharkhand until recent past. Even if a lower natural population growth was to be a major reason for slower tribal population growth (vis-a-vis SCs) in the Jharkhand region, it should have been via a lower birth rate, as the tribal population seem to have had a relative mortality advantage till recently.⁷ But, as discussed above, the birth rate of tribal people in Jharkhand (and hence in erstwhile Bihar) has hardly been so low as to be able to fully (or even perhaps mostly) account for a persistently slower population growth (vis-à-vis the SC group), especially in more recent decades.

However, it is notable that the NFHS-1 results for early 1990s appear suggestive of increases in infant and child mortality levels, particularly among ST and SC groups of erstwhile Bihar, from the 1984 levels. Indeed current mortality indices (as revealed by NFHS-2 data) in Bihar and Jharkhand, particularly in infancy and childhood years, appear remarkably high among all social groups as compared to the respective levels at all-India levels. This almost certainly reflects a greater material vulnerability of people (including tribes) of these regions. More importantly, tribal people currently appear most deprived in terms of access to modern health facilities including those relating to maternity and safe delivery. For example, according to indirect estimates based on NCAER 1994 survey information, the 'maternal mortality ratio' of tribal women turns up to be higher than that of SCs and indeed the highest at the all-India level [Bhat 2002, Table 3]. Indeed there are fairly strong indications that the extent of relative mortality advantage of tribes in the region vis-à-vis that of SC people (e.g., the gap in IMR or child mortality between STs and SCs) has narrowed over the last several decades (Table 6). This is a fairly common trend across all of India. Note that NFHS-2 data have recently shown almost negligible difference in IMR (and indeed reversal of the gap in case of under-five mortality) between these two groups at the all-India level.

This can well be taken to imply an accentuation of (relative) vulnerability of tribal people in terms of provision and accessibility of health facilities generally [see Maharatna 2000 for discussion on various Indian regions].

Thus while latest NFHS data (and other micro-level studies) do suggest an emergence of a relative tribal mortality disadvantage, which could contribute significantly to their slower population growth in the recent past, there is a remarkable dearth of direct and reliable evidence on natural rates of growth by social groups. Indeed a limited number of indirect demographic estimates for this region often tend to posit a somewhat lower natural growth of the tribal population as the major explanation for persistently slow tribal population growth [Thatte and Sinha 2003; Sinha and Thatte 1994]. For example, a recent study of indirect estimates of birth and death rates show a noticeable drop in the natural rate of growth of tribal population in Jharkhand in 1981-91 from the earlier decade, chiefly because of an increase in estimated death rate [e.g., Thatte and Sinha 2003, Table 9]. While this seems consistent with the scenario, as discussed above, of increases in the tribal (relative) mortality disadvantage as reported by large-scale surveys of 1990s, this could hardly be the full explanation for the slow tribal growth in the earlier decades. [As an illustration, the natural rate of tribal growth, according to this study, rose in 1971-81 by about

Table 6: Mortality Levels of ST, SC and Other, Jharkhand, Bihar and All-India, 1971-1999

	CDR			IMR			Under-Five Mortality		
	ST	SC	Total	ST	SC	Total	ST	SC	Total
<i>Jharkhand</i>									
1981						68.0			93
1991						89.0			136
1990-93									
1996-99						54.3			78.3
<i>Bihar (erstwhile)</i>									
1951-60			26.1			145.0			
1971									
1981			13.9			94.0@			
1984 [rural]	17.4	17.7	14.2#	77.6	98.7	98.3#	97.2	120.4	94.0#
1991			9.8			75.0@			
1992			10.9						
1993			10.6						
NFHS-1									
(1987-91)		(1990-92)	11.5	97.2	120.4	94.0#	135.0	171.0	132.3#
1994		9.0 11.0	10.0						
1995			10.5						
1997			10.0						
NFHS-2									
(1988-98)		(1996-98)	11.3	81.9	86.3	61.2#	116.6	133.8	89.3#
<i>All-India</i>									
1951-60			22.8			139.0			
1961									
1971			14.9			129.0			
1979 [rural]	113	159	136				223^	286^	
1981			12.5			115.0@			152.0
1984 [rural]	15.0	17.0	12.9#	103.2	131.7	111.0#			
1991			9.8			77.0@			94.0
1992			10.1						
1993			9.3						
NFHS-1									
(1987-91)(1990-92)			9.7						
1994[NCAER]									
[rural]	9.0	13.0	11.0						
NFHS-2									
(1988-98)		1996-98)	9.7	84.2	83.0	61.8#	126.0	119.3	82.6#

Note: @ Indirect estimates provided by Registrar General's District Level Estimates of Fertility and Child Mortality, Occasional Paper No 1 of 1997; ^ number of child deaths per 10,000 population.

