



## Policy Forum Article

# Food Security in India: The Imperative and Its Challenges

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### Abstract

*This article addresses the imperative of food security in India in the context of persistent prevalence of malnutrition despite several years of rapid growth. In particular, the article posits that the recent promulgation of the National Food Security Act in September 2014 to meet this challenge also offers an opportunity to reconfigure its food distribution system and agricultural trade policy. These two issues pose the greatest and most immediate challenges for India. The more enduring challenge for India would be to sustain food production to ensure not only adequate quantities, but also to support dietary quality and diversity.*

**Key words:** India, food security, WTO, Public Distribution System, procurement

\* Indira Gandhi Institute of Development Research (IGIDR), Mumbai, Maharashtra 400065, India; email: <sudha@igidr.ac.in>. This article builds and draws on earlier work on this subject (Narayanan 2012) and attempts to provide an update of the debates surrounding food security in India. I thank, without implicating, participants of the seminar G20 and the Asian Century, The Australian National University, Crawford School of Public Policy, Canberra, 11–12 March 2014 for their feedback and comments.

### 1. Background

One of the confounding features of the era of rapid economic growth in India since the 1990s has been the stubborn persistence of malnutrition. It is well known that across a range of indicators of nutritional status of adults and children, India is a laggard among fast-growing economies. While improvements in nutritional status have occurred, they have been marginal relative to the pace of economic growth, prompting a recent suggestion that the first question the Indian Prime Minister should ask his ministers is not ‘How is the economy growing?’, but ‘How are the children growing?’ (Citizen’s Initiative for Right of Children Under Six 2006).

India faces today what is known as the triple burden of malnutrition—the coexistence of inadequate calorie intake and under-nutrition among a large section of the population, excess intake of dietary energy leading to obesity and related health issues among another section of the population, and pervasive micronutrient deficiencies. Evidence from both nationally representative surveys as well as smaller studies underscores these phenomena. The National Family Health Survey in 2005–06, for instance, suggests that a third of ever-married women have a body mass index below normal, with 28 per cent of the men falling in the same category. At the other end, 15 per cent of women are overweight or obese, as are 12 per cent of men. Micronutrient deficiencies are common. For example, 56 per cent of women ever married and 24 per cent of ever-married men are anaemic. As for child nutritional

status and child-mortality rate, India is doing worse than some Sub-Saharan African countries and south Asian neighbours (CIRCUS 2006; Drèze et al. 2008; Drèze 2004). Close to 45 per cent are stunted and 23 per cent wasted, with an overwhelming 79 per cent of children aged between 3 months and 3 years being anaemic. While each aspect of the triple burden of malnutrition is relevant and demands specific attention, the prevalence of under-nutrition and micronutrient deficiencies among vast numbers of people despite impressive economic growth remains among the most important challenges for policy-makers. Under-nutrition is a consequence of a multiplicity of factors but food security as it is currently understood lies at the very heart of it. Food security is characterised as: 'a situation . . . when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life' (Food and Agriculture Organization 2002). This understanding of food security incorporates the idea that access to food includes not just physical availability and affordability, but also requires that individuals do not face social barriers in feeding themselves. Food security implies nutritional security and further acknowledges that in its attainment, it supports the actualisation of individual capabilities. It is important to note too that individuals are the focus, although household-level or community-level food security is an appropriate concern.

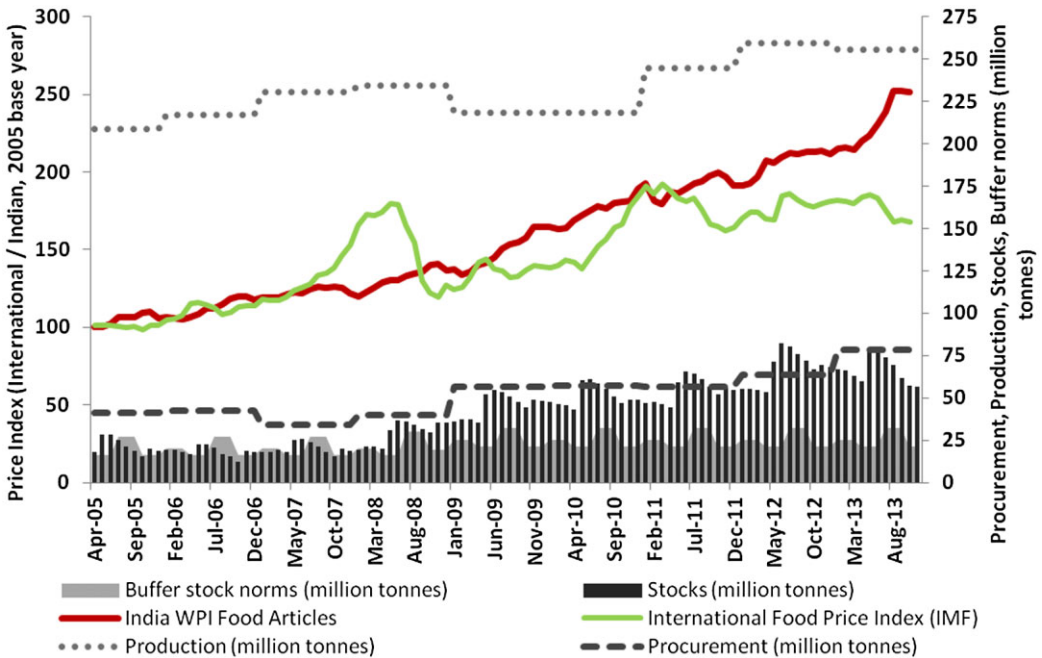
This article focuses on some of the key challenges that India faces in ensuring food security. Three issues have framed recent debates in India. The past year saw the expression of a long-standing demand of civil society groups for a comprehensive legislative framework for ensuring food security in the form of a National Food Security Act (NFSA), overcoming an early reluctance on the part of the government to commit to such an Act. Second, recent spells of rise in food prices has been a cause for concern insofar that the price rise is not matched by a commensurate increase in incomes for wage-earning net purchasers of food. Domestically, too, food price inflation has posed difficulties for policy-makers,

