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# UNIT 19 FOOD SECURITY

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## 19.0 OBJECTIVES

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After reading this unit, you will be able to:

- define the various concepts associated with the issue of ‘food security’;
- discuss the trend in foodgrains scenario in terms of per-capita availability and per capita consumption of foodgrains in India;
- provide a theoretical explanation to the declining trend in per-capita food consumption under alternative policy options;

- explain the policies and programmes of the government followed in India in providing food security;
- comment on the impact of government policy on PDS to the stake holders in general; and
- indicate the gaps in the policy of ‘food security’ pursued and in its light outline a ‘future strategy’ for its effective implementation.

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## 19.1 INTRODUCTION

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The issue of ‘food security’ encompasses the twin aspects of adequate availability of foodgrains and its effective distribution to ensure its access to all. The availability needs to be ensured as ‘entitlement’ i.e. creation of conditions under which the really needy can access them with ease. This means that if the purchasing power of the poor is not adequate enough to buy the food, they should be enabled to either buy them at a subsidised price or their purchasing power should be suitably enhanced. While the former is achieved by a distributional policy, the latter is achieved by the implementation of specific programmes. The task of distribution (i.e. taking the food to the door step of every household, particularly the household living below the poverty line i.e. BPL families) is a gigantic task which is carried out in India by the public distribution system (PDS). The PDS is implemented through the operation of fair price shops (FPS) established all over the country. The task of such a mammoth distribution is preceded by the ‘procurement of foodgrains’ from the farmers under a policy of price support called the ‘minimum support price’ (MSP). By implementing such policies (i.e. procuring and distributing foodgrains through FPS, running food-for-work programmes, etc.) over the last six decades, the government has succeeded in according a measure of ‘food security’ to millions of poor people. The impact of this is seen in the declining poverty ratios over time. The accuracy of estimates of people living below the poverty line in India, estimated by different methodological frameworks, is subject to debate. However, as per a UN report, in the post-reform years of 1990s alone, the proportion of poor below the poverty line has declined from 51.3 percent in 1990 to around 26 percent in 2010. Notwithstanding this degree of success, there are three serious issues which cast a deep shadow on the efficiency of our food security policy. These are: (i) the ‘buffer stock’ is getting affected due to inadequate storage space, (ii) the targeting error in the PDS system has excluded many real poor from the PDS benefit (and many non-poor included), and most serious of all, (iii) the surplus subsidised foodgrains are exported to other countries with a huge further burden on the exchequer as subsidies. It is, thus, ironic that while millions continue to face acute poverty [with their children (of below 5 years) suffering from severe *malnutrition* with the consequent high rates of infant mortality; which in 2009 was estimated by UNICEF as 66 per 1000 live births (having declined from 118 in 1990)], the buffer stock of foodgrains is exported where they are used by animal feed manufacturers in countries like Malaysia, Indonesia, Oman, Iraq, Philippines, etc. It is in the face of this tragic truth that the term ‘food insecurity’ is used to describe a condition in which severe malnutrition persists among children in a population where there is no scarcity of food supply. Against this background, the present unit seeks to deal with two major issues of concern to agricultural development viz. (i) the policies adopted by the government to achieve a higher rate of ‘food security’ and (ii) the future strategy that needs to be adopted to make the policies of food security more efficient. We begin with a description of the various concepts involved.

## 19.2 CONCEPTUAL OUTLINE

We have already introduced above many of the concepts which we shall elaborate in this section. We shall begin with a distinction of the two terms viz. food self sufficiency and net production.

### 19.2.1 Food Self Sufficiency

A country is said to have achieved ‘self sufficiency in food *production*’ when its food production at the aggregate level matches with the food requirement of all its people. In other words, it refers to a state in which a country is in a position to feed its people from its own domestic production without having to depend on import of foodgrains from other countries. On the other hand, an economy, is said to be deficient in food production when its domestic production falls short of its requirement. If the deficiency is large, in the absence of help from other countries, the economy could witness starvation. It is important to note, however, that for a country to be ‘food secured’, it is not necessary to develop its own agricultural production (see 19.2.3 below).

### 19.2.2 Net Production

The entire foodgrains produced in a country is not available for human consumption. A part of it would be used as seeds for its subsequent ploughing while another part of it may be lost due to improper storage. A part of foodgrains output is also used as animal feed. The remaining portion, which is available for human consumption, is termed as ‘net production’. The proportion of net production in total production depends upon various factors like method of cultivation, storage and marketing of foodgrains. This proportion is likely to vary from one country to another. In India, 87.5 percent of total foodgrains production is taken as net production.

### 19.2.3 Food Security Versus Food Insecurity

At a national level, food security is defined as ‘availability’ of food in the ‘required quantity and quality’ to all individuals. The availability should be in a manner which is adequate to lead a ‘healthy and active life’. A further condition of food security also requires that the availability should continue on a ‘lasting or sustained basis’. Thus, *theoretically*, food security is achieved by a combination of factors spanning the household, community, national and even international levels. However, in its *operation*, it is applied at the *individual* level. In view of this, ‘self-sufficiency in food production’ at the national level is neither necessary nor sufficient to guarantee ‘food security’ at the individual level. This becomes clear when we take the examples of countries like Singapore and Hong Kong which are not food self-sufficient but their people are food secured whereas while India as a country is food secured, all of its people are not. Thus, while all the four elements of food viz. availability, access, utilization and stability of access are equally important to ensure food security, in practical terms it depends upon the extent up to which an individual can access his ‘entitlement’ to food. Further, the condition of ‘utilisation of food to lead a healthy and active life’ brings-in the significance of non-food items (like adequate diet, clean water, sanitation and health care) to food security. Thus, if a person is unable to make use of the food because he/she is sick, with no resource being available as help, then the ‘food utilisation’ condition remains unsatisfied. Similar is the case about food availability because the question is not merely about the availability of food but whether there exists a mechanism by which it is effectively distributed to all the individuals who are poor. Likewise, the ‘stability of access’ underscores the possibility of ‘vulnerability’ of poor who might find themselves

