

CHAPTER-I

Introduction

1.1 Prelude:

The sudden rise of commodity prices, especially, the food prices worldwide has brought into focus the issue of feeding the millions. Shrinking area under cereal cultivation over the years, and the general neglect of agriculture has finally led the world into a situation where there is a shortage of food-grains threatening food crisis in several countries. In such a situation the poor people are the worst affected group. The objective to ensuring basic right of food to all has emerged as a top priority for several countries. When food is considered as an essential biological need, unfortunately under capitalism it has become a commodity, where millions of people are excluded from consuming it simply because they do not have the purchasing power to buy it. This paved the way for food riots in different parts of the world and the worldwide scenario has given rise to political instability and the threat of mass revolt that have already alarmed the power elites. Although there is little consensus to the underlying cause of such sudden price adjustments, the United Nations has set up a task force and world leaders promise discussions when global co-ordinated action is required at this critical moment, national interest's have so far dominated the response to a crisis only.

Today's world is characterized by many unwanted happenings, the persistence of extensive hunger is considered as the worst among them amidst the world of unparallel prosperity. The endemic hunger damages the health of millions and kills a good proportion of the world population regularly. People in the world have an acceptance and tolerance of this wide spread hunger and considered this as an unpreventable one (Sen, 2012).

Jacques Diouf, former Director General of Food and Agriculture Organisation (FAO) of the United Nations, has warned the world that the history of food crisis is going to repeat itself once again. According to him we are indeed on the verge of what would turn out to be another major food crisis. The FAO Food Price Index at the end of 2010 returned to its highest level. Drought in Russia and the export

restrictions adopted by the government, together with lower crop harvests than expected, first in the United States and Europe, then in Australia and Argentina have triggered a process of soaring agricultural commodity prices on international markets. Admittedly, the present situation is different from that of 2007-2008, although recent climatic events may significantly reduce agricultural productions next season. The hike in prices particularly affected sugar and oil seeds more than grains and accounted for 45% of calorie intake globally. Cereal stocks amounted to many million tonnes but they are being seriously drawn down in order to meet demand. It is worth mentioning here that the impact of El Nino, a weather pattern that can bring drought to Australia, Southeast Asia and India, which in turn can trigger a surge of food prices causing social unrest. The Governments in Asian countries considered El Nino as a serious threat to agriculture. It developed around the middle of 2014, as reported by U.N. Weather Agency. The year 2007 was also hit by the same condition of weather (The Hindu, 2014).

Among the many unfulfilled needs of the world, the food production occupies an important place. No doubt in it that with food production if we fail to tackle the structural causes of imbalances in the international agricultural system, then the higher prices and volatility will continue in the next several years. And it clearly reveals that food security now-a-days is an important issue in the global arena and likely to dominate the front pages. Food and Agriculture Organisation (FAO) organized an emergency World Food Summit from June 3 to 5, 2008, where the Heads of different Nations of world have participated to discuss the World Food Security and the challenges of climate change and Bio-energy. In that Summit issues like world food grains stocks (which were at an historic low), soaring food grain prices, threats of hunger and growing malnutrition received importance. The Director General of FAO sounded an alert with the announcement that “the world food situation is very serious today with food riots reported from many countries like Egypt, Cameroon, Haiti, Cote d’Ivorie, Ethiopia, Indonesia, Madagascar, Burkina Faso, Senegal, Mexico, Philippines and Bangladesh, the world has just enough cereal stock to feed the global population for two to three months” (June, 2008). This three-day High Level Conference on Food Security organized by the FAO ended unfortunately with failure of the pattern like non-recognition of the basic problem even. This sort of riot like situation for food also occurred in the

letter part of 2013 in the Malda district of West Bengal in India, where people snatched food items from vendors in the local market. This is a clear manifestation of the inevitable situation warned by the Director General of FAO in 2008. Also the conflict in Sudan's Western Darfur was labeled by the United Nations as the "worst humanitarian crisis in the world" where 2.8 million people were in need of food-aid in the hunger season of Darfur, (WFP, 2004). With this consequent scenario of the world, the Rome Food Summit agreed to respond ungently to requests for assistance from the affected countries and to provide immediate support for agricultural production and trade. It was expected that food-exporting countries would remove trade restrictions and it will significantly reduce world cereal prices. Vietnam, Cambodia and India made some promises to do so in case of rice. Apart from the immediate and short term measures – higher investment in agriculture (including research and development) dealing with the challenges posed by climate change liberalization of international agricultural trade and addressing the challenges and opportunities posed by bio-fuel were the final declarations of the summit. It was the belief that if the free market is allowed to work its magic the ongoing world food crisis can be solved. But whatever may be the measure – short-term, medium-term or long-term taken into consideration, food crisis has become acute more recently and that something needs to be done to avert the crisis.

