

FOOD SECURITY FOR HUMANITY IN INDIA

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Abstract

Purpose of the present study is to examine importance of food security for humanity in India, requirement of food at the national level in India, requirement of nutritional, healthy food at house hold level and various initiatives taken by Indian government to ensure availability of sufficient nutritional food for all along with poor and destitute. The study also highlights the level of wastage of food grains in India. The study is exploratory in nature and mainly based on secondary data collected from various secondary data sources like Journals, magazines, books, news papers, websites, and reports published by UN, Indian as well as other international government's agency. India ensured food security for humanity by enacting National Food Security Act 2013. Per hectare yields of foodgrains have also increased to make India self reliant in terms of foodgrains. However, inadequate ware housing and inefficient supply chain is still a major problem, causing thousands of metric tons of food grains lying wastage or simply rot. Precious delicious cooked foods are also being wasted during social rituals like marriage, birthday and death feast celebrations and many other such occasions. While doing this study based on secondary data, it is expected that we might not have included many important facts related to the topic. Therefore, there is further need for follow up studies using primary data and covering wide area. The study is useful for future study and may be of great help for government as well as other pro humanities people to think of doing bit for mankind. The study is original in nature and of great value for the future study.

Key words: *Food Security, inefficient warehousing, wastage of cooked food.*

Introduction

□□□□□□ □□ □□□□ □□□-□□□□□□, □□□□ □□□□ □□□□□□ □□□, □□□ □□ □□□□□ □□ □□□□, □□□□□ □□□□□ □□ □□□ □□□□□□ □□□ (Ramdhari Singh Dinkar, 1938), is replication of food scarcity and its uneven distribution among rich and poor of pre Independence India. Today also when tones of delicious foods are being wasted in social rituals like big marriage ceremony, thousands of poor are sleeping with empty stomach without any food at many locations of metros to remote villages. Today food security condition seems to be comparatively better because of various initiatives taken over a period by Indian government after independence. Food being basic need for humanity is a big challenge today as more than half of the world population is suffering from scarcity of it. Today in spite of the fact that world's most developed and developing nations are focusing their huge energy on militarisation, atomic energy and Mars mission, good chunk of people is forced to sleep with empty stomach on this beautiful earth. Food security for humanity is securing availability of minimum requirement of food for human kind. According to Food and Agriculture Organisation (FAO), there are four pillars of food security i.e. availability, access, utilization and stability, "food security exists when everyone, at every time have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life and do not live with fear of starvation and hunger. Similarly village, state and national food security prevails when all members, at all times, have access to sufficient food for an active healthy life and free from fear of starvation and hunger. The United Nations (UN) in 1948 has recognized the right to food in the declaration of human rights. It was first time in 1974 during World Food Conference; term 'food security' was used and established as a formal concept. As per World Food Summit (1996), Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. It was also felt that concerted action is required to be taken at all level to eradicate food insecurity. A consistent collective and cooperative action at individual, regional and international level with resources and capacity was felt necessary to find solutions for food security. World Summit on Food Security (2009), reiterated to ensure goal of food security for all by year 2015 and shown its commitment to eradicate hunger at the earliest possible date. Indian government has also raised its concern in

international forum on many occasions regarding food security of its people in Trade Facilitation Agreement (TFA). TFA focus on fast track movement of goods and restrains subsidies to maximum 10% of the value of agricultural produce. But developing countries are bargaining for more and more subsidy package. It is also asking for relaxation from sanction up to 2017. Indian parliament has enacted Food Security Act in 2013 (called The National Food Security ACT, 2013), where as it promise poor to have food grains at a very subsidized rate and also help farmer by providing them input like electricity, fertilizers and agricultural finance at subsidized rate and buy back bulk yield at Minimum Support Price, Fair and Remunerative Price and Central Issue Price.

Objectives of the Study

1. To study the level of wastage of foodgrains in India due to lack of warehousing facilities.
2. To study the level of wastage of foodgrains in India due to lack of efficient system of supply chain agency.

Hypotheses

H01: There is no wastage of foodgrains production in India.

