INTRODUCTION

1.1 THE SETTING

The provision of food security to their citizens is the avowed aim of most countries in the third world. Though the application of science and technology has falsified the Malthusian prognosis of famine, yet enhancing the food grain supplies even to the minimum requirement still remains a dream in the case of many developing countries including India. The concern for food security took different dimensions in the early 1980s. Following the success of the green revolution in many countries the period 1980s recorded a great leap in food problem (food availability).

Until the early 1970s, adequate availability of food grains at the national level was considered a good measure of food security. The 1974 World Food Conference has emphasized stability of food supplies within and over the years apart from the overall availability. However, the World Food Conference paid little attention to the lack of effective demand as a major world food problem. During the 1990s, the main thrust had been poverty alleviation and the role of women in development, besides food access. Plans were drafted to eradicate or at least reduce hunger and malnutrition quickly. Thus the concept of food security has evolved over a period of time.

The concept of food security has been assuming a critical focus in a number of world conferences convened by the United Nations in the 1990s. The conference on Environment and Development, held in Rio de Janeiro, Brazil, in 1992,
emphasized the need to ensure food security at all levels as defined in Agenda 21. The World Food Summit held in 1996 has an important objective of reducing hunger by 2015 but the goal seems to be difficult to achieve. The Joint Food and Agricultural Organization and World Trade Organization Conference on Nutrition, held in Rome in 1992, declared that “Hunger and malnutrition are unacceptable in a world that has both the knowledge and the resources to end the human catastrophe” and recognized that “access to nutritionally adequate and safe food is a right of each individual”.

The World Conference on Human Rights (Vienna in 1993) stressed the need to ensure that everyone should enjoy a right to food. The International Conference on Population and Development (Cairo in 1994) highlighted the linkage between population growth and food production and the need to evolve global measures to satisfy the ever growing food needs. The World Summit on Social Development (Copenhagen, 1995) made a strong commitment to the campaign against hunger through its emphasis on poverty eradication. The Fourth World Conference on Women (Beijing, 1995) drew the attention of the international community to the key role played by women in food production. The World Food Summit (Rome, 1996) which took place at a time of growing international concern over slow growth in global food production and expanding population gave a new impetus to the fight for food security by focusing attention on the food issues.

Food and Agricultural Organisation (FAO, 1983) had formulated the basic concept of food security which implied that “All people at all times have both physical and economic access to basic food they need”. The World Bank has modified this formulation to indicate that food security is “access by all people at all
times to enough food for an active healthy life. The essential elements are the availability of food and the ability to acquire it”. Nutritional security is an outcome on good health, a healthy environment and good earning practices in addition to household level food security.

The thought on poverty reduction via calorie intake was originally provoked in India by Prof. V. M. Dandekar and N. Rath in 1971. The effort continued in the ensuing years for poverty reduction accompanied by various targeted/non-targeted programmes by successive Central and State Governments. There has been shift in policy focus towards household food security, whereas per capita / consumer unit food energy intake is taken as a measure of food security. It has become common practice to estimate the number of food insecure households by comparing their calorie intake with the required norms. Governments have been implementing a wide range of nutrition intervention programmes for achieving food security at the household levels. The Public Distribution System (PDS) supplied food items, such as food grains and sugar at administered prices through fair price shops. There has been a range of food-for-work and other wage employment programmes like Mahatma Gandhi National Rural Employment Guarantee Schemes (MGNREGS), where people are paid in part or full in food grains for working in public works. Another approach adopted by the governments is to target women and children directly; this includes the mid-day meal programmes for school going children and supplementary nutrition programmes for children and women.

The concept of food security has undergone considerable changes in recent years. Food availability and stability were considered good measures of food security till the seventies and the achievement of self-sufficiency was accorded high
priority in the food policies of developing countries. Though India was successful in achieving self-sufficiency by increasing its food production and also improving its capacity to cope with year-to-year fluctuations in food production, it could not solve the problem of chronic household food insecurity. This necessitated a change in approach and as a result, food energy intake at household level is now given prominence in assessing food security. It has become common practice to estimate the number of food insecure households by comparing their calorie intake with required norms. However, the widely accepted norm of the level of calorie intake required for overcoming under-nutrition has been questioned.