The people of the world continue to react to such circumstances and thus to engage in crisis management. The underlying problems were identified in 1996 & 2002 at FAO World Food Summits. On both the occasions the attention of the highest authorities of the world was drawn to the failure to deliver the commitments.

The concern was that if current trends persisted, the Millennium Development Goals set by the world leaders of reducing by half the number of hungry people on the planet by 2015 would only be achieved by 2150. There has been no decisive change in policy since 1996, excepting some stray programmes by different national governments. Despite the warnings by the global information and Early Warning System of FAO and those issued through the media, till today billion near people are still hungry.

Food security has been a problem of concern to humanity from the beginning of time. Dyson a demographer provides a remarkable well-balanced account of the information currently available while stressing the inadequacies of the environmental data. According to Dyson, by 2020, there will be rises in food consumption per head in most regions with Sub-Saharan Africa being the exception. In the English speaking world the credit mostly goes to Reveren Thomas Robert Malthus, for drawing the attention to the problems of potential food insecurity (Dyson, 2011), who lived from 1776 to 1834.

Current debates on world food security have been focused on environmental problems. The importance of global food security seems largely to be forgotten at the present time, with most developed countries, more concerned with profitable disposal of surpluses than with the reduction of hunger in the Third World. Food is an entitled commodity, which means that it must be available at the price individuals can afford (Elahi, 2006)

1.2 South Asia's Aspect:

Since the beginning of the post World War-II period and through the initial era of development, in which a concerted international effort was undertaken to eliminate poverty in the world, South Asia has made steady and significant progress in terms of economic growth and food security. Still the region continues to hold the largest share of the world's poor, with a substantial number of its inhabitants are in poverty and hunger where population growth is also an inevitable phenomenon. In comparison with many Sub-Saharan African countries where poverty is deeper, the South Asia's large number of poor have posed a challenge for the governments of the region and international donors. Over the past decade, each of the countries of South Asia has implemented an array of economic reforms within the framework of comprehensive pacakages and with varying degrees of intensity to spur economic growth and alleviate poverty. In addition, food grain availability remained low, fluctuated, and for some countries, even declined over the period. This trend, which affects the poor, is important to note against the more favourable pattern of the change in calorie supply from all foods, which has been due to the diversification of production and consumption to higher value of goods that hither income groups are able to enjoy. Instability in

the supply of calories from basic cereals may be due partly to the fluctuations in cereal production that have occurred in each of the countries. Observations made on the basis of the available data, reveals the fact that South Asia did not perform poorly when compared to some of the other regions in the developing world. Certainly, food security and development have been at lower levels in sub-Saharan Africa. Yet South Asia has still to achieve the results of East Asia and the Pacific.

National and Municipal governments in developing South Asian countries have long struggled to conquer urban poverty, food insecurity and malnutrition. In an increasingly urbanized world, these challenges will not disappear so easily. International aid agencies, whose programmes have traditionally concentrated on rural areas are now moving systematically to develop strategies to improve urban livelihoods.

Ensuring food security for all is the challenge with many dimensions. In the short-run reducing hunger must focus at the household level with enabling actions by the nations. Globally, only adequate supplies and food aid can help. In the medium term, the emphasis must be more at the national and individual levels, focusing on reducing poverty and generating sustained economic development for all. Ironically, almost three-quarters of poor and hungry are the rural people living in the place where food is grown. (Khan and Bidabati, 2001)

According to FAO of the UN, about 303 million people in South Asia are in the trap of food insecurity, means sufficient food to lead healthy and productive life is not accessible to them (Pinstrup – Anderson, 2005). Ironically it is an enhancement from 1991, when 288 million people lived in food insecurity. There is a positive indication of falling proportion from 30 years ago, as reported by FAO, still about 40% of the food insecure people of developing world live in South Asia.

Malnutrition among pre-school children is of horrible nature in South Asian region. But steady and slow progress in the direction of reducing the occurrence of child malnutrition is falling in absolute numbers of malnourished pre-scholars. According to World Bank report, death associated with malnutrition is also high

in South Asia – 99 deaths per 1000 live births. Survival in this situation means irreversible damage to their physical and mental progress. Adult people are less productive in their life whose growth here stunted by childhood malnutrition and because of this hindrance these regions are deprived of professionals like scientists, IT professionals, doctors, engineers and productive farmers. South Asia is also the hard-hit by new-born with low birth weights as low as 2.5 kilograms causing to child malnutrition which is a result of poor maternal nutrition and bearing the curse from one generation to the next (Pinstrup – Andersen, 2005). The situation of malnutrition worsens when the consumption pattern is not a streamlined one. Consumption of sufficient calories in diet ensures protein intake in some way or other. But, guarantee of adequate vitamins and minerals are not ensured. In the diet, insufficiency of these micronutrients – often termed as “hidden hunger” affects seriously the people with public health consequences. Food insecurity in this region – Nepal, Bangladesh, Bhutan, Sri Lanka, India persists due to their poverty for which they can not afford the food, which is available together with their inability to have access to the resources for production of sufficient food for themselves. Though the percentage of poverty-stricken people in South Asia has lowered, increasing population growth kept this percentage almost the same.