H02: There is no wastage of foodgrains in India due to lack of lack of ware housing facilities.

H03: There is no wastage of foodgrains in India due to lack of efficient system of supply chain management.

Scope of the Study

The scope of present study is to bring out and discuss various facts about Food Security condition in India. It also discuss about wastage of foodgrains in absence of adequate warehousing and efficient supply chain. It also examines about various foods security measures initiated by Indian Government.

Design of the Study

The study is exploratory in nature and mainly based on secondary data collected from various sources like Journals, magazines, books, news papers, news channels, websites, and various reports published by UN, Indian as well as other international governments, in order to test hypotheses.

Food Security Measurement

It is necessary to measure some or all of the main components of food security in terms of food availability, access and utilization or adequacy. As per Maxwell, Daniel G. (1996), several measures have been developed. One of the measure developed by the USAID-funded Food and nutrition Technical Assistance (FANTA) project, collaborating with Cornell and Tufts University and Africare and World Vision which include:

- (i) Household Food Insecurity Access Scale (HFIAS) – it continuously measure the degree of food insecurity (access) in the household in the previous month.
- (ii) Household Dietary Diversity Scale (HDDS) –it measures the number of different food groups consumed over a specific reference period (24hrs/48hrs/7days).
- (iii) Household Hunger Scale (HHS) - it measures the experience of household food deprivation based on a set of predictable reactions, captured through a survey and summarized in a scale.
- (iv) Coping Strategies Index (CSI) - assesses household behaviours and rates them based on a set of varied established behaviours on how households cope with food shortages. The methodology for this research is based on collecting data on a single question: "What do you do when you do not have enough food, and do not have enough money to buy food?"

Availability of Food for House Holds

Availability of foods for households means availability of good quality and sufficient food grains for every human being in India. After Independence and before green revolution, food deficiency was one of the major problems in feeding population, as nation was dependent on import only. Country continuously strived for growth in food production and this is the reason foodgrains production reached to around 233.9 million ton in 2008-09. It was almost around 2.5 percent growth per annum between 1951 and 2006-07. There was appreciable growth in production of oilseeds, cotton, sugarcane, fruits, vegetables (with green revolution), and milk with white revolution has increased sufficiently. However, as (Table No.-1) shows the growth rate of food grain production declined from 2.93 percent in 1986-87 to 1996-97 to 0.93 percent during 1996-97 to 2007-08. Whereas, there were continuous growth in populations and it reached to 1, 210,193,422 in 2011 from 361088,000 in 1951 and big mismatch between growth of population and growth in food grain production got created (Table No.-2).

Table No.-1

Trend Growth Rates in Production and Yields of Food grains and Oilseeds (% per annum)

Crop groups/crops	Production		Yields	
	1986-87 to 1996-97	1996- 97 to 2007-08	1986-87 to 1996-97	1996-97 to 2007-08
Food grains	2.93	0.93	3.21	1.04
Cereals	3.06	0.97	3.36	1.19
Coarse cereals	1.19	1.53	3.66	2.25
Pulses	1.32	0.36	1.49	-0.02
Oilseeds	6.72	1.99	3.32	1.49
Rice	3.06	1.02	2.37	1.22
Wheat	4.09	0.65	2.93	0.34

Source: CACP, Ministry of Agriculture (2009),

Note: These are fitted trend growth rates

Table No.-2

Population Growth in India

S. No.	Census Year	Population	% Change
1	1951	361,088,000	-----
2	1961	439,235,000	21.6
3	1971	548,160,000	24.8
4	1981	683,329,000	24.7
5	1991	846,387,888	23.9
6	2001	1,028,737,436	21.5
7	2011	1,210,193,422	17.6

Source: Census (1951-2011) of India

Food Distribution Management in India

Food distribution management ensures availability of foods, particularly for poor destitute or vulnerable through timely procurement, efficient storage of buffer stock and its timely distribution at affordable price to consumers using various retail outlet including PDS. Price of food rains are kept under direct control of government using price instruments Minimum Support Price (MSP), Fair and Remunerative Prices (FRP) and Central Issue Price (CIP). Procurement involves purchase of food grains from farmers on MSP/FRP which is varying time to time as per the government policy. Keeping the interest of farmers paramount, MSPs/FRP are also being revised from time to time and that is why MSPs/FRP fixed for 2013-14 are higher than MSPs of 2009-10 by 27 per cent for wheat and 90 per cent for groundnut (Table No.-3).

