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Food and nutrition security in India: It's status, causes, incentives and initiatives

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Abstract

Food security often refers to food availability and an individual's access to food. A person can be considered food secure if they do not live in starvation or fear of hunger. In addition to hunger and starvation, food security can also refer to the availability of a sufficient nutrition to ensure a healthy diet, avoiding the health impacts of malnutrition. Since the global food crises, food security has emerged as a fundamental issue at universal level. On the development of India, malnutrition is a thoughtful and serious dent. About 68.84% of Indian population is rural, major part of which critically suffers from poverty, hunger and malnutrition. As the country aims to accomplish its economic and social development goals, malnutrition is one of those areas which requires more attention. This brief examines India's performance related to food and nutrition security, hunger and malnutrition, as well as the accomplishment, or deficiency thereof, of several policy measures and programmes initiated over the last few spans. This paper explored some causes and their effect along with initiatives to eradicate food and nutrition insecurity among Indian population.

Keywords: Food security, nutrition security, hunger, malnutrition

Introduction

"Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". (Swaminathan and Bhavani, 2013) [26], (FAO, 1996) [5]. There are 4 pillars related to food security; availability, access, utilization and stability (Bridge, 2014) [3].

Swaminathan (1986) [27] described the necessity of shifting the concept of food security into nutrition security which is explained as "physical, economic and social access to balance diet, clean drinking water, environmental hygiene, primary health care and nutritional literacy". There are 3 dimensions which are encompassed in food security; availability, access and proper absorption of food.

In an economically and socially sustainable manner, food security and nutrition security are intimately interconnected that can help in overcoming malnutrition. Production of food provides a backbone for food security and nutrition security because it is a base which determined for the availability of food (Swaminathan and Bhavani, 2013) [26]. Now, investment in food, agriculture and nutritional security is a chief concern for every nation including India to accomplish the objectives of development. Food insecurity is detriment to development because "food insecure people always prioritize food and sustainability of their own lives over everything else" (Kaur, 2014) [11].

Despite substantial economic prosperity, there is poor performance of India on critical food and nutrition security indicators which have been widely documented. These all failures are hampering our national progress and contribute to the globally undernourished population, basically children (Rai *et al*, 2015) [24]. 23 percent of Indian population is food insecure (Modgal, 2012) [17].

Despite self-sufficiency in food grain; India has failed to achieve the objective of food security at national level. A huge section of Indian population is suffering from malnutrition and inadequacy of food grains. For India, Malnutrition is a thoughtful dent on the development. Therefore Food Security Bill was passed in September, 2013 (Kaur, 2014) [11].

Malnutrition is nothing new for many Indians. The consequence of this persistent problem is that in India, about 60 million children are underweight and malnourished, while as a whole; 21 percent of the population is malnourished. Regrettably, this problem is improbable to change anytime soon, with the current introduction of the National Food Security Bill intimidating to remain market inefficiencies in food supply and extend the problem of malnutrition distant into the future. Malnutrition consequences in a loss of productivity, indirect fatalities from impaired cognitive development, and losses from increased long-term healthcare expenses (William Thomsan, 2012) [31].

India, which has more than a fifth (21 percent) of its children wasted (weigh too little for their height), slipped three places to 100th in the 2017 Global Hunger Index (GHI) - three places down from last year's rank of 97th. Global Hunger Index (GHI) 2017 report released by Washington-based International Food Policy Research institute (IFPRI) (GHI, 2017) [8].

A life-cycle approach to address food security for the most vulnerable households and expand coverage of subsidized food grains is described by National Food Security Act (2013). It is implemented to provide adequate and suitable food for 1.24 billion people that is a multifaceted problem. In India, there are many set measures which are used to control various factors which affect food and nutrition security (Rai *et al*, 2015) [24].

Food security vs. Nutritional security

Food security: In India, food security has occurred as an vital element in the context of poverty alleviations. There is high economic growth rate of Indian economy but it fails to improve the food security in the country (Kaur, 2014) [11]. Poor people are more vulnerable to this because they spend their whole income mainly on foods but in many states, yet a large proportion of rural population is consuming less than 2,400 calories per day. There are around 44 percent of rural households which fail in consuming proper calorie intake per day. Rising food prices may have caused to adopt less nutritious diet for poorer households. There are nearly 75 percent of undernourished and poor people who live in the rural areas where food itself is produced (Ali *et al*, 2012) [2].