although this inflationary trend is by no means restricted to food items. For example, in October 2013, inflation in food articles reached 18 per cent. In response, India has periodically resorted to a series of trade policy restrictions to insulate the domestic economy. While in the years of the food price crisis, this was effective, in recent years, it appears that inflation is in fact virtually a domestic phenomenon, with growing stocks held by the government and persistent inflation (Figure 1).<sup>1</sup> Third, a renewed focus on corruption, leakages and inefficiencies in the implementation of food-related schemes has prompted a strident call by academic economists for a shift towards a system of cash transfers, the dominant view calling for a replacement of the Public Distribution System (PDS). These issues have brewed an intense debate on the appropriate approach to delivering food security in the country. Much of the policy discussion and public debate has however focused narrowly on the major cereals, rice and wheat, crowding out comprehensive and critical discussions of food security in its complete sense.

This article suggests that the contours of recent debates throw up some immediate challenges for India that have to be tackled before what can perhaps be considered longer term concerns. Specifically, these challenges are threefold. The first challenge is the problem of food distribution, which pertains to identifying the best way(s) to ensure food access in an equitable way. The second can be characterised as an international challenge that will require India to defend its NFSA and its food trade policies to the international trade community, in the wake of the Ninth Ministerial Meeting of the World Trade Organization (WTO) at Bali, even as it maintains its food sovereignty. These urgent issues foreground a third larger and persistent challenge of sustainable nutritional security, ensuring that Indian agriculture can provide and support in sustainable ways diets that are both adequate in quantity and quality. This involves an effort that goes well beyond foodgrains.

1. Food inflation in India is not entirely or always driven by cereals and has at times been called protein inflation and at other times driven by fruits and vegetables. This claim therefore has an important caveat.

Figure 1 Food inflation, foodgrain stocks and production in India, 2005–2013



*Notes:* The WPI for food articles in India and the International Food Price Index are not directly comparable. Base year for the price indices are 2004-05=100. The data for food stocks are for rice, wheat and coarse grains, but norms include only rice and wheat. Norms are available quarterly and is assumed to be the same in the intervening months. Foodgrain production is annual and includes rice, wheat and coarse grains and has been assigned to calendar years rather than financial years. Source: International Food Price Index is from the International Monetary Fund (IMF) India (various issues). The Wholesale Price Index (WPI) for India are from the Reserve Bank of India (various issues) Handbook of Statistics. Food stocks are from the Food Corporation at the beginning of each month, production figures are from the Government of India, figures for 2011 are estimates.

The section that follows discusses the imperative of food security in India highlighting why the distribution challenge needs to be privileged over that of food production. The next two sections is devoted to discussions and debates surrounding the NFSA and the challenge of food access and distribution. Section 4 takes up the challenges posed by the forthcoming WTO negotiations. Section 5 then discusses the longer term challenge of ensuring sustainable source of diverse diets.

## 2. The Challenge of Food Security in India

There is a perception that China has, by and large, solved its 'food problem', whereas India has not (Timmer 2014). This rings true in a

very specific sense. The crux of India's food problem today pertains not so much on increasing food availability or production but with the distribution of food. This is not to suggest that the challenges associated with ensuring food availability in sustainable ways is not a policy concern, but rather, in terms of the immediacy of challenges, ensuring food access would appear to score over concerns over food availability. For example, despite flagging growth rates in the agricultural sector relative to targets, India has seen impressive growth in foodgrain production in recent years. The National Food Security Mission has played a key role in augmenting production in cereals and pulses. Much of this has come from yield increases in the eastern regions in the country where the Green Revolution did not take place. At the same time, there has also

been a strong and continuing trend for diversification into non-cereal and high-value commodities such as dairy, fruits and vegetables, which implies the possibility of higher quality diets. Investments in the agricultural sector have been especially strong after 2004–05, both public and private, with private gross capital formation accounting for an increasing share of all investment.