Source: RG (1999; 1980; 199); Jain (1967); Chakrabarty and Ghosh (2000).

2.5 per 1,000 over the earlier decade, while there was negligible difference in the actual rate of tribal growth between these decades, Table 2].

For example, the indirect estimates are often vitiated inter alia by considerable migration streams for which adequate adjustments seem almost impossible because of a paucity of direct migration information. Indeed migration streams (both ways) – particularly of tribal people – have remained for a long time (till perhaps recently) one prominent regional characteristic of Jharkhand (and of erstwhile Bihar). We now turn to an examination of the role of tribal migration in accounting for their relatively low increases in enumerated population in these regions, especially in the earlier decades.

III The Role of Tribal Migration

Today's Jharkhand region, which was originally carved out from the erstwhile Chhotanagpur and Santal Paraganas plateau, has witnessed substantial migration flows over a fairly long historical period. As the region is rich in mineral resources, mining had developed in districts like Dhanbad, Kodarma and Giridih in the middle of the 19th century. Relatedly, Jharkhand (particularly the Chhotanagpur region) had experienced considerable infrastructural development quite early, which led over time to some far-reaching demographic changes in the region. For example, the Jharkhand region had started acting as a pull force for many people outside the region. Table 7, which we reproduce from Weiner (1978), gives a clear indication of a steady rising inflow of people into this region.

As can be seen, there has been a sustained influx of people into the Jharkhand region, starting from the last decade of the 19th century. Indeed the percentage share of migrants from north Bihar alone rose from about 10 per cent in 1881 to nearly 40 per cent in 1951 in Manbhum (a large part of which became merged with present day Dhanbad) [Bandopadhyay 1999:21]. Again Ranchi had received more than 60 per cent of in-migrants from North Bihar alone in 1881, which however subsequently declined over following decades [Bandopadhyay 1999:21]. People had migrated into Jharkhand region from such far-flung places as Punjab, Bombay, and Rajputana Agency too, with an increase in its percentage share from 5 per cent to 16 per cent between 1881 and 1951 [Bandopadhyay 1999:22]. During 1931-41 there was a slump in the coal industry in the wake of the Great Depression of 1930s, but second world war stimulated the mining industry, fuelling an 'incessant' immigration into this region [Bandopadhyay 1999]. All this clearly shows that there has been a continuous and considerable non-tribal inflow into the Jharkhand region over a fairly long period before pre-independence. As Tables 7 and 8 show, this long-term rising trend in absolute number of in-migrants into Jharkhand has continued in the post-independence period too – albeit without possibly much increases in its proportionate share in total population. However, it is noteworthy that an overwhelming share in this immigration flow has continued to be constituted by migrants from north Bihar and four adjoining states. And Dhanbad district alone – a seat of mining – accounted for more than one-third of the total in-migrants of Jharkhand according to the 1981 Census information. While such substantial in-migration flows into Jharkhand could have inflated the population growth of the non-tribal population in the region, they as such cannot

constitute an explanation of a persistently slow growth of tribal population.

To assess the role of migration in shaping population growth of a region or of a social group in a region, we need to know the magnitudes of both influx and exodus of people. More specifically, the key question for our present purpose of explaining slow tribal population growth in Jharkhand relates to the direction and magnitude of tribal migration. Beginning from the 19th century the tribals of Jharkhand are known to have been migrating chiefly to parts of Bengal and to the tea gardens of Assam. The tribal outmigration in 1891 was reported to be of the order of 3,33,000 in 1891. This increased to 9,47,000 in 1921 [Weiner 1978:161]. Historically, especially since the late 19th century, Bihar stands out to have been the largest sender of emigrants (see Report for Bihar, Census of India 1951, chapter 1:56-57). There are pretty strong indications that the majority of these Bihari emigrants were tribals from the Jharkhand region (i.e., erstwhile Chhotanagpur and Santal Parganas).⁸