In Sri Lanka the challenge of attainment of food security for its growing number of population is still taken seriously by their government. Food security at household level is a problem for Sri Lanka, though the country is having an edge not only over its South Asian counterparts but also over most of other countries with considerably equal if not high per capita incomes in terms of human development, literacy level, infant mortality and life expectancy sort of indicators (Kelegama and Babu, 2005). The poor people there, are affected by food and nutritional inadequacies specially the war-hit displaced people nearly for two decades. The average dietary energy intake in Sri Lanka also falls short of 2,200 calories the minimum requirement and with that the men and women together with the children of age under five years are suffering form chronic energy deficiency and malnourishment which affected mostly the poor and war-hit displaced people. In that country also government, non-governmental and donor

agencies are seriously concerned with the elimination of food insecurity a challenge posed by the country (Pinnaduwege and Abeygunawardena, 1990).

Achieving food security for the country's population, Bhutan made considerable progress during the last two three decades. As is manifested from its GDH i.e., Gross Domestic Happiness the indicator of development, a unique procedure to project the country towards the outer world. How accomplished a government is in this respect in that country which is sandwiched between two great neighbors India and China and has been successful in fully reaping its lands, water and other natural resources to enhance the status of food security and reduction of number of poverty stricken people (Babu et. Al., 2005)? The only task ahead for the Bhutanese Government is to increase the food availability to its population.

In case of Bangladesh food security is differently treated amongst all the countries in South Asia. With the microcredit programme of Grameen Bank for the poor and Comilla Model for rural development, Bangladesh is the path finder to the world of development together with another ever important programme Food for Education which first of its kind in the world. With these efforts Bangladesh has viewed to curb undernutrition and pervasive poverty in the country. To get the nutritional support vital for childrens should be provided with the programmes and children should be sent to school for minimum education were the target of Bangladesh Government (Ahmed and Ninno, 2005). Food security at the household level is always a major concern in Bangladesh, where about half of its population is living below the poverty line. To improve the food security situation in Bangladesh agricultural research and extension, investment in irrigation has increased the food grain production to double. Trade liberalization by permitting private rice and wheat imports has improved the scenario of food security for a short-term period. Only as in early 90s for long term stabilization of food security Bangladesh has relied on the increase in production of rice as major food grains (Dorosh & Sahabuddin, 2005)

When we look to the country of Nepal it was a food surplus country and a net food exporter up to the 1970s (Sharma, 2005). The situation has changed when the country has turned to a food deficit one and really experienced it from 1980s when population growth surpassed the food production and became an food importing

country. Ecological zoning shows that experience of significant and regular food shortage is invertible for the countries on mountains and hills. Analysis of the situation in Nepal by experts have found that there is total absence of any national level “food aid policy” and that have never been included in the governments priority list. Nepal Food Corporation played a key role as public sector institution engaged in the procurement and distribution of food grain in the country from 1974 onwards. Since 1990, under nutrition posed a severe problem to Nepal with slightly declining trend of it in children under five years of age. There is widespread deficiency in micronutrients because of the consumption of less amount than the required calorie need of 2250 per day per person by the 40% of the country’s population. In Nepal, government has designed and implemented the food security programmes as “pocket packages” keeping in consideration of income level of household which is an important aspect of all South Asian countries where world’s most low income group live.

