This chapter is concerned with theoretical orientation involving discussion on the conceptual framework of the study in order to form a concrete theoretical foundation of the investigation. The review of literature presented in Chapter-II though makes understand different economic concepts and aspects, this chapter would help researcher to establish general phenomena of the present study based on conceptual frame-work of the study, basic assumptions, and operationalization of the concepts and finally derivation of hypotheses. Rogers and Svenning (1969) pointed out that the development of conceptual-frame work makes a research more meaningful, for whatever the nature, an empirical investigation without theoretical basis becomes bogged down in masses of relevant data and at the same time ignores potentially fruitful objectives. This chapter consists of the following sub-sections

3.1 Conceptual frame-work of the study
3.2 Basic assumptions
3.3 The operationalization of the concepts
3.4 Derivation of hypotheses

3.1 Conceptual Frame-work of the Study

The conceptual frame-work of the study has been sub-divided into six sub-sections. These are as follows:

3.1.1 Level of living
3.1.2 Change in employment pattern
3.1.3 Change in income
3.1.4 Status of food security
3.1.5 Poverty
3.1.1 Level of living

The concept of level of living can be defined broadly or more narrowly, depending on the variety of satisfaction included over and above those obtainable from economic goods and services. It can be interpreted so broadly as to be coextensive with almost all aspects of human behaviour, acquisition, valuations, and social relationships. Even with the broadest definition of level of living, the quantity, quality, and variety of goods and services utilized comprises a very important part of the individual’s or family’s level of living. This is the part of level of living which has been subjected to measurement most frequently. It is, of course, highly positively correlated with a more broadly defined level of living inclusive of other factors, and probably with any of several factors which might be included in a broader concept. Therefore, it is assumed that a working concept of level of living with sufficiently universal validity may be cast in terms of the level of current consumption or utilization of goods and services (Hagood et al., 1944). However, Cottam (1940) stated that standard and level of living are ‘not a collection of material items’ but ‘pattern of behaviour or mode of acting cannot, however, be observed directly for a large number of persons over a period of time, and it is necessary to imply from a presence or absence of cultural items (material or non-material) the types of activity in which persons have engaged to satisfy their wants. The level of living is imputed for possession or non-possession of goods, services or statues.’ Bhattacharya et al. (1987) reported results on Changes in Level of Living in Rural West Bengal, in a series of six papers, which was based on food and non-food consumption, availability and utilization of public goods, housing condition and stock of consumer durables, clothing and footwear, and the people’s own perception on the changes in different dimensions of their level of living. The report, based on village survey, showed stagnation in food consumption of households and only a mild improvement in non-food consumption. However, there was a considerable improvement in the level of social consumption, although the absolute level even after improvement remains most dismal. Regarding housing condition and the level of consumption of households classified on occupation group, and caste-tribe identities revealed marginal decline for
all occupation groups except white-collar workers during the period 1973-74 and 1985-86.

The Working Group’s poverty line of Rs 20 per capita per month at 1960-61 prices was the “minimum level of living” that was at the heart of the classic paper prepared by the Perspective Planning Division (PPD) of the Planning Commission (Srinivasan and Bardhan, 1974).

Average per capita consumption expenditure at constant prices of a group can be taken as an indicator of its absolute level of living, while relative level of living is sought to be estimated by measures like Lorenz Ratio and shares of different decile groups in total consumption expenditure (Maiti et al., 1993).

Defining a poverty line is the first step in estimating poverty. A poverty line dividing the poor from the non-poor is used by putting a price on the minimum required consumption levels of food, clothing, shelter, fuel and health care, etc. The definition of poverty line in the Indian context was attempted for the first time in 1962 by a Working Group of eminent Economists and social thinkers after taking into account the recommendations of the Nutrition Advisory Committee of the Indian Council of Medical Research (ICMR, 1958) regarding balanced diet. The Working Group, after considerable discussion on minimum standard of living, recommended that the national minimum for each household of 5 persons (4 adult consumption units) should be not less than Rs. 100 per month in terms of 1960-61 prices or of Rs. 20 per capita. For urban areas, this figure will have to be raised to Rs. 125 per month per household or Rs. 25 per capita to cover the higher prices of the physical volume of commodities on which the national minimum is calculated. This national minimum excludes expenditure on health and education, both of which are expected to be provided by the State according to the Constitution and in the light of its other commodities.

According to the official population projections of the Census of India, the population of West Bengal will be around 89.78 million in 2011. According to the Food and Agriculture Organisation (FAO), the per capita physiological requirement of cereals is 396 gm per day or 144 kg per annum. This, in turn,
requires 490 gm of production per day (to allow for waste, seed, and feed requirements) or 178 kg per annum. Thus, a population of 90 million would require 15.98 or 16 million tonnes of cereals.

