3.1 INTRODUCTION

Food security has been a matter of great concern in India since the British period. Even in modern India, chronic hunger and malnutrition persist on a massive scale. India, despite tremendous increase in food production in post-independence era, has failed to ensure adequate access to food for its people. The prevalence of hunger and malnutrition in India is one of the highest in the world and much higher than even very poor countries of Asia and Africa. In 2006, FAO stated that no country in the world comes close to India in terms of the absolute number of people living in chronic hunger\(^47\). According to UNICEF’s Report 2007, the proportion of underweight children (an indicator of malnutrition) was 28 per cent in sub-Saharan Africa but as high as 42 per cent in India\(^48\), a fact corroborated by the result of NFHS-4 (2014-15). Again, FAO (2015) estimates reveal that 194.6 million people (15.2 per cent of total population) are undernourished in India\(^49\).

Since independence, a number of measures have been taken by the government focusing on four aspects viz. production, procurement, storage and distribution of food grains to enhance the food security in the country. In the late 1960’s, Green Revolution (especially in two major crops, wheat and rice) significantly contributed to India’s self-sufficiency and its emergence as a global food grains producer. At present, India is the third largest producer of food grains, with only China and the USA ahead of it.

As for the procurement, storage and distribution of the increased production of food grains throughout the country, a centralized agency, the

\(^{47}\) FAO (2006), The State of Food Insecurity in the World
\(^{48}\) UNICEF (2007), Progress for Children
\(^{49}\) FAO (2015), The State of Food Insecurity in the World
Food Corporation of India (FCI) was set up in the country in 1965. Today the FCI procures wheat and rice at the MSP from 20 thousand and 44 thousand procurement centers respectively spread all over India. Regarding storage, the storage capacity of food grains has increased from 60.7 million tons in 2011 to 81.4 million tons\(^{50}\) in April 2016 that is about three times more than buffer stock norms.

Although, Public distribution was started in the pre independence period 1939 in some cities of India, it was adopted as a system in 1960’s. It was made universal in 1970’s and later on converted into RPDS in 1992. In 1997, Revamped Public Distribution System (RPDS) was again converted into Targeted Public Distribution System (TPDS) in order to develop it as a social safety network especially for the poor people. Presently, the system works with a network of 4.8 lakh Fair Price Shops and it is the largest food retail system of its type in the world. Further, government has launched various programmes namely Antyodaya Anna Yojana (AAY), Annapurna scheme, Mid-Day Meal Scheme (MDMS) etc. under the umbrella of TPDS, to enhance the food security among poor masses. But the prevalence of leakages, error of exclusion, inefficiency, corruption etc. in these programmes deprives the poor from claiming their right of benefits and has subjected the scheme to severe criticism from time to time. Consequently, NFSA was adopted in 2013 to mark a paradigm shift from a welfare approach to a rights based approach to deal with the problem of food security.

Further, taking a cue from the positive international experience of cash transfer, and in view of the limitation of the PDS in the country, India decided to experiment with cash transfer for food security. This experiment has been carried out in Delhi during 2012-14 for the BPL families (the families who were not covered under TPDS due to exclusion error or migration), where an amount of Rs 600 per family per month was decided upon as cash transfer to

the eligible households. Later on this scheme was merged with NFSA in 2014.

In this chapter we discuss the various issue related to present delivery mechanism related to food security in India. The chapter has been developed over seven sections. Section 3.2 presents a historical overview of Public Distribution System. Section 3.3 discusses the production and distribution of food grains in India since independence. Section 3.4 analyses the present status of food security or insecurity in India while section 3.5 discusses the different food schemes in India. Section 3.6 is devoted to an overview of NFSA. Section 3.7 is a concluding section which identifies the emerging issues related to the problem of food security in India.

3.2 HISTORICAL OVERVIEW

Historically, India largely faced the problem of shortage of food grains due to frequent famines. There were 14 famines documented between 11th and 17th century in India (Bhatia, 1985). The first famine relief store was created by ruler Sher Shah Suri in 1486 in order to meet the food requirement amidst the scarcity of food. The great famine of 1770 in Bengal, largely ruled by British East India Company, was drastic one. Company forced the farmers to grow opium and indigo. Consequently, the shortage of food and serve drought claimed the lives of 10 million people (between 1770 and 1774). The British government created the first granaries in 1783-84 in response to this famine. Earlier these famines were localized and it was only after 1860 that famines came to indicate general shortage of food grains in the country. The terrible famine of 1876-79 was spread out across nearly the whole of southern, western and northern India (Tamil Nadu, Maharashtra, Andhra Pradesh, Rajasthan, Uttar Pradesh, Karnataka, Haryana and Madhya Pradesh). Further frequency of famines increased, there being 20 famines recorded between 1860 and 1909. Again in 1943, the Great Bengal Famine claimed around 3.5 million lives.

To resolve the problem of food scarcity, British Government introduced the first structural rationing system in India during the World War II. It was started with Bombay in 1939 and later on extended to other cities and rural areas also. Price Control Conferences held in 1942, laid down the basic principles of a Public Distribution System for India. The Food Department, set up in 1942, formulated an All India Basic Plan that dealt with issues such as procurement, contracts for purchasing agents, public distribution, inspection and storage. The rationing in times of crisis particularly during famine was the historical ancestor to the national policy of stabilization and management of food grains in the post independence era; the PDS system in India has its origin in this rationing system.

With the inception of first five year plan in 1951, public distribution of food grains had become an important element of social policy for planned economic development. It was extended to all such rural and urban areas which suffered from chronic food shortages. The drought and food shortages of the mid-sixties highlighted the need for strengthening the system of food distribution. Consequently, public distribution as a system was evolved in mid 1960’s and other essential commodities like sugar, cooking coal, kerosene oil etc. were also included in the commodity basket of this system. Now the PDS had changed from the typical rationing system to a social safety net work, making available food grains at a 'Fair Price Shop' (FPS) so that accessibility to food grains could be improved.