Pakistan’s case reveals that economy in Pakistan gives importance to agriculture which is responsible for supply of food & nutrition when food security is considered (Qureshi, 2005). Major challenge in Pakistan’s economy is the high incidence of poverty. FAO estimates of 1995 / 1997 showed the prevalence of undernourishment is 20% of the population of the country. For curbing poverty and providing food security, farm income increment got priority in economic policy formulation of Pakistan (Mellor, 2008). The surplus generated in food grains in Pakistan would have been a transitory one, if the high growth rate of population, which is considered as one of the highest in Asia continues in this manner. The principal food grain like, wheat has already shown weak growth rate in that country (Vyas, 1990)

Thailand’s economy shows us a different picture in the South Asia’s food security concern. It is the only ASEAN (Association of South-East Asian Nations) country which has established itself as a net exporter of major food-grains and is one out of six major countries in the world producing surplus food for export (Konjing, 1990). Evidential record of Thailand’s food system has done a unique job to increase food availability and providing dietary energy during 1970s and 80s. And there is still on-going efforts on the part of the policy planner to improve the

protein and fat consumption by the people of the country. This is a clear step of improving the health of the population in all segments and increase the working capacity and productive years by improving the nutritional status of the population of Thailand. Prevention and rectification of nutritional short comings is the aim of food and nutrition programme of that country within their health care system. That is food security is all-encompassing aspect in this country.

Although the level and speed of economic development is not uniform across these countries of South-Asia, they are the home of major poor people of the world. Their common history of geo-political aspects make them comparable to each other in the field of food and nutrition security. ASEAN Emergency Food Resources is the only scheme of regional food security in this area of the world. An adequate, reasonable and guaranteed food supply for their inhabitants will play an important contribution to reduce poverty in the entire world.

1.3 India's Aspect

India's transition from a colonized country, regularly frequented by mass starvation and famines, to a net food exporter in less than three decades of independence is one of the most remarkable development stories of the twentieth century. It managed to raise food production from less than 50 million tones to over 210 million tones between 1950 and 2000 through a unique public – private partnership called the Green Revolution, with millions of individual farmers responding to the government's initiative to propagate new technologies and seed varieties and cultural practices. India has also, till the late 1990s, managed to keep the rate of growth of food grains production well ahead of the rate of population growth. Although poverty and endemic hunger have lingered, the scourge of famine has been completely eradicated, a fact acknowledged by experts all around the world. However, as is expected in a country of a billion plus people, gaps and challenges remain to be addressed. In spite of a strong commitment to tackle poverty and hunger across the political spectrum, large numbers of the poor continue to require special attention. The understanding that a nation's food security status goes much beyond its overall production numbers has enabled us to look at a disaggregated status and the various components that contribute to the

ability of individual people to eat enough, stay active and lead a healthy and productive life.

At present 300 million people in India are malnourished. The successful effects of green revolution, which helped to avoid death and famine in India, are beginning to trade with agriculture output reaching a plateau with India's population is expected to reach approximately 1.5 billion people by 2050, agriculture production needs to increase 100%. Shortage of irrigation water, increasing salinity levels of water and water-logging of soil further add to the problem of food security. Food production in India has witnessed a steady increasing growth rate during the 70's and 80's from the rate of previous decades, but the 90s has witnessed a sharp fall in the growth rate. In fact the growth rate of food grain production during the 90s has been close to the annual population growth rate, which implies a stagnant per capita production level (George, 1999).

1.4 The Concept of Food Security

The concept of food security undergoes a change with the stage of development reached by society. In developing country like India, food security may be visualised as the availability of minimum quantity of food grains to the entire population with this perspective, though India attained national food self-sufficiency 35 years ago, yet about 35% of its population remain food insecure. Low income and high food prices prevent individual food security. Another aspect of India's food security situation is that after over four decades of operations, Public Distribution System (PDS) meets less than 10% of consumption of PDS grains – rice and wheat by the poor. Unfortunately agriculture is in the cob-web of poor performance. Traditional sources of augmenting income are ceasing. Production environment is changing, it is now dominated by small holders with shrinking land holdings, their sustainability and viability can not rely solely on production of food. Climate variability and change are likely to affect the agriculture in India. In what way and how much the Indian agriculture will be affected is very difficult to predict and in turn no assessment can be made so far as food security is concerned. To face impending challenges a country should be well prepared so that it can reduce food insecurity – a task very tough to achieve.

Surging food grain prices and worsening global food supplies are now bringing the domestic food crisis to an unprecedented height. The food grain productions in India are not increasing at that pace and crisis has been generating for sometime when population expansion is taken into consideration. Stagnation has occurred in grain output over a decade and the gap between the supply and demand is growing. With the increasing role played by India in Global Economic Development, the world has expected India to take necessary steps to achieve the “Millennium Development Goals” (MDGs) set by the United Nations (UN) for the year 2015. The MDGs are eight international development goals as –

1. Eradicate extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote gender equality and empower women.
4. Reduce child mortality rate
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases.
7. Ensure environmental sustainability
8. Develop a global partnership for development.

