CHAPTER - I

INTRODUCTION

1.1 Introduction:

Food security is the backbone of the national prosperity and wellbeing. Ensuring food to all is a precondition for health and nutritional wellbeing of a nation. Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (USAID). In this connection food security has three dimensions; (i) availability and stability of safe and nutritionally adequate food both at national and household level; (ii) the need to ensure that each household has physical, social and economic access to sufficient food on a sustainable basis; and (iii) efficient utilization of food to derive sufficient nutrition during a given period from its food supply. Despite of decline in poverty, close to 30 percent of population are food insecure and nearly 46 percent children are malnourished in India. But yet India has a stock of more than 60 million tonnes of food grains stored through government procurement. India achieved self-sufficiency in food grain production after mid 1980s. Per capita availability of food grain also increased significantly in India science from the independence. Hence, it is now widely recognised that food security is not confined only to production and availability of food but ultimately the key question is the ability of people to access the food and utilise it effectively at all times to lead a healthy life. Nutrition security is an important dimension of food security. At national level, India is shelf sufficient to meet the domestic demand of food grains but food security issue differ across the states. For example, Punjab is food surplus state while Kerala is a chronic food deficit state. Problems of north eastern states are different from other states. A state may consider as food secure or food surplus one at macro level but there may be food insecurity in the household level.

Food security is a multidimensional and complex concept which can be addressed with administrative level such as national food security and state food security as well as with household and individual level. Food security in macro level or national level is determined by food production and availability but in micro level or household level it is
mostly depend on the household ability to access the food. Measuring food security is an ongoing challenge for the researchers. The concept of food security has undergone considerable changes in recent years. Food availability and stability were considered good measures of food security till the seventies. Recently food consumption or calorie intake by comparing with the required norm of the household has become most popular measure to estimate the household level food security. However, no single measure is sufficient to capture the all aspect of food security. So it is better to have a suite of indicators to capture the different domains of food security (International Symposium, Rome; 2002). Nowadays researchers are more interest to conceptualize the domains of household food security. Household food security has been related with different other aspects and nutrition is one of these. With regards to nutrition, household food security is an important determinant of nutritional status. Food diversity and dietary intake are most essential to understand the household nutrition status. In relation to the household food security and nutrition status, child nutrition status is one the priority area. Though household food insecurity is not the sole determinants of child malnutrition but it has crucial role on the child nutritional status. This study will make an effort to conceptualize the domains of household food security and association of household food security with child malnutrition in rural area.

1.2 Food production and availability: national strategy of food security in India

In national level, food security mainly a condition when there is sufficient stock of food to meet the domestic demands, either through domestic production or imports. Imports of

Fig 1.1 Trends in food grain production in India
Source: Ministry of Agriculture
food grain were a mandatory condition up to 1970 to secure the food demands in India. But now India, in national level, has attained self-sufficiency in the food grain production which is one of the major achievements in the post-independence period. There have hardly been any food grain imports after the mid-1980s. Food grain production in the country increased from about 50 million tonnes in 1950-51 to around 233.9 million tonnes in 2008-09. The growth rate of food grains has been around 2.5 per cent per annum between 1951 and 2006-07. The production of oilseeds, cotton, sugarcane, fruits, vegetables, and milk has also increased appreciably.

Though, India achieved self-sufficiency in food grain production in national level but production is mostly confined in some major states in India. Nearly 80% of total food grain production in India confined into only ten major states out of twenty eight states in India (table 1.1). India produced average 213 million tonnes of food grain during 2003-08. Uttar Pradesh was the highest food grain producing state in India contributing 19 percent of the total production in India during 2003-08. Others larger food grain producing states were Punjab (11%), West Bengal (7%) and Andhra Pradesh (7%). About 46 percent of the India’s total food grain productions were contributed by only four major states in India, such as, Uttar Pradesh, Punjab, West Bengal and Andhra Pradesh during the period of 2003-08. It indicates that food grain production is geographically confined in India.

Table 1.1: Top ten food grain producing states in India (2003-08)

<table>
<thead>
<tr>
<th>States</th>
<th>Production (Million tonnes)</th>
<th>Percentage of India</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>41.16</td>
<td>19.27</td>
<td>19.27</td>
</tr>
<tr>
<td>Punjab</td>
<td>25.54</td>
<td>11.96</td>
<td>31.22</td>
</tr>
<tr>
<td>West Bengal</td>
<td>15.94</td>
<td>7.46</td>
<td>38.68</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>15.92</td>
<td>7.45</td>
<td>46.13</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>14.37</td>
<td>6.73</td>
<td>52.86</td>
</tr>
<tr>
<td>Haryana</td>
<td>13.87</td>
<td>6.49</td>
<td>59.35</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>13.81</td>
<td>6.47</td>
<td>65.82</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>12.16</td>
<td>5.69</td>
<td>71.51</td>
</tr>
<tr>
<td>Karnataka</td>
<td>10.47</td>
<td>4.90</td>
<td>76.41</td>
</tr>
<tr>
<td>Bihar</td>
<td>9.89</td>
<td>4.63</td>
<td>81.04</td>
</tr>
<tr>
<td>India</td>
<td>213.64</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Ministry of Agriculture

Availability of food grain is also increased significantly since form 1951. During the periods of after independence to mid 1980s India was not self sufficient in food grain production and India had to depend on the imports of food grains (table 1.2). In 1951 net availability of food grain was 52.4 million tonnes when total food grain production was
50.8 million tonnes. In 1961, though food grain production increased to 82 million tonnes but India had to import 3.5 million tonnes of food grain to meet the domestic food demands. After 1975s, as a result in success of green revolution, India able to meet the domestic food demands and since form 1985, India is emerging as one of the food grain exporting country in the world. Net availability of food grain increased form 114.3 million tonnes in 1981 to 158.6 million tonnes in 1991 and 181.9 in 2006 respectively.