Table No.-3

MSP/FRP of Select Crops (Rs. per quintal) in 2013-14 and 2009-10 and Per cent Change

Crops	2013-14	2009-10	Per cent Change
Paddy (common)	1310	1000	31
Wheat	1400	1100	27
Maize	1310	840	56
Jowar (hybrid)	1500	840	79
Arhar (tur)	4300	2300	87
Urad	4300	2520	71
Gram	3100	1760	76
Groundnut in shell	4000	2100	90
Rapeseed/mustard	3050	1830	67
Sunflower	3700	2215	67
Soya bean (black)	2500	1350	85
Cotton (medium staple)	3700	2500	48
Sugarcane (FRP)	210	129.84	62

Source: Department of Agriculture and Cooperation (DAC) Minister of Agriculture Department

This is being done through government's nodal agency 'Food Corporation of India (FCI)' along with other central and state agencies. Continuous efforts from government by providing subsidies on various inputs started showing encouraging substantial progresses in acreage and productions. As per the 3rd Advance Estimates (3rd AE) the acreage under food grains has increased to about 126.2 million hectare and to 28.2 million hectare under oilseeds. Record

production of food grains at 264.4 million tons and oilseeds at 32.4 million tons is estimated for year 2013-14 (Table No.-4).

Table No.-4

Area, Production and Yield of Major Crops in 2013-14*, with Per Cent Change over 2012-13

Group/Commodity	Area (Million ha)	Production (Million tons)	Yields (kg/ha)
Foodgrains¹	126.2 (4.47)	264.4 (2.88)	2095 (-1.55)
Rice	43.9 (2.57)	106.3 (1.05)	2419 (-1.75)
Wheat	31.3 (4.33)	95.8 (2.46)	3059 (-1.86)
Coarse cereals	25.5 (2.98)	42.7 (6.64)	2602 (1.40)
Maize	9.3 (6.90)	24.2 (8.52)	2602 (1.40)
Bajra	7.9 (8.22)	9.2 (5.75)	1161 (-3.09)
Pulses	25.4 (9.01)	19.6 (7.10)	770 (-2.41)
Gram	10.2 (20.00)	9.9 (12.50)	974 (-5.98)
Tur	3.9 (0.00)	3.4 (13.33)	857 (10.44)
Oilseeds	28.2 (6.42)	32.4 (4.85)	1149 (-1.63)
Groundnut	5.5 (17.02)	9.5 (102.10)	1723 (73.17)
Rapeseed and mustard	6.5 (1.56)	7.8 (-2.50)	1208 (-4.28)
Cotton ²	11.7 (-2.50)	36.5 (6.73)	529 (8.85)
Sugarcane	5.0 (0.00)	348 (2.11)	70 (0.00)

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation (DAC).

Notes: *3rd Advance Estimates; 1 - Includes cereals, coarse cereals and pulses; 2 - million bales of 170 kg each; Figures in brackets indicate per cent change over 2012-13.

High yields increased procurement to higher side leading to stocks that exceed the buffer norm (Table No.-5), which the FCI is forced to carry over to the next year. This suboptimal management of stocks led to wastage of economic resources. With the passing of the National Food Security Act 2013, load on the operations of the FCI also got multiplied.

Table No.: 5

Stocks and Buffer Norms of Foodgrains (mt)

Commodity	Stocks as on 01 June		Buffers Norms	
	2013	2014#	As on 1 April	As on 1 July
Rice	33.31	20.65	14.20	11.80
Unmilled paddy in terms of rice		7.61		
Wheat	44.39	41.58	7.00	20.10
Total	77.70	69.84	21.20	31.90

Source: Department of Food and Public Distribution (DFPD).

