

Asia Research Centre Working Paper 2

**CONSUMER FOOD SUBSIDIES:**

**WHAT NEEDS TO BE DONE IN INDIA?**

**Dr Madhura Swaminathan**

## CONSUMER FOOD SUBSIDIES: WHAT NEEDS TO BE DONE IN INDIA?

Madhura Swaminathan<sup>1</sup>

### 1. Introduction

The motivation for this study of consumer food subsidies comes from two observations on India. First, in India today, hunger and malnutrition are widespread, and there are areas of the country where deaths by starvation occur every year. While the country has been successful in averting large-scale famines, the problem of chronic food insecurity is enormous. Average cereal consumption per capita is low and has declined since the 1950s from 17 kgs a month in 1952 to 13 kgs in 1993-94. Per capita cereal availability has fallen since the fiscal crisis of 1991; it declined from 510 grams per capita per day in 1991 to 468 grams in 1992, and the provisional figure for 1996 is 498 grams. The National Family Health Survey collected data on the extent of malnutrition in 24 states in 1992-93 and found that 53 per cent of children in the age group 0-4 were undernourished in terms of a weight-for-age criterion. Furthermore, 21 per cent of the children surveyed were severely undernourished, that is, fell below three standard deviations of the norm. The situation is as grim in terms of adult nutrition. If the Body Mass Index is taken as an indicator of malnutrition, in 1988-90, 48.6 per cent of adults were malnourished (Shetty and James, 1994).<sup>2</sup>

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<sup>1</sup> This paper is part of a larger ongoing project on Consumer Food Subsidies that I have been working on during my fellowship at the London School of Economics. I am grateful to the Ratan Tata Foundation for funding my fellowship and to the Asia Research Centre for providing the institutional support. Some of this material was presented at a seminar organised by the Asia Research Centre, and I am grateful to the participants, particularly Meghnad Desai, Athar Hussain, Haris Gazdar and Uma Kambhampati for their comments. I have also received useful comments from Jean Dreze, Judith Heyer, Jos Mooij and Ashwini Saith. I thank V. K. Ramachandran for his advice, comments and encouragement.

<sup>2</sup> These are the results of a survey undertaken by the National Institute of Nutrition.

The fact of widespread hunger and malnutrition demands that the question of food security be given specific and immediate attention. We need to be concerned specifically with food poverty and food adequacy in addition to a general concern with raising well being and providing minimum social security. Food security, here, is defined as access for all people at all times to food that is sufficient to lead an active and healthy life.<sup>3</sup>

This brings me to the second observation. In the last few years, and particularly after the fiscal crisis of 1991, reduction in subsidies including food subsidies has been at the centre of much of the discussion on policy changes in India. Across the world, a reduction in food subsidies has been one of the controversial components of programmes of structural adjustment (Taylor, 1988).<sup>4</sup> Statements by policy makers, advisers, and other economists frequently refer to the “burden of subsidy”, “phased withdrawal of subsidy”, and so on.<sup>5</sup> To help the poor, it is then argued that more and better targeting is required. In short, the policy discussion appears to be focused only on the goal of reducing subsidies and by means of targeting. My research on this subject began with unease at the simple formulations in the policy debate.

## 2. Types of food subsidy

The major type of food subsidy prevalent in India is rationing of cereals and other basic items of consumption. Rationing refers to the provision of a quota or ration of specified commodities at free or low prices. Prior to evaluating the system of rationing, it is worth noting the other ways of providing food subsidies.<sup>6</sup> Many

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<sup>3</sup> On definitions of food security, see Clay (1997).

<sup>4</sup> See, also, Pinstup-Andersen *et. al.* (1991).

<sup>5</sup> See, for example, Bhagwati and Srinivasan (1993).

<sup>6</sup> See, for example, Ahmad (1993) and Alexandratos (1995), Bigman (1985).

countries operate a system of generalised price subsidies that lower the absolute and relative price of selected food items. Another alternative is to provide food stamps or other forms of tied income transfers that allow the purchase of selected commodities of fixed nominal value. Rations and food stamps are also referred to as targeted subsidies, that is, they are limited (either in real terms or in nominal terms) as compared to generalised price subsidies. Food subsidies can be given through supplementary feeding programmes such as school lunches or by means of food-for-work type employment programmes where wages are paid in kind. Note that not all the schemes provide a commodity-based transfer or subsidy. Only three alternatives, rationing, supplementary food distribution and food-for-work, involve in-kind transfers.<sup>7</sup>

Let me briefly outline a rationale for rationing and also point out the strengths and weaknesses of the main alternative, food stamps.

Rationing involves the allocation of fixed quantities of a commodity at a reasonable price. Rationing is typically undertaken in a situation where there is a scarce commodity or a commodity in short supply and where everyone or a large numbers of persons need to get a minimum quantity of that commodity. What are the advantages or disadvantages of rationing or a system of quotas in kind over the price mechanism, that is, distribution through the market? First, as rationing involves in-kind transfers, there are a set of arguments that relate to the conditions under which in-kind transfers may be preferred to cash transfers. These include paternalism, merit good arguments (that relate to the intrinsic value of the good), or better targeting (that is, if it is easier to target with the use of commodity transfers rather than cash).

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<sup>7</sup> There can also be subsidies for trade but I shall not be concerned with those here.

Secondly, a very simple and powerful argument based on the distribution of needs and incomes was made by Martin Weitzman in a paper titled “Is the Price System or Rationing More Effective in Getting a Commodity to Those Who Need It Most?” (Weitzman, 1977). I shall summarise his argument, as it seems relevant to the situation in India. The key feature of allocation of a good by means of the market is that it depends on incomes. Assuming fixed prices and unlimited supply, the amount a person buys depends on her income subject to tastes. The distribution of income is thus crucial to the distribution of a commodity through the market mechanism. This is the first assumption made by Weitzman. When a commodity is scarce, distribution become even more important as persons with higher incomes can bid up prices and purchase the commodity. The second important assumption made by Weitzman is that “there is a class of commodities whose just distribution to those having the greatest need for them is viewed by society as a desirable end in itself” (*ibid.*, p 518). In other words, there are commodities that all persons need and that they should be able to obtain even if their income is low. Clearly, food is one such commodity as food is essential for survival, and a just society would desire that all its members have adequate food. Based on these two features, Weitzman presents a model where demand for a good depends on prices, needs, and income or the marginal utility of income.