It is alarming that not a single state in India falls in the "low hunger" or "moderate hunger" category. Instead, maximum states fall in the "alarming" category, with one state (Madhya Pradesh) dropping in the "extremely alarming" category. Four states (Punjab, Kerala, Andhra Pradesh, and Assam) fall in the "serious" category. The map of the India State Hunger Index shows that the bulk of Indian states for which the hunger index was estimated are in the "alarming" category (Menon *et al*, 2009) [15].

Prevalence of food insecurity is reported to be 44% at household level (Chakraborty, 2005) [4]. According to a study conducted in urban Tamil Nadu on house hold food security, food insecurity with hunger was present in 61.5% (52.9-70.0%) households. Food insecurity without hunger prevailed in 13.1% (7.2-19%); prevalence of any form of food insecurity was 74.6% (67%-82.2%) (Gopichandran *et al*, 2010) [7]. Household food insecurity has been to the extent 51% in North India (Agrawal *et al*, 2009). A study conducted in tribal households of a district of West Bengal only 47.2% households were food insecure; as much as 29.6% and 23.3% households were low and very low food secures, respectively (Mukhopadhyay *et al*, 2010) [18]. According to a study conducted in rural Varanasi as much as 25.7% household

members slept at night hungry because there was not enough food to eat while 54.3% households had very low food security and in 10.83% households all family members were sleeping hungry at night (Khanam, 2014) [13].

Food security can be ensured by increasing agricultural productivity mainly of protective foods and augmenting the income of the farmers through organized markets for agricultural produce (Sangeetha *et al*, 2013) [25].

Nutrition security: in our country, diets are qualitatively deficient in different micronutrients particularly vitamin A, riboflavin and iron, which is called hidden hunger and these diets are mainly based on cereal-pulses. This is because of low intake of many important protective foods include pulses, fruits, foods of animal origin and vegetables particularly green leafy vegetables (NNMB, 2003) [20].

Malnutrition in India is widespread, acute and even alarming, especially among the children and women. As per the Global Survey Report, recently, "42% children in India are underweight and 58% children are stunted by two years of age". The findings of the HUNGaMA Survey Report 2011 (Fighting Hunger and Malnutrition) are also the same except that 59%, instead 58%, children are stunted. Even in relatively better off households, malnutrition and obesity among children due to imbalanced diet has been increasing; in the wealthiest 20% of the population, one child in five is undernourished especially in urban areas (HUNGaMA, 2012). Similarly, hunger and malnutrition have a diverse gender dimension and are extensive among the women/mothers, who are more destitute as compared to men. Every second, women is reported anaemic in India. "India is with highest prevalence of anaemia affecting 75% children below 5 years, 51% women of 15-59 years and 87% pregnant women among the countries. More than 70% of Indian women and kids have serious nutritional deficiencies". Likewise, scheduled tribes (STs) scheduled castes (SCs) and minorities (Muslims) are greatly disadvantaged. About 68.84% of the population of India is rural, major part of which greatly suffers from poverty hunger and malnutrition. Besides, main part of the urban residents (31.16%) afflicted by poverty hunger and malnutrition is rural that has migrated to urban areas and landowning in urban slums while exploring employment and income opportunities (HUNGaMA, 2012)

Pervasive micro nutrient deficiencies are hidden agenda in ensuring food security. As per NFHS III 45% children < 3 years are stunted and 40% are under weight; 28% men and 33% women are victim of chronic energy deficiency (BMI<18.5 kg/m²). Anaemia is present in 79% children (6-35 months) and in 56% women (Keshari and Shankar, 2016) [12].

Reasons for lack of food security in India:- Among a very few countries, for improving food and nutrition security, India is one of them which experimented on different nutrition programmes. Public distribution related to food grains and employment programmes, it has already made substantial progress through procurement to overcome the transient food insecurity. It is done by giving importance to the self sufficiency to the basic food grain products that even with significant reduction in the poverty incidence and chronic food insecurity which is resulted in escalating of buffer stocks. But there are millions of people who are food insecure and undernourished; the drawback is not the food supply, but food distribution (Radhakrishna and Reddy, 2002) [23].