Table 1.2: Trend of food production and availability in India; 1951 -2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Food grain (Million tonnes)</th>
<th>Net Imports (M. T)</th>
<th>Net Availability (M.T)</th>
<th>Per capita Availability gm/day</th>
<th>Kg/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>50.8</td>
<td>4.8</td>
<td>52.4</td>
<td>394.9</td>
<td>144.1</td>
</tr>
<tr>
<td>1956</td>
<td>66.9</td>
<td>1.4</td>
<td>62.6</td>
<td>430.7</td>
<td>157.6</td>
</tr>
<tr>
<td>1961</td>
<td>82</td>
<td>3.5</td>
<td>75.7</td>
<td>468.7</td>
<td>171.7</td>
</tr>
<tr>
<td>1966</td>
<td>72.3</td>
<td>10.3</td>
<td>73.7</td>
<td>408.1</td>
<td>149</td>
</tr>
<tr>
<td>1971</td>
<td>108.4</td>
<td>2</td>
<td>94.3</td>
<td>468.8</td>
<td>171.1</td>
</tr>
<tr>
<td>1976</td>
<td>121.03</td>
<td>0.7</td>
<td>95.8</td>
<td>424.3</td>
<td>155.3</td>
</tr>
<tr>
<td>1981</td>
<td>129.59</td>
<td>0.7</td>
<td>114.3</td>
<td>453.4</td>
<td>165.5</td>
</tr>
<tr>
<td>1985</td>
<td>150.44</td>
<td>(-0.4)</td>
<td>124.3</td>
<td>472.6</td>
<td>186.2</td>
</tr>
<tr>
<td>1991</td>
<td>176.39</td>
<td>(-0.1)</td>
<td>158.6</td>
<td>475.2</td>
<td>173.5</td>
</tr>
<tr>
<td>1996</td>
<td>180.42</td>
<td>(-3.1)</td>
<td>163.3</td>
<td>416.2</td>
<td>151.9</td>
</tr>
<tr>
<td>2001</td>
<td>196.01</td>
<td>(-2.9)</td>
<td>156.9</td>
<td>445.3</td>
<td>162.5</td>
</tr>
<tr>
<td>2006</td>
<td>208.57</td>
<td>(-2.3)</td>
<td>181.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: National Sample Survey; Economic Survey 2008-09
Net imports= Imports - Exports; M.T = Million tonnes

Per capita availability of food grain is also important to address the food security issue. Per capita availability of food grain is increased significantly after independence but there was fluctuation in per capita availability of food grains over the times. In 1951 per capita food grain availability was 394.9 gm/day and showed steady growth up to 1961 when per capita availability of food grain was 468.7 gm/day. In 1966, it decreases about 12% over 1961 production, when net imports of food grains ware 10.3 million tonnes. There was highly fluctuating trends in per capita availability during 1966.
to 1981. It showed positive growth after 1985 to till 1996 during which per capita availability increased from 453 gm/day to 475 gm/day. Among all food grains per capita net availability of wheat has increased significantly over the time. There was steady growth up to 1995 but there after it shows stagnant growth. Availability of rice in per capita (grams/day) did not fluctuate more over the time. The gap between per capita availability of rice and wheat is decreasing very fast because of increasing availability of wheat. Though rice and wheat availability increased over the time but per capita availability of cereals declined significantly after mid-1880s.

1.3 Food grain production, nutrition status among children and women in West Bengal

West Bengal is situated in the most fertile land of lower Gangetic Plain and hence agriculture plays a pivotal role in the state’s economy and nearly three out of every four persons is directly or indirectly involved in agriculture. In spite of an agriculture-dependent state, West Bengal was still dependent on the central government for meeting the domestic food demands till 1980s. However, there has been a significant spurt in the food grain production and now the state has a surplus of food grain. The total food production in the State in 2007-08, was 16060.0 thousand tonnes. During 2007-08, the production of rice was 14719.2 thousand tonnes, of wheat 917.3 thousand tonnes and of pulses 158.0 thousand tonnes respectively. There was substantial increase in the food grain production in West Bengal in the last two decades. In 1990-91 the state’s food grain production was 11270 thousand tonnes which reached to 16060 thousand tonnes in 2007-08. During 1990-
91 to 2007-08 the additional increment in food grain production was 4790 thousand tonnes. Temporal change in food grain production varies significantly over the districts. Among all the districts, Midnapur shows the highest increase in the food grain production during 1990-91 to 2007-08, adding a total 1093 thousand tonnes of food grain during the period and followed by Murshidabad (523 thousand tonnes), Dinazpur (522 thousand tonnes) and Bankura district (490 thousand tonnes). There is spatial inequality in the food grain production in West Bengal. More than fifty percent of the state production is confined only in the five districts out of nineteen. During 1990-91 the top five food grain producing districts were Midnapur (13.8 percent), Burdwan (12.7 percent), Murshidabad (8.8 percent), Bankura (7.7 percent) and Birbhum (7.5 percent). These five districts together contributed 50 percent of the state production during 1990-91 whereas during 2007-08 the contribution increased to 53 percent. Food grain production in West Bengal increased significantly over the time. The gap between food grain production and requirement decreased significantly in the recent decades (fig 1.3) but the current level of food grain production is not sufficient enough to meet the domestic food requirement. Fig 1.3 shows that during 2007-08, total food grain production was 16060 thousand tonnes against its requirement of 17014 thousand tonnes.