Despite the large increase in production, access to food continues to be a serious issue especially in the context of extraordinarily high-inflation rates in food commodities in recent years and limited access in large parts of the country to high-quality diets. The imperative that the challenge of food security derives also from recent evidence from India and elsewhere suggests that income growth might not always translate fully or quickly enough to improvements in the health nutritional status of children, implying that this issue needs attention (Haddad et al. 2002; Block et al. 2012; Coffey et al. 2014). This weak link between income growth and nutritional outcomes implied that food security in the sense defined earlier would require special attention of policy-makers and cannot be presumed to follow as a consequence of growth. This is quite apart from a parallel discourse that argues for a rights-based approach to food security so that primary responsibility rests with the state. In general, there is broad agreement on the imperative of food security in India, but deep disagreements on how to achieve this.

### 3. The National Food Security Bill (NFSB): Claims and Contestations

This past year brought to the forefront key issues concerning food management, centred mainly on the proposed NFSB.<sup>2</sup> The NFSB envisions a comprehensive legislative framework for protecting an individual's right to food, furthering the vision expressed in the Constitution of India. It is conceived as a system of interventions following a life-cycle

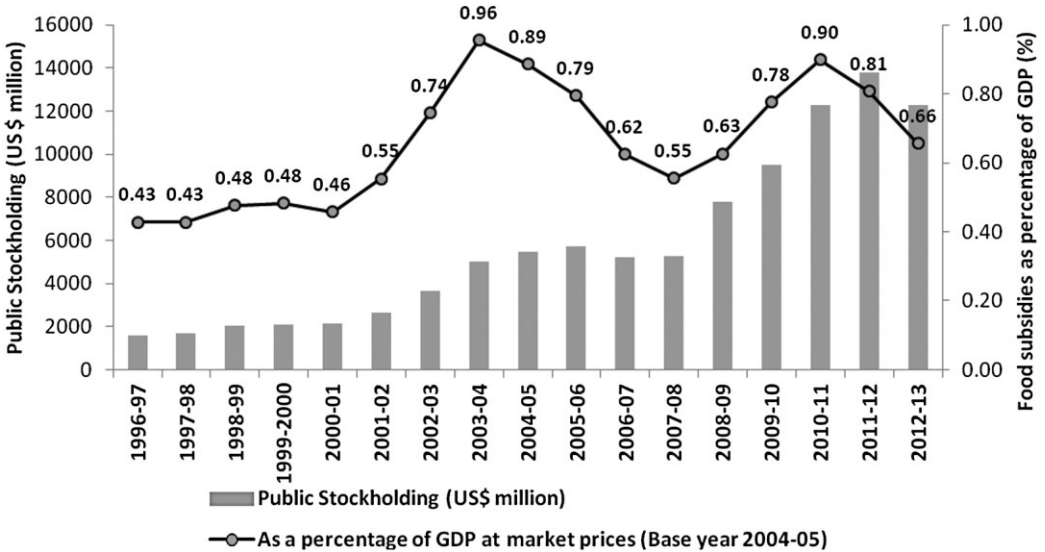
2. A proposal was drafted by the National Advisory Council (NAC) and sent to an expert committee on NFSB on 27 October 2010. The Indian NFSB, 2013 was however promulgated only on 12 September 2013.

approach, whereby at every stage of an individual's life, a safety net would be provided by the state to ensure food security. This brought into its fold a whole range of interventions that had already been converted to entitlements by the Supreme Court in the Right to Food Case (Peoples' Union of Civil Liberties, Rajasthan vs. Government of India): child nutrition programmes, maternity benefits, social security pensions and other entitlements that would further food security. Relative to the original intent, over time, the Bill became substantially restricted in its scope and vision, reflecting various pressures from the government, and much of the debate has concentrated disproportionately on the PDS. This law aims to provide subsidised food grains to approximately two thirds of India's 1.2 billion people. Under the provisions of the bill, beneficiaries are to be able to purchase 5 kg per eligible person per month of 75 per cent of rural and 50 per cent of the urban population are entitled for 3 years from enactment to 5 kg food grains per month at ₹3, ₹2, ₹1 per kg for rice, wheat and coarse grains (millet), respectively.

The fundamental critique levelled at the NFSB is the implied large presence of the State in grain markets in the country and the costs involved in procurement, storage and distribution as part of what is widely seen as a flawed mechanism, the PDS. An expert committee appointed by the government to review the draft NFSB prepared by the NAC earlier observed that the massive procurement of food grains and a very large distribution network entailing a substantial step up in subsidy was a problem (Government of India 2010). A related concern was the foodgrain requirement to support the NFSB.<sup>3</sup> Their estimates suggested that the proposed PDS would require stocks between 54

3. The NAC proposal had called for a coverage of 75 per cent of the country's population; 90 per cent in rural and 50 per cent in urban areas. Priority households (46 per cent in rural areas and 28 per cent in urban areas) would have a monthly entitlement of 35 kg at a subsidised price of Rs 1/kg for millets, Rs 2/kg for wheat and Rs 3/kg for rice. General households (39 per cent rural and 12 per cent urban in phase 1 and 44 per cent rural and 22 per cent urban in the final phase) would be entitled to 20 kg at a price not exceeding 50 per cent of the current minimum support price for millets, wheat and rice.