The food security aspect topped the list of MDGs, which is a clear manifestation of the world food crisis. But, at this juncture what India is doing in achieving Global Food Security or Domestic Food Security is putting a question mark. The major problem of food security in India is with respect to resources and means of having accessibility to stock of food grains. Lack of food refers lack of means to acquire food and not the shortfall in production of food grains as in common parlance. According to U.N. Hunger Task Force India is the home of about 41% of the world’s underweight children. These children – the future of India is facing growth challenges, where, in the age growth of below 5 years 47% children are underweight, 45% are stunted and 16% are wasting. These types of malnutrition are the features of famine-prone countries where food insecurity is acute and regular. A strong admirer and critic of India Prof. Amartya Sen has been

suggesting India to give primary importance to eliminate latent hunger, malnutrition and under-nourishment.

Women and children of the household are the worst victims of the lack of food insecurity together with the old people everywhere in the world. Ensuring food security to these vulnerable groups requires tremendous effort. The status of women has an important influence on the aspect of food security. Women occupy a key role because they have food production & child production responsibilities. To undertake these responsibilities effectively, they need to maintain their own nutrition status. In addition women have claims on multiple duty-bearers to guarantee their own right to food. The dependence of household food security on the nutrition status of women when set against their low status relative to creates difficult tradeoffs for women. In South-Asia these trade-offs are particularly acute and results in much higher rates of child under-nutrition than that would have been expected, based on GDP per capita and national food availability.

Therefore, now-a-days the government's policy focus and formulation is revolving around household level food security, where per capita per unit food energy intake is considered as a measure of food security. Because, estimation of the number of food insecure households by the comparison of their calorie intake with required norms became a usual practice. The country's low income compared to world standards and the availability of food grains and calories which are also low when compared among the other countries of the world, the assessment of nutrition status should be on the basis of the nutritional outcome of the household. Since the World Food Conference of 1974, food security is analyzed at the household and individual levels together with the global and national level, where food security can be more precisely interpreted (Bonilla et. al., 2005). But food supply alone is not posing a main obstacle to the food security, but poverty and absence of income opportunities along with varying degree of food supply and access with their sustenance over time is also responsible in this aspect. People should take more food than that is necessary for their survival to support their acute and healthy life. The food availability and accessibility are only the prerequisites of adequate utilization of food because they do not determine nor explain the malnutrition or nutrition insecurity of individual in the household. For

knowing individual's nutritional status utilization of food is an important aspect by him or her. The distinction between malnourishment related to intake of food and malnutrition - a physiological anomaly which is also related to food consumption is clearly made by the FAO's report on the world's state of food insecurity (Bonilla et. al., 2005). The core issue of measures of malnutrition amongst child if we consider it, which is expressed on percentage based on the various anthropometric measurement, is very little way related to the indicators of malnutrition when food availability is measured at the national level from consumption of calories per person nationally. That is why it is very important for us to know what is happening at the individual and household level, at the national and regional level with microeconomic perspective. Individual food security analysis is critically done by food poverty indicator and or anthropometric information (Salih, 1995). The first indicator i.e. food poverty measures which can also be referred to as household's access is the number of individuals living in households whose access to food is measured by income, expenditure or consumption sufficient to provide a dietary intake adequate for growth, activity and good health. The second indicator suggests that anthropometry which implies one's actual body measurement is having close connection with the nutritional status at the individual level. For this reason food security in its widest connotation is variedly defined with different aspect. Generally, food security is synonymous with absence of hunger or otherwise the provision of calories in pre-determined numbers in the household level.

With this we can say that food security is basically a supply side economics, where management of food supply getting priority. According to the committee on World Food Security of United Nation's Food and Agriculture Organisation (FAO), the food security is defined as follows – "Food security means that food is available at all times, that all persons have means of access to it, that it is nutritionally adequate in terms of quality, quantity and variety, and that it is acceptable within the given culture". In 1996 World Food Summit, definition of food security was uttered formula with more complex formula where managerial aspect was stressed less. The definition of food security is a situation in which all households have both physical and economic access to adequate food for all members and where households are not at risk of losing such access (Lang, 2002).

There are three aspects in this definition of food security – availability, accessibility and stability. World Bank (1986) has given one of the most accepted definitions of food security as “access by all people at all times to enough food for an active and healthy life”. In Rome Summit on World Food Security and World Food Action, the food security was observed as “the food security at the individual household, national and global level exists when all people at all times have physical and economic access to safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (Sigh, 2008). In almost all the definitions of food security, explain has been given on economic accessibility, physical availability of food to the people and to meet nutritional requirements of the people. The crux of food security is to ensure health and active life by physical and economic access.