Nutritionists argue that the energy intake is a poor measure of nutritional status, which depends not only on the nutrient intake but also on non-nutrient food attributes (Martorell and Ho, 1984). The non-food factors which influence biological absorption are also considered as important for food security as food factors. It is suggested that the assessment of malnutrition should be based on outcome measures rather than input measures. The suggested outcome measures include anthropometric measures, clinical signs of malnutrition, biochemical indicators and physical activity. Outcome indicators are more closely related to health and functional capacity. Among the outcome measures, anthropometric measures are considered to have an advantage over other indicators since body measurements are sensitive to even minor levels of malnutrition whereas biochemical and clinical indicators, on the other hand, are useful only when the level of malnutrition is extreme. In policy design, a distinction is made between transient and chronic food security.
Transitory food insecurity is associated with the risks related to either access or the availability of food during the off-season, drought and inflationary years and so forth. Policies such as those relating to price stabilization, credit, crop-insurance and temporary employment creation are initiated for stabilizing the consumption of the vulnerable groups. In contrast, the problem of chronic food insecurity is primarily associated with poverty and arises due to continuously inadequate diet. The strategy to overcome this problem includes intervention (agricultural production programmes, infrastructure, human resource development, etc.) to raise the purchasing power of the poor through the endowments of land and non-land assets and by generating employment opportunities, as well as long-term growth mediated interventions to improve food availability and incomes of the poor.

India is one of the few countries which have experimented with a broad spectrum of programmes for improving food security. It has already made substantial progress in terms of overcoming transient food insecurity by giving priority to self-sufficiency in food grains and through procurement and public distribution of food grains, employment programmes, etc. However, despite a significant reduction in the incidence of poverty, chronic food insecurity persists in a large proportion of India’s population. At the national level, we have solved the problem of food insecurity which is reflected in mounting buffer stocks.

Yet, there are millions of food insecure and undernourished people in India. The limitation is not food supply, but food distribution. Careful consideration of food security requires moving beyond food availability and recognizing the low incomes of the poor. It is also important to recognize the choices that households and regions face, including exploitation of natural resources when incomes fall.
short. Substantial human resources are wasted due to malnutrition related diseases. Vision 2020 should aim at complete eradication of food insecurity, both chronic and transient. Productivity generated by technological innovation particularly in less endowed areas and vibrant rural non-farm sector hold the key to eradicate food insecurity.

According to the National Sample Survey, 26.1 per cent of the Indian population lives below the poverty line. Although malnutrition for India has fallen from 11.1 per cent in 1991-92 to remarkable 6.4 per cent in 2000-02, this can be explained as due to increased consumption of milk, animal protein, fruits and vegetables. As estimated by the National Commission on Population, the country’s population is expected to touch 1.33 billion by 2020-21 and the demand for food grains around 280 million tons. This means that food grain production has to grow by 2 per cent a year over the next decade. The overall production of food grains was estimated at 217.3 million tons in 2006-07. The challenge of maintaining a balance between human numbers and the capacity to produce food is increasing in our country day by day.

Punjab, Haryana and Western Uttar Pradesh, which constitute the heartland of green revolution, are in a state of economic and ecological distress. Economically, indebtedness is growing among farmers, and ecologically, this region has been mining its soil and ground water resources. In the rice-wheat areas, the water table is going down by 2 to 2.5 feet annually. India will not be able to maintain a stable food security system if the heartland of green revolution is not saved through adequate support for conservation, farming and green agriculture. In contrast to the situation in the main granary, there is a vast and untapped production
reservoir available in Bihar, Orissa, Eastern Uttar Pradesh, West Bengal and Assam even with technologies on the shelf. These states are well endowed with water resources: the major problem is water management and not availability.

