

## **TOWARDS SUSTAINABLE NUTRITION: UNDERSTANDING FOOD SECURITY ISSUES AMONG WOMEN AND CHILDREN IN TAMIL NADU**

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### **INTRODUCTION**

Food security is universally recognized as one of the most salient components of human development, representing a condition in which all individuals, at all times, possess physical, social, and economic access to safe, sufficient, and nutritious food. Food security enhances access and allows them to lead active and healthy lives.

Though there is rapid growth in advancement of agricultural technology, improvements in market systems, and expansions in welfare programs, food insecurity remains one of the most persistent challenges across developing nations. In India, and more specifically in Tamil Nadu, the problem of food insecurity persists not because of inadequate national food supply but due to structural inequalities, regional disparities, social norms, and economic vulnerabilities.

The state Tamil Nadu has traditionally been a pioneer in implementing progressive welfare programmes aimed at ensuring food and nutritional security to a large extent. From its iconic mid-day meal scheme to widespread public distribution efforts, the state has adopted a rights-based approach long before such measures became standard national policy which would enhance the overall progress as well. Even then Tamil Nadu faces significant challenges replicated in its nutritional indicators. They are particularly in maternal anemia, child stunting, and micronutrient deficiencies. These issues are connected to broader socio-

economic determinants including poverty, sanitation, education, women's health, consumption pattern and household decision-making patterns.

Food security among women and children cannot be understood merely as a matter of providing adequate calories rather, it reflects systemic interactions between health systems, role of gender, and quality of livelihoods, social practices, and environmental constraints.

This paper seeks to provide a comprehensive details mainly through, deeply analytical, and academically enriched understanding of food security issues affecting women and children in Tamil Nadu. It expands the conceptual framework of food and nutritional security by examines global and national contexts and also evaluates Tamil Nadu's distinct programmes and its impact by taking the analysis of challenges, and reviews empirical literature. By integrating structural, cultural, and policy-level perspectives, the chapter aims to offer a holistic discourse suitable for academic research, policy evaluation, and practical application.

### **Concepts of Food and Nutritional Security**

The very concept of food security has undergone many evolutionary changes over the decades. Initially, global debates focused the need for national food availability, with the assumption that increasing agricultural production would resolve hunger. However, later experiences demonstrated that hunger can persist even when food is available at national or regional levels. Perhaps mainly when access is restricted due to economic or social barriers. Availability of food grains refers to the physical presence of food. It might be whether through domestic production, public procurement, imports, or food aid. Tamil Nadu, with its mix of irrigated and semi-arid regions, faces fluctuations in agricultural productivity depending on monsoon patterns.

The Districts which are located in the Cauvery delta tend to have more stable crop yields, when compared to the regions like Ramanathapuram, Thoothukudi, and Sivaganga which frequently experience drought-related declines. Accessibility is yet another dimension of food security that mainly focuses on whether households and individuals can obtain food through their purchasing power. This dimension highlights the role of income inequality, unemployment, inflation, and gender dynamics.

The women who are engaged in informal activities have access to nutritious food. This is shaped by both economic dependency and cultural norms. Utilization involves the body's

ability to absorb and use nutrients. Factors for the dependency are dietary diversity, sanitation conditions, health status, safe drinking water, and knowledge of nutrition. Though for the times when food is accessible, improper storage, inadequate hygiene, or frequent infections can undermine nutrient absorption in children. Stability refers to the consistency of the other three pillars over time. Crisis during Economic system, climate disasters, crop failures, or public health emergencies can disrupt household food security. Tamil Nadu's vulnerability to cyclones, drought, and price fluctuations demonstrates how stability plays a decisive role in long-term nutritional outcomes. Nutritional security expands the definition further by emphasizing not just caloric sufficiency but the adequacy of macro- and micronutrients required for growth, development, and health. Deficiency remains a challenge in Tamil Nadu despite widespread food availability. Women and children are especially vulnerable due to physiological needs and cultural practices.