without food on any day that they fail to find employment. It is in this sense, that the element of 'food entitlement' (i.e. resources by which one can claim food as entitlement) becomes important. The report on *The State of Food Insecurity, 2000* states that: 'whereas close to half the population in the world is vulnerable to hunger, about one-seventh of them are *undernourished*'. Thus, 'food insecurity', which is the opposite of 'food security', underscores the prevalence of *undernourishment* in an economy. From the point of view of policy implementation, food insecurity poses a far higher challenge to be dealt with on the path of attaining food security at the individual levels.

#### 19.2.4 Public Distribution System (PDS)

In a free-market economy characterised by inequalities in income among households, there are many poor households who are not in a position to buy adequate food at the prevailing market price. Such households are, therefore, food insecure. A mechanism by which food at a cheaper rate is made available to such poor households is the 'public distribution system' (PDS). PDS are of two types viz. Universal-PDS (UPDS) and Targeted-PDS (TPDS). A public distribution system in which all the households are provided a uniform scale of foodgrains is known as the UPDS. On the other hand, a public distribution system in which households are classified into two categories viz. poor and non-poor, with the objective of providing the poor households a higher scale of ration than the non-poor households, is known as the TPDS. The TPDS is, therefore, basically meant to provide better food security to the poor.

#### 19.2.5 Targeting Errors: Type-E and Type-F Errors

The food insecure households are provided a ration card which will enable them to purchase food from the fair price shops (FPS) at a subsidised rate (i.e. a rate which is lower than the market price). In the process of distribution of ration cards two types of errors can creep-in. A deserving household (i.e. poor) may be **excluded** from the benefit of a ration card thereby denying him the benefit of the PDS. Such an error is called Type-E error. On the other hand, a non-poor household may get **included** for the benefit of subsidised foodgrains from the PDS. Such an error is called Type F error. The efficiency of PDS depends on the capacity of the government to control both these types of errors. Further, the efficiency of PDS can get severely battered if the system suffers from 'pilferage' or 'corruption' (i.e. leakage of foodgrains from the FPS to the open market). Poor households are classified as BPL families (i.e. households below the poverty line) while the non-poor households are classified as APL families (i.e. households above the poverty line). In short, a public distribution system is supposed to provide food security to the poor by insulating them from the impact of rising prices of essential commodities thereby maintaining a minimum nutritional status. The essential commodities distributed through the FPS mainly include the four main items of wheat, rice, kerosene and sugar. However, to protect the BPL families from the effect of rising food prices the government may at times distribute pulses and edible oils at subsidised rates through the 'ration shops' (alternative name used for FPS). PDS can ensure food security, in true sense, only when both cereal and non cereal items (like pulses) are distributed through PDS. In practice, only cereal food items are distributed through PDS.

#### 19.2.6 Procurement of Foodgrains

During a good agriculture year, prices may sharply decline. Consequently, farmers may suffer due to low price while the consumers may benefit. On the other hand, during a bad agricultural year consumers suffer due to price rise but the benefit of such price rise is likely to be cornered by middlemen and traders as farmers are mostly illiterate and

not well organised. Thus, the gains to the poor farmer may not be much as he has little surplus to sell. A poor farmer is also badly affected by inter-seasonal differences in foodgrain price. For instance, while during harvesting season, when prices are low, the economic condition of the poor farmer might force him to sell his produce, during the off-season he might have to buy foodgrains at a much higher price. To protect the farmers from such fluctuations in price, the government adopts a policy of 'procurement'. Under this, during the harvesting season, the government buys foodgrains from the farmers at a price called the minimum support price (MSP). Such procurement operations facilitate the government to build-up buffer stocks which is used for feeding the PDS.

### 19.2.7 Buffer Stock

Buffer stock is an important pre-requisite for providing food security. It is well known that consumption of food takes place throughout the year while output of foodgrain comes at specific periods in a year. To bridge the inter-seasonal differences in production and consumption, there is a need to maintain a stock of foodgrains called the 'buffer stock'. Such buffer stock are off-loaded during the lean season to maintain price stability. Stock of foodgrains is also required to counteract price fluctuations due to cyclical variations in agricultural production. Besides these reasons, as said above, stocks of foodgrain are also required to run the PDS. To sum up, government need to maintain buffer stock of foodgrain to: (i) control inter-seasonal price fluctuations; (ii) counter-act the harmful effects of cyclical fluctuation in food production; and (iii) run the public distribution system. Besides these factors, maintenance of buffer stock also serves as a disciplinary device against private traders who might hoard food items to create an artificial scarcity resulting in price hike.

### 19.2.8 Minimum Support Price

To insulate cultivators from price risk, the government announces the purchase price for a crop at the beginning of each agricultural season. This is called as the minimum support price or the MSP. At the time of harvest, if the market price is lower than the MSP, then the government is ready to purchase all the crop brought to the market by a farmer at the pre-fixed MSP. It is a matter of debate whether the MSP announced by the government ensures adequate returns to the farmer. Implementation of the MSP policy varies from crop to crop.