Figure 2 Public stockholding and food subsidies in Indian, 1995–96 to 2012–13



Source: WTO notifications on public stockholding, annual reports of the Food Corporation of India (several years).

and 74 million tonnes and at the prevailing economic costs of operations, outlays of the order of about Rs 90,000 crore. Even at Rs 1 lakh crore for a more comprehensive set of interventions aimed at food security, this constitutes less than 1.27 per cent of the GDP in 2010–11, by no means an alarming proportion. This would constitute an increase in food subsidies, but from levels that were low relative to the GDP (Figure 2).

While the fiscal implications have been discussed, the bone of contention has been the form of support and their ability to reach intended beneficiaries. At one extreme, economists advocate replacing the PDS in its entirety with cash transfers (Kapur et al. 2008; Banerjee 2011; Somanathan 2011) as also the supplementary nutrition component for children in the Integrated Child Development Scheme (Mehrotra 2010). Others have suggested the implementation of cash transfers without dismantling the PDS or moving to a system of food coupons (Basu 2011; Kotwal et al. 2011). An alternative viewpoint emphasises that the solution is to strengthen the PDS and make it more inclusive rather than undermining it, especially given the impressive improvements in its functioning in many parts of the country (Himanshu 2011; Himanshu & Sen 2011; Khera 2011b).

Cash transfers are, in theory, cost-effective because they have lower transaction costs and avoid the problem of having to procure, store, transport and distribute commodities. They also offer beneficiaries the freedom to direct the cash to particular household needs. In the context of food, for instance, this could imply a more diverse diet or better quality grain. Cash is also deemed to have multiplier effects that could potentially support local market development. In the Indian context, most proponents of cash transfers as a replacement for the PDS see it as a cost-effective alternative that is less prone to leakage or corruption. The moot point, however, is how far can these expectations hold in reality and whether cash transfers can serve the central goal of food security. The canvas of empirical evidence suggests that cash transfers might be appropriate for some goals, but not at all for others and their efficacy is highly context dependent (Narayanan 2011). A recent survey of the PDS and people's perceptions of cash versus kind transfers, perhaps the only one available of its kind, provides useful insights into these issues (Khera 2011b). The survey found that in states where the PDS functions reasonably well, an overwhelming proportion of the respondents are in its favour and are averse to a cash transfer system. Overall, more

than two thirds preferred food and less than a fifth preferred cash, with the others either having a conditional preference for one or the other or no clear preference at all. The greatest support for cash transfers was in states where the PDS does not function well, with people suggesting that they would be happy with an equivalent amount of cash. In Bihar, for instance, only a fifth preferred food and over half preferred cash; only 18 per cent of all respondents in Bihar got their full entitlement from the PDS. Interestingly, where the PDS did work well, those who stated that they preferred cash often suggested that for those who were poorer, the PDS was essential.

The political ramifications of implementing cash transfers are also important. There have been arguments made by economists in the popular press touting cash transfers as a political winner (Somanathan 2011). In many contexts within India, nothing could be further than the truth. The portrayal of cheap food aid as mere vote bank politics is not wholly correct either (Kotwal et al. 2011). In states such as Tamil Nadu, the implementation of food-related schemes is an important issue and the demands made by voters on elected governments are often enlightened and sophisticated. For example, in the state of Tamil Nadu, when the All India Anna Dravida Munnetra Kazhagam (AIADMK) lost the Parliamentary elections in 2004, the then newly elected Chief Minister (from the AIADMK) immediately reinstated eggs in mid-day meals and Integrated Child Development Services. One survey respondent in a village in Tamil Nadu said: '*Vote pottu muttai vangittom*' ('We got eggs back into the scheme with our votes')!<sup>4</sup> Similarly, when the Tamil Nadu state government tried to switch to a 'targeted' PDS in 1997, following Central Government directives, it was forced to backtrack in just 4 days. As an observer recently put it: 'no elected government (in Tamil Nadu) will survive for even a day if they tamper with the PDS'. Indeed,

4. Based on the Focus on Children under Six Survey of the Integrated Child Development Services Programme, conducted in 2004, the results of which are reported in CIRCUS (2006).

there are indications that the political process is increasingly incorporative of public demands for food security in a number of states.

The fact remains that by providing assured supply of the most basic food needs at their doorstep, the PDS has become an effective government intervention for food security in rural areas. Respondents received 84–88 per cent of the entitlements and the proportion of those who received their entire entitlements was 75 per cent (and 81 per cent if Bihar were excluded). It is also important to note that both primary and secondary data suggest that recent years have witnessed a turnaround of sorts in the functioning of the PDS, with several states taking substantive steps to overhaul the delivery systems (Khera 2010, 2011a, 2011b; Aggarwal 2011).

This does not however imply that all is well with the PDS. If in-kind delivery is the most effective in achieving the goal of food security, this presumes that it reaches the intended beneficiaries. The estimated diversion ratio was around 54 per cent in 2004–05, declining to 41 per cent in 2009–10, but still disturbingly high. It ranges from as low as 7 per cent in Tamil Nadu to between 85 and 95 per cent in Bihar, Jharkhand, Assam and Rajasthan. The diversion rates declined in almost every state, with big improvements in some: down from 23 per cent to 8 per cent in Andhra Pradesh, from 85 to 47 per cent in Jharkhand, from 76 to 30 per cent in Orissa and from 52 to 11 per cent in Chhattisgarh (Drèze & Khera 2011; also Khera 2011a).