In the report entitled ‘The state of Food Security in the World 2000’ – FAO has made an estimation of the number of people suffering from hunger in the world as more than 800 million. There are 400 million poor and hungry people in India alone (Hussain, 2004). Though since 1996-97 onwards, there is a continuous increase in the production and procurement of foodgrains, but off take from the Food Corporation of India (FCI) has been declining in a significant way. Having surplus foodgrain well above the buffer-stock, in anyway do not reflect the status of food security of the country’s entire population. Perpetual sufferings from food –insecurity is common among Indian citizens. Happenings is there not only in case of rural India, urban India is also trapped into the situation of food insecurity caused by large scale cut-down in urban employment.

When nutritional security concept is incorporated into the food security definition, the malnourishment and inequality among children is to be the focus of any discussion on food security. The importance of food and good nutrition as a basic human need is recognized by the Millennium Development Goals (MDGs) for the removal of hunger and eradication of poverty. Malnutrition pronounced in terms of both under-nutrition and over-nutrition, is viewed as a serious health concern among children of the least & less developed countries, including India. Undernourishment is more in concern because of its prevalence in large scale due to calorie and diet inadequacies than is required by the body for proper growth,

maintenance and development, (AO and Lhungdim, 2014). UNICEF in 2000, has pointed out that, in the developing world 39% of children of age under 5 years are suffering from chronic malnutrition and 54% of deaths among children of the same age group are caused by malnutrition.

Malnutrition in children affect have an impact on both the mental and physical health of the child which in turn affects the productivity and national economic growth. The problem has become serious and pervasive. WHO in 1995 showed its concern for underweight or stunted children who are at a greater risk for childhood morbidity and mortality poor physical and mental development, inferior school performance and overall a reduced adult size and capacity for work.

National Family Health Survey -1 (NFHS-1), data shows that the underweight children are more than 53% and stunted children are 52% of age group under 5 years in India. Subsequently the proportion has reduced alluring NFHS-3.

1.5 Food Security in North-East India :

The child malnutrition level is showing its high level not only at the national arena, but some regions and states also show its high trend. Bihar has the highest levels of malnutrition amongst children and is in top five states of India followed by Madhya Pradesh.

The smaller north-eastern states show consistently lower levels of child malnutrition mainly in Sikkim, Nagaland, Manipur and Mizoram. Many better-off states in economic terms have higher levels of child malnutrition than these north-eastern states, [e.g., Gujrat, Haryana, Maharashtra and Pubjab]. In terms of nutritional status north-east states performed better than national level when three anthropometric indices such as height for age (Chronic or Stunting), weight for height (acute or wasting) and weight for age (under weight, the composite index) are considered as reported in NFHS-3. Though, the overall scenario of malnutrition situation among the children of age below 5 years in the region has improved during years, but it is still disproportionate among the states and more remarkable in the sense that there is the co-existence of two extreme situations of one very low and the other very high. The proportion of children below five years

age suffering from chronic malnutrition are more (36-55%) than those suffering from acute malnutrition (9-31%), which show comparatively a large proportion of children of age below five years reveals more stunting (less than required for their age) than wasting (low weight the required for their age). Therefore, it is these stunted children who are responsible for large scale prevalence of underweight children of age below five years in the north-east region as a whole (AO and Lhungdim, 2014).

1.6 Necessity of the study

Imagination of the situation in the north-east India from the overall Indian scenario of food insecurity can easily be grasped. Decades of yesteryears, the identity crisis, migration, insurgency, conflict situation all remained focus of the region. The food security was shadowed under the crucial situation of north-east. The study propose to enquire the situation of food security in north-east India in general and Assam in particular. The entire north-east in effected by deficit in food production. Across the states in India, widespread variation in the incidence of poverty shows the inability to have enough food. This will naturally be reflected in the wide variation in food security at the individual level also. Most of the existing study on food security in India covers the larger sates where majority of the population live. So, very little work is done to know about the food security of the smaller states like Assam whose geographical and socio-economic conditions are totally different from other parts of the country. In comparison to other states of NE region, Assam is comparatively large, both in terms of population and geographical area. Whatever study is carried out for Assam can be viewed for other states of NE region due to many resemblances in their economic structure with Assam. All the states of NE region are enjoying the status of special category states and for their development expenditure they mainly depend on Centre. Almost all the indices for development of Assam are below the national level. All the states in the NE region are facing the problem of food security in varying degrees. Like other bigger states majority of the population here also live in rural area and are relatively more affected by hunger and poverty.

The magnitude of poverty in the state is alarming, according to the latest estimates, published by the Panchayat and Rural Development Department,

Government of Assam. As per the NSSO 58th Round figures, the food availability status in rural Assam is the lowest among all the states in India. The number of households not having enough food in a month of the year is also highest in Assam.