**Check Your Progress 1** [answer in about 50 words using the space given]

- 1) Mention the twin aspects encompassing the issue of 'food security'?  
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- 2) Which economic indicator reflects the impact of policies of food security pursued? By what margin, this indicator has declined in India over the period 1990 to 2010?  
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- 3) State the three serious issues which casts a deep shadow on the efficiency of 'food security' policies pursued in India.

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- 4) What does the term 'food insecurity' connote?

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- 5) When is a country said to have attained a status of 'food self-sufficiency'? Is such an attainment necessary or sufficient to claim a status of 'food security'?

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- 6) Mention any three factors which contribute to enhancing the 'net production'. What is the estimated proportion of 'net production' for India?

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- 7) Theoretically, which four factors are important to ensure 'food security'? In practice, however, which factor actually governs the issue of 'food security'?

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- 8) What distinguishes the targeted-PDS from the universal-PDS? Which of the two provides a better 'food security' cover and why?

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- 9) Which of the targeting errors is characterised for 'exclusion' of a poor household from the PDS? In what way the PDS is supposed to provide 'food security' to the poor?

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- 10) Mention the three reasons why the government maintains a 'buffer stock' of foodgrains?

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### 19.3 FOODGRAINS SCENARIO IN INDIA

In order to understand the concept of food security vis-à-vis the level of its attainment, it is important to look at some empirical facts. In this section, we take a look at the trends, over 1951-2010, in: (i) total area under agriculture, its production and productivity; and (ii) per-capita availability/consumption of foodgrains. While the area/production/productivity throws light on the overall availability of foodgrains, the per-capita availability/consumption helps us to relate food security to the distribution/policy dimensions. Further, for agrarian economies with abundant population, *'for the availability of foodgrains to increase, it is important that the growth rate of food production is greater than the growth rate of population'*. Additionally, the per-capita consumption of foodgrains would depend upon many other factors like: (i) per-capita income of household, (ii) open-market prices, (iii) policy on procurement and release of buffer stock, etc. In view of this, the per capita consumption of foodgrains need not increase merely because the per-capita availability is increasing. Such a situation would, therefore, require more pro-active policy initiatives for attaining food security. While we shall look at the efforts made in this direction in section 19.5, presently we shall analyse the empirical facts on availability/consumption of foodgrains. The analysis does not take into account cyclic variation in agricultural production.

#### 19.3.1 Area, Production and Productivity

Table 19.1 presents the trend in area, production and productivity of foodgrains over the long term period of 1951-2010. The trends in these three variables reveal the following:

- 1) There is a 25 percent increase in area under foodgrains over the six decade period. The increase is marked with wide fluctuation from one period to the other. The highest increase was in the decade 1951-61 (19 percent) followed by 1961-71 (8 percent). Over the next two decades of 1971-81 and 1981-91 there was a marginal increase of 2 and 1 percent respectively. During the post-reforms period of 1991-2010, there has been a decline (-5 percent) in the area under foodgrain production. The decline might mean a shift in the cropping pattern from foodgrains to non-foodgrains.

**Table 19.1: Trends in Area, Production and Yield of Foodgrains in India**

Year	Area	Production	Yield
1950-51	97.3	50.8	522
1960-61	115.6	82.0 (4.9)	710 (3.1)
1970-71	124.3	108.4 (2.8)	872 (2.1)
1980-81	126.7	129.6 (1.8)	1023 (1.6)
1990-91	127.8	176.39 (3.1)	1380 (3.0)
2009-10	121.3	218.2 (1.1)	1798 (1.4)
<b>Percentage Increase over 1951-2010</b>	24.7	330 (2.5)	244 (2.1)

**Notes:** (i) Area in million hectares, production in million tons and yield in kgs per hectare; (ii) The period-to-period (i.e. 1951-61, 1961-71, 1971-81, 1981-91 and 1991-2010) percentage change for area are: 19, 8, 2, 1 and - 5 respectively; (iii) corresponding percentage change for production are: 61, 32, 20, 36, 24 and for productivity: 36, 23, 17, 35, 30; and (iv) figures within brackets in columns 3 and 4 are compound average (annual) growth rates [CAGR] for the periods: 1951-61, 1961-71, 1971-81, 1981-91 and 1991-2010.

**Source:** Economic Survey, Govt. of India.

- 2) The trend in foodgrain production shows an increase of more than four times from 51 million tons in 1951 to 218 million tons in 2010. The highest increase (of 61 percent) was in the decade 1951-61 which translates to 6.1 percent increase per annum. This is followed by the next highest increase of 36 percent during 1981-91. In the post-reform period of 1991-2010, the increase in production is by 24 percent. In terms of average annual percentage increase in production of foodgrains, therefore, the post-reform years has registered the lowest increase of 1.3 ( $24 \div 19$ ) percent per annum.
- 3) In terms of the growth rate in foodgrains production, the increase has been highest (4.9 percent) during 1951-61 followed by 3.1 percent during 1981-91. The lowest growth rate of 1.1 percent in foodgrain production is during the post-reform years of 1991-2010 during which period the population growth has been 1.8 percent per annum. The combined period growth rate in foodgrains, over 1951-2010, is 2.5 percent which is higher than the population growth rate over this period of 2.04 percent. Thus, in spite of the higher growth in foodgrain production, there has been food security problem in India. This, therefore, suggests that higher growth in foodgrains production could at best be a necessary condition for food security in overpopulated agrarian economies.
- 4) The productivity per hectare (see 'key words') has increased by nearly 3.5 times (from 522 kgs in 1951 to 1798 kgs in 2010). However, in terms of average annual (compound) growth rate, the growth in productivity over 1951-2010 is 2.1 percent which is only marginally higher than the population growth rate of 2.04 percent.