3.1.2 Change in employment pattern

The employment of agricultural labour is found to be negatively related to money wage rate, male wage, labour as percentage of total work force, agricultural worker per hectare and is positive function of irrigated area per agricultural worker. Male wage rate also seems to be positively related to productivity and negatively relatively to employment. This suggests that sustaining increase in employment is possible only with high rate of growth in agriculture (Parthasarathy, 1996).

There is a significant and positive relationship between the level of non-agricultural employment and crop output per head of agricultural population and negative relationship with the size of the operational land holdings. This distress induced non-farm sector has been put forward as a ‘Residual Sector Hypothesis’, because there is strong positive relationship between unemployment rate and percentage of non-farm agricultural workers (Vaidyanathan, 1986).

The increasing casualisation and informalization of employment in formal sector seems to have resulted in feminization of rural employment in India (Birendra et al., 2001).

There is a positive linkage between agriculture and rural employment. It is beyond doubt that with the improvement of agricultural productivity, the on and off farm employment increases (Tripathy, 2008).

3.1.3 Changes in income

Income is defined as the gain which proceeds from labour, business, property, or capital of any kind, as the produce of a farm, the rent of houses, the proceeds of professional business, the profits of commerce or of occupation, or the interest of money or stock in funds, etc. At the individual level, income is usually return to factors of production—land, labour, capital and organization. The sustainability of income can be obtained from farmers’ limited plots through choice of crops. The
choice of crops to be grown through a matter of cost-benefit in commercial system is bound to come to a limit unless it is supported by those supporting factors like irrigation facility, availability of chemical fertilizer, improved implements and technical knowledge. In a situation where the scope of bringing more land under cultivation and extension of multiple cropping is very limited, proper choice of cropping pattern can help in raising revenue from farmers’ limited plots. It is also possible to use land optimally and affecting productivity of soils less so as to sustain farm income in the long-run (Dey, 2003). Rural non-farm economic activities contribute to rural household income and also play an important role in increasing rural employment though the poorest segments have access only to low paid and low profitable refuge jobs. Several factors playing important role either directly or indirectly in determining participation in rural non-farm economic activities are education, infrastructural facilities e.g. roads, electricity, telecommunication, institutional credit facilities, etc. (Premaratne et al., 2004).

However, different individuals have different levels of income and hence arises inequalities in income and assets. Income inequality refers to the extent to which income is distributed in an uneven manner. Within a society it can be measured by various methods, including the Lorenz curve and the Gini coefficient. Economists generally agree that certain amounts of inequality are necessary and desirable but that excessive inequality leads to efficiency problems and social injustice. Modern economists have also addressed this issue, but have been more concerned with the distribution of income across individuals and households. Important theoretical and policy concerns include the relationship between income inequality and economic growth.

3.1.4 Status of food security

FAO (2002) defined Food security as “a situation that exist when all people, at all times, have physical, social and economic access to sufficient, save and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” Recently, M.S. Swaminathan (2006) has added another dimension to food security. He defined food security as “livelihood security for the households and all
members within, which ensures both physical and economic access to balanced diet, safe drinking water, environmental sanitation, primary education and basic healthcare.” Thus providing drinking water for all has become an integral part of food security. Right to Food is the right of every person to have regular access to sufficient, nutritionally adequate and culturally acceptable food for an active and healthy life. By recognizing the Right to Food, governments have an obligation to respect, protect and fulfil this right (Gautam, 2007).

The major problems of India’s food security are related to the unavailability of resources and lack of means of having access to stock powers of good grains. Lack of food is due to the lack of means to acquire it not due to shortfall in food grain production. In India as agriculture is the main issue of income sector for vast majority of population, sustain growth of agriculture sector is very vital to ensure food security (Mishra et al., 2008).

In both the decades of 80’s and 90’s the growth rate of food grains had outstripped that of population. It is, therefore, obvious that there should not be poverty in West Bengal. But in reality, this is not true as there is poverty in this state also. There may be number of reasons behind it: wastages of food, uneven distribution of food and insufficient purchasing power in the hands of the poor people may be some of the reasons (Konar, 2001). It is fact that though the food availability in India might be described today as state of plenty, but often starvation death news shows that still commitment of ‘food for all’ has not been properly met. Production surplus does not essentially indicate equivalent food availability, as good numbers of people do not have enough money to buy food (Verma, 2006).