The district level enquiry is very limited among the existing works done by different scholars. Primary data base study is pertinent to have a scholarly assessment of the district. Migration of different category has affected the economy in a significant manner. There is absence of industrial infrastructure in the economy and the economy is mainly based on primary sector. In the present study, an attempt has been made to capture a comprehensive food security scenario of households at the district level. The Statistical data base necessary for such an analysis is hard to find out for the district in many areas of approach. The present proposal is therefore an attempt to study the household level food security among the people living in the district of Cachar.

In the consumption front the three pillars of food security namely 'availability of food', 'accessibility of food' and 'utilization of food' will be measured in the study. Different indicators are there for measuring all three aspects of food security to identify the food secured and insecure households. Although number of studies are done on NE region's different states for measuring the real level situation of food security, its status and position at the household level, specific study on Cachar district is unavailable regarding food security. The people of Barak Valley, specially the people living in the Cachar district are perennially affected by natural calamities like flood, drought together with transport and communication problem which is having a direct impact on the food security situation. Unemployment among the people is a major problem faced by the young generation of the district. When purchasing power is an important indicator in measuring food security, employment and education level become a determining factor of purchasing power. But purchasing power is not the only one of the indicators considered for measuring food security. Other indicators relevant to the present study are also equally important to capture three aspects of food security referred to as above. No research work is available in the district which

have dealt with the three aspect of food security approach and its different indicators.

Therefore, this research work which encompasses all three aspects will try to find out the food security situation in the Cachar district in that broader light and it will be able to identify the food secured and food insecured households in the study area. The particular socio-economic condition will be highlighted through this research line along with the impetus for government policy formulation for the varied interest of the society.

1.7 Objectives of the Study

The focus of the proposed study will be analyzing the food security situation of the people considering households as unit of measurement. All the food availability, food accessibility and food utilization will be measured for the identification of food secured and food insecured households. The term food availability is applied most commonly in reference to food supplies at the regional or national level and can also be judged at the household level on the basis of the combined indicators like purchased food, own production, in-kind-wages, gift and transfers and food in stock. The food access is judged when households have adequate resources to obtain adequate foods for nutritious diets. Access is measured by the indicators like total household income, savings and assets in their possession. Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water and adequate sanitation. Food utilization is reflected in the nutritional status of an individual. Necessary information will be stated to reveal the real situation of food security through all dimensions in the study.

The objectives of the present study is framed on the basis of all these aspirations and are stated as:

- 1) To measure food access of households.
- 2) To measure food utilization pattern of households.
- 3) To measure food availability at households level.

- 4) To identify food secured and food insecure households.

1.8 Research Hypothesis :-

Determination of Household food security embracing three dimensions – availability, access and utilization is very crucial when the purchasing power is in close- nit with the living status of the household. Income or purchasing power may be a single determining factor for a situation of food security. The association between income and food security is a significant one. The research hypothesis constructed for validation is based on this association :

H₀: Households income has positive impact on household food security status.

The relationship between food security and household income can have a linear pattern, which is the basic idea behind the construction of this hypothesis. Income includes cash income, wage earnings, market value of food produced by the household, rental income, profits from family enterprises, income from trading activities, livestock etc. The capacity to procure adequate food is directly linked with the household level income, changes in the pattern of income level has a direct impact on nutritional and income poverty. Enough income is converted into enough consumption expenditure for a nutritional and balanced diet can also be judged. Changes in income level can also have manifestation in the changing pattern of food consumption habits when there is the intervention of other exogenous factors, nullifying the affect of income.

1.9 Limitation of the Study

The study has many limitations as well. The first limitation is that the indicators which are selected for assessing food security is not a very comprehensive set of variables. Only a selected set of variables are taken into consideration to assess food security status of households. Secondly, the sample size is also a small one for such a comprehensive study. A more heterogeneous data set is required for such kind of study which could not be taken for the present study because of paucity of time and resources. Thirdly, indirect measure is applied for calorie measurement which although is recommended in many works of renowned people, has its own limitations. The fourth limitation is that the study does not

assess food security of households belonging to different social strata such as General, SC, OBC and ST. The religion-wise assessment is also not attempted to make approach a simpler one.

Future research in this area may take these aspects into consideration to enhance the utility of the study.

Despite of these limitations, the present study is unique in many respects. This would be a pioneering attempt to take into consideration all the three dimensions of food security namely, food access, food availability and food utilization. Moreover the concept of ‘index child’ introduced in the present study is also a newer one which has not yet been explored by researchers of this north-east part of India.

1.10 Chapterization of the Study :-

The thesis is organized containing the following chapters.