The newly introduced process of industrialisation in the latter half of 19th century in this region and concomitant inflows of non-tribal people, as mentioned above, deprived many local tribals of the natural resources on which they were substantially dependent. They were thus somewhat compelled due to increasing pressure of unemployment and poverty to migrate for livelihood to Assam and other neighbouring states [Bandopadhyay 1999]. Alienation of tribals from their home lands as well as from their traditional land rights, along with a mounting influx of non-tribal in-migrants into Jharkhand's tribal areas, are reasons often held responsible for the large-scale tribal exodus that has been taking place from this region over a long historical span. Combined with such push factors for tribal emigration were some pull forces like 'preference' of employers, particularly of tea planters of Assam and Bengal, for tribal migrant workers from the Jharkhand region, because of their diligence and easy acclimatisation in tea gardens.⁹ Indeed the large volume of outmigration, resulting in adverse balance of migration (i.e., net outflow), is often held responsible for a low population

Table 7: In-migration into Santal Parganas and Chhotanagpur, 1891-1971

Year	Immigration
1891	96,000
1901	1,79,000
1911	2,93,000
1921	3,07,000
1931	3,07,000
1941	NA
1951	4,80,000
1961	10,73,920
1971	14,29,805

Source: Weiner 1978.

Table 8: In-migration into Jharkhand, 1981

Total No of Immigrants	Immigrants Coming from			
	North Bihar	Adjacent States*	Other States	Other Asian Countries Outside India
16,281,03 (100)	90,95,25 (55.9)	57,52,98 (35.3)	10,02,40 (6.2)	4,30,40 (2.6)

Note: * Includes Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal.
Source: Calculated from Census of India 1981, Series-4, Bihar, Part vA and B, Migration Tables, D-1.

growth in the tribal districts of erstwhile Bihar and hence of Jharkhand [e.g., census reports, Sharma 1994].¹⁰ The balance of immigration into and emigration from Bihar has been negative over a long period of time since the late 19th century. And this adverse balance of migration could largely account for the slow growth of population particularly in the Chhotanagpur Natural Division (see Report for Bihar, Census of 1951, chapter 1:57).¹¹

In the post-independence period, industrialisation and urbanisation processes in Jharkhand continued and became even more intense, thereby maintaining and perhaps accentuating the historical push forces for tribal emigration from the region. Ironically, there is hardly any reason (and evidence) why this historical pattern of tribal (relative) vulnerability and their compulsive need for outmigration should not continue to be relevant after independence. Rather, the post-independence development process has continued to be accompanied by acute (relative) tribal deprivation and distress, and it is often alleged to have even accentuated their relative vulnerability (and related forced movements) in this region. For example, with various development projects launched in Jharkhand, some 30 lakh people were displaced during 1951-95, with 90 per cent of them being tribals [Ekka 2000]. However, the historical pull forces for tribal emigration to tea gardens and factories in neighbouring states are well known to have waned over time, especially after independence.

While all this points to tribal outmigration from Jharkhand as a plausible contributory factor for their slower population increase especially before and even for some time after independence, the age-sex composition of the emigrants could also have some bearing in shaping their population growth. For example, the presence of a proportionately large number of young and reproductive-age emigrants should have had a dampening effect on tribal fertility too. According to a rough estimate, had there been no outmigration of tribes, the tribal population of Chhotanagpur and Santal Pargana would have been about 6 million rather than 4.5 in 1971 [Weiner 1978:162]. While migration patterns and magnitudes could well have something to do with the differential population growth between tribal and non-tribal peoples of Jharkhand, the empirical basis for this refers mostly to the pre-independence period. Indeed there is a distinct lack of systematic studies of migration (especially outmigration) flows of people of Jharkhand in the post-independence period. As noted above, the predominant tribal exodus from Jharkhand region to Assam and West Bengal was mostly in the pre-independence period. The areas of Chotanagpur and Santal Parganas were known for long as the source areas of large (tribal) net outmigration prior to the 1930s [Corbridge 1988]. The study on interstate migration by Weiner (1978) does not give much concrete evidence to substantiate the process of tribal outmigration after 1931. Though inferences about the dampening effects of contemporary tribal exodus from Chotanagpur and Santal Pargana on their population growth have sometimes been made, they seem to be more logically derived than empirically established. This relative dearth of empirical research on more contemporary tribal migration flows from Jharkhand could partly be because of the less detailed presentation of census data on migration in the post-independence decades than it used to be before. For example, as the 1961 Census report for Bihar notes in the chapter on migration: “[i]t would have been interesting to allocate the emigrants from Bihar to other states by the districts of their origin,

but unfortunately such statistics have not been tabulated for 1961 or any of the previous censuses in recent time. The last census for which such data are available is 1921” (Census of India 1961, vol IV, part 1-A(i), chapter V:324). This district-level break-up of emigrants is even more necessary for our present analysis of tribal demography of Jharkhand.