### **Global and National Food Security Scenario**

There are many factors play key role in threatening food security globally, food security continues to be threatened by a humanitarian, climatic conditions, economic factors, and political factors. Climate change has intensified food system vulnerabilities to most of the poor communities through erratic rainfall and prolonged droughts, rising temperatures, and increased frequency of floods. There are many regions in Africa and South Asia constantly face chronic hunger due to fragile agricultural systems and practices. Lack of availability of infrastructure and technology leads to political instability. Situations like pandemic further highlighted global food system fragility by disrupting supply chains. This has highly led to restricting economic activity eventually push millions people deeper and deeper into poverty and helplessness. The Green Revolution transformed India's ability to produce sufficient food grains and made self-reliant. We find that there is significant progress that India has made in agricultural production. Procurement of food grains and public distribution actively progressing. Malnutrition still persists due to uneven distribution of wealth, income inequality, and cultural determinants though it resulted in great achievements. The coexistence of food surplus with large malnourished populations illustrates that economic and social determinants shape nutritional outcomes more than agricultural productivity. When compared, Tamil Nadu consistently performs better than the national average on several social indicators, but still there are challenges such as high levels of anemia among women, child wasting in specific districts, and micronutrient deficiencies continue to demand attention.

### **Major Food Security Programmes in India**

Most importantly, India's food security framework is built around large-scale programmes. It is being designed to ensure the availability and accessibility of basic food supplies. One of the central pillars is the Public Distribution System (PDS). Its main function is to provide subsidised food grains through fair price shops to the card holders and deserving. Universal PDS model is adopted by Tamil Nadu to operate unlike most states that target specific categories. Universal PDS reduces exclusion errors and enhances equitable access.

In the year 2013, The National Food Security Act (NFSA) was introduced which institutionalized food security as a legal right. Subsidised food grains to selected eligible households has to be distributed as per the Act. Through this mandates nutritional support for pregnant women, lactating mothers, and children. The Integrated Child Development Services (ICDS) as another major programme, provides supplementary nutrition, immunisation, health check-ups, and pre-school education through a nationwide network of Anganwadi centres.

Implementation of ICDS to its efficient supply chain and emphasis on early childhood development. Originally initiated by Tamil Nadu, the Mid-Day Meal Scheme, provides cooked meals to school children. It is offering a vital source of nutrition for all the young children. This initiative has had notable effects on school attendance, child health, and social equity.

### **Food Security in Tamil Nadu**

Widely recognised for its pioneering food security programmes and progressive welfare changes in Tamil Nadu state stands as a role model for many others. Revolutionised the child nutrition through the Puratchi Thalaivar MGR Nutritious Meal Programme which was launched in the 1980 has become a model. The programme continues to evolve, incorporating diversified menus, fresh ingredients, and periodic nutritional updates.

there is a significant role in played in supporting children who come from low-income families by providing regular nutritious meals during school hours and thereby reducing short-term hunger and supporting their physical development. The Integrated Child Development Services (ICDS) in Tamil Nadu is one of the most progressive programme aims to achieve social wellbeing. Providing supplementary nutrition through all the Anganwadi

centres in order to support all the infants and pregnant women by focusing on caring of lactating mothers as well. The essential focus is preventing malnutrition, improving weight gain, and enhancing early childhood development outcomes. Pregnant women and young children are distributed with take-home rations for, ensuring nutrition reaches the household level. Amma Unavagam, a unique initiative in urban hunger in Tamil Nadu is addressed through introduced to provide affordable, hygienic meals to poor and vulnerable groups. These canteens are particularly beneficial for women working long hours in informal sectors, elderly individuals without family support, migrant labourers, and homeless populations. By offering nutritious meals at nominal prices, the scheme ensures urban food security and social dignity. One of the Maternity Benefit Scheme the Dr. Muthulakshmi Reddy is more critical initiative aimed at supporting maternal health. Pregnant women are supported by financial assistance to encourage early registration, regular health check-ups focusing on institutional deliveries.