To sum up, therefore, over the period 1951-2010: (i) there is an increase of 25 percent in the area under foodgrain production and (ii) a modest increase in foodgrain productivity.



### 19.3.2 Per Capita Availability of Foodgrains

If the increase in production is utilised for building up stocks by either government agencies or private traders, then the per capita availability will not increase. The effect of exports of foodgrains will be similar. Thus,

Per Capita Net Availability =  $[\text{Net Production} - \text{Exports} + \text{Imports} \pm \text{change in stock with government and private traders}] \div \text{Population}$

The trend in the per-capita availability of foodgrains (which is a better measure of food security than based on the aggregate indicators considered above), is presented in Table 19.2. The major inferences that can be drawn from this data are as follows.

- 1) The per-capita availability of foodgrains on the whole (i.e. by considering both cereals and pulses) has increased from about 395 grams in 1951 to 444 grams in 2009. The increase over the period of six decades is to an extent of 12.4 percent.
- 2) In terms of the two major cereals viz. rice and wheat, the increase in the per capita availability of wheat is far higher (by 135%) as compared to rice (for which the increase is by only 19 percent).
- 3) The increase in the per-capita availability of 'other cereals' has declined sharply (-42 percent) over 1951-2009. For aggregate cereals, however, there is an increase of 21 percent over the six decade period. In the per capita availability of pulses, there is a steep decline of 40 percent over this period.

In sum, therefore, (i) there has been improvement in the per capita availability of foodgrains and superior cereals like wheat and rice; (ii) but there is a steep decline in the availability of pulses.

**Table 19.2: Trends in Per Capita Availability of Foodgrains in India**

Year	Rice	Wheat	Other Cereals	Total (Cereals)	Pulses	Food Grains
1951	158.9	65.7	109.6	334.2	60.7	394.9
1961	201.1	79.1	119.5	399.7	69.0	468.7
1971	192.6	103.6	121.4	417.6	51.2	468.8
1981	197.8	129.6	89.9	417.3	37.5	454.8
1991	221.7	166.8	80.0	468.5	41.6	510.1
2001	190.5	135.8	56.2	386.2	30.0	416.2
2005	177.3	154.3	59.4	390.9	31.5	422.9
2009	188.4	154.7	63.9	407.0	37.0	444.0
<b>Change (%) over 1951-2010</b>	19	135	-42	21	-40	12.4

**Notes:** (i) Availability in grams per day; (ii) Total (cereals) = rice + wheat + other cereals; (iii) foodgrains = total cereals + pulses;

**Source:** Economic Survey, Govt. of India. [while the Economic Survey is an annual publication which is a ready source of all secondary data, for 'food statistics', the 'Bulletin on Food Statistics' published by the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, is a primary source of data].

### 19.3.3 Per Capita Consumption of Foodgrains

Besides the availability of foodgrains, the per capita consumption of foodgrains depends upon other factors like: per capita income of household, open market prices, tastes and preferences of people, etc. Estimates of consumption of foodgrains is provided by the results of Household Consumer Expenditure Surveys conducted by NSSO at quinquennial intervals. Using this data, the estimated results of per capita consumption is presented for the period 1973-2010 in Table 19.3. The data is presented, separately for both rural and urban areas, as per two reference periods viz. a monthly consumption pattern (in kgs) and a daily consumption pattern (expressed in gms). The trends reveal that, except for urban area during 1973-78, there is a steady decline in the consumption of foodgrains for both the urban and the rural households. Besides the factors contributing to this decline mentioned above, other factors which could have influenced the consumption trend include an inadequate supply scenario. This could be either due to the non-release of buffer stock to the open market in time or due to the artificial shortage created by hoarding by traders. We shall first seek a theoretical explanation for this trend in section 19.4 below.

**Table 19.3: Trends in Per Capita Consumption of Cereals in India**

Sl. No.	Year	Rural		Urban	
		A	B	A	B
1	1972-73	15.26	509	11.24	375
2	1977-78	15.25	508	11.62	387
3	1983	14.8	493	11.30	377
4	1987-88	14.47	482	11.19	373
5	1993-94	13.40	447	10.63	354
6	2004-05	12.12	404	9.94	331
7	2009-10	11.35	378	9.39	313

**Notes:** (i) A= Consumption for 30 days in kgs. B= Daily consumption in grams.

(ii) 1999-2000 estimates are not cited due to huge difference in estimates based on the two reference periods viz. week and month.

**Source:** Various rounds of NSSO on Household Consumer Expenditure Surveys.

## 19.4 FOOD SECURITY UNDER ALTERNATIVE POLICY CONTEXTS

The divergence between increasing per capita food availability on the one hand and declining per capita consumption on the other, poses food security concern relating to policy option and its implementation. From a theoretical perspective, we can consider three alternative policy contexts as follows.