On the other hand, a few recent studies [e.g., Ekka 2000; Ranjan 2002] have focused more on the ‘displacement of tribals’, rather than emigration as such, as many new development projects in the region are known to have displaced a large number of tribal people from their home lands. However, it is rarely clear from these studies as to where they go after being displaced. If the ‘displaced’ tribals remain within the region, this as such should not (directly) affect the overall rate of population increase among the tribals. Whether the displaced tribals go out of the state (i.e., interstate migration) or are resettled elsewhere within the region (i.e., intra-state movement) often remains an open question. Detailed and reliable accounts of the demographic consequences of such displacements is hardly available, which could help us understand the broad demographic changes in tribal population. In many cases even the source for the stated magnitudes of ‘tribal displacement’ is not made very clear [e.g., Ranjan 2002]. As has been suggested in some studies, however, at some point of time the permanent tribal outmigration was arrested partly because of saturation of the receiving areas and partly due to the resistance of local people against such outflows [e.g., Chand 1994]. However, this argument is not well-substantiated in terms of concrete data and information. Therefore, it seems that contemporary literature on the tribal outmigration from Jharkhand is often devoid of a reasonable degree of empirical rigour.

In one’s attempt to explain the lower growth rate of tribal population in terms of their exodus, one must encounter several difficulties in using census information. For instance, since district-level information on outmigration is not provided in recent census reports, the direct quantification of outmigration from Jharkhand could not be made. To illustrate, let us take the example of erstwhile Bihar. While one can estimate the total number of enumerated outmigrants on the basis of birthplace data, it seems difficult to know for sure how many of them were from Jharkhand or how many of them were tribals. This is chiefly because of the absence of a district level (and castewise) break-up of these outmigrants from the whole of Bihar. This problem becomes even more pressing while dealing with Jharkhand as a newly separated state of erstwhile Bihar.

Table 9: Volume of Migration, (erstwhile) Bihar, 1961-1991

Year	In-migrants	Outmigrants (Percentage of Males)	Net Migrants (2)-(3)	Share of Net Migrants Total to Natural Population (Per Cent)
1951@	11001 (51.0)	1516100 (69.2)	-1505099	-25.99
1961	1097041 (43.5)	2042685 (63.8)	-945644	-19.95
1971	1176408 (38.1)	2201399 (61.6)	-1024991	-17.87
1981	1330920 (33.9)	2536882 (56.6)	-1205962	-16.96
1991*	1236209 (25.7)	3147295 (53.3)	-1911086	-21.64

Notes: @ Emigrants are exclusive of Muslim exodus and immigrants are reduced by Muslim exodus. Total natural population = census enumerated population + outmigrants - in-migrants.

Source: Ram and Singh (1994), *Compiled from Census of India, State Profile, 1991.

Although it is difficult to know directly (from census information) about Jharkhand's share in total outmigrants, there could be scope for arriving at some reasonable inferences indirectly or even on the basis of fragmentary (and micro-level) evidence. Because most of (erstwhile) south Bihar constitutes Jharkhand, one could have made reasonably valid estimates of tribal outmigration on the basis of some (direct or indirect) evidence on the contribution of south Bihar's share to total outmigration from the state. (However our search has not succeed in getting such information.) Therefore, owing to lack of such studies and evidence, we cannot make any concrete estimate of tribal outmigration from Jharkhand during the post-independence period.