Note: # Since September, 2013, the FCI gives separate figures for rice and unmilled paddy lying with the FCI and state agencies in terms of rice.

Government taken initiative to ensure food security in India

i. The Public Distribution System (PDS) and Nutrition Programmes:

Indian Public Distribution System (PDS) is a largest distribution network of world is understood as major initiatives of Indian government towards ensuring food security at the household level in India. PDS ensures availability of essential food commodities like wheat, rice, sugar, kerosene oil and edible oil through a network of government approved PDS at subsidized price. There are around 462,000 Fair Price Shops (FPS) involved in distribution of commodities worth more than Rs. 300 billion annually to around 160 million families. In 1997 'The Targeted PDS (TPDS) under this scheme entire population was divided in to three categories i.e., Antodaya Anna Yojana (destitute part of BPL) provided 35 kg of food grains at specially subsidized rates i.e., Rs. 2 per kg for wheat and Rs. 3 for rice and About 25 million (38 per cent of BPL) people have been covered under AAY, Below poverty line (BPL) and Above poverty line (APL). There are special cards for destitute, families living Below Poverty Line (BPL) in order to provide food grains at much lower price than the card issued to those living Above Poverty Line (APL).

ii. Nutrition Programmes

In 1975 Indian government, launched integrated child development services (ICDS), aiming holistic development of children up to six years of age with special focus on students up to two years of age along with expectant and nursing mothers. This is being achieved using packages of services like regular health checkups, immunization, referral services, supplementary feeding, non-formal pre- school education on health and nutrition. Mid-day meals are child specific programmes started from 1 September 2004 at primary school level and from 1 October 2007 at upper primary school level, where students get quality with nutrition food in correct quantity during school hours itself along with ensuring regularity in school attendance (Table No.-6).

iii. National Rural Employment Guarantee Act (NREGA) 2005 now, known as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA)

National Rural Employment Guarantee Act (NREGA) 2005 now, known as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) is one of the important ambitious rural works programs (RWPs) taken up by UPA government in order to alleviate poverty and hunger and enforcement of fundamental right to live with dignity by providing at least 100 days of guaranteed wage employment in a financial year to every household.

iv. Right to Food and National Food Security Act

National Food Security Act, 2013 also known as Right to Food Act aims to provide subsidized food to 1.2 billion people. Provisions in the bill ensures beneficiaries to get per month 5 kilograms rice @ ₹3, wheat @ ₹2 and coarse grains (millets) @ ₹1 per kilogram The special poorest (Antodaya Yojana) is entitled for 35 kg of grains. Lactating mothers, pregnant women, children of certain category are eligible for daily free nutritious meals (Table No.-6). As per Gazette of India (2013), the bill includes;

i. Eligibility criteria is being decided by state government, however funding is being provided by central government in case of short supply of food grains. In case of non supply of food grains, the state government provides a food security allowance to the beneficiaries.

ii. Provision for nutritious “take home ration” of 600 calories and at least Rs. 6000 for six months as maternity benefit are ensured for Lactating mothers and pregnant women.

- iii. 6 month -14 years age of children is to receive free hot meals or “take home ration”
- iv. The ration card is being issued to the eldest woman, 18 years and above age. The monitoring is at state and district level redress mechanism and there is State Food Commission for implementation and monitoring of the Act.

Table No.-6

Nutritional Standards

S. N.	Category	Type of meal	Calories (Kcal)	Protein (g)
1	Children (6 months to 3 years)	Take Home Ration	500	12-15
2	Children (3 to 6 years)	Morning Snack and Hot Cooked Meal	500	12-15
3	Children (6 months to 6 years)	Take Home Ration	800	20-25
4	Lower primary classes	Hot Cooked Meal	450	12
5	Upper primary classes	Hot Cooked Meal	700	20
6	Pregnant women and Lactating mothers	Take Home Ration	600	18-20

Source: No. 29, New Delhi, Tuesday, September 10, 2013 The Gazette of India Extraordinary [Part II—Schedule II