The Green Revolution in late 1960s and food self-sufficiency brought about a new dimension in the food grains management. This has certainly contributed to better food security status for the growing population. As a result, PDS was made a universal scheme in 1970s for the provision of cheap food to all, but later on it was converted into RPDS in 1992 and finally into TPDS in 1997 especially focusing on poor people.
In brief, four phases are observable in the history of the PDS in India (Swaminathan, 2000). **The first phase was from its origins to 1960:** a period when the system was expanded to other cities and distribution though the Public distribution was generally dependent on imports of food grains.

**The second phase, from 1960 to 1978:** a period where major organizational changes occurred in response to the food crisis of the mid-1960s and Agriculture Price Commission and Food Corporation of India were established in order to strengthen domestic procurement and storage.

**The third phase, from 1978 to 1991:** a period marked by large-scale expansion of the PDS, supported by domestic procurement and stocks.

**The fourth phase, from 1991 to the present:** a period where the policy of universal PDS was replaced by a targeted policy in line with the objectives of economic liberalization and welfare based approach converted into right based approach.

Thus, over the entire period, the PDS has grown from a rationing scheme in selected cities to a national universal programme of food distribution and then modified to a policy targeted at the income-poor and finally to the right based approach.

### 3.3 PRODUCTION AND DISTRIBUTION OF FOOD GRAINS

When India boarded on the path of planned economic development in 1951, the total food grains production was just 51 million tons. However, India overtime has transformed itself from a net importer of food grains in 1950s to being self sufficient in food grains production by 1970’s and was able to generate surplus food grains by 1980’s. There have hardly been any food grains imports after the mid-1970s. The production of oilseeds, sugarcane, fruits, vegetables, and milk has also increased significantly.

In the present time, the production of food grains has increased from 196.8 million tons in 2000-01 to 272 million tons in 2016-17. The production
of wheat has increased from 69.7 million tons in 2000-01 to 88.94 million tons during 2015-16 and that of rice increased from 85 million tons to 108.86 million tons during the same period. Thus the production of wheat and rice has significantly increased over time.

**Table: 3.1 Populations and Food Grains Production in India**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Year</th>
<th>Population (Million)</th>
<th>Food grains Production (Million Tons)</th>
<th>Per capita food grains production (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1951</td>
<td>363.2</td>
<td>50.8</td>
<td>139.8</td>
</tr>
<tr>
<td>2</td>
<td>1961</td>
<td>442.4</td>
<td>82.0</td>
<td>185.3</td>
</tr>
<tr>
<td>3</td>
<td>1971</td>
<td>551.3</td>
<td>108.4</td>
<td>191.2</td>
</tr>
<tr>
<td>4</td>
<td>1981</td>
<td>688.5</td>
<td>129.0</td>
<td>187.3</td>
</tr>
<tr>
<td>5</td>
<td>1991</td>
<td>851.7</td>
<td>176.4</td>
<td>207.1</td>
</tr>
<tr>
<td>6</td>
<td>2001</td>
<td>1033.2</td>
<td>196.8</td>
<td>190.4</td>
</tr>
<tr>
<td>7</td>
<td>2011</td>
<td>1201.9</td>
<td>244.5</td>
<td>203.4</td>
</tr>
<tr>
<td>8</td>
<td>2013</td>
<td>1228.8</td>
<td>265.0</td>
<td>215.6</td>
</tr>
</tbody>
</table>

(Source: Ministry of Agriculture, Govt. of India, Economic Survey 2015-16)

**Table 3.1** shows that the production of food grains has multiplied by more than 5 times between 1951 and 2013 (against a less than 3.5 times increase in population) resulting in a 1.5 times increase in per capita production.

The per capita net availability of wheat has significantly increased between 1951 and 2014 and that of rice also increase from 58 kg per year in 1951 to 72.6 kg per year in 2014. But the per capita net availability of pulses has decrease over time. Per capita net availability of food grains has increased from 144.1 kg per year in 1951 to 179.3 kg per year in 2014 (**Table 3.2**).

As far as supply is concerned it depends both upon production of food grains and its stocks. The situation in India is satisfactory on both these counts but a low yield is still a major concern. For example, the present average yield
of wheat is 2.8 tons/ha in India which is much lower than 9.7 tons/ha in Zambia and that of rice is 2.4 tons/ha which is 1/4th of that in Australia (9.4 tons/ ha).

Table: 3.2 Per-Capita Net Availability of Food Grains\textsuperscript{52} in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Rice</th>
<th>Wheat</th>
<th>Cereals</th>
<th>Pulses</th>
<th>Food grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>58.0</td>
<td>24.0</td>
<td>122.0</td>
<td>22.1</td>
<td>144.1</td>
</tr>
<tr>
<td>1961</td>
<td>73.4</td>
<td>28.9</td>
<td>145.9</td>
<td>25.2</td>
<td>171.1</td>
</tr>
<tr>
<td>1971</td>
<td>70.3</td>
<td>37.8</td>
<td>152.4</td>
<td>18.7</td>
<td>171.1</td>
</tr>
<tr>
<td>1981</td>
<td>72.2</td>
<td>47.3</td>
<td>152.3</td>
<td>13.7</td>
<td>166.0</td>
</tr>
<tr>
<td>1991</td>
<td>80.9</td>
<td>60.0</td>
<td>171.0</td>
<td>15.2</td>
<td>186.2</td>
</tr>
<tr>
<td>2001</td>
<td>69.5</td>
<td>49.6</td>
<td>141.0</td>
<td>10.9</td>
<td>151.9</td>
</tr>
<tr>
<td>2011</td>
<td>66.3</td>
<td>59.7</td>
<td>149.9</td>
<td>15.7</td>
<td>165.6</td>
</tr>
<tr>
<td>2012</td>
<td>69.4</td>
<td>57.8</td>
<td>149.1</td>
<td>15.2</td>
<td>164.3</td>
</tr>
<tr>
<td>2013</td>
<td>58.3</td>
<td>53.2</td>
<td>130.7</td>
<td>15.8</td>
<td>146.5</td>
</tr>
<tr>
<td>2014</td>
<td>72.6</td>
<td>66.8</td>
<td>162.1</td>
<td>17.2</td>
<td>179.3</td>
</tr>
</tbody>
</table>


In any country, the main determinants of food grain’s demand are the size of population, growth rate of population, purchasing power, inflation rate etc. Food being the basic need of life, there is no possibility of postponement and moreover food is perishable. Therefore, to ensure stability in food security, demand and supply of food grains has to be largely adjusted season to season. In a country like India, with large size and high growth rate of population, it is a big challenge to feed its population where agriculture is still a gamble of monsoon. There is always a question what will be the demand and supply of food grains in future.