Following reasons have been identified as responsible for poor status of food security in India:-

A. Malfunction of public distribution system (PDS): In India, PDS plays an important role in partially meeting the essential foods or food grains and fuel necessities of different households. However, PDS does not effectively protect the household by providing a basic entitlement at affordable prices and at convenient location, the operation of this system does not meet the entire food requirements of any household and is supplementary in nature (Ittyerah, 2013) ^[19]. But poor services and inadequate distribution at the PDS shops and the low quality of foods or food grains have further added to the different problems related to food security and growing food insecurity (Upadhyay and Palanivel, 2011) ^[29].

B. Poverty: Poverty is a major cause because it limits the amount of food available to children (Upadhyay and Palanivel, 2011) ^[29]. The poverty incidence indicates the extent to which food is accessible. Basically, the expenditure on food products is normally used to estimate the poverty line (Ittyerah, 2013) ^[19]. Among a large section of the population, extensive and concentrated poverty is still persists in India whereas overall growth has been remarkable. National income, the benefit of rapid growth, has not reached among some section of the residents of our country (Panda and Kumar, 2009) ^[21].

C. Unmonitored nutrition programmes: In India, to improve food and nutrition as the key element, there are number of programmes which have been planned but are not suitably implemented. There are number of states which have yet to launch mid day meal schemes within the country. Orissa and Bihar are those states where the poverty proportion is very high in status but there is deprived implementation of nutritional programmes that have proven usefulness and there is considerable impact lying on food and nutrition security (WFP, 2009) ^[30].

D. Lack of intersectoral management: Lack of intersectoral coordination between different government ministries and the absence of logical food and nutrition policies have added to the trouble of food insecurity within India (Upadhyay and Palanivel, 2011) ^[29].

E. Food production: In every country, sufficient food production is a serious aspect for financial and social stability. Decreased purchasing power and shortage of food lead to increased hunger among the poor. In the country, as demand increases but food supply does not match it, the prices of supplies can be stabilized by raising the food production. India needs to address the sustainable supply of agricultural produce because it is the major issue of the country. Less production and more population are going to create less supply and more demand for food or food products. India has not achieved self sufficiency in food production as lesser agricultural growing is going to increase demand for food production (Parvathi and Arulselvam, 2013) ^[22].

Impact of food insecurity: In India, children are especially vulnerable to malnutrition because of lack of appropriate care, low dietary intakes, infectious diseases and inequitable distribution of food within households. Underweight and wasting are the serious problems in India. In India, anaemia is primary linked to poor nutrition. Women and men suffer both from over nutrition and under nutrition (Kumar *et al*, 2013) ^[14].

FAO estimate reveals that the figure of undernourished people

has increased from 216 million (1990-1992) to 221 million (2000-2002) in India and then 230 millions in 2009. The problem is gathering serious proportions with passage of time among children and women. Numbers of child casualties have been reported from some of the states. The problem of malnourishment among children in India is extremely serious in a country as a whole (FAO, 2009) ^[6].

Initiatives for food security in India: Food and Agriculture Organization (FAO) adds another pillar viz., the stability of the first three dimensions of food security over time which refers to the ability to obtain food over time. Raising the nutritional status of the population has been a major concern of Government of India. This can be achieved by ensuring nutrition security which goes beyond food security by considering access to essential nutrients; macro and micro nutrients, water and sanitation related issues not just calories. Therefore, there is need for paradigm shift from food security to nutrition security. Nutrition security integrates the idea that access to food includes not just physical accessibility and affordability but also necessitates that individuals do not face social barrier in feeding themselves in terms of quality and quantity. India has taken the problem of malnutrition seriously since independence—more so that many other countries—and has developed appropriate policies and major programmes (viz., Land reform, varietal improvement in crops, extension activity for preservation and storage of food, targeted public distribution system, etc.) to address it and ensuring food security as well as enhancing purchasing power, e.g., IRDP, DWCRA, CITRA, and MNAREGA (Keshari and Shankar, 2016) ^[12].