The main result is that if the distribution of income is relatively equal and wants are dispersed then the price system is preferable to rationing. However, if income inequality is high whereas needs are uniform or similar then rationing is a better way of distributing the scarce commodity. If both needs and incomes are equally distributed then it doesn't matter as to which allocation mechanism is used. To put it differently, when everyone requires a minimum of food and when incomes

are distributed very unequally, then the allocation made by the market is likely to be inferior to the allocation under rationing.

In standard price theory the question of income distribution is ignored, and if a change is required, it is assumed that lump-sum transfers can be made. However, compensating transfers are never paid and not practical. Therefore, for commodities such as food, it is important to examine alternatives that are not dependent on exogenous changes in income distribution.

In my view, the core of Martin Weitzman's arguments for rationing is applicable to India today. First, there is a very high degree of inequality in India. When measured in terms of income, this is reflected in the high incidence of poverty and income concentration at the top, among the highest 1 or 5 per cent of the population. In rural areas, the distribution of land is highly unequal with a large proportion of the population being landless. Thus, there is a relatively uniform demand for basic staples but income or the capacity to acquire basic foods is distributed unequally.

Another feature of the Weitzman model was the assumption of a fixed supply of the desired commodity. Is this a relevant assumption in India? First, in the short run, one can assume that the supply of food is fixed. Secondly, although there is a surplus of food grains in terms of a large buffer stock, it is on account of low effective demand. Domestic production in India is just adequate to feed her people if actual demand were realised.<sup>8</sup> Thirdly, given current prices and incomes, a large proportion of the population is unable to meet its food and nutrition requirements.

Food stamps are tied income transfers. The rationale for giving food coupons rather than cash is that the propensity to consume food (or food expenditure) out of

food stamp income is higher than it is out of a general cash transfer. There is evidence, particularly from developed countries, supporting this assumption.<sup>9</sup> The evidence from developing countries is more limited and ambiguous (Pinstруп-Andersen, 1993).

The advantage of food stamps over rations is that governments need not enter into the distribution of commodities when food stamps are issued. The existing marketing network can be used for delivery. However, food stamps do require a complex system of administration, and in particular, of reimbursement. Retailers have to accept the food coupons and be able to redeem them in an easy way. A good banking network, for example, is required to run the programme.

From the perspective of food security, the biggest limitation of food coupons is that they are typically fixed in nominal values, and do not protect the consumer from inflation. Food stamps do not protect consumers from fluctuations in food prices and do not ensure the physical availability of the specified commodities. If prices increase then the real value of the coupon falls. In fact it is this property of food coupons that makes it attractive to those concerned with fiscal expenditure reduction and reducing the value of food subsidies. In theory, the value of the coupons could be modified regularly to keep up with inflation (and this is in fact attempted in the United States). In practice, in developing countries, it is very difficult to re-value food coupons on a regular basis and in line with inflation.

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<sup>8</sup> Assuming 180 million tonnes of food grain production, and deducting about 30 million tonnes for seed, feed and wastage, the remaining 150 million tonnes would be just sufficient to provide 150 kgs a year or 410 gms a day to a population of 1000 million.

<sup>9</sup> In a study of the United States, Senauer and Young (1986) found that the marginal propensity to consume food with respect to money income was 0.05 as compared to a marginal propensity of 0.327 with respect to food stamps in 1978.

### 3. Targeting versus universal transfers

The question of targeting has become central to the debate on welfare reform in all countries. The main argument in favour of targeting is that of a reduction in fiscal expenditure. Given a fixed budget, it is argued that there can be a larger unit transfer if fewer persons are included. This, however, is a simplistic argument and when the many costs of targeting are taken in to account, the case for targeting becomes ambiguous.

Targeting has many costs attached to it, and these depend on the following factors.<sup>10</sup>

1. Rights or entitlements: The provision of certain goods or services may be viewed as a universal right or entitlement.
2. Targeting errors: Type I errors (or errors of wrong exclusion) and Type II errors (or errors of wrong inclusion). A universal scheme has large errors of wrong inclusion (that is, including the rich). The more fine the targeting, however, the more the likelihood of Type I errors (that is, of wrongly excluding the needy).
3. Incentive and information distortions: To qualify for a targeted programme, participants may distort information or their incentives may be altered.
4. Cost of administration: Targeting raises the costs of delivery and administration.
5. Social stigma and cohesion: Participation in a targeted scheme may be associated with stigma and reduce social cohesion.
6. Loss of quality: Programmes for the poor tend to become programmes of low quality.
7. Participation costs: Initial costs are usually higher for participation in a targeted programme than in a universal programme.

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<sup>10</sup> See, for example, Sen (1992, 1995) and Burgess and Stern (1991).



8. Political support. Targeting may reduce political support for a programme, and reduced support can result in lower allocations for a targeted programme. To put it differently, if the budget support for a programme is made endogenous, then targeting may be worse for the poor than a system of universal transfers.<sup>11</sup>

The difficult issue is to weigh the costs and benefits of universal and targeted transfers, and specify a method for choosing between them.<sup>12</sup> A review of the literature shows that there are some strong arguments for universal transfers. They come from the perspective of rights, from social concerns like cohesion, from concerns for political support, and from concerns for participation and the costs of exclusion. The main counter-argument is usually made in terms of fiscal savings. So, the first issue to be resolved is the trade-off between fiscal objectives and welfare objectives.<sup>13</sup> Is there really a trade-off? The trade-off is relevant in the short-run as targeting narrowly can lower costs. However, and this is the crux of the argument, in the long or medium-run and when all costs are measured and valued, universal transfers may be more cost-effective.<sup>14</sup>

An important point that is often missed is that a universal programme may not provide uniform benefits to all participants. A universal service, for instance, might be financed by selective taxes and when the total effect of taxes and transfers is examined the provision of the service is no longer uniform for all participants. In fact, when the costs of targeting are high, there is a good case for universal provision accompanied by tax claw-backs from the rich.<sup>15</sup> Or, when the target group is large, it

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<sup>11</sup> The counter-factual to a universal transfer may not be the same budget targeted to the poor but a lower budget or even no transfers at all.