According to the Census of India, the population of West Bengal was 91.35 million in 2011 (Census of India, 2011). According to the Food and Agriculture Organisation (FAO), the per capita physiological requirement of cereals is 396 gm per day or 144 kg per annum. This, in turn, requires 490 gm of production per day (to allow for waste, seed, and feed requirements) or 178 kg per annum. Thus, 16.26 million tonnes of cereals is sufficient to feed 91.35 million populations.
3.1.5 Poverty

In view of the Asian Development Bank (ADB, 2006), poverty is a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labour and be reasonably rewarded, as well as having some protection from external shocks. Beyond income and basic services, individuals and societies are also poor—and tend to remain so—if they are not empowered to participate in making the decisions that shape their lives. Poverty is, thus, better measured in terms of basic education, health care, nutrition, water and sanitation, as well as income, employment, and wages. Such measures must also serve as a proxy for other important intangibles such as feelings of powerlessness and lack of freedom to participate. For better understanding the nature of poverty in India, some poverty related concepts need to be explained. These include:

- **Human poverty:** The lack of essential human capabilities, notably literacy and nutrition.
- **Income poverty:** The lack of sufficient income to meet minimum consumption needs.
- **Absolute poverty:** The degree of poverty below which the minimal requirements for survival are not being met. This is a fixed measure in terms of a minimum calorific requirement plus essential non-food component. While absolute poverty is often used interchangeably with extreme poverty, the meaning of the latter may vary, depending on local interpretations or calculations.
- **Poverty line:** Poverty line is generally defined as the per-capita monetary requirements an individual needs to afford the purchase of a basic bundle of goods and services. The value of this basic basket of goods and services can be determined by means of absolute poverty line and relative poverty line.
- **Absolute poverty line:** Absolute poverty line is anchored in the standard of what households should be able to consume so that they are not deprived. Absolute poverty lines are fixed in time and space, while relative poverty lines
can vary. Often, these absolute poverty lines start with a nutritional basket considered minimal for the healthy survival of a typical family, either externally set or derived from household surveys. While absolute poverty is often used interchangeably with extreme poverty, the meaning of the latter may vary, depending on local interpretations or calculations.

- **Relative poverty line:** Relative poverty line arbitrarily sets the line in relation to the average expenditure (bundle of goods) or income in a country, for example, the line is derived as 60 per cent of the country’s average value.

A number of different methods are used to define absolute poverty lines. The method of setting the poverty line can greatly influence the structure of poverty (and who is considered poor). It is important to derive poverty lines that provide consistency in welfare measurement in space and time: two people with the same real consumption should be considered either poor or non-poor, but not differently. Identifying the poor as those with income (or expenditures) below a given poverty line brings clarity and focus to policy making and poverty analysis.

The Planning Commission Expert Group appointed a committee under the chairmanship of Prof. D.T. Lakdawala for determining criteria for poverty line and the committee submitted its Report in 1993. The recommended criteria cover (a) measurement, (b) choice of base year, (c) updating poverty line and (d) choice of deflator

Poverty line is based on a monthly per capita consumption expenditure of Rs. 49 as rural poverty and Rs. 57 as urban at 1973-74 prices. The per capita consumption expenditure was based on recommended daily in take of 2400 kilocalories in rural areas and 2100 kilocalories in urban areas.

1973-74 may be considered as Base Year since much systematic work has already been done with base year 1973-74.

Updating Poverty Line state specific consumer price index is needed. In rural areas Consumer Price Index for Agricultural Labour (CPIAL) and in urban areas Consumer Price Index for Industrial Workers (CPIIW) should be used.
\[ Z \text{ Value (Poverty line for current year)} = \text{Co-efficient of inflation} \times \text{z value (Poverty line for base year)} \]

\[ \text{Co-efficient for inflation} = \frac{\text{CPIAL (current year)}}{\text{CPIAL (base year)}}, \text{ or } = \frac{\text{CPIIW (current year)}}{\text{CPIIW (base year)}} \]

Disaggregated commodity indices for CPIAL to update rural poverty line and weighted commodity indices for CPIIW to update urban poverty line would be realised upon. Accordingly, the Expert Group has estimated the proportion and number of poor below the poverty line.

Dadabhi Nouraji (1876) in his classic paper “Poverty of India” estimated subsistence based poverty line at 1867-68 prices though he did not use the phrase “poverty line”. He defined subsistence as “What is necessary for bare wants of a human being, to keep him in ordinary good health and decency”. He started with the scale of diet prescribed by the Government Medical Inspector of Emigrants on March 26, 1870. The diet included rice or flour, dhal, mutton, vegetables, ghee and vegetable oil and salt. Evaluating the medical inspector’s diet he came up with a figure of Rs. 16 to Rs. 35 per capita per year in various regions of India. It was the earliest measure of Indian poverty line though it did not include energy requirements for work.