It is not surprising that this variation across states in performance of the PDS is highly correlated with poor performance of other programmes as well. In particular, Bihar, which performs poorly in the PDS also topped the states in perceived corruption in the public sector in general. A silver lining therefore is that there are improvements even in states that have routinely had a poor record in the implementation of welfare programmes. Whether or not this is an enduring trend remains to be seen.

Nevertheless, recent improvements in the functioning of the PDS in select states suggest the possibility of learning from and working towards replicating the ingredients of a well-

functioning PDS in other states. Among states where the PDS functions effectively, a shared feature has been the use of IT-based transparency measures, starting with a simple computerised record-keeping system of the entire supply chain. Combined with Global Positioning System tracking of delivery trucks and Short Messaging Service (SMS)-based transmission of information to users, there are checks and balances that make diversion of foodgrains to the open market very difficult. In Tamil Nadu, consumers can obtain the stocks position via SMS, and in Chattisgarh, the timing of the arrival of the supplies to the fair price shop (Khera 2011b). Tamil Nadu and Chattisgarh also have functional grievance redressal mechanisms. Chhattisgarh has a system for tracking the entire chain from farmer to consumer of PDS grain in its local procurement operations (Dhand et al. 2008, for example). The use of smart cards at PDS outlets in Andhra Pradesh and coupons in Rajasthan for PDS are known to have been effective in curtailing leakages in the 'last mile', although more rigorous research is required to understand the efficacy of these latter measures. Attempts to use technological solutions to curb leakages have been initiated both by the national government as well as by individual states. While the national government's focus has been overwhelmingly on a unique biometric identification project, which would eventually require real-time authentication of the beneficiary, various states have experimented with more user-friendly alternatives like smart cards that work on point of sale devices and using the unique biometric identification merely to weed out duplicates and ghost cards. The Indian experience suggests that it is not merely the more economically advanced states such as Tamil Nadu and Andhra Pradesh that are implementing innovative solutions, but is also often led by the relatively less developed states, Chhattisgarh, for example. There are few studies that evaluate the costs and benefits of these different systems and those that are heavily contested and somewhat controversial.<sup>5</sup>

5. See NIPFP (2012) and Khera (2013) for the debates on the costs and benefits of the unique biometric identifica-

Improving the cost-effectiveness of the PDS is important and can and ought to happen at many levels. The state apparatus for food management in India has long been found wanting in its ability manage food procurement, storage and distribution efficiently (Ganesh-Kumar et al. 2007; Government of India 2001). There must be focus on ways the food delivery system can be overhauled to reduce costs along the supply chain, procurement, storage and delivery, whereas improving traceability. Local procurement of foodgrains, where feasible, is likely to significantly bring down transaction costs. Chattisgarh's experiment with local procurement offers scope to examine the economics of localising foodgrain procurement and the feasibility of restricting long hauls only to transfer grain from food surplus to food deficit regions a geographically expanded procurement shed through decentralised procurement would spread the government presence in foodgrain markets thin, possibly attenuating the distortionary impact of market intervention and would provide opportunities for recasting the plethora of regulations through levies on millers and marketing controls in the major food surplus states.

#### 4. India and the WTO Agreement on Agriculture (AoA)

Even as these important changes are happening in domestic food policy, the implications of the current direction of food policy in India for India's trade relations in the global community are a growing cause for concern. This stems from a perception that in implementing the Food Security Act, India would need to

tion project of the government of India. The former claims that it would yield an internal rate of return of 52.85 per cent to the government, but these are based on assumptions that are challenged. Opponents claim that there are cheaper alternative technologies like the ones several states implement, which are comparably efficacious. For example, a somewhat casual computation suggests that the estimated direct economic benefit of overhauling the PDS procurement and distribution system in Chhattisgarh is about 1.69 times investment, even in the first year of its implementation. All of these estimates tend to be contested on various grounds.

maintain distortionary interventions in domestic foodgrain systems that would breach its international commitments under the WTO AoA, specifically to keep the procurement price support below 10 per cent of the value of production for primary commodities.

The road ahead for India is a tough one. When India filed the base year notifications, India reported the base period reference price in Indian rupees for both rice and wheat, the two commodities that are core of the food procurement and distribution system. The WTO method of computing the indicator for domestic support, called the Aggregate Measure of Support (AMS) uses a fixed external reference price (ERP) pertaining to 1986–88 as a benchmark for assessing levels of price support annually to measure the potential distortionary impact. It is easy to see that this is a deeply flawed measure of trade-distorting support because it allows for neither the changes in world prices, nor domestic inflation nor fluctuations in the exchange rate. It is hard to imagine what the AMS really represents. If India were to report the support for rice and wheat using this ‘mismeasure’ of support, India would appear to have exceeded the *de minimis* of 10 per cent permitted for developing countries way back in 1995–96 for reasons that have little to do with its price support policy and entirely to do with the way AMS is measured as part of the AoA. A closer reflection of the true extent of distortionary potential of India’s procurement policy is presented in Table 1, which adjusts the fixed ERP for inflation or uses a moving ERP. By these measures, it emerges that India’s procurement policy via a support price is far from protectionist, and in fact disprotects rice and wheat farmers as reported for the 1990s (Figure 3). Indeed, in the case of rice, during the peak of the rice price crisis in 2007–08 and after, India’s rice prices domestically did not increase as much, leading to a sharp decline in the price differential. Indeed, when one maps the levels of minimum support price against the cost of cultivation in different states, which is one of the elements forming the basis of the determination of the Minimum Support Price (MSP), it is evident that the MSP does not cover the