1.2 STATEMENT OF THE PROBLEM

Worldwide around 852 million people out of 6.35 billion are chronically hungry due to extreme poverty, while up to 2 billion people lack food security intermittently due to varying degrees of poverty (FAO, 2003). At the global level, the South Asian region is home to more chronically food insecure people than any other region in the world and India ranks 94th in the Global Hunger Index of 119 countries.

According to FAO (2008), India is home to more than 230 million chronically undernourished people. More than 27 per cent of undernourished global population live in India. Similarly the Nutrition Monitoring Bureau estimated that about half of the rural children aged 5 years suffered from malnutrition and 40 per cent of the adults suffered from chronic deficiency in 2000-01. This is due to the fact that a substantial portion of the population is too poor to buy enough food and also exposed to diseases caused by poor sanitation resulting in poor conversion of food into energy. The most vulnerable are children, women and elderly, especially among the poor income groups in rural areas.

While the number of children suffering from severe malnutrition declined significantly in the 1990s, the prevalence of mild and moderate under-nutrition group is still high. The nutritional status of tribal is still worse. The National Family Health Survey (1998-99) has these findings:
“Forty seven per cent of children are malnourished and 74 per cent are anemic; 36 per cent of ever married women aged 15-49 have chronic energy deficiency; fifty four per cent of women aged 15-49 in rural areas have no education, about half the pregnant women suffer from iron deficiency; seventy one per cent of rural households do not have any toilet facility; 19 per cent villages do not have any health facility and 51 per cent villages do not have any drainage system either underground or open.”

India at present finds itself in the midst of a paradoxical situation: endemic mass hunger coexisting with the mounting food grain stocks. This is due to the demand deflation brought about by falling agrarian incomes over the past decade. The bottom 80 per cent of the rural population who now number almost 600 million have severe declining per capita consumption since 1989-90. This is in stark contrast to the top 20 per cent of the population whose per capita consumption and thus income has gone up by about 40 per cent in the 1990s. The food grain stocks available with the Food Corporation of India (FCI) stand at an all time high for last many years. Despite this, over 300 million people go without two square meals a day. With over 230 million people ensure about accessing their daily bread, 50% of children undernourished and stunted, and about 68 out of 1000 dying before the age of one year, food security is undoubtedly a major concern and top priority for the Indian government today.

1.3 OBJECTIVES OF THE STUDY

Food grains including cereals and pulses play an important role in achieving food security. Though Tamil Nadu has experienced no hungry related deaths, many people go to bed with hunger or with intake of inadequate food. The Tamil Nadu
government in order to ensure food security has been implementing various pro-
poor programmes viz., Mid-day Meals Programme, Integrated Child Development
Scheme, Annapoorna Yojana, Antyodhaya Yojana and Old Age Pension Scheme
targeting particularly children, pregnant women and aged. Keeping in view the
vagaries of monsoon and their adverse impact on area, production and yield rates,
the present study on food security will examine a wide range of issues, problems
and prospects in farm sector at the macro level with reference to Tamil Nadu and
assessing the status of food security with reference to sample blocks of case study at
Uppiliyapuram and Tiruverumbur blocks in Tiruchirappalli district.

With a view to assess the status on food security, the following objectives
have been set,

1. To assess the availability of total food grain production including pulses in
   relation to demand for food grains.
2. To assess the state’s indirect intervention viz., investment in research and
development in agriculture and infrastructure, institutional reforms in
   increasing food grain production.
3. To assess the effectiveness of the role of procurement, distribution agencies in
   ensuring food supply.
4. To estimate the total requirement of food grains to ensure the minimum
calorific value.
5. To assess the role of the State in bridging the gap between demand and supply
   and its impact on food security.
1.4 HYPOTHESES

In the present study, with reference to the sample villages, the following hypotheses have been framed:

i. The proportion of expenditure on non-food items is decreasing with the increase in income of the households.

ii. Literacy level and family size have a significant effect in ensuring food security of the people.

iii. Household calorie consumption level is directly related to income level.

iv. Public distribution system has played a major role in ensuring food security both in rural and urban areas.