### 19.4.1 Free Market Operation

Let us consider a hypothetical situation where there are only two consumers: (i) a poor consumer and (ii) a rich consumer. Let the demand curve of poor consumer be  $D_1D_1$  and that of rich consumer be  $D_2D_2$  (Figure 19.1) with  $SS$  representing the market supply curve. The aggregate demand curve  $DD$  is obtained by the horizontal summation of the two individual demand curves. The point of intersection of these two curves (point  $E$ ) represents the equilibrium price  $OP$  prevailing in the market with the quantity transacted being  $OQ$ . At price  $OP$ , the poor consumer will buy quantity ' $Oq_1$ ' and the rich consumer will buy quantity ' $Oq_2$ ' with  $Oq_1 + Oq_2$  being equal to  $OQ$ . It is possible

that the quantity of foodgrains bought by poor consumer may be below the minimum norm of foodgrains required for maintaining a healthy life and the quantity of foodgrain bought by rich consumer above such a norm. The total quantity of foodgrain transacted in the market i.e.  $OQ$ , if properly distributed, would make both the consumers food secure. The situation can be generalized to multiple consumers of differing economic background. The policy challenge, therefore, is to create conditions necessary for an efficient distribution of available foodgrains.

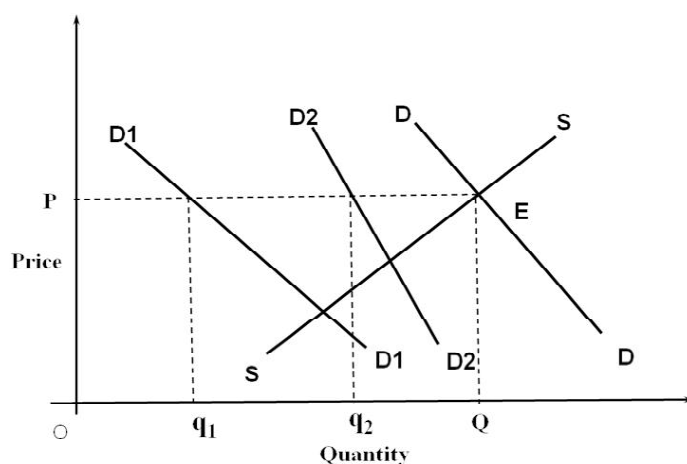


Fig. 19.1: Free Market Operation

### 19.4.2 Impact of Government Procurement

Suppose the government intervenes by procuring foodgrains from the producers. This will reduce the supply of foodgrains in the market. Consequently, the supply curve will shift leftwards, to  $S1S1$  (Figure 19.2). As a result of this shift, the equilibrium price will increase from  $OP$  to  $OP_1$ . This will compel the poor consumer to reduce consumption while for the rich consumer there is no such compulsion. On the whole, there will be reduction in the overall consumption from  $OQ$  to  $OQ_1$ . Thus, although the per-capita availability of foodgrains in the economy may be high, the per capita consumption would be low when government only procures foodgrains but not release it to the open market or distribute it to the poor. Similar outcome emerges when government permits the export of foodgrains or puts restriction on its import.

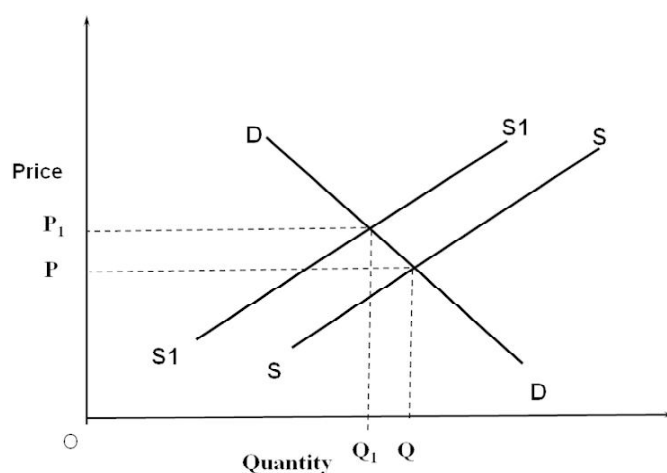


Fig. 19.2: Impact of Government Procurement

### 19.4.3 Impact of Government Procurement and Distribution

A more optimal situation is one when the government not only procures foodgrains from the producers, but also distributes a part of it to the poor consumer. As discussed in 19.4.2, the procurement action shifts the supply curve leftwards from  $SS$  to  $S1S1$ . But due to the distribution of foodgrains to the poor consumers, their dependency on the open market would decrease. The aggregate demand curve also, therefore, shifts leftwards i.e. from  $DD$  to  $D1D1$  (Figure 19.3). Due to the shifts in supply and demand curves, for the quantity transacted at  $OQ_2$ , the equilibrium price will be  $OP_2$ . The price  $OP_2$  is higher than  $OP$  (price prevailing in Case 1) but lower than  $OP_1$  (price prevailing in case 2). The quantity transacted in the market will also be lower than in the two cases

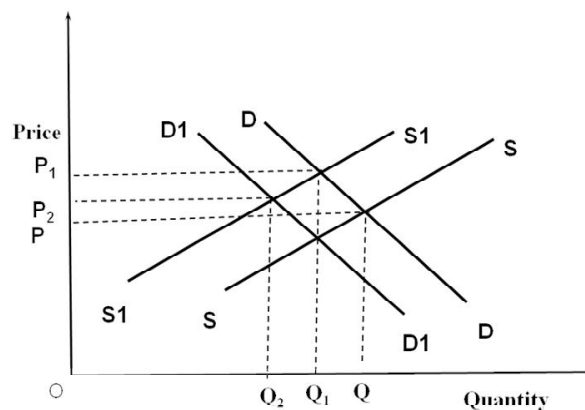


Fig. 19.3: Impact of Government Procurement and Distribution

discussed above. As far as the impact of such government action on the consumption of poor consumers is concerned, the consumption is likely to increase as the poor consumer is able to meet a part of his food requirement at subsidized rate supplied by the government. But he has to buy the remaining requirement from open-market at a higher price. The net impact on the consumption of poor consumer depends upon other factors like: (i) per capita quantity distributed; (ii) subsidized price; (iii) impact of procurement on market supply; (iv) impact of distribution on market demand; etc.