Still, one could perhaps – on the basis of migration data for erstwhile Bihar – form a reasonable judgment about the extent of tribal outmigration from Jharkhand. Table 9 provides census information on total migration flows in (erstwhile) Bihar during 1961-91. As can be seen, migration flows and mobility of population have been dominant features of this region's demography. Indeed since independence, Bihar continues to be a 'sending region' on a net basis. However, it is worth noting that there has been a somewhat steady decline in the proportion of net outmigrants from the early 1950s through the 1970s. It is of interest that despite such substantial net outmigration from erstwhile Bihar over the entire post-independence period, its overall rate of population growth has been hardly below the national average (except in the 1961-71 decade which witnessed a severe drought and famine conditions in the state). But a remarkably slow rate of growth that has characterised the tribal population of the state during all post-independence decades (Table 2) seems to provide support to the hypothesis that a substantial (if not overwhelming) chunk of total (net) exodus from erstwhile Bihar were constituted by tribal people of Jharkhand. For example, it is worth wondering whether declines in the proportion of net (total) outmigration during 1951-81 had something to do with the rise in the growth rate of the tribal population, while the latter dropped with a spurt in net outmigration during the 1981-91 decade (Tables 1 and 9). However, the meagre rise in the growth rate of the tribal population in relation to the magnitudes of decline in net (proportionate) emigration during 1951-91 seems suggestive that tribal outflow alone is not sufficient to account for the sluggishness in their growth of population, in more recent decades.

In fact it has often been remarked by census reports that the regional pattern of emigration from erstwhile Bihar had started changing before independence: the volume of emigration from Chotanagpur and south Bihar (areas of tribal concentration) started declining since 1931, 'but emigration from North Bihar Plain to other states has increased' (*Census of India 1961*, vol IV-Bihar, part1-A(i), chapter V:326). Therefore in accounting for the slow growth of tribal population in Jharkhand the phenomenon of tribal emigration flows from the region to other states could no longer be as important over the post-independence period as it had historically been since the late 19th century. Thus it seems to follow that accentuation of tribal vulnerability and their mortality disadvantage is increasingly becoming the dominant contributory factor for their slow population growth in more recent decades. The worsening vulnerability of tribal population in this region is contributed by shrinking avenues of economic emigration to other states, that they had earlier resorted to historically, coupled with displacement, dislocation, and disruption

of their livelihood patterns, apart from their increasing relative deprivation in healthcare and education.

Having said this, tribal outmigration has not ceased to be relevant for accounting for their contemporary slow population growth rate. Note that the extent of outmigration from erstwhile Bihar has generally been (proportionately) higher among males than females, which seems suggestive of a relative dominance of economic (male-selective) migration for taking advantage of outside employment opportunities, with the family staying back home. But, notably, the sex-composition of out-migrants is becoming increasingly balanced over the past several decades. This trend, together with recent increases in the overall number of outmigrants from the region, could be interpreted as being suggestive of a growing trend of family migration. Note that such a growing trend of family migration (as implied by our analysis) may well be consistent with an ongoing process of development-associated displacement (presumably mostly of tribal households of Jharkhand region). Even if one assumes that the proportionate share in outmigration of all social groups is somewhat uniform, the sheer figures of overall net outmigration from erstwhile Bihar do point to (at least) some role that the migration phenomenon plays in shaping current population growth, especially among tribes of Jharkhand. As noted already of the tribes of Jharkhand have a long history of migrating out of the areas. Earlier the tribal outmigration – largely in response to pull forces of economic opportunities in tea gardens and factories – was in a large part of adult and young peoples' movement (with some male bias). But after large-scale tribal displacement started accelerating during the post-independence period, their outmigration increasingly took more of a forced family migration form and to places, which, unlike earlier times, are not typically growing and dynamic.¹² This said, all this – while certainly plausible – is still in need of further systematic substantiation.

Conclusions


Jharkhand has historically been home to almost the entire tribal population of erstwhile Bihar. Thus an analysis of tribal demography of the latter is almost tantamount to analysing tribal

Appendix: Trends in Female-Male Ratio by Social Group, Jharkhand, 1951-1991

District	Social Group	1951	1961	1971	1981	1991
Santal Pargana*	SC	982	1006	959	964	930
	ST	1008	1001	1001	982	973
	ALL	980	980	959	957	935
Hazaribaug*	SC	1058	1058	1053	1010	951
	ST	943	979	1008	975	943
	ALL	975	992	979	967	935
Ranchi*	SC	983	976	974	959	936
	ST	987	1025	1013	1014	983
	ALL	984	987	973	963	945
Palamu	SC	985	1001	979	974	935
	ST	1088	1007	976	983	957
	ALL	977	984	963	957	930
Singhbhum*	SC	601	922	951	953	954
	ST	1054	1050	1018	1006	992
	ALL	970	960	942	942	937
Dhanbad	SC	831	810	797	830	825
	ST	1004	919	967	942	933
	ALL	821	795	792	814	826
All-Jharkhand	SC	951	973	960	956	922
	ST	1009	1017	1007	996	975
	ALL	961	960	945	940	922