The significant feature of this scheme enhances maternal nutrition by allowing women to improve purchase power in order to get additional fruits, vegetables, and protein-rich foods during pregnancy and lactation. Tamil Nadu still faces nutritional challenges despite these initiatives. Dietary diversity is often low among the poorest households while calorie intake is largely sufficient due to universal PDS. More iron deficiency leading to anemia, are common among women of reproductive age are still deficiencies. Nutritional deficits rooted in household poverty, maternal health conditions, and inadequate sanitation stunting among children reflects long-term concerns. Strengthening public health interventions, improving water and sanitation infrastructure, and enhancing nutrition education need to be addressed to overcome these challenges.

### **Challenges in Ensuring Food and Nutritional Security**

Food security in Tamil Nadu landscape has been shaped by multiple interrelated challenges. It continues to affect nutritional outcomes in rural areas and even in urban slums. Households spending most of their income on food may prioritise low-cost staples such as rice while reducing consumption of nutrient-rich items like pulses, fruits, and vegetables. Although poverty has been declining still there needs proper monitoring. Pattern of widespread deficiencies still prevail in society. Women frequently eat last in the household and tend to sacrifice their own nutrition for other family members.

Gender inequality further compounds nutritional insecurity. Food restrictions during pregnancy, further weaken women's health as part of Cultural practices. Limited control over household income and decision-making restricts women's ability to improve their own diets.

Sanitation and healthcare deficiencies significantly influence utilization of resources indifferently. Prolonged infections, gastrointestinal illnesses, and inadequate sanitation reduce the body's ability to absorb nutrients, particularly among children. With poor sanitation coverage, under nutrition rates tend to be higher despite adequate food availability. An emerging threat is Climate change which represents an adverse impact. The state is exposed to most of the agricultural households to risks of drought and crop failure. Agricultural productivity is being reduced by erratic rainfall patterns and declining groundwater levels. This in turn affects household income and their food access. Frequent Cyclones often tend damage crops. This eventually causes to disrupt markets and their activities, and create temporary spikes in food prices. Poor Implementation and other challenges also hinder programme effective functioning. Problem of Shortages of Anganwadi workers, inconsistent supply of nutritional supplements, infrastructural limitations, and monitoring gaps affect service delivery. While Tamil Nadu has relatively stronger systems compared to many states, coverage disparities remain between urban and rural areas.

### **Empirical Evidence from Review of Literature**

The state Tamil Nadu continually highlights structural determinants of malnutrition. Maternal education strongly correlates with child nutritional outcomes, as educated mothers tend to adopt better feeding practices and access health services more effectively as many studies indicate. Improvements in child weight and reduced prevalence of severe malnutrition in areas with well-functioning Anganwadi centres.

Nutritional intake, school attendance, and gender equity are some of the notable evaluations of the Mid-Day Meal Programme. They reveal significant contributions of social transformation. Receiving regular meals at school Children show better growth patterns and cognitive performance. Amma Canteens indicate that they serve as an essential safety net for vulnerable urban populations, helping reduce hunger and stabilise nutritional intake among the urban poor. Research warns of rising micronutrient deficiencies, particularly anemia, reflecting insufficient intake of iron-rich foods despite these successes. Tribal populations in the Nilgiris and northern districts face unique nutritional challenges due to geographical

isolation, limited livelihood opportunities, and inadequate access to public services. The need for integrated interventions combining nutrition education, healthcare access, livelihood support, and social empowerment as Literature emphasises.

## CONCLUSION

Tamil Nadu still represents a unique case in India's food security combining strong welfare systems with persistent nutritional challenges. Implementing large-scale programmes can always excels in such as universal Public Distribution System, mid-day meals, Amma Canteens and ICDS. Dietary diversity, gender norms, health infrastructure, and sanitation are some of the issues continue to hinder progress. Food and nutritional security requires a multidimensional, gender-sensitive approach that integrates economic reforms for long term benefits, health improvements, climate resilience, and community awareness. Ensuring that women and children achieve adequate nutritional status will not only improve individual well-being but also strengthen Tamil Nadu's long-term human development. With the Continued investment, monitoring, and innovation in food security programmes will be essential in creating a more equitable and nourished society.

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