Fig 1.4: Relationship between population growth pattern and availability of agricultural land in West Bengal

Source: Statistical Abstract of WB, Census of India
Rapid growth of Population in a geographical area affect adversely on the land, especially on the cultivable land. It creates pressure on the cultivable land by reducing its area. Production can decline marginally when the land crosses its caring capacity due to over population. Availability of cultivable land and net sown area has declined remarkably in West Bengal due to increase in population (Fig.1.4). Data shows that proportion of cultivable land has declined from 67.4 percent to 66 percent during 1995-96 to 2007-08 in West Bengal (Statistical Abstract of West Bengal, 2007-08). Proportion of net sown area also declined from 63 percent to 61 percent during the same period. Highest decline in cultivable land was recorded in Howrah district (8.9 percent points) during 1995-96 to 2007-08, followed by Malda (6.6 percent points) and Nadia (4.4 percent points). A significant decline in the net sown area was recorded in Malda district from 76 percent to 57 percent, accounting a sharp decline of 19 percent points during 1995-96 to 2007-08. There are substantial difference between availability of cultivable land and land used for cultivation. Nearly 66 percent of total geographical area is available for cultivation but only 61 percent land is used for cultivation purpose. The gap is highest in Purulia district where 71 percent of total geographical area is cultivable land but only 50 percent is used for cultivation. Land utilization of cultivation is very poor in South 24 Pargonas (39 percent), Darjeeling (43 percent), Purulia and Bankura (50 percent).

The major concern of a state with its growing population is to assure the food security for them. Nutrition security is an important part of food security, especially for the vulnerable groups. Well-nourished population helps in the development of a nation whereas under nourished people increases the burden. Malnutrition is not directly related with the national food availability or food production but it is very much related with the individual dietary intakes, infectious diseases, lack of appropriate care and inequitable distribution of food within the household. Household food entitlement is the prime factor to achieve the household level food security as well as for nutrition security which again depends on the household purchasing capacity; availability of food on markets and production of food in the household. In relation to the nutrition security, children and women are the most vulnerable groups in the population. Children nutrition status is better in West Bengal against national average. In West Bengal, 39 percent children of under-five years are underweight, one of the indicator of malnourishment, whereas the India’s figure represents 42 percent. On the other hand, women nutritional indicators are dreadful in West Bengal.
than the national average. In West Bengal, 39 percent of adult women fall into high-risk categories of body mass index (cut-off point for BMI=18.5 kg/m²) or consider as thin women whereas in India 35 percent adult women fall into this category.

Although stunting and wasting among children increased during NFHS 2 and NFHS3 period but prevalence of underweight among children decreased significantly (10 percent points). There were substantial rural-urban differences among all the indicators. In rural area 48 percent, 17 percent and 42 percent children of under five years were found as stunting, wasting and underweight respectively whereas in urban area the respective figures were 29 percent, 13 percent and 24 percent. Proportion of women with BMI less than 18.5 kg/m² decreased from 43 percent to 39 percent during NFHS-2 to NHFS-3. But anaemia prevalence increased 0.5 percent points during the same period. Proportion of thin women is quite higher in rural area (46 percent) compared to its urban counter part (23 percent). Rural urban differences in proportion of thin women as well as proportion of anaemic women decreased over the time in West Bengal.

1.4 Government programs and policies toward food security in India

1.4.1. National Food Security Mission

The National Development Council (NDC) in its 53rd meeting held on 29th May, 2007 adopted a resolution to launch a Food Security Mission comprising rice, wheat and pulses to increase the production of rice by 10 million tons, wheat by 8 million tons and pulses by 2 million tons by the end of the Eleventh Plan (2011-12). Accordingly, A Centrally Sponsored Scheme, 'National Food Security Mission', has been launched from 2007-08 to operationalize the above mentioned resolution. The objective is to increase production and productivity of wheat, rice and pulses on a sustainable basis so as to ensure food security of the country. The approach is to bridge the yield gap in respect of these crops through dissemination of improved technologies and farm management practices. The National Food Security Mission will have three components (i) National Food Security Mission - Rice (NFSM-Rice); (ii) National Food Security Mission - Wheat (NFSM-Wheat); and National Food Security Mission - Pulses (NFSMPulses). Main Objectives of this mission are: i) Increasing production of rice, wheat and pulses through area expansion and productivity enhancement in a sustainable manner in the identified districts of the country; ii) Restoring soil fertility and productivity at the individual farm level; iii) Creation of
employment opportunities; and iv) Enhancing farm level economy (i.e. farm profits) to restore confidence amongst the farmers.

It is envisaged to focus on districts which have high potential but relatively low level of productivity performance at present. There will be a series of programme interventions, efforts to reach resource poor farmers and continuous monitoring of various activities. Panchayati Raj institutions will play a central role not only in selection of beneficiaries and identifying priority areas but also in the entire gamut of activities of the Mission.

1.4.2. Food for Work Programme

The Food for Work programme was started in 2000-01 as a component of the EAS in eight notified drought-affected states of Chattisgarh, Gujarat, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan, Maharastra and Uttaranchal. The programme aims at augmenting food security through wage employment. Food grains are supplied to states free of cost. However, lifting of food grains for the scheme from Food Corporation of India (FCI) godowns has been slow. Against an allocation of 35.31 lakh tonnes of food grains, only 21.26 lakh tonnes were lifted by the target states up to January 2002.

1.4.3. Food Subsidy Programme, PDS/TPDS

The Public Distribution System (PDS) – the predecessor to the TPDS – began more than 40 years ago. As originally conceived, it was a mechanism to stabilize agricultural prices and ensure that basic food items were available at “reasonable” prices, especially in urban markets. The system involved the purchasing of basic commodities (primarily rice and wheat) from farmers by the central government, which used the state governments to help distribute the commodities to local areas. In these localities, consumers could buy allocated amounts under subsidized rates from shops that are still known as Fair Price Shops. The program was an entitlement for all consumers that aimed to stabilize key agricultural markets for farmers. In this sense, the PDS was not a traditional anti-poverty program. Perceptions that the PDS was not serving certain areas or groups well led to gradual reforms, however. In 1992, the central government introduced the Revamped Public Distribution System (RPDS), which targeted specific remote areas of the country that were left behind by the PDS. In addition to the usual food support, the program gave
designated areas other types of support, such as establishing additional Fair Price Shops. The most recent fundamental change to the PDS structure came in 1997, with the introduction of the TPDS. This turned the PDS into an explicit anti-poverty strategy. The central allocation mechanism prioritized BPL families, in that state governments received food grain each year based on historical allocations (and at least enough to cover their BPL population), but above-poverty-line (APL) families only had access to grains that remained after the BPL requirement was satisfied. The central government required the state governments to identify all BPL families, who then became eligible for larger subsidies than those available to APL families. Further adjustments in 2000 and after solidified the new anti-poverty focus of the TPDS. In 2000, the central government increased the monthly allocated grain amounts for BPL families only, and eliminated the subsidy for APL families. The rate at which BPL families could purchase their allocated amount became 50% of the central government’s procurement cost, while the APL rate became 100% of this cost. Also in 2000, the government created the AAY to aid those in extreme poverty. AAY families were identified in each state as a subset of the state’s BPL population covered by the TPDS. The program simply allows AAY families to purchase food grains at even lower rates than standard TPDS families. Over time, the monthly food allocations for BPL and AAY households have been gradually expanded. Moreover, the identified number of BPL and AAY households has grown as well, as the central government has shifted the eligibility criteria it recommends to the states.