<sup>12</sup> If, for example, the goal is providing food security to all vulnerable individuals, it leads right away to an emphasis on errors of wrong exclusion.

<sup>13</sup> See Sen (1996).

<sup>14</sup> Although the literature on comparisons of alternative welfare programmes is limited, the conclusion of most studies is that the benefits of targeting over universal transfers are quite limited, if any (Lipton and Ravallion, 1995).

<sup>15</sup> See Cornia and Stewart (1993).

makes sense to provide benefits universally and then to claw-back benefits from the rich through taxes. In other words, looking at subsidies and taxes together can give a very different picture of the incidence of benefits.

Ideally, one needs a case by case analysis. In a given country and for a specific programme and goal, all the costs of targeting need to be listed. Based on the policy objectives, weights can be attached to the different types of costs and benefits. Lastly, the administrative and political feasibility of the programme needs to be assessed.

In my view, in a country like India, there is a strong case against narrow targeting and in favour of broad targeting or near-universal provision. The first argument against narrow targeting is based on the scale of food poverty and insecurity. When food insecurity is widely prevalent, the leakage from a universal programme will be small and the benefits of targeting will be limited.<sup>16</sup> However, if food insecurity is low, and food subsidies need to be provided to a small section of the population then targeting may be useful. Secondly, when there is mass hunger, priority must be given to welfare in terms of nutritional outcomes, and the errors of wrong exclusion and associated costs of targeting can be high in such circumstances. Broad targeting is more inclusive and likely to lower the costs of wrong exclusion. In practical terms, broad targeting may require universal provision and claw-back via taxes.

#### 4. The scale of food subsidy

This section examines the scale of food subsidies in India, its component parts, and how they have changed over time. Note that there are four major forms of intervention by government in food grain markets in India. First, there is a system of

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<sup>16</sup> Chung *et. al.* (1997). See, also, Swaminathan (1996) and van de Walle (1995).

public procurement of food grains. Secondly, the state manages food stocks through storage and buffer stock operations. Thirdly, there is a state-guided system of delivery of cheap food or the public distribution system (PDS). Fourthly, government intervenes in trade, and there are legal controls on hoarding and other aspects of internal trade and restrictions on external trade. Direct interventions in procurement and distribution are undertaken by the Food Corporation of India (FCI) on behalf of the central government.

Data on food subsidies refer to the budgetary allocation under the heading “food subsidy” that are reported in the annual budget documents of the central government. This subsidy is the operational deficit of the Food Corporation of India.

First, I examined changes in the food subsidy in current prices, constant prices (deflated with the GDP deflator), as a proportion of GDP and as proportion of government expenditure over the last 30 years, 1966-67 to 1995-96. See Graphs 1 and 2. At constant prices, the expenditure on food subsidy rose in the mid-1980s and then remained unchanged till about 1989-90. There was a dip between 1990-91 and 1992-93 followed by a rise in 1993-94. Food subsidies fell slightly in the following years but were higher than in the 1980s. However, when we look at food subsidy as a share of GDP then it appears to have been more or less unchanged over the last 20 years with a peak at about 0.67 per cent of GDP in 1993-94 and 0.6 in 1985-86. Interestingly, as a share of government expenditure, food subsidies were higher in 1976-77 than in 1993-94.

There are two significant points to note. First, in terms of a long-term trend, food subsidies as a share of GDP have not changed very much over the last twenty years. In other words, the “burden” of food subsidy has been unchanging.

Secondly, the food subsidy bill in India is not very high as compared to expenditures in other developing countries. In Sri Lanka, after the introduction of means-tested food stamps, and a steep reduction in food subsidies, they still accounted for 1.3 per cent of GDP (in 1984), or roughly twice the proportion in India (Jayawardena *et. al.*, 1988). In Mexico, in 1984, when general food subsidies had been eliminated, food subsidy was 0.63 per cent of GDP (Pinstrup-Andersen *et. al.*, 1990). In Egypt in 1982, the expenditure on the food rations was about 15 per cent of GDP (Subbarao *et. al.*, 1997). In Tunisia, food subsidies were around 4 per cent of GDP in 1984 and after targeting they were reduced to around 2 per cent of GDP in 1993 (Tuck and Lindert, 1996). In India, over the 29 year period, 1966-1995, food subsidy was, on average, 0.42 per cent of GDP and 2.5 per cent of central government expenditure. These numbers are important, to paraphrase Nora Lustig's comment on Mexico, because they show that even eliminating food subsidies totally will not solve the fiscal problems of the government (Lustig, 1992).

The discussion on the scale and desirability of the food subsidy assumes that consumers are the beneficiaries of the total food subsidy bill in the central budget.<sup>17</sup> This is not so as will be seen from an examination of the components of the aggregate food subsidy.<sup>18</sup> As mentioned above, the food subsidy as defined in the government budget includes the entire deficit of the state-owned Food Corporation of India (FCI). The FCI was set up in 1964 to be the sole agency in charge of procurement, storage, transport and distribution of food commodities. The four major items of food that are handled by the FCI are rice, wheat, imported edible oils and sugar. Now the total central food subsidy (as shown in the Graphs) includes the subsidy on sugar, and this is likely to vary in different years. In 1993-94, for example, about 86 per cent of the

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<sup>17</sup> See, for example, GOI (1997b).

<sup>18</sup> Material in this section is drawn from Gulati *et. al.* (1997) and World Bank (1996).

total food subsidy was on account of the cereal subsidy. The incidence of benefits from the sugar subsidy is likely to be very different from the incidence of benefits of the cereal subsidy as the pattern of expenditure on these commodities is going to differ across income classes.