\textsuperscript{52} The net availability of food grains is estimated to be gross production [- seed, feed and wastage, [- exports] + imports, [+/-] change in stocks. Food grains include all cereals and pulses.
Table: 3.3 Supply-Demand gap for Selected Food Grains
(Million Tons)

<table>
<thead>
<tr>
<th>Food Items</th>
<th>Gap = Supply –Demand&lt;sup&gt;53&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Rice</td>
<td>1.26</td>
</tr>
<tr>
<td>Wheat</td>
<td>21.21</td>
</tr>
</tbody>
</table>


Tables 3.3 and 3.4 summarize some projections of demand and supply in the near future in case of wheat and rice. It is obvious from these two tables that India is going to have excess supply in case of both of its major crops. Further, Table 3.4 shows that this excess supply increasing over time for both wheat and rice indicating India’s future export potential in food grains.

Table: 3.4 Demand and Supply Projections in India
(Million Tons)

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Demand projection</th>
<th>Supply projection</th>
<th>Gap= Supply –Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rice</td>
<td>Wheat</td>
<td>Rice</td>
<td>Wheat</td>
</tr>
<tr>
<td>Kumar (1998)</td>
<td>2020</td>
<td>121.9</td>
<td>100.3</td>
<td>130.4</td>
</tr>
<tr>
<td>Mittal (2008)</td>
<td>2020</td>
<td>96.9</td>
<td>66.8</td>
<td>105.8</td>
</tr>
<tr>
<td></td>
<td>2026</td>
<td>102.2</td>
<td>69.1</td>
<td>111.2</td>
</tr>
<tr>
<td>Ganesh et al. (2012)</td>
<td>2020</td>
<td>101.4</td>
<td>82.6</td>
<td>135.9</td>
</tr>
<tr>
<td></td>
<td>2026</td>
<td>104.7</td>
<td>91.5</td>
<td>153.1</td>
</tr>
</tbody>
</table>


Therefore, it can be safely inferred that supply of food grains production is no longer a problem in India. Rather, pilling buffer stocks and wastage of food grains due to poor storage are posing problems.

In order to manage the increased supply of food grains under the impact

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<sup>53</sup> Demand scenario of GDP growth at 9% is considered here.
of Green Revolution and to maintain the smooth supply in lean season, the need to evolve a system of maintaining buffer stock of food grains was duly recognized in India and the Food Corporation of India (FCI) was established in 1965, to function as an autonomous organization, to undertake purchase, storage, movement, transport, distribution and sale of food grains and other food stuff. It was established with three main objectives of food policy:

1. Safeguarding the interests of the farmers through stable price.
2. Distribution of food grains throughout the country for Public Distribution System and other welfare schemes, and
3. Maintaining the buffer stocks of food grains to ensure National Food Security.

FCI played an important role in transforming the status of nation from insufficient food grains to self-sufficient and from the food grains importer to food grains exporter. FCI has successfully met the challenge of managing the complex task of providing food security for the nation by maintaining the buffer stocks. Its storage capacity has increased from 60.7 million tons (31.6 with the FCI and 29.1 million tons with other agencies) in 2011 to 81.4 million tons (35.7 with the FCI and 45.6 million tons with other agencies) in 2016 as shown in Table 3.5.

**Table 3.5 Storage Capacity of the FCI**

(Million Tons)

<table>
<thead>
<tr>
<th>As on</th>
<th>Capacity with FCI</th>
<th>Storage capacity with other agencies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-04-2011</td>
<td>31.6</td>
<td>29.1</td>
<td>60.7</td>
</tr>
<tr>
<td>01-04-2012</td>
<td>33.6</td>
<td>34.1</td>
<td>67.7</td>
</tr>
<tr>
<td>01-04-2013</td>
<td>37.7</td>
<td>35.4</td>
<td>73.1</td>
</tr>
<tr>
<td>01-04-2014</td>
<td>36.8</td>
<td>37.9</td>
<td>74.7</td>
</tr>
<tr>
<td>01-04-2015</td>
<td>35.6</td>
<td>35.2</td>
<td>70.8</td>
</tr>
<tr>
<td>01-04-2016</td>
<td>35.7</td>
<td>45.7</td>
<td>81.4</td>
</tr>
</tbody>
</table>

(Source: http://fci.gov.in/storages.php)
As per government rule, the required stock of wheat and rice has to be 31.9 million tons, which includes 26.9 million tons as buffer stock and another 5 million tons as strategic reserve. Figure 3.1 shows that since 2000-01, our buffer stocks have exceeded the mandated requirement, except between 2005-06 to 2007-08. In fact, the buffer stock went up as high as 80.5 million tons in 2012-13 i.e. two and half times of the required stock. Which came down to 55.54 million tons in June 2017 but even now it is almost 24 million tons in excess of the norms. This excess procurement by the FCI has resulted in mismanagement of food grains.

Figure 3.1: Level of buffer stocks vs. norms of wheat and rice (million tons)

(Source: Agriculture Statistic at a Glance and DFPD)
even a single food grains in a poor country like India is a “crime”. In 2011, the Supreme Court directed the Centre to release five million tons of food grains immediately for distribution in 150 most poverty-stricken districts or other poorer segments in the country\textsuperscript{55}. Quantity of wheat equivalent to the entire wheat production of Australia goes waste each year in India, according to a report on global food wastage\textsuperscript{56}. An RTI reply has revealed that at least 17,546 tons of food grains were damaged between 2009-10 and July 2012 in the FCI godowns\textsuperscript{57}.

"Food grains are lost in India mainly due to lack of facilities in storage and transportation. About 20 million tons of wheat is lost every year as a result of that," said Tim Fox, Head of Environment at the UK-based body\textsuperscript{58}. Similar views have been expressed in Global Hunger Index Report-2014 which noted that ‘wastage of food is ironical given the fact that India is among the world's most hunger-ridden countries. India ranks 21\textsuperscript{st} from the bottom in the 2014 ‘Global Hunger Index’ with nearly one-fifth of total population and 43.5 per cent of under-five malnourished children\textsuperscript{59}. Recently (2016) a Supreme Court bench led by Chief Justice T S Thakur said that Centre will be held accountable for the loss of Rs 18,000 crore that is being incurred annually over holding food grains stocks\textsuperscript{60}.