1.4.4 Integrated Child Development Schemes (ICDS)

Integrated Child Development Schemes (ICDS), a central government scheme, was launched in 1975 with an aim to provide an integrated service packages for early childhood development. ICDS was launched with objectives to improve the nutritional and health status of children in the age group 0-6 years; to lay the foundation for proper psychological, physical and social development of the child; to reduce the incidence of mortality, morbidity, malnutrition and school dropout; to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and to enhance the capacity of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education. The package provided in the ICDS services includes – supplementary nutrition, pre-school
education, immunization, health check-ups, referral services and nutrition & health education. The concept of providing a package of services is based primarily on the consideration that the overall impact will be much larger if the different services develop in an integrated manner as the efficiency of a particular service depends upon the support it receives from related services. The most important fact of this program is that it provides all the services under one roof through the ‘anganwadi centre’. Special nutritional cares are given for severely malnourished children (6-72 months) and pregnant women & nursing mothers. Ministry of Women and Child Development (MWCD) has the overall responsibility of monitoring the ICDS scheme. The ICDS team comprises the Anganwadi Workers, Anganwadi Helpers, Supervisors, Child Development Project Officers (CDPOs) & District Programme Officers (DPOs). Apart from this, the medical officers, Auxiliary Nurse Midwives (ANM), and Accredited Social Health Activists (ASHA) from a team with the ICDS functionaries to achieve convergence of different services.

1.4.5. Mid-Day Meal Programme (MDM)

Mid-Day Meal (MDM) Programme has had a long history of implementation in India. The programme was introduced in 1925 in Madras Municipal Corporation for the deprived and disadvantaged school children. By the mid-1980s three States viz Gujarat, Kerala and Tamil Nadu and the UT of Pondicherry has universalized a cooked Mid Day Meal Programme with their own resources for children studying at the primary standard and it was extended to twelve states by 1990-91s. Mid-Day Meal programme aims to increase the enrolment of children, increase the attendance and retention rate in school and to improve the nutritional status among school going children. Initially, the programme was implemented through the National Programme of Nutritional Support to Primary Education (NP-NSPE) in the 2408 blocks in the country in 1995 and it was extended to all blocks in the country by 1997-98. Generally, the programme serve the children studying in classes I-V in Government and aided school and EGS/AIE centres but in 2008 it has been extended to cover the students of upper primary school (up to VIII classes). Union budgets have made a separate provision for upper primary schools. A standard nutritional guide lines are maintain to serve the food. Under this scheme, cooked meal are to be serve at lunch time with 450 calorie and 12 gms of protein to the primary school children and 700 calorie and 20 gms of protein for upper primary school children.
1.4.6 The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was launched in 2005 in the name of National Rural Employment Guarantee Act 2005. The programme was set up on Feb 2, 2006 from district Anantapur in the state of Andhra Pradesh and originally protected 200 real “poorest” zones of the nation. It was implemented among all the district in India in 1st April, 2008. This programme is considered as the largest and most ambitious social security and public work programme in the world. World Bank termed it as a “stellar example of rural development” (World Development Report, 2014). The main aim of MGNREGA is enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every households whose adult members volunteer to do unskilled manual work. MGNREGA is to be implemented by the gram panchayats (GPs) and priority is given to labour intensive tasks, mainly those that would help relieve drought like water conservation, watershed development, water harvesting, de-silting of village ponds and construction of rural kaccha roads. Though, MGNREGA is a targeted programme which targets to the poor but it has many other benefits. Apart from providing economic security and creating rural assets, MGNREGA can help in protecting the environment, empowering rural women, reducing rural-urban migration and fostering social equity among others. Like in other govt. programmes, the main concern of MGNREGA is about its effective management and implementation. Many arguments arise about the transparency and accountability of the programme. A strong criticism against MGNREGA is that it is making agriculture less profitable. As per the large scale farmer’s perspectives MGNREGA causing labour scarcity in agriculture. Landless labours are more interested to work in MGNREGA sites in spite to work in agriculture because they can get money without doing anything or giving less physical labour in MGNREGA site. On the contrary, MGNREGA is like a blessing for poor and land less people. In their view, MGNREGA provides higher wage than agricultural labour and also ensure employment for all adult members in the households. It provides economic security to the poor and land less labour during the time of seasonal unemployment. Recently, in 2014, a new amendments proposed to limit MGNREGA within tribal and poor areas which will be implemented in 2,500 backward blocks coming under intensive Participatory Planning Exercise. These blocks are identified per the Planning Commission Estimate of 2013 and a Backwardness Index.
prepared by Planning Commission using 2011 census. This backward index consist of following five parameters – percentage of households primarily depended on agriculture, female literacy rates, households without access to electricity, households without access to drinking water and sanitation within the premises and households without access to banking facility. But number of economists with diverse views opposed the idea of limiting or focusing implementation in a few districts or blocks.