costs of cultivation in several states (Figure 4). This suggests that the MSP is unlikely to provide incentives to higher cost producers to continue rice–wheat production. India’s ‘distortionary’ policies have more to do with trade controls than domestic price support interventions. These mainly pertain to export controls that insulate Indian grain markets. It is relevant to note that India renegotiated its bound rates for rice and wheat and set these fairly high at 80 per cent (broken) and 100 per cent respectively. Actual tariff rates exist below these bound rates for wheat. State trading enterprises still control much of the international trade in grains.<sup>6</sup> This conservative approach to international trade is one of the more salient aspects of Indian trade policy.

As India wades into the WTO negotiations following the Bali Ministerial, it will be called upon to defend its food security policies. It is not an easy road, but an appropriate way forward would be for India to leverage existing provisions within the agreement like ‘due consideration’ for inflation or negotiate on the need for a more sensible metric rather than a blanket peace clause to protect the entire range of food policies (Narayanan 2014). India would do well to rationalise its export policy with respect to foodgrains, where India’s idiosyncratic interventions tends to lead to perverse situations of high domestic stocks and high inflation, whereas a more liberal export policy would perhaps serve India’s own interests better.

## 5. Sustainable Nutritional Security

In all of these debates, be it on the procurement, distribution policies or the fiscal implications of the NFSA, so far the overwhelming attention has been on the major cereals, rice and wheat. An ambitious and holistic programme of food security necessarily requires adequate supply of food at the macro level to meet the effective demand of the country as a whole, but also one that ensures superior

6. As part of the review of trade policies in 2011, WTO reports that average tariff protection is 33.8 per cent in agriculture (World Trade Organization 2011)



**Table 1 Support to Rice and Wheat under Different Methodologies**

Year	(1) Fixed ERP (in US\$)		(2) Fixed ERP (in INR)		(3) Inflation adjusted ERP (in INR)		(4) Moving ERP (In US\$)		(5) Total production	
	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat
	Government of India notification method for later years		WTO method as per base year notification (applied to procured volumes)		'Due consideration'		Changing the base year		WTO method as per base year notification (applied to total production)	
1995–96	-55.4	-132.4	38.2	6.8	-29.7	-95.6	-100.6	-82.7	38.2	6.8
1996–97	-10.1	-17.3	6.9	3.0	-3.8	-7.5	-14.1	-5.8	43.5	25.5
1997–98	-10.7	-14.9	8.8	4.3	-4.2	-8.3	-15.4	0.2	46.7	30.6
1998–99	-9.8	-18.0	7.6	6.3	-2.4	-10.0	-8.5	2.6	52.1	35.6
1999–2000	-11.1	-18.0	11.0	7.2	-3.1	-9.8	-3.9	2.8	54.0	39.0
2000–01	-14.3	-22.8	14.0	9.9	-4.8	-13.2	-0.9	1.3	55.7	42.0
2001–02	-13.6	-29.2	13.2	12.2	-5.5	-16.7	-3.5	-3.9	55.7	42.9
2002–03	-12.5	-29.9	13.1	12.4	-5.2	-18.7	-3.7	-3.6	57.3	42.9
2003–04	-11.8	-20.3	15.0	9.6	-7.0	-15.5	-8.3	-3.2	58.1	43.8
2004–05 <sup>†</sup>	-12.0	-20.9	17.5	10.9	-9.8	-19.3	-15.8	-1.7	58.8	44.7
2005–06 <sup>†</sup>	-10.8	-17.0	17.9	9.7	-11.1	-17.9	-17.4	-6.6	59.5	45.5
2006–07 <sup>†</sup>	-9.9	-7.2	17.1	6.4	-8.3	-8.5	-18.8	-6.6	63.6	52.8
2007–08 <sup>†</sup>	-2.7	-0.9	22.0	9.2	0.5	-4.7	-50.7	-4.4	73.9	64.6
2008–09 <sup>†</sup>	3.6	-3.5	26.3	18.9	1.5	-9.4	-30.6	1.3	76.5	67.2
2009–10 <sup>†</sup>	6.1	-4.3	27.5	21.3	0.3	-11.4	-19.6	1.1	76.5	67.8
2010–11 <sup>†</sup>	7.2	-0.7	27.9	18.1	-0.3	-10.4	-23.2	-6.0	78.3	69.7
2011–12 <sup>†</sup>	7.4	0.5	27.0	21.6	1.7	-11.7	-22.1	-5.0	81.2	72.5
2012–13 <sup>†</sup>	9.4	-2.6	32.4	30.5	1.1	-17.4	-17.7	-10.3	82.1	73.8