The logistical problems such as lack of warehousing capacity and sub-par storage conditions, delay in procurement, open storage, damage during transportation, exposure to elements of nature and hurdles created by local traders at the time of procurement are the root cause of wastage of food grains in India. The bumper buffer stocks with the FCI and wastage of food grains point toward distributional problems in the system.

\textsuperscript{55} The Hindu dated May 15, 2011
\textsuperscript{56} http://www.foodnavigator-asia.com/Policy/India accessed on January 10, 2013
\textsuperscript{57} http://articles.economictimes.indiatimes.com/ accessed on August 26, 2013
\textsuperscript{58} http://articles.economictimes.indiatimes.com/ accessed on Oct 25 , 2013
\textsuperscript{59} GHI 2016 Annual Report
\textsuperscript{60} The Indian Express dated January 9, 2016.
3.4 STATUS OF FOOD SECURITY: SCARCITY AMIDST PLENTY

From the preceding discussion, it emerges that India is facing a paradoxical situation of having largest hunger population with plenty of buffer-stocks of food grains. Various national and international researches indicate that hunger and malnutrition is deep rooted and widely prevalent throughout the country as indicated by the health status of India’s population. According to NFHS-3 (2005-06), almost half of children (48 per cent) are stunted and 43 per cent are underweight under 5 years. The proportion of children who are severely malnourished is also significant in that 24 per cent children are severely stunted, 16 per cent are severely underweight and 20 per cent of children are wasted.

The problem of anemia is very common in India and its incidence is comparatively more among children and women. NFHS-4 shows that more than one half women (53.1 per cent) and more than one fifth men (22.7 per cent) are anemic. The situation is more adverse in case of children where 6 in 10 children (58.4 per cent) in the age group of 6-59 months are anemic, including 40 per cent moderately anemic and 3 per cent severely anemic. Moreover the prevalence of anemia among children aged 6-35 months has increased from 74 per cent in NFHS - 2 (1998-99) to 79 per cent in NFHS - 3 (2005-06) and more than one fifth (22.9 per cent) of women (between 15-49 years) have a BMI below 18.5 indicating chronic nutritional deficiency.

Further, NFHS-4 data (2015-16) shows that 38 per cent of children are stunted under the age of 5 years, a fall of just 9 percentage points in a decade (48.4 per cent in NFHS-3). The worst performing states are Bihar and Madhya Pradesh where the percentage of stunted children is 48 per cent and 42 per cent respectively. But the percentage of wasted children has increased from 19.8 in
NFHS-3 to 21.0 in NFHS-4\textsuperscript{61}. India has failed to make progress on reducing anemia; the proportion of anemic children aged 6 to 59 months fell just eleven percentage points from 69.4 in 2005-6 to 58.4 per cent in 2015-16.

UNICEF findings on malnutrition also indicate that 54 per cent (i.e. 55 million) of the global total of underweight children and 37 per cent (62 million) of global stunted children are in India. Thus one out of two underweight children in the world and two out of five stunted children are in India\textsuperscript{62}. Some progress has been noted regarding the wasting and stunting by the UNICEF as the wasting in children fell from 20 per cent to 15 per cent between 2005–2006 and 2013–2014, and stunting fell from 48 per cent to 39 per cent during the same period (UNICEF 2014).

Further, in spite of good economic growth in the last decade, the level of poverty and inequality is very high. As per World Bank Report (2012), about 32.7 per cent of the Indian population lives on less than US$ 1.25 per day and a quarter of all undernourished people across the world reside in India. Regarding inequality in India, UNDP-2014 reveals that inequality and social exclusion is very high in India where the bottom 10 per cent of the population account for only 3.6 per cent of the total consumption expenditure and the top 10 per cent account for 31 per cent; the gap between the rich and the poor has increased during the high economic growth phase.

However, some improvement is seen in the values of HDI and GHI over time. The HDI score has improved from 0.539 in 2005 to 0.624 in 2016. Similarly GHI and FSI also show some improvement but India’s ranking is still very low as shown by various international organizations like UNDP, IFPRI and other agencies indicate (Table 3.6).

\textsuperscript{61} The Hindu dated January 21, 2016
\textsuperscript{62} The Hindu dated October 20, 2014
Table: 3.6 India’s ranking in Different Surveys at the Global Level

<table>
<thead>
<tr>
<th>S. No</th>
<th>Index</th>
<th>Values (2005)</th>
<th>Value (2016)</th>
<th>Rank/Total</th>
<th>Agency/ Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Human Development Index (HDI)</td>
<td>0.539</td>
<td>0.624</td>
<td>131/188</td>
<td>UNDP 2016</td>
</tr>
<tr>
<td>2</td>
<td>Global Hunger Index (GHI)</td>
<td>38.5</td>
<td>28.5</td>
<td>97/118</td>
<td>IFPRI 2016</td>
</tr>
<tr>
<td>3</td>
<td>Multi Dimensional Poverty Index (MPI)</td>
<td>0.298 (2010)</td>
<td>0.282</td>
<td>_____</td>
<td>UNDP 2015</td>
</tr>
<tr>
<td>4</td>
<td>Food Security Index (FSI)</td>
<td>45.5 (2012)</td>
<td>49.4</td>
<td>75/128</td>
<td>DuPont Chemicals 2016</td>
</tr>
<tr>
<td>5</td>
<td>Child Development Index (CDI(^{63}))</td>
<td>26.62 (2000-6)</td>
<td>23.46</td>
<td>112/141</td>
<td>CDPR (UK) 2012</td>
</tr>
</tbody>
</table>

It can be concluded from above that despite impressive growth in agriculture production, India has failed to make any significant progress in reducing poverty and hunger. Vast majority of population (especially children and women) remain underfed, malnourished and deficient in term of important health indicators. This is unacceptable both on humanitarian grounds and resulting poor quality of human resource in the country. What can or has been done to change this pathetic situation in India? This takes us to the next section.