1.5 METHODOLOGY

The availability of food grains includes production of food grains as well as imports. The status on food security at the state level is assessed using only secondary data on area, production and yield, research in agriculture, and land reforms. Besides a micro study is conducted in two blocks: one urban and one rural in Tiruchirappalli district.

Sample Design

Though Tamil Nadu has 32 districts at present, Tiruchirappalli district has been selected by using purposive random sampling method. Uppiliyapuram Block is selected because of its backwardness and rural character. In this block, Sobanapuram village is selected as scheduled caste population is high and agricultural labourers are in large number. Also it is an agriculture based village. Likewise, Tируverumbur Panchayat in Tируverumbur block is selected for study.
because it is not only an industrially developed one, but also an agriculture based village.

**Data Collection**

Both primary and secondary data have been collected and analysed for the study. For collection of primary data, Sobanapuram panchayat in Uppiliyapuram block and Tiruverumbur panchayat in Tiruverumbur block in Tiruchirappalli district have been selected.

**Primary Data**

Primary data were collected from 360 respondents in the above two blocks, 180 respondents from each village for family particulars - size, age, sex, educational status, occupation, monthly income of family members, asset position, value of implements etc., land particulars such as land owned, leased out, leased in, value of land, cropping pattern, etc., employment opportunities and consumption pattern and expenditure on food and non-food items.

**Secondary Data**

Data were collected for the study mainly from Department of Economics and Statistics and Department of Evaluation and Applied Research, Chennai, Tiruchirappalli. Season Crop Report of Tamil Nadu for various years, Rainfall statistics, District Statistical Handbook and Block Statistical Handbook were referred to from Department of Economics and Statistics. Tamil Nadu: An Economic Appraisal for various years have been referred from the Department of Evaluation and Applied Research. Besides these, Economic Survey of Government of India and National Sample Survey Reports have also been referred to pertaining to the study.
1.6 PERIOD OF THE STUDY

The period of the study is ten years from 1996-97 to 2005-06. The primary data are collected during January 2008 to December 2008.

1.7 LIMITATION OF THE STUDY

The present study is confined to Uppiliyapuram and Tируverumbur blocks in Tirucherappalli District and cross section of data were obtained through personal interview method using designed schedules, which is subject to recall bias. Due to the absence of recorded food intake data by the households, the usual limitations resulting from recall bias apply to this study as well. However every effort had been made to minimize the recall bias by cross checking the details furnished by the sample respondents. The monthly intake of different food items along with the price and amount of money expended by each household were collected. These food consumption data were them converted into calories using the appropriate conversion factor obtained from nutrition table. The study has been carried out in sample blocks in Tirucherappalli District. Therefore the findings of the study could be generalized to other situations with extra caution.

1.8 ORGANISATION OF THE THESIS

The study has been organized in the following pattern.

Chapter I: Introduction

It identifies the problems of research and specifies the hypothesis, objectives, scope of the study, and limitations of the study.

Chapter II: Concepts, Definitions and Review of Literature

Gives a review of concepts and past studies on the subject.
Chapter III: Description of the Study Area

Defines the general socio-economic characteristic features of the study area, and the infra-structural facilities in the study area.

Chapter IV: Performance of food grain production

Discusses the performance of food grains State level along with delivery mechanism.

Chapter V: Results and Discussion

Discusses the results of the study in detail.

Chapter VI: Summary and Conclusions

Summarizes the study along with policy options.

Conclusion

The Central Government has been striving to provide a minimum quantity of cheap food to consumers in all parts of the country. Though the agricultural production in Tamil Nadu is not enough to achieve food security of all, the State Government through its universal Public Distribution System and by effectively implementing Mid-day Meals Scheme, Integrated Child Development Services Programme, Annapoorna Yojana and Antiyodhaya Programmes ensures physical accessibility for food and by implementing various wage employment programmes like Mahathma Gandhi National Rural Employment Guarantee Programme (MGNREGP) and Old Age Pension Scheme it ensures peoples’ economic accessibility for food too. Hence Tamil Nadu is marching closely towards the goal of food security.