**Sources and Notes:** The ERP in (1) is that in G/AG/N/IND/7 India's notifications to the WTO and for (2) and (3) as in Schedule XII (G/AG/AGST/IND). For 1995–96 to 2003–04, data for (1) comes from India's notifications to the WTO, for the years after (denoted by <sup>†</sup>) the estimates are derived following the same method with data from the same sources. The fixed external reference price is the 1986–88 average reference price assessed at exchange rate of Rs. 13.409/ US\$ under the original agreement. The applied administered price is the minimum support price in Rs. per tonne expressed in US\$/tonne using the official annual exchange rate—from the Agricultural Statistics at a Glance, 2013 and Economic Survey various years. For MSP, the paddy MSP is converted to rice using a ratio of 1.5, and the marketing and crop years are maintained as in the notifications. Eligible production refers to the procurement volume except for the year 1995–96, which is the year when the URAA came into force; here, it is total production. The source is Agricultural Statistics at a Glance, 2013. The total rice production for 1995–96 is assumed to be the same as eligible production for the sake of consistency. For all other years, it is the actual production from Agricultural Statistics at a Glance, 2013. For inflation-adjusted estimates, the WPI has been used to adjust the reference prices. For moving reference price, the external reference prices are from World Bank Pink Sheets, Thai 25 per cent broken for rice and US HRW for wheat. The inflation rate uses WPI (all commodities) for financial year applied to the base ERP from the Economic Survey (various years). The estimates are imprecise because the marketing year and financial year might not coincide.

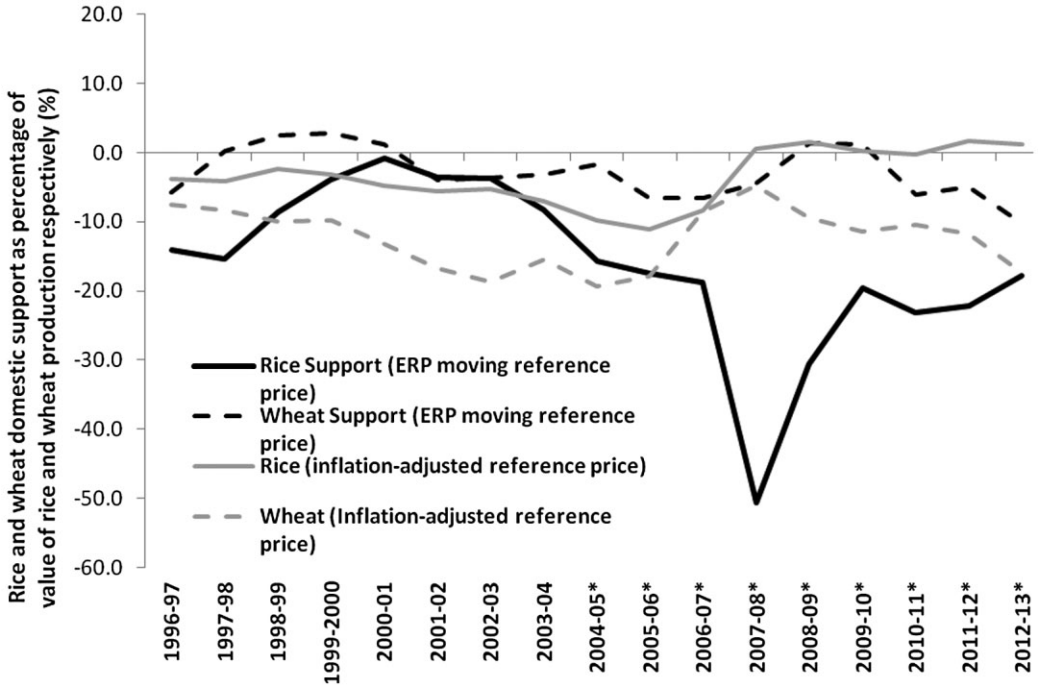
ERP, external reference price; INR, Indian Rupees; URAA, Uruguay Round Agreement on Agriculture; US HRW, United States Hard Red Winter; WPI, Wholesale Price Index; WTO, World Trade Organization.

dietary quality. The official definition of food security embraces nutrition; in fact, the accepted definition is of food security and nutrition and not just food security, as per the Committee on Food Security, a 192-country UN committee. 'Likewise, although the NFSA specifies these two separately, 'to provide for food and nutritional security in human cycle

approach. . . ' and repeatedly emphasises policy tools to address the nutritional security in the arena of public debate, these issues have largely slipped through the cracks.<sup>7</sup>