Note: See note 1 to Table 2.

population of the newly created state of Jharkhand. Interestingly, Jharkhand appears to have fared relatively better than Bihar in terms of broad socio-economic indicators, but the tribal population of this region has persistently experienced a markedly slower population growth than the non-tribal groups over entire post-independence period. This contrasts sharply with much higher growth rates of tribal population (both in relative and absolute terms) in other states (especially outside eastern India) as well as at the aggregate all-India level. Notwithstanding a relative dearth of reliable information (let alone for tribals separately), our scrutiny of the limited available evidence does not seem to support the hypothesis of a low natural rate of growth of tribal population as the chief explanation for their slower population growth during the earlier decades after independence. Although tribal fertility has generally been somewhat lower than that of non-tribal groups, the tribal death rates have not been any higher or perhaps indeed been lower vis-à-vis those of SC people – albeit till recently. While this (at least apparently) seems consistent with the view of what is often called a ‘homeostatic’ demographic regime, its proof of validity would require separate systematic research and attention beyond the scope of the present study.¹³ Given the absence of civil registration information on tribal birth and death rates in Jharkhand, it is difficult to ascertain the relative contribution of (lower) tribal fertility to their slow population growth, taking account of their mortality levels and other relevant determinants.

On the other hand, substantial tribal outmigration to other states over a long period appears to have been a major factor for a slower tribal population growth in Jharkhand till the recent past. Over last several decades, with the drying up of demand for tribal migrant labour outside Jharkhand, accentuation of tribal displacement and hence disruption in livelihood patterns, their growing (relative) inaccessibility to modern amenities, health and education, they seem to be experiencing relatively large (and perhaps indeed growing) mortality disadvantages. This is manifest clearly in slower declines (or even sometimes increases) in mortality levels of the tribal population in Jharkhand.¹⁴ This, in the face of recent declines in their fertility levels, is most likely to be slowing down the natural growth rate of the tribal population in more recent periods. While such slowing down of the natural increase can perhaps explain a large part of their slower growth rates in the current decades, tribal outmigration – both of voluntary (economic) as well as the forced (displacement) kind – seems to have made some contribution too, though possibly by a lesser quantum than before. Estimating the exact magnitudes of such net tribal outmigration as well as the impact of natural growth rate is, of course, beset with a dearth of direct and reliable information, but this calls for further research necessary for formulating appropriate development strategy for the tribes and the region. 