Thus, to sum up, the per capita food consumption in an economy may, therefore, decline even when the per capita food availability is adequate. This may happen when: (i) the government procures foodgrains from domestic producers but uses it only for building buffer stock; (ii) government encourages domestic producers to export but puts restriction on imports; (iii) government procures foodgrains from domestic producers but distributes only a part of it to consumers and hoards the major part for building a buffer stock. In the first two cases, the open-market price would rise in response to which the consumers, especially the poor consumers, would reduce their foodgrains consumption. In the third case, the aggregate consumption depends upon other factors like: scale of ration and its price, open-market price, distributional efficiency, etc.

#### Check Your Progress 2 [answer in about 50 words using the space given]

- 1) Mention any three factors, other than the availability of foodgrains, on which the per-capita consumption of foodgrains would depend?

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- 2) In which period there is a decline in the area under foodgrains production? By how much is the decline and what does such a trend possibly suggest?

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- 3) Over the period 1951-2010, which two periods are marked for the highest and the lowest average annual percentage increase in production of foodgrains? What is their respective average annual percentage increase?

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- 4) Which indicators for India point out to the fact that 'higher growth in foodgrains production is at best a necessary condition for food security?

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- 5) On the basis of the empirical evidence, in the ultimate analysis, how would you characterise the growth in foodgrain productivity in India?

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- 6) State with empirical support, the two broad inferences on the trends in per-capita availability of foodgrains.

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- 7) Which agency/survey provides data useful for deriving the consumption trends of foodgrains in India? What are the two reference periods for which the data is provided by this source? What inference on the trend in per-capita consumption can be made from this data source?

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- 8) Is it necessary for per-capita food consumption to always increase when there is increase in per-capita food availability? If not, state the contexts with implications, when such a situation might occur?

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## **19.5 POLICIES AND PROGRAMMES FOR FOOD SECURITY**

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Many policies and programmes have been implemented by the government towards realising the objective of food security. Some of the programmes have aimed at improving the income levels of the people by providing wage employment, or by improving the skills and earning capacity of the people. Others have aimed at promoting food consumption by providing food at a subsidized rate. Such programmes include specific efforts under PDS, mid-day meals programme for school going children, food for work programme, etc. Some of these programmes are universal in nature while others confine to a particular segment of the population.

### **19.5.1 Efforts Under PDS**

Of all the food safety operations in India, the most far reaching, in terms of coverage as well as public expenditure on subsidy, is the PDS. The main objectives of the PDS are: (i) provide essential consumer goods at affordable price to the poor; (ii) maintain stability in open market prices of foodgrains; (iii) procure foodgrains from surplus regions and distribute it in deficit regions; and (iv) protect the domestic producers of foodgrains from unfair practices of traders by procuring foodgrains directly from farmers at remunerative prices. Both the central and state governments participate in the procurement and distribution of foodgrains. The Central Government has the responsibility for procurement, storage, transportation and bulk allocation of essential commodities (viz. wheat, rice, sugar, imported edible oil and kerosene) to the states. The state governments have the responsibility of its distribution to the consumers through a network of fair price shops (FPSs) spread over the length and breadth of the country. The commodities are made available by the centre to the state governments at a price called the central issue price (CIP). The CIP is usually lower than the economic costs of foodgrains which includes storage and transportation costs. The difference between the economic cost and the CIP is called the 'consumer subsidy' which is borne by the central government. The operation of PDS has resulted in mounting food subsidy owing mainly to the widening difference between the procurement price of the government and the price at which it is finally sold in the PDS. For instance, in 2011 while wheat was procured at a rate of Rs. 11.2 per kg, it was sold at Rs. 4.15 per kg. to a BPL family and Rs. 6.10 per kg. for a APL family. Over the period 1992-2011, the consumer subsidy has risen (from Rs. 2850 crores in 1992 to Rs. 62930 crores in 2011) by a steep 16.7 average annual percent.

### **19.5.2 Food Based Welfare Schemes**

Many specific programmes or schemes involving the distribution of foodgrains at concessional prices to the poor households have been launched by the government.

Some of the important ones are: (i) the Antyodaya Anna Yojana (AAY) launched in 2000; (ii) the Annapurna Scheme launched in 2001; and (iii) the Sampoorna Gramin Rozgar Yojna (SGRY) launched in 2001. The AAY aims at providing subsidized foodgrains (at the rates of Rs. 2 per kg. for wheat and Rs. 3 per kg. for rice) to 1 crore poorest of the poor families (or around 5 crore persons) identified as unable to get two square meals a day on sustained basis through out the year. The identification of the families is done by gram panchayats and gram sabhas. The Annapurna Scheme targets poor senior citizens above the age of 65 years (and who are not covered by the National Old Age Pension Scheme) to provide 10 kgs. of foodgrains per person per month free of cost. The SGRY envisages the undertaking of employment based programmes in which foodgrains (supplied free of cost by the centre to the states) are used to give payment for work done i.e. the compensation for work done is paid in kind through foodgrains. Another important welfare scheme is the 'midday meal programme (MMP)' in government schools in which cooked food is provided to children of classes I-VIII. The programme aims at enhancing the energy and protein level of poor children besides providing an incentive to attend schools. Additional nutrients like iron, folic acid and vitamin-A are also provided to the poor children as supplements in a larger scheme of convergence viz. the 'national rural health mission' (NRHM).