3. 5 DIFFERENT SCHEMES FOR FOOD SECURITY

There is no denying fact that India, both at central and state level, is making all around efforts to ensure appropriate food to the poor people at affordable prices through various schemes. This section discusses the major schemes launched by government from time to time to improve food security. These schemes include Public Distribution System (PDS), Targeted Public Distribution System (TPDS), Antyodaya Anna Yojana (AAY), Annapoorna Scheme, Mid-day Meals scheme (MDM) etc.

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\(^{63}\) The Child Development Index Report released by NGO ‘Save the Children’ makes an aggregate analysis of the Child Development Index in three time periods — 1995-1999, 2000-2004 and 2005-2010 — of 141 countries across the globe. India’s CDI ranking fell by three notches (100 to 103) between 2000 and 2004 and by another nine ranks (103 to 112) between 2005 and 2010.
3.5.1 Public Distribution system (PDS)

As stated earlier, public distribution was introduced in India in 1939, in Bombay by the British Government as a measure to ensure equitable distribution of food grains to the urban consumers in response to increasing prices due to World War II and later on it was extended to some other selected cities and regions, which were facing severe scarcity. The Food Department, set up in 1942, created an All India Basic Plan that dealt with issues such as procurement, contracts for purchasing agents, inspection, storage and public distribution. In 1943, the rationing system was extended to some more cities and towns in response to Great Bengal famine and by 1946 it covered about 771 cities and towns.

After independence, public distribution became an important ingredient of socio-economic policy for enhancing food security among poor people and was extended to all such rural and urban areas which suffered from chronic hunger and food shortages. The Food Grains Enquiry Committee (Ashok Mehta Committee Report, 1957) advocated for opening of more Fair Price Shops and zonal policy of bringing together surplus and deficit areas within a zone and controlling prices within each zone. Consequently, the number of the FPSs almost tripled from 18000 in 1957 to 51000 in 1961 within a short span of 4 years. However, the public distribution was largely dependent on imports of food grains under PL-480 from US during 1958-1966.

PDS was further expanded in 1960s in response to the food production crisis in 1964-66 and Food Corporation of India was established in 1965, to function as an autonomous organization, and undertake purchase, storage, movement, transport, distribution and sale of food grains and other food stuff. In the same year Agricultural Prices Commission (APC) was set up (presently known as Commission of Agricultural Costs and Prices (CACP). FCI procured the food grains, on CACP's recommended prices, distributed them through the PDS and kept a part of the procured quantity as "buffer stocks" to meet any
unforeseen crisis situation. The Food Grains Policy Committee (1966) identified three objectives of food policy: to achieve self-reliance in production, to ensure equitable distribution and to bring about price stability in the context of both production and distribution. The Fifth Five Year Plan (1974-78) advocated an effective Public Distribution System for food grains and other essential commodities and related it with prices, income and wage policy.

The Sixth Five Year Plan (1980-85) predicted that the Public Distribution System would “have to be so developed that it remains hereafter a stable and permanent feature of our strategy to control prices, reduce fluctuations in them and achieve an equitable distribution of essential consumer goods”\(^{64}\). In 1982, Essential Supplies Programme was introduced to expand the PDS through more FPSs, including mobile FPSs, to promote stronger consumer protection. The number of the FPSs also increased from 2.30 lakhs in 1980 to 3.02 lakhs in 1984, an increase of 30 per cent in four years.

In 1984, Government of India created the Ministry of Food and Civil Supplies with two departments namely Department of Food and Department of Civil Supplies, the latter being in charge of the PDS. An evaluation study conducted by the Programme Evaluation Organization (PEO) on Essential Supplies Programme (1985) identified major weaknesses and deficiencies of PDS in certain operational areas such as irregular supply (to the FPSs and in turn to consumers), poor quality leading to non-drawl, non-lifting of sanctioned quotas by the FPSs in the rural areas, general pessimism expressed by the FPS dealers about the profitability of running FPSs, under-weighing, etc. During the Seventh Five Year Plan (1992-97), an Advisory Committee on the PDS headed by the Union Minister for Food & Civil Supplies was constituted by the Government of India to review its working from time to time.

\(^{64}\) http://planningcommission.nic.in/reports
3.5.2 Revamped Public Distribution System (RPDS)

Revamped Public Distribution System (RPDS) was launched in June, 1992 with a view to strengthen and restructure the PDS. Its main objective was to meet the need of the poor people who lived in hilly, remote and inaccessible areas. Under RPDS, 1752 blocks, falling under Desert Development Programme (143), Drought Prone Areas Programme (602), Integrated Tribal Development Projects (1073) and Designated Hill areas (69), were identified as economically and socially backward blocks (135 of them overlapped). Essential commodities like wheat, rice, levy sugar, imported edible oil, kerosene and soft coke were supplied in the RPDS blocks at subsidized price. Food grains for distribution in the RPDS areas were issued to the States at 50 paise below the Central Issue Price. The scale of issue was raised to 20 kg per card. The RPDS included area approach for ensuring effective reach of the PDS commodities to disadvantaged people. State Governments were given the responsibility of ration delivery at the doorstep of the FPSs in the identified areas. RPDS was to focus on infrastructure requirements like additional FPSs, storage capacity, etc. and additional commodities such as tea, salt, pulses, soap, etc. PEO Evaluation of the working of the RPDS (1995) indicated some gaps and constraints in the implementation, availability of very limited door delivery services to the FPSs, inadequate facilities for storage at the FCI, poor quality of food grains and the FPS level gaps in opening time, working hours, regularity of distribution and communication to consumers etc.

3.5.3 Targeted Public Distribution System (TPDS)

In 1997, following the advice of the World Bank, the Government of India launched TPDS with a focus on the poor and to bring the budgetary food subsidies under control. The policy initiated targeting of households on the basis of poverty line defined by the Planning Commission and divided the households into two categories namely Below the Poverty Line (BPL) and Above the Poverty Line (APL). Both these categories were treated differently in terms of quantities and prices hereafter.
The Planning Commission obtained state-wise estimates of the total number of the BPL beneficiaries that would be covered under the TPDS. States were given the responsibility of the identification of the poor for delivery of food grains and for its distribution in a transparent and accountable manner at the FPS level. TPDS intended to target the subsidized provision of food grains to ‘poor in all areas’ unlike RPDS, which laid stress on ‘all in poor areas’.