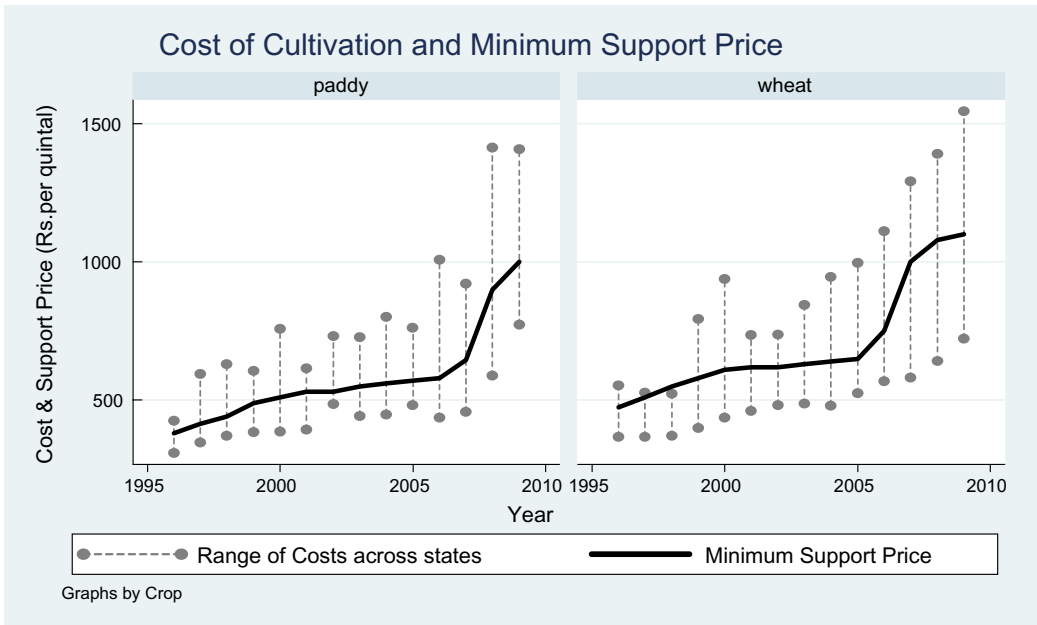
7. For example, nutritional security for children is outlined in chapter II, sections 5 and 6 (The National Food Security Bill 2013).

Figure 3 Price Support to Rice and Wheat (Moving reference price and inflation-adjusted reference price)



Note: See Table 1 for details on computation.

Figure 4 Cost of Cultivation and Procurement Price Compared, 1995–2010



Note: Range of Costs across States (Indian Rupees per Quintal). Minimum Support Price (Indian Rupees per Quintal).

Further, there is increasing convergence in views today that food imports, even if feasible, are not a viable option either economically, politically or strategically. Past attempts of the Government of India to import wheat, in 2000 and 2006 for instance, demonstrated the difficulties of procuring ample quantities of the quality and price required in the international market. Recent world price increases have shown that the greater the self-reliance of a country, the more leverage the country has to protect itself against world price rises.

Both these challenges, of addressing nutritional security as well as that of reducing dependence on unreliable world markets demand focussed effort on two fronts; it is simultaneously a challenge for domestic agricultural production and agricultural price policy. While domestic production of foodgrains allows room to support food-based interventions as envisaged in the NFSA, there is no room for complacency. State procurement would be to the tune of close to a third of foodgrain production. In the coming years, with rapid structural change in cropping patterns influenced by changing demand patterns, food availability through domestic production would ideally have to come from productivity improvements in agriculture. Yield gaps between India and the world average continue to be significant, and there is scope to augment food production. For example, rice yield in India for the triennium ending (TE) 2007 was just over three fourths of the world and Asian averages and about half of that in China. Wheat yields were less than 60 per cent of China's, but 94 per cent of the world average for TE 2009. In the long run, leveraging productivity gains to support food security measures would be appropriate since it would minimize the disincentive to diversify into the production of other crops that would provide diverse diets while relieving constraints on food availability. A spatial expansion of the procurement shed, as opposed to the current concentration, is desirable for the same reason. With the spectre of climate change and the concomitant impact on agricultural production, there is a growing view that there must be a refocusing of priorities to leverage local

agro-food systems to address nutritional concerns. A variety of approaches is available to build an agricultural system that is sensitive to nutritional concerns, specifically to address widespread micronutrient deficiencies such as iron deficiency anaemia or vitamin A. The simplest way is to strengthen the various food-related schemes targeted at children under the age of 6 years through child-care schemes, school meals programmes and those targeting adolescent girls and women. There is much that is happening in India in this direction already. This is an area that calls for creative thinking and focused effort.

## 6. Concluding Remarks

The imperative of food security in India is now widely acknowledged, but deep disagreements persist on the best way forward. The year 2014 saw the passing of the NFSA designed to be a comprehensive set of interventions support food security over the life cycle of an individual. Although detractors perceive this to be an expensive and largely wasteful exercise that hinges on a faulty mechanism for procurement and distribution via fair price shops under the PDS, supporters suggest that this is the best way to ensure food access in many contexts in rural India. The immediate challenges for India lie in revisiting operational aspects of food procurement and distribution for a more cost-effective and nimble system. On the international front, as India seeks to defend its food policies in the WTO, rather than seeking protection for its policies, India should seek to leverage provisions within the AoA and negotiate for changes in some of the most problematic aspects of the AoA involving the metrics for computing indicators of trade distortionary support. It seems unnecessary for India to seek special protection for its food policies, nor to hold on to its record of restrictive trade policy. These steps need to be in tandem with continuing efforts at augmenting food production and diversification in sustainable ways. Given the gamut of issues facing India today, it appears that India would have to privilege the former two issues

over the latter, where India is making steady progress already. The very challenges India faces also provide important opportunities to reconfigure its food security policies in meaningful ways.

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The opinions expressed in the Policy Forum are those of the author(s) alone and do not necessarily reflect those of the Journal's Editors and partners.

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