A sub-committee of the National Planning Committee (NPC) of 1938 was appointed by the president of the Indian National Congress, Subhash Chandra Bose, with Pandit Jawaharlal Nehru as chairman to ensure adequate standard of life for the masses. The secretary, K T Shah estimated the cost of an irreducible minimum at figures varying from Rs 15 to Rs 20 per capita per month at 1938 prices (IIAPR, 1988) in different parts of India. It was stated that to reach at the present minimum standard, an increase of national wealth should be between two to three times within next ten years. [The report set certain objective tests from year to year for the progress of the plan. These tests included (1) The improvement of nutrition from standards of an irreducible minimum requirement of protein, carbohydrates and minerals having a calorie value of 2400 to 2800 units for an adult worker, (2) The improvement of clothing from present consumption of 15 yards on an average to 30 yards per capita per annum. (3) Housing standards to reach at least 10 sq. fit per capita. Other indices
of progress included increase in agriculture and industrial product, elimination of unemployment and elimination of illiteracy.]

The third poverty line, proposed by the authors of the so-called Bombay Plan (Thakurdas et al., 1944) was a per capita income of Rs 75 at prices that prevailed prior to the outbreak of the Second World War. Since these prices are likely to have been the same as the prices of 1938 implicit in the poverty line of NPC, the poverty line of the authors of the Bombay Plan was much more modest than that of the NPC.

The fourth poverty line was recommended by a Working Group which was set up by the Perspective Planning Division (PPD) of the Planning Commission under the leadership of the late Pitambar Pant (reproduced as Chapter 1 in Srinivasan and Bardhan 1974) recommended, after considerable discussion on minimum standard of living, that (1) the national minimum for each household of five persons (four adult consumption units) should be not less than Rs 100 per month at 1960-61 prices or Rs 20 per capita. For urban areas, this figure will have to be raised to Rs 125 per household per capita to cover the higher prices of the physical volumes of commodities on which the national minimum is calculated. (2) The national minimum excludes expenditure on health and education, both of which are expected to be provided by the state, according to the constitution, and in the light of its other commitments. (3) An element of subsidy in urban housing will have to be provided after taking Rs 10 per month or 10 per cent as the rent element payable from the proposed national minimum of Rs 100 per month.

More than 15 years after the Working Group of 1962, a Task Force was appointed by the Perspective Planning Division (PPD) to examine projections of minimum needs and effective consumption demand. The Task Force reported (1979) a methodology in arriving poverty line, which has ever since been used with some modification suggested by the Expert Group on Estimation of Proportion and Number of Poor (EGEP), popularly known as the Lakdawala Committee. The Lakdawala Committee defined rural and urban poverty lines as levels of household per capita consumption expenditure at which average rural and urban energy norms respectively were met, based on the distribution of per capita household consumption expenditure
(and its energy content) in the 28th round (1973-74) of NSS. The consumption baskets bought by the households with per capita expenditures around the poverty lines were chosen as the poverty baskets. The average energy norms of 2,400 kcals and 2,100 kcals per capita per day respectively in rural and urban areas, were themselves derived by the 1979 Task Force from energy requirements specified by Nutrition Expert Group (1968) for individuals in difference age/sex/activity group and the age-sex-occupational structure of the rural and urban populations. The Task Force estimated consumption expenditure of Rs.49.09 per capita per month in rural areas and Rs.56.64 per capita per month in urban areas, on average.

The poverty lines for the later years, until Expert Group on Estimation of Proportion and Number of Poor (EGEP) report 1993, were estimated by updating the 1973-74 poverty lines initially by the Wholesale Price Index (WPI). The use of WPI become controversial as it comprised a range of items that are not meant for private consumption at all. Besides, consumers buy goods at retail prices, not at wholesale prices. The Study Group on Estimation of Poverty Line (1989) constructed by the Planning Commission during the Seventh Five Year Plan (1985-1990), recommended use of private consumption deflator of the CSO to update the 1973-74 Poverty Lines for later years. The same poverty line defined at national level, separately for rural and urban areas, was used in all states and union territories. Task Force methodology for quantifying poverty lines was criticised for choice of deflator to represent the price change, application of same poverty line in all states which imply the absence of price differential, use of fixed consumption basket over time and uniform consumption basket for all states.