### 19.5.3 National Food Security Mission (NFSM)

The NFSM was launched in 2007 as a crop development scheme. The mission aims at achieving the enhanced production of rice, wheat and pulses by 10, 8 and 2 million tons respectively. The time target for this achievement was the end of XI<sup>th</sup> plan (i.e. 2012). The mission has since achieved the production of 25 million tons of additional foodgrains, a year ahead of its targeted date. The mission's approach consists of: introduction of new farm practices, distribution of HYV seeds, treatment of soil to enhance its fertility for higher productivity, etc.

### 19.5.4 National Food Security (NFS) Bill

Apart from reiterating the provision of foodgrains to priority households, the NFS Bill proposes to reform the targeted-PDS by: (i) doorstep delivery of foodgrains; and (ii) application of ICT (i.e. information and communication technology). The latter is further leveraged with 'aadhaar', the scheme for allotment of unique identification number, for efficient identification/targeting of beneficiaries. In case of non-supply of foodgrains, the Bill proposes to provide a food security allowance to the beneficiaries. The Bill provisions for transparency and accountability by measures like social audits, establishment of grievance redressing mechanisms, setting up of vigilance committees, etc.

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## 19.6 IMPACT OF GOVERNMENT POLICY

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There have been both negative as well as positive effect of government policy on food security vis-à-vis its policies of procurement, distribution under PDS, etc. These can be explained as follows.

**Consequences of Excess Stock:** The policy of procurement, without regard to requirement, has had several deleterious effect. First, it has deprived consumers of more free access to grain. Had the foodgrains not been procured, to that extent a larger quantity would have been available in the market. Second, it is not the case that this additional procurement was in the interest of expanding the buffer stock. The stock of foodgrains has generally been significantly higher than buffer stock norms and this extra

stocking has only led to extra cost of storing them. Third, procurement beyond requirement adversely affects prices. Had the additional supplies been available in the market, it would have had a sobering effect on prices. Lastly, it is common knowledge that losses during storage depends upon the duration of storage, the longer the storage the higher the losses.

**Unhealthy/Unsustainable Production Practices:** High procurement prices of rice encouraged farmers to produce rice, a highly water-intensive crop. The report on long-term grain management by the Abhijit Sen Committee observed that this ‘mono-crop-strategy’, which is environmentally unsustainable, has happened in regions which were not suitable for rice production from long-term sustainability point of view. Further, free electricity to the farmers leads to wasteful use of a scarce common property resource like ground water which cannot be sustained for long. As a result of intensive use of ground water for irrigation, water table in these regions has depleted. Farmers now have to bore much deeper for water. This has drastically increased irrigation costs.

**Decentralisation of PDS:** In recent past, instead of providing foodgrains, the centre is providing financial assistance to the state governments to procure and distribute foodgrains to BPL families at subsidized rates. Although at present, owing to their own infrastructural constraints not many states have come forward to adopt this policy, it is feared that decentralized procurement would increase the likelihood of less procurement, even non-procurement, which would be against the interests of poor farmers (who would be compelled to resort to distress sales). The Abhijith Sen committee had also in its report recommended continuation of the existing minimum support price base system of open-ended procurement of foodgrains by the centre/FCI. The committee has, however, advocated rationalization of the MSP to reflect actual production costs incurred by farmers.

**Exports of Foodgrains:** With the increase in production, India has become a net exporter of foodgrains. This is happening even when a large part of the country’s population goes hungry. The export price of wheat has been pegged at Rs. 4310 per tonne. This means the government is selling grain (wheat and rice) to foreign nationals at a price sold to the BPL families at less than half of its economic cost. On the one hand, the government refuses to lower the issue price for the BPL families on the contention that it would further increase the subsidy burden. But, on the other, it is continuing to provide heavy subsidy to foodgrain exports. Thus, the benefits of food subsidy, paid for by the Indian tax payer, are being enjoyed by consumers and animal feed manufacturers (in countries like South Korea, Malaysia, Bangladesh, UAE, Indonesia, Oman, Iraq and the Philippines) rather than the poor Indian families it is intended for.

**Impact of PDS on Poverty:** The gains in terms of income transfer from PDS to the poor is low as PDS is not effective in states with high incidence of poverty. Consequently, wide inter-state differences in performance of PDS and reduction in poverty levels have resulted. Many empirical studies have revealed that many poor households have been denied ration cards, while many non-poor households have managed to obtain them. Thus, high levels of Type E and Type F errors have hampered the efficiency of PDS in India. Due to these leakages, the subsidy on PDS is ineffectively utilized. NSS consumption data indicates that PDS provided only about 8 to 20 percent of the food purchases of the poor; the rest having been purchased from open market purchases. PDS, therefore, needs massive reforms. In spite of these shortcomings, a subsidized PDS in a well-targeted manner continues to be the best form of food security for the poor.



## 19.7 FUTURE STRATEGY

India has made great strides towards increasing the production of foodgrains since the mid-sixties. Presently, India ranks high in the production of rice, wheat, fruits and vegetables, etc. However, technological break-through achieved in 1960s has outlived its effective duration. The demand for foodgrains is, inter-alia, increasing due to increase in income of people in general. Further, as we noted above, the government has initiated steps to introduce the food security Act which would impose larger burden on our domestic production compelling us to import foodgrains from other countries. This, therefore, requires appropriate strategies to be adopted.