The guidelines for the implementation of TPDS were issued by the Ministry of Consumer Affairs, Food & Public Distribution in 1997. The salient features of TPDS were as follows:

1. TPDS proposed to issue 10 Kg of food grains per BPL family (revised to 20 Kg w.e.f. April, 2000) at specially subsidized rates.
2. States should design credible financial and administrative arrangements to ensure the physical movement of food grains to the FPSs and subsequent issue to the poor.
3. TPDS proposed to extend the issue of specially subsidized food grains to the beneficiaries in Antyodaya AnnaYojana and Annapurna scheme. States should take proper care to see that these food grains are actually issued to the beneficiaries.
4. Gram Panchayats and Gram Sabhas should be involved in the initial identification of beneficiaries. Doubtful cases should be verified. Urban slum dwellers would generally qualify for selection.
5. The issue of ration card would give entitlement to its holder to obtain certain essential commodities, at a certain scale, at certain prices, at specified outlets and in as many installments during the month.
6. States should keep the end retail price at the FPS level to their BPL population at not more than 50 paise per Kg above the corresponding Central Issue Price. States were free to fix the margin on APL price within the limit of the actual expenses incurred.
7. All the States were recommended adoption of the Tamil Nadu provision of pasting the photo of the head of the family on the card.

8. New cards could be issued to eliminate bogus cards.

9. The Central Government was to be responsible for ensuring availability, acceptability and affordability; the states should ensure accessibility of food grains to the poor through a network of the FPSs.

10. The details that needed to be displayed at the FPS are: i) total number of cards attached to the shop–BPL & APL, ii) monthly allocation made to the shop, iii) last month’s issue from the shop, iv) issue prices, v) scale of issue, and vi) authority to report grievances. Panchayats and Nagar Palikas should oversee the FPSs.

Currently, Public Distribution System (PDS) in India is the largest distribution network (with a coverage of about 180 million households) of its kind in the world. But it is criticized on multiple grounds like problem of inclusion and exclusion, leakages, bogus ration cards, quality of food grain, diversion of food grains etc. According to a Performance Evaluation by the Planning commission (PEO 2005), ‘the transition from universal PDS to TPDS has neither benefited the poor, nor helped reduce budgetary food subsidies.’ The World Bank (2011) has also observed that “No country in the world has a well-functioning PDS system. India is no exception. India’s public distribution system has limited benefits due to huge leakage and wastage.”

3.5.4 **Antyodaya Anna Yojana, (AAY)**

Antyodaya Anna Yojana (AAY) was started in December, 2000 for one crore poorest of the poor families under TPDS with an objective to ensure food security among them. Since then, it has been expanded thrice. The first expansion took place on 5th June, 2003, second on 3rd August, 2004 and the third one on 12th May 2005. In every extension, 50 lakh families were added and therefore at present it covers about 2.5 crore families. Gram Panchayats in rural areas and local bodies in urban areas have carried out the identification of
beneficiaries from amongst the poor families within the state. Initially, each eligible family was given 25 Kg of food grains per month at a subsidized rate of Rs.3 per Kg for rice and Rs 2 per Kg for wheat and this quantity was increased to 35 Kg in 2002. The scheme focused mainly on marginal farmers, rural artisans/craftsmen such as potters, tanners, weavers, blacksmiths, carpenters, slum dwellers, and persons earning their livelihood on daily basis in the informal sector like porters, coolies, rickshaw pullers, hand cart pullers, fruit and flower sellers, snake charmers, rag pickers, cobblers, destitute, households headed by widows or terminally ill persons, widows or single women or single men with no family and primitive tribal households. BPL families of the HIV positive persons are also included now on priority basis.

3.5.5 Annapurna Scheme

The Annapurna scheme was launched by the government in April, 2000 as a centrally sponsored scheme. The budget allocation during the first year (2000-01) of its operation, was 100 crores. Under this scheme 10 Kg of food grains per month is provided free of cost to the old destitute people of 65 years and above age. This age limit was reduced to 60 years in 2009 to extend the coverage. The main eligibility criteria for availing the benefit of this scheme are that the person should not be in receipt of pension under the National Old Age Pension Scheme (NOAPS) or state pension scheme. The beneficiaries under the scheme are selected by the Gram Sabha and the Gram Panchayat distributes the entitlement cards to the beneficiaries. Funds are currently released to the State Departments of Food & Civil Supplies in one installment. This Department then ties up with the Food Corporation of India (FCI), to release food grains district wise on payment of the cost of food grains at CIP rates directly to the FCI offices.

3.5.6 Mid-Day Meal Scheme (MDMS)

Mid Day Meal Programme was introduced for destitute children of the Madras Municipal Corporation in the British times. Tamil Nadu was the first state in post independence India to introduce it in schools in Chennai in 1960’s
to increase the number of children coming to school. By the mid 1980s four states/UT namely Gujarat, Kerala and Tamil Nadu and Pondicherry had universalized a cooked Mid Day Meal Scheme. By 1990-91, 12 states had adopted the scheme for all or most of the students in their area. For some states like Andhra Pradesh and Rajasthan, entire funding came in form of foreign aid.

As per Constitutional provisions to raise the level of nutrition among children and enable them to develop in a healthy way, the National Programme of Nutritional Support to Primary Education (NP-NSPE) was launched as a centrally sponsored scheme on 15th August, 1995. In 2001, the Supreme Court of India directed the government to provide cooked meals to all children in all government and aided primary schools.