Agricultural Initiatives: Keeping severity of drought and its adverse impact on agriculture production Government of India has taken several initiatives to ameliorate the situation of food security. In this regard Government conceptualized several schemes for the benefits of agrarian community. Through its wide network of 98 Research Institutes and 578 Krishi Vigyan Kendra's across the country, the Indian Council of Agricultural Research continues to lead the country in agricultural research, education and extension. In addition it supports 45 State Agricultural Universities (Mishra and Khanam, 2010) ^[16].

Food Storage and Wastage Minimization Efforts at Macro and Micro Level: In order to minimize wastage of food grain at micro level extension education activities have been carried out to equip necessary skills for storage of food. Producers have been also orientated about preservation of various seasonal food items. Equipments have been also provided to the farmers for storage of food. Traders also built godowns to store food items. However, at macro level Food Corporation of India has established network of godowns to keep buffer stocks for disasters and famines. Realizing the fact that wastages of milk and milk products and vegetables are of a serious nature, Government of India has made provisions for cold storage facilities though of limited outreach (Keshari and Shankar, 2016) ^[12].

Income Generation and Anti Poverty Measures: Poverty in India is a historical reality. Both poverty and hunger are correlated. Many hungry people are trapped in severe poverty; they grow to live with it by shrinking their stomachs to survive. They may not be dying of hunger, but they live their entire lives at the edge of starvation. Realizing poverty as the

root cause of many evils Government of India started several anti-poverty and employment generation programmes. Currently Mahatma Gandhi National rural employment guarantee Scheme (2006) has great promise for rural India (Keshari and Shankar, 2016) ^[12].

Social Security Measures: The State should within the limits of its financial capacity make effective provision for safeguarding the right to education, to work and to public assistance in case of old age, disablement, unemployment and sickness which states in the article 41 of the constitution (Planning Commission, 2001). Notable security measures are Employee's State Insurance Scheme and National old age Pension Scheme (2011-12) (Keshari and Shankar, 2016) ^[12].

Initiatives for Food Distribution: While accelerating food production in the country, Government of India realized the fact that food security cannot be ensured without improving food distribution. In this endeavour Public Distribution System (PDS) has initiated on large scale. In fact, it has existed before independence and initially, it was intended to protect producers from price fluctuations and consumers from food shortages (Tarozzi, 2002) ^[28]. Originally, it was started at a few urban centers, but in the 1980s, it was prolonged as a measure for food security and poverty alleviation and lessening (DFPD, 2010). "Kerosene, wheat, sugar and rice" are provided to a target of 330 million people assessed to be nutritionally "at risk" through 499, 00 'fair price shops'. Central and state government jointly accomplish PDS with the centre being accountable for storage, procurement, allocation and transportation. Through fair price shops, the states are responsible for the distribution; as well as for identification of families Below Poverty Line (BPL), supervision, monitoring and issuing cards. In 1997, the government re-launched PDS as the Targeted Public Distribution Systems (TPDS). As its name recommends targets the population in to above and below poverty line categories or classes and purposes to reach a target of 60 million families below poverty lines for grain set at 50% of the economic cost with the BPL price (Kattumuri, 2011) ^[10].

Special Programmes for Vulnerable Groups: Protecting the health and nutrition of the vulnerable section of the population had been major concern of Government of India. To translate this in to action Applied Nutrition Programme (ANP), Mid Day Meal Programme and Special Feeding Programmes were initiated. Food production and consumption at household level, training and nutrition education were the major components of ANP. Mid day meal programme aimed at providing a diet to primary school children ensuring one third of energy requirement and half of the protein requirement. In order to address the problem of micro nutrient deficiencies Government of India initiated National Goitre Control Programme, National Vitamin A Prophylaxis Programme and National Anaemia Control Programme. For holistic development of children Integrated Child Development of Scheme (ICDS), initiated in 1975 on pilot basis, has been universalised throughout the country. This programme aimed at provisions of health checkup, immunization, referred services, food supplementation, health and nutrition education to children (0-3 years) along with these services children belonging to the age group 3-6 years are being provided non formal education. The scope of the ICDS programme has been extended to adolescent girls, pregnant and lactating women as well as women of

reproductive age group (15-49 years) (Keshari and Shankar, 2016) ^[12].

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