Turning to the cereal subsidy, two components can be distinguished. First, there is the difference between the sale price of cereals (mainly rice and wheat) and the economic cost of sale (that is, the procurement cost plus the costs of distribution). This component can be termed the consumer subsidy, as the price to consumers is lower than the total economic cost. Secondly, there are the costs associated with maintaining buffer stocks including handling costs, costs of storage, interest payments and administration. Data from the FCI performance budget show very clearly that the subsidy incurred on carrying costs and on holding stocks for buffer stocking operations rose rapidly in absolute and relative terms in the 1990s (Table 1). The latter accounted for 12.3 per cent of the total cereal subsidy in 1992-93, 28 per cent the following year and 44 per cent in 1994-95. In other words, by 1994-95 only half the cereal subsidy bill went towards the consumer subsidy component.

Further, if sales of cereals by the FCI are examined, they include sales to the PDS and to special tribal area and employment programmes but also sales in the open market and exports (World Bank, 1996). The share of the first type of sales, that is direct distribution to domestic consumers, in total cereal subsidies was 94 per cent in 1990-91 and had fallen to 63 per cent in 1995-96 (*ibid.*). However, consumers do benefit from the latter to the extent that open market sales keep market prices in check.

To sum up, a large and growing share of the subsidy reported in the budget is not going directly to consumers of food grains.<sup>19</sup> First, a share of the food subsidy is not on account of cereals. Secondly, a substantial component of the cereal subsidy is spent on buffer stock operations.

Lastly, since most research shows that food subsidies have positive effects on consumption and nutrition, it is worth underlining the productive impact of the subsidy. If, for example, better nutrition lead to higher productivity, then it may be incorrect to view the subsidy as an unproductive item of expenditure.

##### 5. The Indian system of public distribution of food or the PDS

The PDS is a rationing mechanism that entitles households to specified quantities of selected commodities at subsidised prices. In most parts of the country, the PDS is universal and all households, rural and urban, with a registered residential address are entitled to rations. Eligible households are given a ration card that entitles them to buy fixed rations (varying with household size and age composition) of selected commodities.<sup>20</sup> The six essential commodities supplied through the PDS nationally are rice, wheat, sugar, edible oils, kerosene and coal. Additional commodities like pulses, salt, tea are supplied selectively. The commodities are made available through a network of fair price shops. In 1994, there were around 0.42 million fair price or ration shops in the country (0.32 million in rural areas and 0.99 million in urban areas). These shops were run by private agents, co-operatives and a few were state-owned. An important feature of the PDS is that the responsibility for

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<sup>19</sup> In 1993-94, for example, of the total budgetary subsidy of Rs 55370 million, only Rs 44193 million was on account of cereals. The consumer subsidy on cereals accounted for Rs 31739 million and only 86 per cent of this, that is Rs 26566 million, was accounted for by sales to PDS and other poverty alleviation programmes.

<sup>20</sup> In some rationing systems, households are issued ration coupons instead of a ration book. See, for example, Boone *et. al.* (1997) on Iraq and Croll (1983) and Hussain (1993) on China.

implementation, monitoring and for enforcement of legal provisions relating to public delivery rests with the state governments.

The quantity of food grains distributed through the public distribution system is shown in Table 2. On average, between 1985 and 1995, annual procurement was 20.5 million tonnes and 17 million tonnes were distributed in the PDS. On average, the grain distributed in the PDS accounted for 11.8 per cent of net availability. In the 1990s, however, the amount distributed through the PDS has fallen steadily, from 13 million tonnes in 1991 to 9 million tonnes in 1995. This fall in distribution has been accompanied by a rise in stocks, and excessive holdings of stocks. One of the reasons for this fall in purchases from the PDS is the narrowing price differential between PDS and market prices.

The following section discusses some of the main failings of the present system of distribution. Regional differences, however, are so marked as to make it difficult to generalise at the all-India level. The importance of regional variations is brought out in Section 5.2.

### 5.1 Failures of the PDS

There is little doubt that the PDS as it functions today has failed, in most parts of the country, in providing cheap food and food security to vulnerable households and individuals and needs to be restructured and strengthened. The major problems with the PDS are:

1. The poor have very limited access to the PDS.
2. The quantity of food grain transferred is small.
3. Prices of PDS commodities are neither low nor stable.

4. Consumers are not the main beneficiaries of the food subsidy borne by the government.

Let me elaborate on each of the first three points, and in doing so, I shall bring out some of the regional contrasts.<sup>21</sup> In all features of the PDS, there are significant variations across states. In particular, Kerala stands out as having the most successful PDS in India, followed by Andhra Pradesh. And the two northern states of Bihar and Uttar Pradesh stand out as having the least effective PDS.

(i) How many households use the PDS? Is coverage low? Is utilisation or participation progressive?

At the national level, the only survey of the utilisation of PDS is that undertaken by the National Sample Survey (NSS) in 1986-87. Kirit Parikh analysed the data from the 1986-87 survey for all states and by household expenditure classes and reported the proportion of households who made no purchases of grain from the PDS (Parikh, 1994). Among those who bought grains from the PDS, two categories were demarcated; those for whom PDS grain accounted for total purchase of grains and others for whom it accounted for only part of their purchase of grain.

Table 3, taken from his paper, shows the results for the rural population. In Uttar Pradesh and Bihar, around 98 per cent of the rural population did not purchase any grain from the PDS, that is, did not utilise the PDS. To put it differently, the PDS only reached around 2 per cent of the population. In Kerala, by contrast, over 87 per cent of the population purchased grain from the PDS. Eight per cent purchased only from the PDS store whereas 79 per cent purchased from the PDS and the open market. Among the smaller states, utilisation of the PDS was high in Mizoram (93.6 per cent)

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<sup>21</sup> The last point has already been discussed in Section 4.



and Goa (79.6 per cent). In the two southern states of Andhra Pradesh and Tamil Nadu, around 55-60 per cent of the population was covered by the PDS. Table 4 shows the findings for the urban populations. Again, the picture is very similar with 87 per cent of the population in Kerala utilising the PDS and 93 per cent of the population in UP and Bihar not making any purchase from the PDS.

Two conclusions can be drawn from these findings. Firstly, the PDS is highly differentiated across states and one has to be very careful about making generalisations at the national level. Secondly, the coverage of the PDS is very limited in most states of the country with the exception of Kerala, Goa and Mizoram. In other words, the PDS is not reaching the vast majority of the population.

Although overall coverage is low, there is some evidence from village studies that utilisation is progressive in states where coverage is more extensive.