Issues related to food grain warehousing and supply chain

During recent time India has become self sufficient in terms of production of food grains. The report of working group on food grains, oilseeds and sugarcane during 12th plan found that domestic demand projections for foodgrains of 218-252 million tones is less than supply projection of 259-272 million tons (Table No.-7). Excess foods grain produced need to be either exported or added to stocks. However, National Centre for Agricultural Economics and policy

Table No.-7

Broad Range of Projected Demand and Supply of Foodgrains, Oilseeds and Sugarcane (in million tons)

Crops	Range of Demand Projections	Range of Supply Projections
Cereals	181 -220	240-251
Pulses	13 -41	18-21
Foodgrains	218 -252	259-272
Oilseeds	30-79	30-41
Sugarcane	137-266	365-411

Source: Report of Working Group on Foodgrains-Balancing Demand & Supply during 12th Five Year Plan.

Research (NCAP) opines that due to increase in population, the country needs to boost the food grain production by 1.34% annually to 280.6 million tons by 2020-21. Bharat R., (2013), found that Foodgrains rot due to insufficient storage capacity even as millions sleep without food. As per ASSOCHAM- yes bank report, (2014, April 09), 30-40 percent of shortage of proper warehousing facilities result in to wastage of precious foodgrains, fruits and vegetables. FCI has only 32 metric ton storage capacity which includes half of hired capacity, where as it required 46 metric ton storage capacity. During hearing of right to food, public interest petition on the inadequate warehouse for storage of food grains, Supreme Court of India (2010) instructed government to distribute it to the poor before foodgrains rot, due to lack of adequate warehouse facility (NDTV Correspondent, 2010, August 31). Misra S., Chadah S. & Pathania M., (2011, December 21), found that 98 percent of respondent participated in their survey in Delhi area feels maximum cooked food is being wasted in marriage ceremony, 59.8 percent feels during conference and seminars (Table No. 8). As per UN, India waste more food grain than China

Table No.-8

Occasion Wise Wastage of Food

Occasion	Very High	High	Average	Less	Very Less
Marriages	98.0	1.5	0.2	0.2	0.0
Anniversary /birthday/ parties	1.2	22.5	36.7	6.8	32.8
Business Parties	0.0	8.5	19.3	60.7	11.5
Political Events	1.9	61.8	19.1	11.8	5.3
Conference/Seminars	0.8	5.9	15.2	18.4	59.8

Source: Field Survey, Centre for Consumer Studies, IIPA

(Hindustan Times, 2013, September 11), As per the Rome-based Food and Agriculture Organization's report, Asian countries, especially India and China, are the worst culprits causing loss of 1.3 billion tons of food every year

Research limitations

While doing this study based on secondary data, it is expected that we might not have included many important facts related to the topic. Therefore, there is further need for follow up studies using primary data and covering wide area.

Findings

India ensures food security for humanity by ensuring enactment of National Food Security Act 2013. Per hectare yields of foodgrains have also increased to make India self reliant in terms of foodgrains. Procurement of foodgrains by government nodal agency FCI, and other central and state agencies have also increased and exceeded buffer stock level in 2014. Increase in buffers stock level has increased problem of storage and distribution of precious foodgrains. At one hand

we have thousands of metric tons of foodgrains lying wastage because of improper and inefficient storage and at the other hand valuable human lives are being lost because of mal nutrition due to unavailability of sufficient food grains to destitute people. Cooked delicious foods are being wasted during social rituals like marriage, birthday, promotion part and death feast, celebrations and many other such occasions.

Recommendation

Today it is urgent need for Government to take some policy decision in terms of its nodal agency FCI in order to make it more efficient or create some more efficient agency embedded with improvise supply chain system, in order to make it more efficient and effective in procurement of foodgrains from farmers and making it available at fare price to consumers in quality and healthy form. It is also expected from NGO and other social activists to take up some sort of initiations in order to collect extra unused cooked foods from ceremonious occasions and arrange to deliver it in hygiene and nutritious form to needy persons leaving in slums or on the road sides.

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