1.4.7. Swarnjayanti Gram Swarojgar Yojana (SGSY)

The single self-employment programme of Swarnjayanti Gram Swarojgar Yojana (SGSY), launched with effect from 1.4.1999, has been conceived keeping in view the strengths and weaknesses of the earlier schemes of Integrated Rural Development Programme (IRDP) and Allied Programmes along with Million Wells Scheme (MWS). The objective of restructuring was to make the programme more effective in providing sustainable incomes through micro enterprises. The SGSY lays emphasis on the following:

a) Focussed approach to poverty alleviation.
b) Capitalising advantages of group lending and
c) Overcoming the problems associated with multiplicity of programmes. The SGSY is a credit-cum-subsidy programme, with credit as the critical component and subsidy as a minor and enabling element. Accordingly, the SGSY envisages greater involvement of banks and promotion of multiple credit rather than a one-time credit injection. The SGSY is implemented by the District Rural Development Agencies (DRDAs) through the Panchayat Samitis. However, the process of planning, implementation and monitoring involves coordination with banks and other financial institutions, the PRIs, the NGOs as well as technical institutions in the district. Hence, the implementation of SGSY calls for integration of various agencies - DRDAs, banks, line departments, Panchayati Raj Institutions (PRIs), Non-Governmental Organisations (NGOs) and other semi-government organisations.

1.4.8. The Jawahar Rozgar Yojana (JRY)

The Jawahar Rozgar Yojana (JRY) has been recast as the Jawahar Gram Samridhi Yojana (JGSY) with effect from 1.4.1999 to impart a thrust to creation of rural infrastructure. While the JRY resulted in creation of durable assets, the overriding priority of the programme was the creation of wage employment. It was felt that a stage had come when
rural infrastructure needed to be taken up in a planned manner and given priority. The Gram Panchayats can effectively determine their infrastructure needs and the responsibility of implementing the programme has been entrusted to the Gram Panchayats. The funds are directly released to the Gram Panchayats by the DRDAs/Zilla Parishads. The JGSY is implemented as a CSS with funding in the ratio of 75:25 between the Centre and the States. The primary objective of JGSY is creation of demand driven community village infrastructure including durable assets at the village level and assets to enable the rural poor to increase the opportunities for sustained employment. The secondary objective is generation of supplementary employment for the unemployed poor in the rural areas. The wage employment under the programme is given to Below Poverty Lines (BPL) families.

Under the programme, village panchayats have the sole authority for the preparation of the Annual Action Plan and its implementation, which needs to be accepted by the Gram Sabha. Thus, the Gram Sabha is empowered to approve schemes/works. The completion of the incomplete works is to be given priority over new works and works which cannot be completed within two financial years are not to be included. At the village level, the entire work relating to coordination, review, supervision and monitoring of the programme is the responsibility of the village panchayat. The village panchayats have the power to execute works/schemes upto Rs.50,000 with the approval of the Gram Sabha. In addition, Gram Sabha would also undertake Social Audit. At the village level monitoring and vigilance committees are also set up to oversee and supervise the works/schemes undertaken. At the district level, the DRDAs/Zilla Parishads and at the intermediate level the Panchayat Samitis have the overall responsibility for guidance, coordination, supervision, periodical reporting and monitoring the implementation of the programme. The primary objective of the JGSY has undergone a change from employment generation to rural infrastructure. As such, the States have taken time to adjust their monitoring mechanism as per the new monitoring parameters from employment generation to number of works undertaken/completed. During 1999-2000, 5.84 lakh works were completed as against a target of 8.57 lakh works. An expenditure of Rs.1841.80 crore was incurred during 1999-2000 as against a total allocation of Rs.2209.24 crore. A Central outlay of Rs.1650.00 crore has been earmarked for JGSY for the year 2000-01.
1.4.9. The Employment Assurance Scheme (EAS)

The Employment Assurance Scheme (EAS) was launched on 2nd October, 1993 in 1772 identified backward blocks of 257 districts situated in drought prone, desert, tribal and hill areas where the Revamped Public Distribution System (RPDS) was in operation. The programme was subsequently extended to more blocks and thereafter was universalised. It is, presently, being implemented in all the 5448 rural blocks of the country. The EAS was restructured w.e.f. 1999-2000 to make it the single wage employment programme. While the basic parameters have been retained, the scheme has become allocative scheme instead of demand driven and a fixed annual outlay is to be provided to the States. The programme is implemented as a CSS on a cost sharing ratio of 75:25 between the Centre and States. The primary objective of the EAS is creation of additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living below the poverty line. The secondary objective is the creation of durable community, social and economic assets for sustained employment and development. EAS is open to all the needy rural poor living below the poverty line. A maximum of two adults per family are provided wage employment. While providing employment, preference is given to SCs/STs and parents of child labour withdrawn from hazardous occupations who are below the poverty line.

The programme is implemented through the Zilla Parishads (DRDAs in those States where Zilla Parishads do not exist). The list of works is finalised by the Zilla Parishads in consultation with the Members of Parliament. In areas where Zilla Parishads are not in existence, a Committee consisting of MLAs, MPs and other public representatives is constituted for selecting the works. Gram Sabhas are informed about the details of works taken up under the scheme. The EAS is in operation at district/Panchayat samiti level throughout the country, but works are to be taken up in only those Panchayat samitis/districts where there is a need for creating additional wage employment. Seventy per cent of the funds allocated for each district are allocated to the Panchayat Samitis and thirty per cent of the funds are reserved at the district level and are to be utilised in the areas suffering from endemic labour exodus/areas of distress. Diversion of funds from one district to another and from Panchayat to another is not permitted. Work would not be taken up under EAS if the demand for wage employment can be fulfilled through other plan or non-plan works. Only labour intensive works of productive nature which create durable assets would be taken up under the scheme. Eighty per cent of the funds are
released to the district as per normal procedure and the remaining twenty per cent are to be released as an incentive only if the states have put in place elected and empowered Panchayati Raj Institutions (PRIs).