There is some interesting evidence from two village studies that I undertook in Maharashtra. Since data on incomes are not easy to collect, I used ownership of land to identify rich and poor. Data from the first village, Mohakal, located in Pune district show that the richest households, defined as those with over 2.5 acres of irrigated land, did not make any purchases from the PDS in the reference month. Among those with 1 to 2.5 acres, 61 per cent did not utilise the PDS as compared to 44 per cent among those with less than one acre. In other words, as land ownership rose, the proportion of household utilising the PDS fell. However, there was also exclusion at the lowest end: 47 per cent of landless household did not utilise the PDS. If we plot utilisation of the PDS against land ownership, the graph is like an inverse J (it first rises and then falls sharply; see Figure 1). However, average quantity of cereals purchased from the PDS in the reference month fell as the size class of land holding rose.

I define the error of wrong inclusion as the proportion of rich who purchased cereals from the PDS in the reference month. For this, in Table 5, all households with more than one acre of irrigated land were classified as rich (a rather generous definition of rich). Since the PDS is universal, we expect the error of wrong inclusion to be very high. However, the error of wrong inclusion was quite low, at 31.8 per cent. On the other hand, 45.9 per cent of the poor were excluded from the system. The scheme was universal in principle but in practice, the rich did not use it and some of the very poor could not use it, and the error of wrong exclusion was higher than the error of wrong inclusion.

In the second village, Akhar, a poorer village populated completely by people of the scheduled tribes, the distinction between rich and poor is less clear. If households with more than 5 acres of unirrigated land are defined as “not poor” (there was no irrigation in the village) then the error of inclusion was 54.8 per cent and the error of exclusion among the poor was 51.2 per cent. However, the “not-poor” households are also vulnerable to food insecurity, as they are not able to make a living from agriculture and rely on migration and remittances for large parts of the year.

A set of village studies was undertaken recently in four states as part of a UNDP project on human development (see World Bank, 1996). In Bihar, there was no purchase of cereals from the PDS in any of the villages studied. In Uttar Pradesh, a similar situation was observed in 3 out of the 4 villages studied. In Kerala, monthly purchases of cereals per person ranged between 2.7 and 4.7 kgs in the four villages studied. In all but one Kerala village, households in the highest expenditure class did not buy any cereals from the PDS. In Andhra Pradesh too, there was some progressiveness in the purchase of cereals from the PDS. In three villages, households in the highest expenditure class did not utilise the PDS, in a fourth village their

purchases were quite small, and only in the fifth village, there were large purchases by households in this group. It is important to remember that even the highest expenditure class is defined at a relatively low cut off in terms of absolute level of expenditure. In short, in states with low coverage, the poor had little access to the PDS. In states with high coverage, the PDS was utilised more by the poor than by the rich.

(ii) Quantity distributed or purchased from the PDS

Using state-level data, one can identify the total quantity of food grains sold through the PDS in different years, and calculate the per capita purchase (or “offtake” in official language). Table 6 shows the total and per capita cereal offtake in 1993-94. In terms of total quantities, the highest quantity of cereal distributed was in Andhra Pradesh followed by Kerala. In per capita terms, Kerala was the undoubted leader. Table 7 shows the per capita cereal offtake in 1981 and 1991 in selected states. Even in 1981, the food grain offtake per person was highest in Kerala (47 kgs) and lowest in Bihar (8 kgs). By 1991, there were some interesting changes. Kerala was still distributing the highest quantity per capita, over 70 kgs of grain per person per year. In Andhra Pradesh, there was a huge increase in offtake, of 234 per cent, between 1981 and 1991, from 11 kgs to 37 kgs per person per year. In Uttar Pradesh and Bihar, there was a decline in per capita offtake, of around 13 per cent, between 1981 and 1991.

Parikh (1994) estimated purchases for different expenditure fractile groups for selected states using the NSS data for 1986-87. His estimates for the population in the lowest two expenditure deciles are shown in Table 8. In Andhra Pradesh, Kerala and Tamil Nadu, the share of food grains distributed to the lowest 20 per cent of

households was close to their population share. In Uttar Pradesh and Bihar, however, persons in the lowest 20 per cent got a disproportionately low share of cereals sold in the PDS. As the PDS is a universal program in most states, a targeting effectiveness ratio of around one is to be expected. The ratio was around one or greater than one in 15 of the 24 states surveyed (including Kerala and Andhra Pradesh; Table 9).

A survey of users of PDS in Kerala, conducted in 1987, showed that dependence on ration shops was higher among relatively poor households. Beneficiaries who earned less than Rs 100 a month purchased 71 per cent of the amount of rice that they were entitled to from the ration shop, while beneficiaries with monthly incomes over Rs 3,000 purchased only 6 per cent of their quota (Ramachandran, 1995).

(iii) Prices.

In recent years, there has been a steep increase in prices of food grains sold through the PDS and the objective of providing cheap food has been undermined. Between 1990 and 1994, the central issue price of the common variety of rice rose 86 per cent and that of wheat rose 72 per cent. During the same period, the Consumer Price Index for Agricultural Labourers (CPIAL) rose by 53 per cent. In other words, the cumulative increase in prices of major food grains sold in the PDS was higher than the increase in general price indices. In some states like Maharashtra, the inflation in PDS prices was even higher.<sup>22</sup> Not surprisingly, the price difference between the open market and the PDS has narrowed in recent years and is negligible in some cases.

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<sup>22</sup> For further details, see Swaminathan (1996).

To conclude, it is evident that the PDS has failed in large parts of the country, and that it needs to be restructured to be an effective tool of food security. Large numbers of poor are excluded from the PDS. The quantities supplied are generally inadequate and prices have risen rapidly in recent years. The PDS is badly administered in many states with large-scale diversion of grain, wastage, low quality and unreliability of provisioning.

## 5.2 Regional variations and the Kerala model

Kerala, as is evident, is the only state in India with a successful PDS and with a near-universal coverage of the PDS. Kerala is in a class of its own both in terms of utilisation of the PDS and in terms of the quantity of food grain distributed. Delivery of food grain would have to increase substantially if other states were to follow the Kerala example and provide a reasonable quantity of food grain through the ration shops.