The objectives of scheme were to enhance enrolment, retention and attendance of children in schools apart from improving their nutritional levels. Initially, it was implemented in 2,408 blocks of the country and included students from class I to V. In 2007, the scheme was extended to include upper primary (classes VI to VIII) children in 3479 Educationally Backwards Blocks (EBBs). It was universalized at the elementary level in the year 2008. Central Assistance under the scheme consisted of free supply of food grains at 100 grams per child per school day. MDMS is managed and implemented by School Management/Village Education Committees, Panchayati Raj Institutions, and Self-Help Groups. Presently, the scheme includes Madarasas and Maqtabs also. In 2009, food norms were revised to ensure balanced and nutritious diet to children of upper primary group by increasing the quantity of pulses from 25 to 30 grams, vegetables from 65 to 75 grams and by decreasing the quantity of oil and fat from 10 grams to 7.5 grams per child per day.65

MDMS covered 7.18 crore primary school children and 3.36 crore upper primary school children in 2010–11. The coverage of children in the States of Bihar (43 per cent), UP (57 per cent) and Jharkhand (58 per cent) is below the

65 http://mdm.nic.in accessed on May 5, 2016
national average of 72 per cent, whereas it is well above the national average in Chhattisgarh (83 per cent) and Odisha (82 per cent). During 2013-14, 10.45 crore children from 11.58 lakh Schools were covered under the scheme. The government allocated Rs.7, 324 crore for the scheme in 2007-08 and this amount increased to Rs. 13, 215 crore for 2013-14 but the amount decline to Rs 9700 crore in 2016-2017.

In 2010, the Planning Commission brought out an evaluation report of the national MDM scheme. Some of the major findings of the report were as follows:

1. Except for Tamil Nadu and Kerala, in rest of the states a majority of sample schools, on an average, suffer from the unavailability and poor functional condition of kitchen sheds.

2. All the states suffer from the unavailability or poor functional condition of store rooms. The condition is marginally better in Tamil Nadu.

3. There is a serious shortage of cooks for CMDM in the sample schools across the country Except for Kerala and Andhra Pradesh.

4. It has been observed that most of the states do not follow the guidelines of Government of India to deliver the food grains at the school point by PDS dealers resulting in leakage in the supply of food grains.

5. In general, visible shortage of basic infrastructural facilities and manpower (that are crucial for the success of the Cooked Mid Day Meal programme) were noted.

There are certain critical issues that need to be solved such as abnormality in supply of food grains to schools, poor quality of food, poor coverage under School Health Programme, poor infrastructure especially of kitchen sheds, poor hygiene, caste based discrimination in serving of food, poor

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66 http://mdm.nic.in accessed on March 8, 2015
67 http://mdm.nic.in accessed on March 10, 2015
68 Planning Commission 2010 Pp iv-vi
community participation etc. Beside this, there are various incidents where children fell ill due to consuming contaminated food and some time it lead to the death of children (in 2013, 24 students died of eating poisoned food in Chapra, Bihar).

3.5.7 Cash Transfer for Food- Dilli Annashree Yojana

The state government of Delhi launched Dilli Annashree Yojana in 2012 with an aim to provide food security to 2 lakh vulnerable households which were not covered by the PDS system. Under this scheme, a monthly amount of Rs 600 per household (irrespective of the size of household) was directly transferred to the aaddhar linked bank account of the senior most female head of the family. Government followed three sets of parameters namely geographical, social and occupational for the identification of poor population. The scheme included families residing in Notified/ Non- Notified slums, single women, households having old people, transgender, children living without adult protection, differently-abled persons, households with people who suffer from debilitating and stigmatized ailments (like HIV/ AIDS, TB, Leprosy etc.), rag pickers, unskilled construction workers, street vendors, porters, causal daily wage labour, causal domestic workers, unskilled workers in household industries and cycle rickshaw pullers. An amount of Rs 150 cr. was allocated in the annual budget 2012-2013. Later on in 2014, the scheme was merged with the National Food Security Act.

Government’s initiatives on digitalization of the economy and cash transfers, direct to the beneficiaries are claimed to be paving the way for a significant reduction in the Centre’s overall spending on subsidies and welfare benefits. Therefore, pilot project for Direct Benefit Transfer of food subsidy in two Union Territories of Pondicherry and Chandigarh has been implemented in two phases: the first one ran from September 2015 to February 2016 and the second one from June to July 2016.
3.6 NATIONAL FOOD SECURITY ACT (NFSA)

Despite ample production of food grains, existence of food insecurity at the micro-level in the country has remained a big challenge for India. TPDS had a large exclusion error and failed to meet the specific objectives for example, CACP estimated that there were 40.4 per cent leakages from the PDS in 2009-10. India has been pursuing various social welfare measures, but the results of these measures in reducing poverty and hunger are far from satisfactory. Hence, rights based legislative measure namely NFSA was adopted in 2013 to ensure legal entitlement to minimum food for every citizen.

National Food Security Act (NFSA) aims to provide food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto.\(^{69}\)

The Act aims to cover 75 per cent of the rural population and up to 50 per cent of the urban population.

**The main Provisions\(^ {70}\) of the Act are as:**

1. 75 per cent rural and 50 per cent of the urban population are entitled for three years from enactment to five kg food grains per month at Rs 3, Rs 2, and Rs 1 per Kg for rice, wheat and coarse grains (millet) respectively.

2. The poorest that are covered under the Antyodaya Anna Yojana will remain entitled to the 35 Kg of grains allotted to them under the mentioned scheme.

3. Pregnant women and lactating mothers are entitled to a nutritious "take home ration" of 600 Calories and a maternity benefit of at least Rs 6,000 for six months.

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\(^{69}\) NFSA 2013  
\(^{70}\) NFSA 2013
4. Children 6 months to 14 years of age are to receive free hot meals.

5. The central government will provide funds to states in case of short supplies of food grains.

6. The states are responsible for determining eligibility.

7. The current food grain allocation of the states will be protected by the central government for at least six months.

8. The state government will provide a food security allowance to the beneficiaries in case of non-supply of food grains.

9. The Public Distribution System is to be reformed.

10. The eldest woman in the household, 18 years or above is the head of the household for the issuance of the ration card.

11. There will be state- and district-level redress mechanisms.

12. The cost of the implementation is estimated to be Rs 1.25 lakh crore, approximately 1.5 per cent of India’s GDP.

Thus, food became a legal right of every citizen under this Act and anyone can seek justice by approaching the court in the event of state’s inability to give the entitled food to him/her. The important strengths of NFSA are an integrated solution to human food requirements at various stages of life, food security allowance, child and maternal health care, women empowerment for food grain distribution etc.