**Institution of Safety Nets:** The poor being ill-equipped to withstand the impact of food inflation, there is a need to institute safety nets for their welfare. For this, the PDS needs to be reformed and further strengthened. Concerted efforts should be made to reduce the targeting errors in the PDS. Many more programmes need to be introduced to improve the purchasing power of the poor and their food intake. As a short term measure, to the extent the supply conditions warrant, essential items like pulses, edible oils, sugar, etc. should be imported to feed the PDS. But the long term strategy should be to increase domestic production and link programmes like food-for-work to generate assets leading to capital formation and sustained capacity to earn income by suitable productive self-employment activities.

**Extension of AAY:** The Antyodaya Anna Yojana should be expanded to cover more poor families with enhanced entitlements. Unlike other schemes such as mid-day meals which are marred by logistic problems, the AAY scheme can be better administered. This would entail increased subsidy which is but a small price to pay for the food security gains of large number of people living below the poverty line. It would also provide a solution to the problem of excessive food stocks.

**Second Green Revolution:** It is projected that the demand for cereals in 2020 range between 224-296 million tonnes. On the other hand, estimates of availability of cereals from domestic production range between 222 to 268 million tonnes. To meet the gap, there is a need for focusing on integrated approaches/mechanisms to achieve a second green revolution.

**Check Your Progress 3** [answer in about 50 words using the space given]

- 1) Mention the four objectives of PDS.

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- 2) Why is the CIP usually lower than its 'economic cost' of foodgrains? What is the difference between the two called as and what has been the extent of its increase over the period 1992-2011?

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- 3) Mention the three important food based welfare programmes. Which one of them is a programme of 'food for work'?

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- 4) What has been the goal of NFSM? Which specific approaches have been adopted for its achievement?

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- 5) How does the NFS Bill propose to compensate cases of non-supply of foodgrains? What are its other important features?

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- 6) What are the two areas of impact of government policy on food security on which the Abhijit Sen committee made its observations? What was the committee's recommendation on the issue of decentralised procurement of foodgrains?

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- 7) What is the reason for the widening inter-state poverty difference? What lacuna in the PDS requires to be effectively addressed to minimise this disparity?

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- 8) Mention the three areas in which concerted action is required as our 'future strategy' on food security.

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## 19.8 LET US SUM UP

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In spite of a boost in foodgrains production and improvement in per capita availability of foodgrains during the post-independence period, there has been a steady decline in the per capita consumption of cereals in India. To enhance the food security of weaker sections of the population, the government has introduced many programmes of which the PDS is the most far reaching. These programmes/schemes involve huge subsidy but due to their inefficient operation have not yielded the expected benefits to the targeted groups. The policy of building huge buffer stock of foodgrains, encouragement of exports at a relatively low price, etc. are counter-productive in their character. Provision of food security to all the people in India is definitely a big challenge. To meet this challenge there is a need for second green revolution and reforming the PDS. In particular, the government has to make concerted efforts to reduce the targeting errors in PDS and introduce other programmes to improve the purchasing power of the poor.

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## 19.9 KEY WORDS

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<b>Consumer Subsidy</b>	: The consumer subsidy is the difference between the economic cost and the central issue price.
<b>Economic Cost</b>	: The cost incurred by the central government by way of procurement, storage, transportation and distribution.
<b>Central Issue Price</b>	: Price at which the central government issues foodgrains to State Governments for distribution through the fair price shops.
<b>Issue Price</b>	: Price at which foodgrains are distributed to the ultimate consumers through fair price shops.
<b>Food Subsidy</b>	: The food subsidy is the total of the consumer subsidy and the carrying cost of the buffer stock.
<b>Minimum Support Price (MSP)</b>	: The price at which the government buys farm produce from farmers. The farmers can sell their produce to the government at this price if they are unable to sell at higher price in the market.

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## 19.10 SUGGESTED BOOKS/REFERENCES FOR FURTHER READING

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Datt and Sundaram: Indian Economy, S.Chand Publisher, Delhi, 2011.

Krishnaji, N and T.N.Krishan: Public Support for Food Security- The Public Distribution System in India, Sage Publications, New Delhi, 2000.

Radhakrishna R (and Others): India's Public Distribution System - A National and International Perspective, World Bank Discussion Paper 380, 1997.

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## 19.11 ANSWERS/HINTS FOR CYP EXERCISES

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### Check Your Progress 1

- 1) See section 19.1 and answer.
- 2) See section 19.1 and answer.
- 3) See section 19.1 and answer.
- 4) See section 19.1 and answer.
- 5) See section 19.2.1 and answer.
- 6) See section 19.2.2 and answer.
- 7) See section 19.2.3 and answer.
- 8) See section 19.2.4 and answer.
- 9) See section 19.2.5 and answer.
- 10) See section 19.2.7 and answer.

### Check Your Progress 2

- 1) See section 19.3 and answer.
- 2) See section 19.3.1 and answer.
- 3) See section 19.3.1 and answer.
- 4) See section 19.3.1 and answer.
- 5) See section 19.3.1 and answer.
- 6) See section 19.3.2 and answer.
- 7) See section 19.3.3 and answer.
- 8) See section 19.4.3 and answer.

### Check Your Progress 3

- 1) See section 19.5 and answer.
- 2) See section 19.5.1 and answer.
- 3) See section 19.5.2 and answer.
- 4) See section 19.5.3 and answer.
- 5) See section 19.5.4 and answer.
- 6) See section 19.6 and answer.
- 7) See section 19.6 and answer.
- 8) See section 19.7 and answer.