The establishment of an effective PDS in Kerala was the outcome of a strong people's movement for food. As E. M. S Namboodiripad stated in an interview a few years ago, "we, through our *kisan sabhas* (peasant organisations), trade unions and other mass organisations, insisted on procurement from landlords and distribution through fair price shops. Because of our pressure, and because of the administrative need of the British Government itself, they set up ration shops" (Ramachandran, 1998). The expansion of the PDS in the mid-1960s was again due to political pressure. The demand for food and, specifically, for distribution of cheap grains through ration shops, was an important political demand raised by the Left in Kerala, and even the Congress (I) government at the Centre agreed to support the policies and demands of the government in Kerala. The political demand for food, reflected in

mass protests and struggles, was thus critical in establishing and strengthening the PDS.<sup>23</sup>

The differences in coverage across states have been wrongly interpreted as a case of “regional mistargeting” (World Bank, 1996).<sup>24</sup> Even though some parameters of food distribution are determined by the central government, the state governments make final decisions on policy (including on quantities, prices and coverage) and on implementation.<sup>25</sup> The diverse experience of states and the relative success of Kerala show that strong political support is essential for establishing and maintaining an effective system of food security.

## 6. Policy Reform

Since 1991, several unsuccessful attempts have been made to reform the PDS. The Revamped PDS introduced by Prime Minister Narasimha Rao in 1992 was a failure and the Targeted PDS introduced by Prime Minister Deve Gowda in January 1997 is likely to worsen food security among the poorest of households.<sup>26</sup> I have discussed these changes elsewhere (Swaminathan, 1996, 1997).

In late 1996, the World Bank brought out a paper titled “India’s Public Distribution System: National and International Perspective”, as part of its Agricultural Policy Reforms Study (World Bank, 1996). This paper summarises much of the current thinking on the problems with the PDS in India and also makes concrete

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<sup>23</sup> On the importance of food distribution in the politics of Kerala, see Mooij (1998).

<sup>24</sup> The recent World Bank study, for example, observes that one-half of cereal subsidy has gone to the four southern states (Kerala, Tamil Nadu, Andhra Pradesh and Karnataka) and Maharashtra, and that the “cereal subsidy has not accrued even proportionately to states with a high incidence of poverty” (p 12). The report goes further and states that “ironically, the incidence of poverty is high precisely in the states with the lowest offtakes of FCI grains” (p 14).

<sup>25</sup> Even in terms of the allocation of quantities, except for the very recent policy of Targeted PDS, states made a demand for certain quantities of foodgrains and on the basis of these demands and past utilisation, the central government allocated foodgrains to different states. In other words, the policy has never been for the central government to decide on allocations based on criteria such as state-level poverty.

suggestions for reform.<sup>27</sup> In the following sections, I examine the suggestions made in the World Bank paper and present some alternative proposals (the main points are summarised in Table 15). This discussion is, in places, sketchy, as it is part of ongoing research.

## 6.1 Targeting

The suggestion in the World Bank study is to target to the very poor. As the report puts it, “distinguish between the very poor and the moderately poor and improve efficacy of PDS in transferring food to the ultra-poor” (*ibid.* p 16). The very poor are those households that have expenditures less than three-fourths of the official poverty line level of expenditure. The moderately poor are the remaining households with expenditures below the poverty line. In short, an extreme form of targeting is being propagated: not just targeting to those below the official poverty line, a very low absolute level of expenditure, but to a group within the “poor”.

Let me digress for a few moments and describe how the poverty line is defined in India. The poverty line is that level of expenditure at which a basket of goods that provides minimum calories a day (2100 in urban areas and 2400 in rural areas) can be purchased. The definition has a norm in terms of food expenditure but no similar norm or minimum in terms of non-food expenditure. When the method was first used it was assumed that the government would provide education and health at a low cost. Since this has not happened, the poor are likely to spend more than envisaged on health and education and other non-food items. Also, in an international context, the official poverty line in India would be considered a very low level of expenditure. The

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<sup>26</sup> See GOI (1993, 1997a) on the reforms introduced.

<sup>27</sup> For reasons not stated, in drawing up suggestions for reform, the World Bank document ignores the Kerala experience, the one really successful model of PDS in India.

official poverty line in India today is less than one US dollar a day, a measure often used for cross-country comparisons.

Although in favour of targeting, the World Bank document is unclear on the criteria for targeting and inconsistent too. For example, in terms of criteria for inclusion of the poor, the report suggests slums in urban areas, persons working on employment programmes or widows in rural areas. In terms of exclusion of the non-poor, it suggests criteria like payment of income tax, ownership of more than 5 acres of irrigated land. The exclusionary criteria would roughly exclude 10-20 per cent of the population. The criteria for inclusion, however, are quite strict.

#### Alternative: Broad Targeting

As I have already observed, there are many dangers associated with narrow targeting. If the objective is reducing food insecurity, we need to be concerned with those currently undernourished as well as those who are at risk of undernourishment. To identify the food insecure, I suggest the use of the food share.<sup>28</sup> Let us consider the food share or food expenditure as a proportion of total expenditure for different household expenditure deciles for 1993-94 (the latest year for which survey data are available; Table 10). First, the rural data show that for the bottom half of the population, food shares were over 70 per cent. For the next four deciles, food shares were between 60 and 70 per cent. It is only in the top five per cent that the food share falls below 50 per cent. By any standard, food is the most important item of expenditure for the overwhelming majority of rural households. In urban areas, the food shares were lower in every decile. Food shares were higher than 60 per cent for the bottom six deciles and above 50 per cent for the next three deciles.

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<sup>28</sup> In the literature on poverty, the inverse food share has been discussed as a measure of poverty (Anand and Harris, 1990).



I also looked at changes in food shares over the last twenty years (Tables 11 and 12), and patterns across states. A major decline in food shares occurred in the seventies, particularly in the urban areas, and continued through the eighties. However, the change in food shares between 1987-88 and 1993-94 is relatively small. There was a lot of variation in food shares across states. In aggregate, the states with the lowest urban food share of around 54 per cent were Andhra Pradesh, Haryana, Punjab and Kerala. The rural food share was lowest in Punjab (58 per cent), followed by Maharashtra, Andhra Pradesh, Haryana and Kerala.