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Notes

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- 1 The indices are constructed by taking account of information such as proportion of females single in age group (15-19 years), levels of literacy, urbanisation, provisions of drinking water, electricity, and hospital in 1981.
- 2 There exist a few studies which, while noting slow tribal population growth in the eastern states, hardly go beyond merely hinting at some plausible reasons (e.g. net outmigration, low rates of natural increase caused presumably by a higher mortality, or a greater dent of sterilisation programme in tribal areas with possibly greater attractiveness of cash incentives, and/or relative ease with which innocent tribals could be coerced into sterilisation camps) [Sinha and Thatte 1994; Chand 1994; Bose 1988].
- 3 See, e.g. Sinha and Thatte 1994; Sinha and Sinha 1994; Bandyopadhyay 1999; Ekka 2000; Sharma 1994; Chand 1994.
- 4 The registration coverage and quality has also been very low in West Bengal. Indeed it has often been necessary till the 1980s to exclude Bihar and West Bengal from the tables providing state level registration-data-based demographic rates [e.g. Bhat et al 1984:34; RG 1999].
- 5 With modernisation and integration of tribes, an erosion of their traditional and indigenous methods of fertility control is also often reported as being a contributory factor for their temporary ‘fertility rise’ especially at a time when modern contraceptive methods are not in vogue [e.g. Ssenyonga 1993].
- 6 The plausible reasons for this could include some healthy aspects of traditional tribal practices relating to infant-feeding and child rearing (e.g. prolonged breastfeeding, longer spacing, better timing and nature of food supplementation, relative absence of familial gender discrimination in distribution of food and other basic necessities). Besides, there are other healthy dimensions of their lifestyle and habitation (e.g. less crowding, greater intimacy with natural environment). Even recent researches on some major tribes in Jharkhand show that their traditional food habits and diets (including usage of roots, tubers, vegetables, fruits, etc) have sufficient nutritive value, but, they seemingly ignorant of this value, do not take these in adequate quantities [Sinha 2003]. The existing literature and evidence on these aspects are extremely limited and scattered, and further research on these issues is much needed. The global literature on health and survival of traditional (mostly tribal) societies is broadly suggestive of their greater adaptability to such aspects of nature and environment, but they generally lose this type of adaptation (hence their health and survival advantage) in course of acculturation: see Wirsing 1985 for a review). For example, as we would see shortly such traditional tribal advantages in health and mortality in Jharkhand (and even in whole of India) seem to be vanishing rather fast in more recent times. This is largely because of growing (relative) tribal disadvantage (vis-à-vis non-tribals) in accessibility to modern health provisions and care (for evidence of tribal disadvantages in health and infrastructure, see Chakrabarty 1998; Singh 2001).
- 7 For instance, the estimated tribal death rate being lower by two persons per 1000 population vis-à-vis SC (according to 1984 special survey by registrar general’s office) gets almost offset by an estimated lower tribal birth rate (Tables 5 and 6).
- 8 As for illustration, total immigrants into Assam in 1921 from Chotanagpur alone numbered 318, they were only 139 from entire Bihar (exclusive of Chotanagpur); and indeed the former constituted nearly 60 per cent of total immigrants into Assam (see Report for Assam, Census of India 1921).
- 9 For example, the 1921 Census report for Assam writes that “[e]nquiries show a general opinion that the so-called ‘jungly’ coolies of the central provinces and Chotanagpur (mundas, santals, gonds, etc) are the best men for the climate and the work of tea gardens” (Census of India 1921, vol 3, part 1-Report, chapter 3:38).
- 10 It should be noted that much of the tribal emigration is presumably of ‘seasonal character coinciding unfortunately with the time of census-taking’ (Report for Bihar, Census of India 1961, vol IV, part 1-A(i): 323). As the census report explains, “[t]he tide of seasonal migration

- is generally at its height in February when the census enumeration is taken, and it is certain that if the census were held later, say in June, the number of emigrants from Bihar to other states would be much smaller, and the enumerated population would be correspondingly larger' (ibid:323).
- 11 To illustrate (possible) influence of outmigration on recorded rate of population growth: while the number of emigrants from Bihar declined to 350 per 10,000 natural population in 1931 from 470 in 1921, there has been a rise in annual rate of growth of tribal population to 0.90 during this decade from -1.45 per cent in 1911-21. Although it is difficult to be absolutely sure whether this surge in population growth was directly attributable to the decline in volume of emigration, a considerable influence of emigration on Bihar's population growth seems beyond reasonable doubt.
 - 12 For example, as one author writes, "[t]he movement (of tribes) in the post-independence period has been to Sundarbans in West Bengal and Andaman and Nicobar Islands, especially by tribals from the Jharkhand region" [Xaxa 2003].
 - 13 A 'homeostatic' regime is interpreted broadly as one in which "demographic variables are seen as working together to produce an overall pattern of low growth" [Wilson and Airey 1999:117]. While this perspective of homeostasis (i.e., long-term low growth) is designed to be relevant to all human populations, the mechanism behind this is thought to vary across time, space, and society. For example, while European marriage patterns (e.g., relatively late marriage and high celibacy rate) have historically been a source of check on fertility even long before demographic transition, the practice of infanticide is similarly seen to have been relevant to homeostasis in much of Asia's historical past. In case of India's tribal population, the traditional mechanism for fertility control seems akin more to historical European patterns than to those of Asia's non-tribal mainstream.
 - 14 It may be noted that a recent field study by Pratichi Trust in West Bengal has clearly brought out a terribly bad state of health affairs prevailing in the tribal district of Dumka in Jharkhand (even compared to the situation in adjacent non-tribal district of Birbhum in West Bengal).

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