1.4.10. The National Social Assistance Programme (NSAP)

The National Social Assistance Programme (NSAP) is a welfare programme being administered by the Ministry of Rural Development. This programme is being implemented in rural areas as well as urban areas. NSAP represents a significant step towards the fulfilment of the Directive Principles of State Policy enshrined in the Constitution of India which enjoin upon the State to undertake within its means a number of welfare measures. These are intended to secure for the citizens adequate means of livelihood, raise the standard of living, improve public health, provide free and compulsory education for children etc. In particular, Article 41 of the Constitution of India directs the State to provide public assistance to its citizens in case of unemployment, old age, sickness and disablement and in other cases of undeserved want within the limit of its economic capacity and development. It is in accordance with these noble principles that the Government of India on 15th August 1995 included the National Social Assistance Programme in the Central Budget for 1995-96. The Prime Minister in his broadcast to the Nation on 28th July 1995 announced that the programme will come into effect from 15th August 1995. Accordingly the Govt. of India launched NSAP as a Centrally Sponsored Scheme w.e.f 15th August 1995 towards fulfilment of these principles. The National Social Assistance Programme (NSAP) then comprised of National Old Age Pension Scheme (NOAPS), National Family Benefit Scheme (NFBS) and National Maternity Benefit Scheme (NMBS). These programmes were meant for providing social assistance benefit to the aged, the BPL households in the case of death of the primary breadwinner and for maternity. These programmes were aimed to ensure minimum national standards in addition to the benefits that the States were then providing or would provide in future. Thus, presently NSAP now comprises of the following five schemes:-

**Indira Gandhi National Old Age Pension Scheme (IGNOAPS):** Under the scheme, BPL persons aged 60 years or above are entitled to a monthly pension of Rs. 200/- up to 79 years of age and Rs.500/- thereafter.

**Indira Gandhi National Widow Pension Scheme (IGNWPS):** BPL widows aged 40-59 years are entitled to a monthly pension of Rs. 200/-. 
Indira Gandhi National Disability Pension Scheme (IGNDPS): BPL persons aged 18-59 years with severe and multiple disabilities are entitled to a monthly pension of Rs. 200/-.  
National Family Benefit Scheme (NFBS): Under the scheme a BPL household is entitled to lump sum amount of money on the death of primary breadwinner aged between 18 and 64 years. The amount of assistance is Rs. 10,000/-.  
Annapurna: Under the scheme, 10 kg of food grains per month are provided free of cost to those senior citizens who, though eligible, have remained uncovered under NOAPS.

1.4.11. Other Nutrition Programs in India

It would be useful to briefly describe the important nutrition programmes in India today. These would be described under the different sectors of the Government responsible for their implementation. Here are some well-known programmes that were introduced by the Government of India to improve the problem of under-nutrition:-

Kishori Shakti Yojana, a nutrition programme for adolescent girls  
Rajiv Gandhi Scheme for Empowerment of Adolescent Girls.  
Sarva Siksha Abhiyan  
National Rural Health Mission  
National Urban Health Mission  
Rashtriya Krishi Vikas Yojana  
National Food Security Mission  
National Horticulture Mission  
Rajiv Gandhi Drinking Water Mission  
Total Sanitation Campaign

1.5. Literature review:

1.5.1 Concepts and definitions of household food security

Food security is a dynamic concept and undergone several changes over the time. Food security as a concept originated only in the mid-1970s, in the discussions of international food problems at a time of global food crisis. The initial focus of attention was primarily on food supply problems - of assuring the availability and to some degree the price stability of basic foodstuffs at the international and national level. But the concept of
“household food security” is more recent. Food security concern from national level to the household and individual level is an historical part of the evaluation of “food security” concept (Smith et al). Food security was defined in the 1974 World Food Summit as: “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”. Here, emphasis was essentially on increasing food production in food deficient countries and on creating a coordinating system of national and international grain reserves. This approach overlooked the demand side of the issue, especially the access of vulnerable groups to enough food for a decent life. By the mid-1990s food security was recognized as a significant concern, spanning a spectrum from the individual to the global level. There is several definition and concepts exist in literature regarding food security. Food security at national level is the sum of household and sub national food security and more. At national level food security can be defined as assured national availability of food to meet current minimum requirement per capita during a reference period, a year normally and also to meet any unexpected shortfall over a limited period (say three months). A food secure household should be defining as one which has enough food available to ensure a minimum necessary intake by all members. The minimum is related to, among other things, body size, weight, sex, nature of work and for women, pregnancy or lactation status (Alamgir and Arora 1991). It is entails both the availability of food and the ability of all members of society to have access to adequate amounts of food. The normative concept of food security generally used for some research signifies an assured supply and distribution of food to all social groups and individuals adequate in quality and quantity to meet their nutritional needs, as well as effective demand above this minimum. Food system offering food security should have the following characteristics: (i) the capacity to generate a sufficient internal food supply to meet the basic food needs for all social groups also of expanding effective demand (ii) have a maximum of autonomy and shelf determination, reducing vulnerability to international market fluctuations and external political pressure; (iii) be reliable so that seasonal and cyclic variations in access to food are minimized. (iv) possess long term sustainability (vi) finally, it should ensure equity, meaning, as a minimum, dependable access to adequate food for all social class, groups and strata (Barraclough and Utting 1987).