The planning Commission in 1989 constituted the Expert Group on Estimation of Proportion and Number of Poor (EGEP), popularly known as the Lakdawala Committee, to examine the methodology used for estimation of poverty and redefine the poverty line, if necessary. The EGEP did not find it necessary to redefine the poverty line as was defined by the Task Force. However, they suggested use of state-specific poverty lines using state-specific price indices instead of national price indices for rural and urban areas. The Expert Group methodology used state-specific
Consumer Price Index for Agricultural Labourers (CPIAL) of (a) food, (b) fuel and light, (c) clothing and footwear and miscellaneous items with their respective weights in the consumption basket of the poor for estimating and updating the rural poverty line, and the simple average of Consumer Price Index for Industrial Workers (CPIIW) of (a) food, (b) fuel and light, (c) clothing and footwear and miscellaneous items with their respective weights in the consumption basket of the poor for estimating and updating the urban poverty line.

The current poverty line is based on a survey of consumer behaviour conducted in 1973-74. Based on this survey, a consumption basket was proposed that would ensure, on an average, 2100 k.calories per person per day in urban areas and 2400 k.calories per person per day in rural areas. The poverty lines that were then established have been criticized for being too low, and for focusing exclusively on food consumption norms, with no allowance being made for expenditure on, inter alia, health, education, and other basic needs. In November 2009, the Report of the Expert Group to Review the Methodology for Estimation of Poverty, chaired by Professor Suresh Tendulkar, was submitted to the Planning Commission (Government of India, 2009). This much-awaited report was expected to present a new and more realistic measure of poverty. The best-known outcome of the Report of the Tendulkar Committee is that the poverty line that it has proposed is higher than the current poverty line for rural areas, and has resulted in a dramatic increase in the proportion of the rural poor in India. The major contribution of the Report is a total revision in the methodology used to construct price indices to compare rural and urban prices in different states and the state-level prices indices with the all-India price indices (Swaminathan, 2010).

The NSSO has been collecting data on consumer expenditure every year since 1950 to 28th round (1973-74). After the 26th round of the survey (1971-72), the NSSO decided to undertake the surveys on consumer expenditure and employment – unemployment together for a large sample once in five years. Accordingly quinquennial surveys on consumer expenditure and employment – unemployment have been conducted in the 27th (1972-73), 32nd (1977-78), 38th (1983), 43rd (1987-
88), 50th (1993-94), and 55th (1999-2000) rounds of NSS. However, its 42nd Round (1986-1987) the NSSO reintroduced the collection of consumer expenditure data annually though on a reduced scale to maintain continuity in the consumer expenditure data for monitoring inter temporal changes in the level of living.

Until 1993-94, information on consumption expenditure collected by National Sample Survey Organisation was based on a uniform 30-day recall period for all items of consumption. Since 1999-00, NSSO has used a mixed recall period for collecting information on consumption expenditure from households. Under Mixed Recall Period (MRP), information on five broad item groups of household consumer expenditure with low frequency of purchase (low frequency items for short) namely, clothing, footwear, education, institutional medical care and durables is collected on a year-long recall basis while information on consumption expenditure on all other items is collected on the basis of a month-long recall period. In the case of Unified Recall Period (URP), all information on consumption expenditure is collected on a month-long recall period basis. Information on low frequency items of household consumer expenditure was collected on two alternative recall periods (last 365 days and last 30 days) in the 61st round (2004-05). This was also done for a subset of low frequency items in the three quinquennial rounds prior to the 55th round for 1999-00. [Ref: Report of the Expert Group to Review the Methodology for Estimation of Poverty, Government of India Planning Commission November, 2009]

Comparability among poverty estimates in different rounds is not always possible because of the reasons: First, the recall period of consumption expenditure in the 51st to 54th Rounds (7 days) is not same in the 55th Round (30 days). Second, since monthly expenditures are found to be higher when lower recall periods are used, the introduction of a 7-day recall period for some components of consumption in the latest large-scale round may weaken the comparability of consumption estimates across Round 55 and the earlier large-scale rounds.