However, the million dollar question is: can NFSA really solve the problem of hunger and malnutrition? Parikh (2014) shows that present consumption of cereals on an average is 10.7 Kg per person per month. A consumer after getting 5 Kg of cereals as per NFSA still needs to buy remaining 5.7 Kg from the open market (assuming that the system is hundred per cent effective). Besides this, NFSA provides only wheat and rice but a nutritional diet includes other food items also like pulses, milk, milk product, vegetables, fruits etc. The existing TPDS has a large exclusion error and
deprives a section of poor people from the benefits of the system. In order to eradicate hunger in India, it is utmost necessary to reduce rural poverty and cover all excluded poor people under the umbrella of the NFSA.

The Food Security Act has been a topic of hot debate among the academician as well as policy makers from the very beginning. It has been a subject of criticized for its shortcomings related to its narrow approach to food security, the population under its coverage, the fiscal challenges, inflationary pressure on the food items, inadequate storage facilities, inadequate coverage of the population, huge expenditure on the welfare schemes, developing dependency syndrome among the people etc.

### 3.7 FOOD SECURITY IN INDIA: EMERGING ISSUES

In spite of high production and huge buffer food-grains stock, there are a large number of people in India who do not have enough food and become the victim of chronic hunger and starvation even after 70 years of independence. The present situation raises serious doubts about the effectiveness of food security network and government’s food policies. Following are the major issues confronting Indian economy that emerge from the preceding discussion with regard to food security:

**Production and Distribution:** At present, India is not only self-sufficient in the production of food grains but is also able to export surplus of food grains. Thus, the problem today is not of the production but is associated with the storage and distribution of food grains. There are inadequate and poor storage facilities for food grains. As a result, millions of tons of food grains perish especially during rainy season. Further, poor and insufficient transport system is a big hindrance in the distribution of goods to the targeted poor people.

**Imperfect Agriculture Market:** Most of the agriculture markets are located in town or cities. As a result, the small farmers especially those who do
not have sufficient transport facilities have to travel on an average about 10 km to find the nearest Mandi. After that, multiple layers of middlemen between the farmer and the consumers raise the price of food grains by multiple times for the consumers without raising the income of the farmers.

**Universal vs. Targeted:** Which of the two: universal or targeted PDS is a more effective food security mechanism? The answer to this question is not easy. Major researches on this aspect of the PDS has been carried out by Sen (1992), Cornia and Stewart (1995) and Swaminathan (2000). Sen (1992) has argued strongly in favour of universal transfers. According to him, all the individuals have certain basic rights, including the right to a minimum level of food, basic education and health care. In a poor country like India, majority of the people lack these basic rights. Beside this, targeting in itself involves the error of inclusion and exclusion (Type-II error and termed 'information distortions' by Sen) and leakages of grain. However, targeted PDS is advocated on the ground of controlled budgetary food subsidies and targeting the poorest of the poor people. Moreover, universal PDS seem to be unviable in India, as there is large heterogeneity in income groups.

**Leakages and Diversion of Food grains:** Leakage is part of the SFAs that does not reach the targeted beneficiaries but is diverted to the open market. This diversion is mainly due to the high difference in the price of food grains under the PDS and price of grain in the open market. It has been estimated that about 38 per cent of wheat, 36 per cent of rice and 39 per cent of sugar does not reach the actual beneficiaries of the PDS (Ahluwalia, 1993). Similarly a survey on the BPL household shows that they get 84-88 per cent of their full entitlements on an average, with 25 per cent of households not getting their full entitlement (Khera, 2011).

**Inter-State Variations of the PDS Performance:** The most successful states with regard to functioning of the PDS are Tamil Nadu, Himachal Pradesh and Andhra Pradesh (universal or quasi universal PDS). Further, Orissa and
Chhattisgarh have made significant improvements in the delivery system to ensure greater monitoring, management and transparency in last few years. These are reforming states where functioning of the PDS has improved a lot and diversion of food grains has declined very rapidly. In Chhattisgarh, leakage in food grains has declined from 52 per cent in 2004-05 to 11 per cent in 2009-10 and from 76 per cent to 30 per cent in Orissa over the same period (Khara, 2011). The leakage of food grains in Assam, Uttar Pradesh and West Bengal ranges from 28 percent to 37 percent.\(^{71}\)

**Error of Inclusion and Exclusion:** PDS has a considerable exclusion error where a large number of the poor are excluded. Further, about 58 per cent of the subsidized food grains issued from the Central Pool do not reach the BPL families because of identification errors, non-transparent operations and corrupt practices in the implementation of TPDS (Planning Commission, 2005). Almost two-thirds (63 per cent) of the poor households were not covered by the system, indicating a substantial systemic exclusion error and 62 per cent of all the BPL and AAY cards were in the hands of non-poor households, suggesting a large systemic inclusion error (Svedberg, 2012). Andhra Pradesh, Kerala & Himachal Pradesh have been found to have very low errors of exclusion but high errors of inclusion whereas both types of error are very low in Madhya Pradesh, Punjab and Rajasthan.

**In-Kind Vs Cash Transfer:** There has been an ever-growing concern among academics and policymakers about reforming the PDS programme and some have advocated replacement of the present TPDS by cash transfer. It will not only solve the problem of massive leakage but also gives more choice to the consumers for their nutritious food selection. On the other hand, other suggests strengthening of the benefits of present TPDS by extending its coverage and improving the delivery mechanism through greater use of technology and effective monitoring mechanism.

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In brief, it can be concluded that food security has been an issue of great concern in India since independence both politically and economically. Various policy measures have been taken by the government to enhance the availability and accessibility of food to poor and vulnerable people. India achieved self-sufficiency in production of food grains under the impact of green revolution in the late 1960s and the FCI succeeded in building buffer stocks of food grains by late 1990s. Food delivery mechanism was reformed from the PDS to RPDS in 1992 and to TPDS in 1997 and NFSA in 2013 along with other schemes like MDMS, AAY, Annapurna etc. but still the incidence of hunger, malnutrition and poverty is very high in India.

Presently, India faces its biggest challenge and the paradoxical situation of a large segment of population being malnourished or starved amid plenty of food. It points toward the distributional inefficiencies in the system and underlines urgent need to find a viable solution to the problem.