If we use a generous cut-off point of a food share of 50 per cent to identify the food insecure, then the top 10 per cent of the urban population and the top 5 per cent of the rural population would classify as non-eligible in 1993-94. In other words, using the food share criterion, we need to target to the bottom 95 per cent of the rural population and bottom 90 per cent of the urban population. Alternatively, if a cut-off food share of 60 per cent is used then the bottom 90 per cent in rural areas and the lower 60 per cent in urban areas would have to be included (that is, about 80 per cent of the total population).

By way of comparison, households defined as “poor” and eligible for the food stamps programme in the United States are those who spend more than one-third of total expenditure on food (Kuhn *et. al.*, 1986). In China, a country that has provided food security to the majority of its population, the mean food share is about 50 per cent.

To put it differently, food security in households that spend a very large proportion of their incomes on food is likely to be very sensitive to small changes in prices and incomes. For a household that spends 50 per cent of its expenditure on food, a doubling of food prices, as happened during the early 1990s, could have

significant adverse effects on food consumption. From a welfare perspective, all such households should have access to some form of food security.

The lesson from Kerala is also that if a near-universal system of distribution works well it can effectively reach poor households. Further, by choice of commodities and quality (or even differentiated prices and quantities), the system can achieve a progressive incidence. The decision on targeting versus universal transfers should be based on the costs of excluding around 20 per cent of the population. In practical terms, it may be easier to provide universal benefits and then claw-back benefits from the rich via other means such as taxes.

## 6.2 Procurement and the Food Corporation of India

The World Bank suggestion is to remove restrictions on the grain trade and to privatise or at least reduce the role of the Food Corporation of India (FCI) in the grain trade. The main suggestions are to remove restrictions on the grain trade and allow the private sector to participate fully in the trade, and also to free procurement policy from pressure groups. The FCI, it is suggested, compete with other traders in procurement and distribution. It would still be required to maintain some buffer stocks and stabilise prices within a certain band.

Inefficiency in the operations of the FCI has undoubtedly added to the subsidy bill. By reducing the costs of operation of the FCI, the food subsidy bill can be lowered without hurting consumers. However, prior to privatising the FCI or removing all restrictions on the grain trade, we need to examine problems on the production and procurement sides. The reasoning in the World Bank document is that India has moved from a situation of a deficit to that of surplus in grain production and therefore it is appropriate to “phase out government controls as well as procurement

policies” (*ibid.* p 40). This, I think, is a rather simplistic and short run view and I would like to raise a few issues based on a preliminary study of producer incentives and procurement.

First, does India really have a surplus? If all the hungry and undernourished consumed adequate amounts of food grain then present production would barely suffice to meet demand. Bhalla and Hazell (1997) have made projections of cereal demand in 2020 based on different assumptions (Table 13). As compared to the actual demand of 147 million tonnes in 1990, cereal demand is projected to rise to 278 million tonnes in 2020 if per capita income grows at 3 per cent annually. In addition, if poverty were eliminated, cereal demand would rise to 292 million tonnes, and if the entire population were well fed, cereal demand would be 301 million tonnes. Clearly, domestic production needs to expand rapidly to meet this demand. In other words, for supply to keep pace with future increases in demand, it is necessary to expand the production base. In particular, there is need to raise productivity and production in more backward regions, in dryland areas, etc., and this will require appropriate producer incentives.

Secondly, the system of procurement needs to be reoriented. At present, procurement is highly concentrated in a few regions. In 1989-90, for example, Punjab and Haryana accounted for 23 per cent of all-India rice production and 63 per cent of rice procurement. In the case of wheat, Punjab and Haryana generated 69 per cent of the total output and nearly all of procurement. We need a scheme of procurement that ensures some equity between states and across cultivators within a state. In 1976, T.N. Krishnan and I. S. Gulati proposed a scheme for equitable procurement to meet the needs of the PDS.<sup>29</sup> The basic elements of their scheme were a system of graded

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<sup>29</sup> I would like to update and revise that proposal.

producer levy, procurement at reasonable prices and equity in the distribution of burden across states and across farmers. For example, basic levy rates varied by size of operational holding, and rates in different states were weighted to take account of productivity differences. A more widespread production base with local and regional procurement can also lower the costs of procurement and distribution (and perhaps, also lower the pressures of the rich farmer lobby). More research is needed on incentives for expanding the production base and for developing systems of local procurement and distribution.

Thirdly, for a country of India's size, it is important to maintain adequate levels of buffer stocks. The experience with imports in recent years suggests that they can be quite expensive, and the country can lose on account of price fluctuations.

Lastly, one has to look carefully in to the sources of inefficiency in the FCI and then propose ways of reducing inefficiency. The major costs of distribution are the following: interest charges, freight charges, storage costs, handling (or labour) charges, storage and transit losses and administrative costs. A comparison of costs as between the FCI and the private sector indicates that the costs of the FCI are higher on storage and on administration (Gulati *et. al.*, 1997). The FCI suffers high losses during transport and storage. Losses during transit occur from factors such as missing wagons, natural calamities and theft. Losses occur during storage from pest infestation or other types of deterioration, loss of weight and pillage. A large part of these losses stem from corruption at different levels and different points of distribution and this is an issue to be dealt with by any agenda for reform.

One way to compare the efficiency of the FCI with that of private traders is by comparing the economic cost of grains sold by the FCI with wholesale prices in the

market. Private traders, it is assumed, will sell at a rate that covers their costs. In the case of wheat, the wholesale price was lower than the economic cost in all the years (1968-92), indicating that the FCI was inefficient compared to the private sector (*ibid.*).<sup>30</sup> In the case of rice, however, the economic cost was lower than the wholesale price in 20 of the 25 years examined. So, the FCI was more efficient than the private sector in the distribution of rice. This preliminary analysis shows that there are differences across crops, and in particular, the costs of distribution of wheat are excessive relative to rice. A further dis-aggregation of costs is required to identify the sources of inefficiency.