Despite the facts that there has been a decline in the incidence of poverty over the past two decades, large number of people continues to live below the poverty line in rural areas. In the area of basic minimum services, different Five Year Plans have
### Table 3.1: Poverty line in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973-74</td>
<td>49.63</td>
<td>56.76</td>
</tr>
<tr>
<td>1977-78</td>
<td>56.84</td>
<td>70.33</td>
</tr>
<tr>
<td>1983</td>
<td>89.50</td>
<td>115.65</td>
</tr>
<tr>
<td>1987-88</td>
<td>115.20</td>
<td>162.16</td>
</tr>
<tr>
<td>1993-94</td>
<td>205.84</td>
<td>281.35</td>
</tr>
<tr>
<td>1999-2000</td>
<td>327.56</td>
<td>454.11</td>
</tr>
<tr>
<td>2004-05(URP)</td>
<td>356.30</td>
<td>538.60</td>
</tr>
</tbody>
</table>


### Table 3.2: Poverty and distributional measures for rural West Bengal

<table>
<thead>
<tr>
<th>NSS round</th>
<th>Survey period</th>
<th>Mean consumption (Rs./person/month)</th>
<th>HCR</th>
<th>PGI</th>
<th>SPGI</th>
<th>Gini Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Sep 57-May 58</td>
<td>53.96</td>
<td>52.92</td>
<td>15.024</td>
<td>5.860</td>
<td>26.81</td>
</tr>
<tr>
<td>14</td>
<td>Jul 58-Jun 59</td>
<td>58.34</td>
<td>48.31</td>
<td>12.773</td>
<td>4.629</td>
<td>28.06</td>
</tr>
<tr>
<td>15</td>
<td>Jul 59-Jun 60</td>
<td>56.15</td>
<td>50.41</td>
<td>13.590</td>
<td>5.027</td>
<td>27.08</td>
</tr>
<tr>
<td>16</td>
<td>Jul 60-Aug 61</td>
<td>67.80</td>
<td>32.36</td>
<td>7.614</td>
<td>2.469</td>
<td>25.60</td>
</tr>
<tr>
<td>17</td>
<td>Sep 61-Jul 62</td>
<td>58.63</td>
<td>50.20</td>
<td>11.536</td>
<td>3.795</td>
<td>27.68</td>
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<tr>
<td>18</td>
<td>Feb 63-Jun 64</td>
<td>52.93</td>
<td>55.68</td>
<td>15.401</td>
<td>5.754</td>
<td>26.37</td>
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<tr>
<td>19</td>
<td>Jul 64-Jun 65</td>
<td>50.31</td>
<td>56.54</td>
<td>15.773</td>
<td>6.086</td>
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<td>Jul 65-Jun 66</td>
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<td>Jul 66-Jun 67</td>
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<td>60.15</td>
<td>17.467</td>
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<td>Jul 70-Jun 71</td>
<td>48.02</td>
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<td>8.053</td>
<td>26.32</td>
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<td>Oct 72-Sep 73</td>
<td>50.95</td>
<td>60.51</td>
<td>20.159</td>
<td>9.026</td>
<td>30.64</td>
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<td>Jul 77-Jun 78</td>
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<td>56.25</td>
<td>17.067</td>
<td>7.016</td>
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<td>38</td>
<td>Jan 83-Dec 83</td>
<td>56.59</td>
<td>49.21</td>
<td>14.786</td>
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<td>7.723</td>
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<td>Jul 87-Jun 88</td>
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<td>Jul 89-Jun 90</td>
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<td>4.614</td>
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<td>Jul 90-Jun 91</td>
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<td>3.083</td>
<td>27.62</td>
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<td>48</td>
<td>Jan 92-Dec 92</td>
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<td>28.15</td>
<td>5.310</td>
<td>1.417</td>
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<td>50</td>
<td>Jul 93-Jun 94</td>
<td>70.45</td>
<td>27.27</td>
<td>4.697</td>
<td>1.294</td>
<td>25.41</td>
</tr>
</tbody>
</table>


placed greater emphasis on primary health care, primary education and provision of safe drinking water and shelter. Social sector planning, therefore ensures that appropriate policies and programmes are formulated and adequate investment provided by the State so that poor and vulnerable segments of the society can access essential facilities based on their need. Since the beginning, a number of social sector programmes have been implemented in the State of West Bengal for upliftment of rural people with the objective of provision of income, employment, health, sanitation education etc. Resources have been pumped into the State to ensure multi-faceted social development. But the impacts of all these programmes in terms of improving the quality of life are yet to be felt. The State of West Bengal has implemented a good
We begin with an examination of household per capita consumption and the associated poverty estimates. Consumption is only one element of well-being, but it is an important element, and much interest is rightly attached to the Planning Commission’s periodical estimates of poverty based on National Sample Survey data. The most widely-used poverty indicator is the ‘head count ratio’ (hereafter HCR), i.e., the proportion of the population below the poverty line. The latest year for which relatively uncontroversial HCR estimates are available is 1993-94, corresponding to the 50th Round of the National Sample Survey, a ‘quinquennial’ round. This round was followed by a series of so-called ‘thin rounds’, involving smaller samples and somewhat different sampling designs reconciliation is likely to boost the expenditure estimates based on 30-day data, and therefore to pull down the official poverty counts, which are based on these 30-day expenditures. In addition, only the 365-day questionnaire was used for the less frequently purchased items, and this abandonment of the traditional 30-day recall for durables and other items also brings down the poverty count. Indeed, most people report no such purchases over 30 days, but report something over 365 days. The bottom tail of the consumption distribution is thereby
pulled up, reducing both poverty and inequality compared with the previous design. For this reason, as well as because of possible reconciliation between seven-day and 30-day reports, the latest headcount ratios are biased down compared with what would have been obtained on the basis of the traditional questionnaire. There is another, quite different problem with the official estimates, which does not concern the 55th Round specifically. This relates to the state and sector specific poverty lines that are used by the Planning Commission to compute the poverty estimates. In several cases the poverty lines are implausible, particularly the very much higher urban than rural lines in several states. The source of the problem lies in the use of defective price indexes in ad-hocments of the poverty line over time and between states. In the next section, we discuss ways of overcoming this problem and other limitations of the official poverty estimates.