CHAPTER – I: General Introduction

- 1.1 Prelude
- 1.2 South Asia’s Aspect
- 1.3 India’s Aspect
- 1.4 The Concept of Food Security
- 1.5 Food Security in North- East India
- 1.6 Necessity of the Study
- 1.7 Objective of the Study
- 1.8 Research Hypothesis
- 1.9 Limitation of the Study
- 1.10 Chapterization of the Study

CHAPTER – II Review of Literature

- 2.1 Review of Important Research Items
- 2.2 Research gap.

CHAPTER – III :Socio-Economic Overview of the Study Area

3.1 North-East India

3.1.1 Water Resources and Irrigation

3.1.2 Land Tenural System

3.1.3 Population

3.1.4 Education

3.2 Demographic & Socio-Economic Condition of Assam.

3.2.1 Population Characteristics

3.2.2 Number of Household

3.2.3 Birth & Death Rates in Assam

3.2.4 Literacy in Assam

3.2.5 State Income

3.2.6 Per Capita State Income

3.2.7 Agriculture

3.2.8 Production

3.2.9 Food Grain Requirement

3.3 Cachar

3.3.1 Cachar District under British Regime

3.3.2 Cachar District After Independence

3.3.3 Administrative Set-up

3.3.4 The River System

3.3.5 Climate of the District

3.3.6 Natural Resources

3.3.7 Land Situation

3.3.8 Demographic Features

3.3.9 Population of children (0-6) yrs in the District

3.3.10 Literacy Rate

3.3.11 Population Below Poverty Line

3.3.12 Food Security of Cachar

3.4 Food Availability

3.4.1 Issue of Food-grains through Food Corporation of India (FCI)

3.5 Food Access

3.5.1 Employment Status

3.5.2 Physical Achievement of MGNREGA (2013-14)

3.5.3 Main Workers by Category of Economic Activities

3.5.4 Institutional Finance

3.6 Food Utilization

3.6.1 Public Health (Sanitation and Drinking Water)

3.6.2 Amenities Available to Households

3.6.3 Nutritional Status of Individual:

3.6.4 Nutrition status of children in Assam

3.6.5 Child Health Indicator in Assam (2013)

3.6.6 Nutritional Status in Adult

3.6.7 Body Mass Index (BMI)

CHAPTER –IV Conceptual, Theoretical Framework and Methodology

4.1 Food Security: The General Concept

4.1.1 Hunger and Malnutrition

4.1.2 Poverty

4.1.3 Technicality in Poverty Measurements

4.1.4 International Poverty Line

4.1.5 Head Count Index

4.1.6 Poverty Gap Index

4.1.7 Poverty – An Ordinal Measurement

4.2 Poverty in Indian Context

4.2.1 Absolute & Relative Standards

4.3 Food Security and Food Insecurity

4.4 Official Definition of Food Security

4.5 Indian Scenario

- 4.5.1 M.S. Swaminathan Research Foundation (MSSRF)
- 4.6 Concept of Adult and Index Child
- 4.7 The Three Pillars of Food Security
 - 4.7.1 Availability
 - 4.7.2 Accessibility
 - 4.7.3 Food Utilization
- 4.8 Design of the Study
- 4.9 Anthropometric Measurement
 - 4.9.1 Body Mass Index (BMI)
 - 4.9.2 Z-score
- 4.10 Methodology
 - 4.10.1 Population
 - 4.10.2 Sample of the study
 - 4.10.3 Data
 - 4.10.4 Analytical Tools and Techniques for Data Analysis
 - 4.10.5 Human Capital
 - 4.10.6 Estimation of Earning
 - 4.10.7 Financial Capital
 - 4.10.8 Households Food & Nutrition Security

Chapter – V Data Analysis, Results & Discussion : Section-A

5.1 Sample Households and Their Characteristics

5.1.1 Distribution of Sample Households with respect to the Area of Study Table

5.1.2 Rural-Urban Distribution of sample households and index children

5.1.3 Selected Demographic Characteristics of sample households:

5.2 Economic Characteristics of Sample Households in the Study Area

5.2.1 Occupation wise Distribution

5.2.2 Yearly Income Group-wise Distribution of Sample Households.

5.2.3 Savings Profile of Sample Households

5.3 Socio-Economic Profile of Sample Adults

5.4 Socio-Economic Profile of Sample Index Children

Chapter – V Data Analysis, Results & Discussion : Section-B

5.4(A) Household Below Poverty Line

5.4 (B) Estimation of Income Poverty of Sample Households

5.5 Availability of food

5.5.1 Engel's Law

5.6 Food Accessibility

5.7 Food Utilisation

5.8 Indicators of Food Security Dimensions of Individuals

5.9 Nutritional Status of Index Children :