### 6.3 Decentralisation and public delivery of food

Another proposal in the World Bank report is to assign the task of targeting and delivery to Panchayati Raj Institutions (PRIS), elected bodies of local governance that operate at the level of village, block and district. To identify the poor and implement targeting, the report suggests that the responsibility for identification be handed over to the PRIS. It is also suggested that Non-Governmental Organisations (NGOs) be used to target benefits.

I broadly agree with the suggestion to decentralise the delivery system and control and accountability of the delivery system. There are some caveats. First, although the Constitutional Amendment now requires the formation of PRIS or local elected bodies, their performance varies enormously. The nature and composition of PRIS is very different in states such as West Bengal, where there has been land reform and where local power structures have been altered, and states such as Bihar, where feudal landlords continue to dominate rural society. In West Bengal,

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<sup>30</sup> Although the paper did not specify “which” wholesale price is referred to (as prices vary across states and across seasons), nevertheless, this is an interesting comparison to make.

traditionally deprived communities now have a voice in the functioning of the PRIS.<sup>31</sup> In such cases, the PRIS may be expected to ensure that the delivery system meets the needs of the poor. In cases where members of the traditional land-holding hierarchy of a village dominate the PRIS, the control of PRIS over delivery is not going to change how the system works. Without genuine land reform and changes in village social and power relations, it is difficult to ensure genuine democracy in PRIS. One cannot therefore simply assume that PRIS will favour the poor and be better at targeting than existing institutions. Secondly, given their numbers and size, the role of NGOs in India is limited. The primary responsibility for food security has to rest with the state.

#### 6.4 Food stamps and size of real transfers

A key suggestion in the World Bank report is to shift from rations to a system of food stamps or coupons. The report suggests that savings obtained from curtailing the role of the FCI can be used to issue food stamps. The food stamps are to be allocated to PRIS that in turn identify beneficiary households. Coupons could be used to purchase selected commodities at village retail stores (PDS stores or private stores).

The biggest weakness of food stamps is, of course, that they are usually not indexed and reduce the real value of the subsidy. An important question in this context is whether food stamps can be designed so as to provide a fixed real transfer. The international experience does not provide much help on this issue but it is an area for further research.<sup>32</sup> Secondly, there are huge problems of administration both in respect of issuing of food stamps regularly and in respect of retail stores accepting

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<sup>31</sup> In WB, for example, in Memari panchayat of Bardhaman district, 50 per cent of elected members were from scheduled caste and scheduled tribe families, and 44 per cent were agricultural labourers, share croppers or small peasants (Lieten, 1996).

<sup>32</sup> At least two countries (China and more recently, Iraq) have used coupons as part of their rationing system. These, however, were substitutes for ration cards and not similar to food stamps.

stamps and being able to reimburse them easily. These are not necessarily problems that would vanish with greater local control over the programme.

#### Adequacy of ration quotas

One of the issues on which the World Bank study is silent is the ration scale, the quantity of ration allocated per person, or equivalently, the value of the food stamp. If the system of food subsidy (say rationing) has to contribute significantly to household nutrition and food security then a reasonable minimum subsidy (or quantity of grain) needs to be distributed. Table 15 shows the scale of rationing under a range of schemes. In India, one of the most generous ration quotas is in Uttar Pradesh but, of course, in practice, very little reaches the people. Excluding Uttar Pradesh, Kerala has the highest ration scale of 13.2 kgs per person per month or 158 kgs a year. This scale is adequate in a nutritional sense in that if a person bought her entire quota it would meet her total grain requirements. Note that the minimum grain consumption recommended by the Indian Council of Medical Research is about 135 kgs a year. In practice (see Table 7), the per capita purchase from the PDS is about 70 kgs a year in Kerala. In other words, PDS purchases meet roughly half the consumption requirements of people in Kerala. In most other states including Andhra Pradesh, the ration scale is smaller and far from adequate.

International comparisons show that China and Sri Lanka (before 1980) had very generous ration quotas. In China, quotas varied by age and activity status. There were variations across regions. For manual workers in Chengdu, for example, the quota was 25 kgs a month (Riskin, 1987). However, many scholars have observed that grain consumption was less than the quota. The case of a generous ration quota in Sri

Lanka (28 kgs per person per month) is more remarkable because rationing was not the only means of grain consumption.<sup>33</sup>

If a ration of 70 kgs, the achievement in Kerala, were to be provided to all hungry and undernourished households, the PDS would have to be expanded. If this were provided to the bottom 60 per cent (or 600 million) of the population, the annual requirement of the PDS would be 42 million tonnes (or 25 per cent of net availability). Is this feasible? For a country that produces around 200 million tonnes of food grain, surely public policy can ensure that about one-fifth is procured and distributed through the PDS. It is clear that policies of procurement have to be designed in conjunction with policies of distribution.

#### 6.5 PDS and other welfare programmes

The last suggestion in the World Bank study is to link PDS with other welfare programmes such as employment programmes or nutrition programmes in order to improve targeting and delivery (that is, to distribute grains to those participating in other programmes).

As pointed out in Section 5.1, some of the poorest households are unable to utilise the PDS because they lack the income to buy food. For such households, employment or other welfare programmes (such as pensions for old/retired persons) are required to enable them to buy minimum quantities of food. These programmes, however, should be complementary to the PDS, and not seen as a way of restricting food distribution only to households participating in employment or other welfare programmes.

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<sup>33</sup> See Anand and Kanbur (1991) on rationing in Sri Lanka.



## 6.6 Improving the delivery system

Lastly, the delivery system is undoubtedly weak and ineffective and in need of reform. What form should this take? Instead of dismantling existing structures, perhaps, we need to find ways of strengthening and expanding the present system of distribution. Changes in the scope and functioning of ration shops, for example, can make ration stores profitable as well as more accessible. A system of monitoring is required to ensure that ration commodities reach consumers and local ration stores and are not diverted elsewhere. Establishing systems of community responsibility and local control over the programme are, of course, easier said than done.

## 7. Concluding remarks

To conclude, in the Indian context, the PDS is the major intervention that can ensure household food security. The existing system, however, has many weaknesses, and requires genuine policy reform. The objective of this research project is to draw on theory and on the experience of other countries to design a better system of food subsidies for India.

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