Few studies redefined food security considering its time aspects- long term and short term basis. Long term food security is defined in terms of the persistent existence of malnutrition and the associated lack of development and growth in low income developing
economics or regions of those economics. It is also termed as chronic insecurity. On the other hand, short term or transitory food insecurity is defined as temporary decline in a household’s or region’s or nation’s access to food (Cathie and Dick 1987). Clay et al. 1988; defined food security in two senses: national and individual. At national level, typically it means the availability in the country of sufficient stocks of food to meet national needs until such time as stocks can be replenished from harvests or imports. At the individual level, it means that all members of society have access to food they need, either from the market, from their own production or from public distribution system. In its broadest sense food security definition is vary wide and various components of food security may be distinguished. First; a distinction must be made between the various ways in which food security can be expressed at different levels of socioeconomic life. These are: at microeconomic level (family, village); at the macroeconomic level (nation); at the regional level. Secondly, various aspects related to food sector proper may be distinguished: production, marketing, processing, storage and transport, international trade in food products and food aid. Further more, all these points are related a wider nexus of problems: income distribution, relation between town and country, macroeconomic policy etc (CEC 1988). Food security stands as a fundamental need, basic to all human needs and the organization of social life. Access to necessary nutrients is fundamental not only to life per se, but also to stable and enduring social order. Food security is the assurance of access to adequate nutrition, either through direct effort or exchange at acceptable price. On the other hand, food insecurity is best understood as a relative phenomenon (Hopkins 1986). The 1996 World Food Summit adopted a still more complex definition: “Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. This definition is again refined in The State of Food Insecurity 2001: “Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. However, access now involved sufficient food, indicating continuing concern with protein-energy malnutrition. But the definition was broadened to incorporate food safety and also nutritional balance, reflecting concerns about food composition and minor nutrient requirements for an active and healthy life. Food preferences, socially or culturally determined, now became a consideration. The potentially high degree of context specificity implies that the concept had both lost its
simplicity and was not itself a goal, but an intermediating set of actions that contribute to an active and healthy life. In many definitions and models the multiple dimension of food security has been captured under the four major domains. These are: (a) Sufficiency (b) Access (c) Security and (d) Time (Maxwell and Smith 1992).

The concept of sufficiency of food is presented in various ways in literature: as a “minimal level of food consumption” (Reutlinger and Kanapp 1980); as a “target level” (Siamwalla and Valdes 1980); as a “basic food (needed)” (FAO 1983). In more descriptive formulation, Kracht (1981) to “enough food for life, health and growth of the young and productive effort;” the World Bank (1986) to “enough food for active, healthy life” and Sahn (1989) to “enough food to supply the energy needed for all family members to live healthy and productive life”. Access to food defied by entitlement to produce, purchase or exchange food or receive it as a gift. It is often argued that the focus on access is a phenomenon of the 1980s, largely resulting from the pioneering work of Amartya Sen (1981) on food “entitlements”. The third main concept is that of “security”, secure access of enough food. Security is defined by the balance between vulnerability, risk and insurance. Finally, we come to “time” which refers food insecurity can be chronic, transitory or cyclical. Chronic food insecurity means that a household runs a continually high risk of inability to meet the food needs of household members. In contrast, transitory food insecurity occurs when a household face a temporary decline in the security of its entitlements and the risk of failure to meet the food needs is of short duration. Transitory food insecurity focuses on intra- and inter-annual variations in household food access. It has been argued that this category can be further divided in to cyclic and temporary food security (CIDA 1989). Temporary food insecurity occurs for a limited time because of unforeseen and unpredictable circumstance; cyclical or seasonal food insecurity when there is a regular pattern in the periodicity of inadequate access to food.

Conceptualization of household food security is complex in nature. There need to address several issues with the household food security. The most important are: Intra-household issues; household food security and nutrition; household food security and lively hood; sustainability, resilience and sensibility; perception and cultural acceptability; efficiency and coast-effectiveness; and household food security and human rights. Initially household food security was viewed as a measure to link national, regional and community level food supply to household food consumption and individual nutritional status and relate agriculture policy to issue of nutrition (Gittelsohn et al. 1998). Food security is no longer seen as a failure of food production at national level but as livelihood failure (Devereux
and Maxwell 2001). The interests are shifted way form emphasis of national food production and the increasing awareness that sustainable livelihood are crucial elements in food self-sufficiency of the households. Food security at household level gives a different picture of food situation of a population than a macro-level approach. The concept of ‘household food security’ requires making a series of assumptions about household structure and organization in order to identify the activities, relationships and processes essential to improving food security and to maintaining adequate nutrition status. In nutrition literature, children, pregnant and lactating women are often indentified as priority vulnerable groups in the household.

1.5.2 Household food security and coping strategy

Some study of household food security is also addressed the coping mechanisms of the households. People who live in a conditions which put together their households in the risk of food shortage, will develop the shelf insurance of coping strategy to minimize the risks of HFS (Longhurst 1986; Corbett 1988). These coping strategy have several dimensions and may vary by country, region, ethnic group, community, social class, Gender, age, and sessions (Chambers 1989 and Thomas et al. 1989). Some of the common examples of these strategies are: change in cropping pattern, migration to urban area for search of employment, migration for other rural area for search of employment, collection of wild food, selling household assets, borrowing money or creels from others, consumption of food distributed through relief programmes, break-up of the household and distress migration (Corbett 1988 cited in frankenberger and Goldstain 1991). Haddad et al. (1991) have provided an excellent summary of these strategies. Coping with household food insecurity is determined with the socio economic and demographic characteristics of the household. Adjustment of household of household size/composition to recurrent food insecurity is a common strategy (Messer1989; Braun and Lorch 1991). Household trend toward small consumption is also a indication of copping strategy (Shipton 1990; Chamebers 1989). Pattern of coping strategies may change with a sequence of responses by the household when faced with a food crisis. These sequences of response are most frequently divided in the literature into three distinct stages (Corbett 1988). In the earliest stage of crisis household employ the types of risk-minimising and lost management strategies. These typically involve a low commitment of domestic resources, enabling speedy recovery once the crisis has eased. As the crisis persists,
household are increasingly forced into a greater commitment of resources just to meet subsistence needs. There may be a gradual disposal of key productive assets, making it harder to return to a pre-crisis state. At this stage, a household vulnerability to food insecurity is extremely high. It is the sign of failure to cope with food crisis and usually involve destitution and distress migration (Corbett 1988).