### 3.2 Basic Assumptions

In view of the foregoing discussion on the conceptual background of the present investigation, certain basic assumptions are made as given below.

(A) Though the HCR is calculated for individuals, not for the households, it is assumed that all members of a given household enjoy the same level of well-being irrespective of age and sex.

(B) The randomly selected sample is true representative to the district population of rural Birbhum categorised as marginal, small, medium and landless according to the size of land holdings.

### 3.3 The Operationalization of the Concepts

#### 3.3.1 Operational holdings

The operational holdings have been re-grouped by National Commission on Agriculture (1976) as under:

- Below 1 hectare: Marginal holding
1 to 2 hectares : Small holding
2 to 10 hectares : medium holding
Above 10 hectares : Large holdings
Having no agricultural land : Landless households

3.3.2 Cost of cultivation

Cost of cultivation includes the cash investment on materials and labour including the cost of owned factors particularly family labour.

3.3.3 Cropping pattern

It is the set of variety of crops cultivated in the farm with a particular sequence in three crop seasons. It does not depict the rotation of crops on the plots of land in the farm.

3.3.4 Income

The amount of money or its equivalent received during a period of time in exchange for labour or services, from the sale of goods or property, or as profit from financial investments.

3.3.5 Household income

Household income is defined as all the receipts, both cash and kind, in exchange for employment, or in turn for capital investments or receipts obtained by other sources such as remittance, pension, etc. in this study, household income is categorized into agricultural income and non-agricultural income.

3.3.6 Agricultural and non-agricultural income

Agricultural income includes income that comes from production of crops. Non-agricultural income comprises of income earning from agriculture allied activities i.e. fishery, livestock raising, dairying, poultry keeping as well as income from regular employment (salary income), self-employment other than in agricultural sector (business income, etc.), remittances, income from property, pension and wage labour earning from non-farm enterprises.
3.3.7 Yield

It is the production of a crop measured in ‘Quintal’ per hectare of land under existing farm conditions.

3.3.8 Employment

Employment, according to census of India, is an engagement of a person in any economically productive activity with or without compensation, wages or profit. All persons who are engaged in cultivation or milk production even solely for domestic consumption are also treated as employed (workers). On the other hand, unemployed are those who are looking to work or are willing to work but cannot find it at the going wage.

3.3.9 Food security

Food security, according to FAO, is defined here as “a situation that exist when all people, at all times, have physical, social and economic access to sufficient, save and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”

3.3.10 Poverty line

Poverty lines are generally defined as the per-capita monetary requirements an individual needs to afford the purchase of a basic bundle of goods and services. The value of this basic basket of goods and services can be determined in many ways e.g. absolute poverty line, relative poverty line. We are interested here with the absolute poverty line which is anchored to maintain minimum nutritional support that produces energy of 2,400 kcals and 2,100 kcals per capita per day respectively in rural and urban areas in India. The official estimates of poverty line of Planning Commission, Government of India vary over time and across states. The Expert Group on Estimation of Proportion and Number of Poor (EGEP), based on NSS data of 61st Round (2004-05), estimated the rural poverty line in West Bengal as Rs. 382.82 per capita per month using Mixed Recall Period (MRP) 30 days for frequently used consumption goods and 365 days for infrequently used consumption goods. This
rounded poverty line of Rs. 383 per capita per month for rural areas of West Bengal is taken as operational Poverty Line in the study.

3.3.11 Rural area

According to Census of India 2001, rural area is defined as the area which is (a) not a statutory place with a municipality, corporation, cantonment board or notified town area committee, etc., (b) (i) a place having a population of 5,000 or less; (ii) at least 75 per cent of male working population engaged in agricultural pursuits; and (iii) the density of population less than 400 per sq. km.