1.5.3 Household food security and child malnutrition

Household food insecurity has a serious concern with numerous implications for nutrition and health (Cook et al. 2006). Household food insecurity has been associated with inadequate intake of several important nutrients (Rose 1999; Rose and Oliveria 1997), cognitive development deficiencies (Jonston and Markowitz 1993), behavioural and psychological dysfunction in children and adults (Murphy et al. 1998). Inability to purchase enough nutritious food and the resultant emotional or psychological stresses can contribute to adverse health effects or exacerbate poor health caused by other factors (Casey et al. 2004; Aber et al. 1997). In connection to the nutrition and household food security, the priority should be given to identify the vulnerable groups in the household. Most of the study identified that children, pregnant women, elderly are more vulnerable when a household faced food crisis. Child malnutrition may be seen as a outcome of severe food insecurity of the household but there also found some inconsistency in the literature. Research evidence from developing countries shows that household food insecurity is closely related to children’s undernutrition (Saha, KK. et al 2009). In India, numerous nutritional and social assistance programs are operating with the objectives to ensure food security and reduce under nutrition, especially among vulnerable population like under-fives with special focus on scheduled tribes. Nationwide survey showed definite improvement in nutritional profile of Indian children, though the picture is still gloomy (NFHS-2, 1997-98). However, the nutritional status of tribal children by any indices of its measure is worse than other children (NFHS 3, 2005-07).

The debate about food security and nutrition is concerned with the question of whether under-nutrition, which is usually measured by growth faltering in children or possibly by reduced body mass in adults, is an adequate proxy or indicator of food security. At one extreme, it can be argued that under nutrition is synonymous with food insecurity; at the other, under-nutrition can be independent of food security. There is no strong relationship between child malnutrition and household food security, child nutritional status is more
related with the maternal care and child health care service facilities (Maxwell and Smith). Several causative models illustrating the aetiology of malnutrition have been developed (Mason et al. 1984; Pacey and Payne 1985; Beghin et al. 1988; UNICEF 1990). These shows that malnutrition and death are caused by a combination of interaction of (a) inadequate dietary intake and (b) disease. These, in tern, are seen to be caused by a combination of three inter-related factors: household food insecurity, inadequate maternal and child care and insufficient health services and unhealthy environment. These three factors, food security, heath and care are each necessary but none sufficient on its own for adequate nutrititional status to be achieved. Some study have suggested that childhood overweight is associated with food insecurity. A very recent study shows that household food insecurity is associated with children’s overweight status but child food insecurity is independently related with being at risk for overweight status (Patrick H et al. 2006). However, major determinants of child malnutrition in India are irrational traditional practices of child care, poor maternal health, poor knowledge of child nutrition as well as poor access of child health care services.

1.6. Need for the study:

Despite of significant economic growth in the last few decades, India is unlikely to meet the first Millennium Development Goal (MDG) of reducing the proportion of hungry people by half. Nearly 300 million people living in below poverty line in India which account for 30 percent of the total population and 70 percent of which are living in rural area. India, with over 250 million food insecure people, identified as the largest home of hungry people in the world. Now the prime question is that, India is capable enough with its sufficient food stocks to feed 1.21 billion Indians then why such a large number of people are suffering from food insecurity situation? It is well researched that food insecurity is no longer a national strategy for India. The problems with “access of food by all people through all time” remain on household or individuals entitlement of sufficient food throughout the year. Hence, addressing “household food security” is significant which not only determined by national food availability or food stocks but it is more related with the complex socio economic and demographic characteristics, like, food price, household purchasing power or capacity, household composition, government policy toward food distribution and rural employment generation etc.
Conceptualization of household food security is ongoing challenge. In most of the study ‘Household Food Security’ (HFS) has been assessed by the household food consumption and expenditure pattern. This single indicator of HFS is not able to capture all the domains of household food security. Food consumption and expenditure on food do not ensure the household food security. Now, the concept has become wider. Consumption of nutrias food, dietary diversity, and availability of food throughout the year is important dimensions which need to address with the household food security. In India, there is no such data set which can be used to understand the broad nature of household food security. So, there is a need to explore the household food security in more specific way, in which more aspects of HFS can be captured.

Food is essentials but not only element to lead a decent life or wellbeing, others are education, health and entitlement of other non-food items which are also fundamentals for human wellbeing. When a poor household have to invest a maximum of their income on food, as a priority, then it becomes trouble to manage other necessary element, like child education, health etc. The household is forced to cope with these in priority basis. So coping mechanisms of household is an important part of household food security. Literatures confirm that coping strategy varies by country, region, social class, gender, age, community, etc. and these strategy increases with “more sever” food insecure household. Hence, it is important to understand the spectrums of coping strategy which varies with the intensity of food insecurity status of rural household.

There are lot of debates in literatures regarding to household food security and child malnutrition. Some studies show that there is no strong relationship between these two. On the other hand some studies indicate a positive association between household food security and child malnutrition. From the above literatures it is understandable that these two are related but most important is to understand the pathway through which household food insecurity is related to child malnutrition. So, there is a need to fill up this gap to understand the association of household food security and child nutrition in better way.

Furthermore, child malnutrition is result of multiple factors including dietary intake pattern, child care practice, utilization of health care services, household environment, etc. Hence, understanding child malnutrition in rural household is crucial. In this connection, there is need to understand the child malnutrition and child care practice in rural household and also important to explore the association of child malnutrition with household food security.
1.7 Research questions
In view of the literature review this study seeks to answer the following research questions:

What are the major determinants of household level food security in rural Bankura District, West Bengal?

Does household food security associated with the cultivated land holding status and employment opportunities in the households?

What are the major coping mechanisms usually adopted by the households to minimize the risks of household food insecurity?

Does Children in ‘food insecure’ households more malnourished than ‘food secure’ households?

1.8 Objectives
To examine the pattern of nutritional consumptions (i.e calorie, protein and fat) in rural households of Bankura District, West Bengal.

To understand the nutritional deficiency, dietary pattern and households food security among rural households of Bankura District of West Bengal

To examine the household’s participation in food based safety net programs and coping strategies adapted by the households to mitigate the households food insecurity condition.

Examine the level of childhood illness and child malnutrition in the rural Bankura and their linkage with household food security.

1.9 Hypothesis:

**H 1:** There is no relationship between household’s resource endowments and household’s food and nutrition security.

**H 2:** There is no relationship between severity of household food security and severity of coping strategies.

**H 3:** Child malnutrition is not associated with the household’s food insecurity status.