3.3.12 Household

In 1971 Census a household was defined as ‘a group of persons who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so’.

3.3.13 Workers and non-workers

Work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. It even includes part time help or unpaid work on farm, family enterprise or in any other economic activity. All persons engaged in 'work' as defined above are workers. Persons who are engaged in cultivation or milk production even solely for domestic consumption are also treated as workers. Reference period for determining a person as worker and non-worker is one year preceding the date of enumeration.

3.3.14 Main worker

The main worker refers to a person whose main activity was participation in any economically productive work and who has worked for 183 days or more during the reference period (Census, Government of India).

3.3.15 Marginal worker

The marginal worker is defined as a person whose main activity was
participation in any economically productive work for less than 183 days during the reference period (Census, Government of India).

3.3.16 **Cultivator**

Like census, a person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation. A person who has given out her/his land to another person or persons or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivation of land, is not treated as cultivator. Similarly, a person working on another person's land for wages in cash or kind or a combination of both (agricultural labourer) is not treated as cultivator. Cultivation involves ploughing, sowing, harvesting and production of crops other than plantation crops - tea, coffee, rubber, coconut and betel-nuts (areca).

3.3.17 **Agricultural labourers**

According to the definition given in the census an agricultural labour is a person who works for another person in land only as a labour without exercising any supervision or direction on the land or on cultivation for wages in cash, kind or share, such as share of produce, labour should have no right to lease or conduct on land on which he works nor should he be responsible for taking the risk of cultivation.

3.3.18 **Literate and illiterate**

A person aged 7 years and above who can both read and write with understanding in any language has been taken as literate. It is not necessary for a person to have received any formal education or passed any minimum educational standard for being treated as literate. People who were blind and could read in Braille are treated to be literates.

A person, who can neither read nor write or can only read but cannot write in any language, is treated as illiterate. All children of age 6 years or less, even if going to school and have picked up reading and writing, are treated as illiterate.
3.3.19 Literacy rate

Literacy rate of population is defined as the percentage of literates to the total population age 7 years and above.

\[
\text{Literacy Rate} = \frac{\text{Number of Literates}}{\text{Population aged 7+}} \times 100
\]

3.3.20 Work participation rate

Work participation rate is defined as the percentage of total workers (main and marginal) to total population.

\[
\text{Work participation rate} = \frac{\text{Total Workers (Main+Marginal)}}{\text{Total Population}} \times 100
\]

3.3.21 Permanent house

House with wall and roof made of permanent materials is known as permanent house. Wall can be G. I., Metal, Asbestos sheets, Burnt bricks, Stone or Concrete. Roof can be made of Tiles, Slate, G. I., Metal, Asbestos sheets, Brick, Stone or Concrete.

3.3.22 Semi-permanent house

Either wall or roof is made of permanent material (and the other having been made of temporary material) is known as semi-permanent house.

3.3.23 Temporary house

House with wall and roof made of temporary material is known as temporary house. Wall can be made of Grass, Thatch, Bamboo etc., Plastic, Polythene, Mud, Unburnt brick or wood. Roof can be made of Grass, Thatch, Bamboo, Wood, Mud, Plastic or Polythene.

3.4 Derivation of hypotheses

In the light of the discussion made in chapter of review of literature and argument put in the above parts, the following working hypotheses are set up and investigation has been carried out to test these hypotheses:
H₀₁: Considerable changes occurred in food consumption over the years in rural area.

H₀₂: Sources of drinking water facilities were widely extended in rural area.

H₀₃: Perceptible changes took place in housing, electrification and sanitation in rural area.

H₀₄: Perceptible gap exists between male and female in case of rural literacy.

H₀₅: Educational amenities have positively changed over the years in rural area.

H₀₆: Considerable changes took place in work participation rate among different categories of rural households.

H₀₇: Shifting of different categories of labour force occurred over the years in rural area.

H₀₈: Inequalities in income among inter and intra economic classes prevail in rural area.

H₀₉: Inequalities in food security among inter and intra economic classes prevail in rural area.

H₁₀: Poverty gap measured from poverty line among inter and intra economic classes prevails in rural area.

H₁₁: Non-farm economic activities contributed to the rural household income and played an import role in increasing rural employment.

H₁₂: Size of operational land holding influenced the income and employment of farm families.

H₁₃: Poverty gap depends on level of inequalities in income and employment.

H₁₄: Incidence of poverty was high among the agriculture labour household those who have little access to land.