

The Frightening Truth about Indian Food Waste

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ABSTRACT: FAO (Food and Agricultural Organization) stated that availability, access, affordability, and stability are four pillars of food security. With the population of 1.35 billion and high levels of poverty, ensuring food and nutrition security is a big challenge for India. The major problem faced by India is “the problem food management and its distribution”. The UN (United Nation) development programme says the food wasted in India accounts up to 40% the total food produced. At FAD(Food Processing Agri-Business and Diaries) international summit 2017 The Minister of State for FPI(Food Processing Industries) Sadhvi Niranjana Jyoti said that the food worth 92,000 crores is wasted every year which is approximately 67 million tonnes of food, higher than Britain’s national output and can serve Bihar’s population for at least 1 year. Rotten food grains on one side and food inflation on other side make crores of rupees wasted by both government and consumers. Due to improper government policies and yojanas, the farmers are constrained to protest, in which they are throwing their food production to have the attention of government. Also, India has slipped down from the 63rd position of GHI (Global Hunger index) 2013 to 100th in 2017 (see Table 1), below even the countries like Bangladesh and North Korea. This paper is focused on food wastage issues in India, which is one of the bigger portions of food insecurity. It also covers the several programme and yojanas taken by the Indian government to counter the food security issues in the terms of availability, access, and absorption or nutrition. This paper also provides some suggestion for the realization of food security in India. Data are taken from relevant sources for analysis.

Keywords: Population; food wastage; food management; improper government policies; farmer’s protest

INTRODUCTION

Food is the compulsory need of every living. Without it, one cannot survive. So, why to waste it? For a fast developing country like India, it is the biggest challenge to have the food security with the population exceeding 1.34 billion. To maintain it India should take care of the pillars of the food security [1].

- Availability: Food should be available to all.
- Affordability: Food should be affordable to all.
- Accessibility: Food should reach everyone with proper distribution.
- Stability: Food price and supply chains should be stable in order to avoid political and social unrest.

The poverty rate in India is – 25% in a rural area & 14% in urban area (World Bank 2016), due to the changes in consumption pattern, the demand for fruits, vegetables, dairy, meat, poultry & fisheries has been increasing. India is the 2nd largest producer in the world in the terms of fruits, vegetables, rice and wheat (World Food India 2017), whose 40% gets wasted before reaching the plates approximately 67 million tonnes of food (see Fig. a) [2]. Due to this, money spent on growing crops, transportation charges, litres of waters, tonnes of fertilizers, toils of the farmers and other resources are wasted. This occurs due to natural calamities, lacking storage space particularly refrigerated storage, poor transportation, inappropriate packaging, inefficient distribution, lack of awareness and corruption.

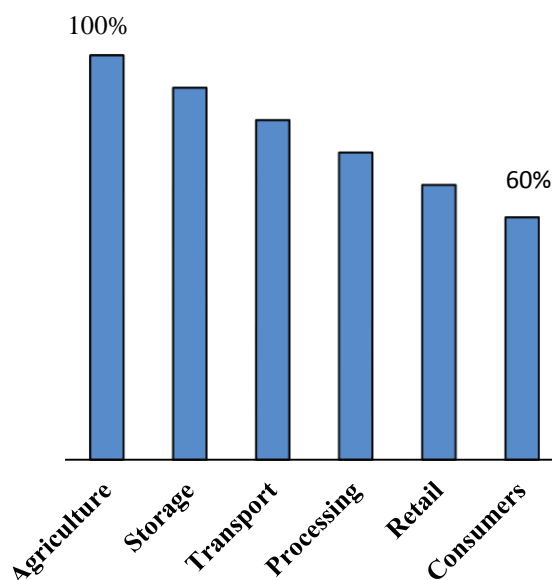


Figure 1: Diagram showing the food loss in the supply chain

Currently, Indian is more focused on initiating advanced technology and digitalization, which is good, but still, we cannot deny the fact that hundreds of people in India sleep hungry every day. So, why food wastage is not been given a proper attention in order to mount one-step towards the food security.

Table 1: Shows global hunger index 2017

Ranking	Country	GHI Score	
		1992	2017
29	China	25.9	7.5
72	Nepal	42.5	22
77	Sri Lanka	55.6	22.6
84	Myanmar	31.6	25.5
88	Bangladesh	53.6	26.5
100	India	46.2	31.4
106	Pakistan	42.7	32.6

CAUSES OF FOOD LOSS

Natural Calamities

Monsoon plays a key role in determining whether the harvest will be ample or deficient in any given year.

The extra water fills low-lying fields and creates a *flood* situation due to excess rainfall. Certain crops cannot bear excess water and they die leaving the farmer with a burden of debt. The National Commission on Floods has assessed the flood prone area in India to be around 12 percent of the total area.

Drought is said to have occurred when the principal monsoon fails or is deficient. It leads to crop failure due to insufficient irrigation. Huge amounts of crops are wasted before harvesting due to nature.

Storage

A large amount of food waste occurs during the storage of crops due to insufficient infrastructure. The storage loss factors are classified into two categories: biotic factors (insect, pest, rodents, and fungi) and abiotic factors (temperature, humidity, rain) [3]. Moisture content and temperature are the most crucial factors affecting the storage life. At temperatures of 20–40 ° C and relative humidity of more than 70% storage molds, grow faster. After harvesting still the grains are biologically active and do respire. Leaving them in open hot-spot increases their respiration causing in decrease their shelf life, especially in rainy season large stock of food grains rots out due to storing it under the sky.

Buffer Stock is a storage scheme in which large food goods are stocked particularly in order to fight against price rise. It comes under the eye of FCI (Food Cooperation of India), but over the years, FCI has crossed buffer standard that leads to the rotting of grains and shortage in the open market [4].

Not only food grains but also vegetables and fruits too are affected due to lack cold storages in India. DS Rawat, the ASSOCHAM Secretary-General said, “India has approximately 6,300 *cold storages* capacity of

30.11 million tons, which can only store about 11% of the country’s total perishable produce”. About 60% of this capacity is spread across U.P., West Bengal, Gujarat & Punjab, and the ASSOCHAM. The situation is serving a southern part of India due to unavailability of cold storage units.

Transport

The main culprit behind food loss in India is through improper storage whilst transporting goods. The main culprit behind food waste during transportation is through the rejection of perishable food. Examples; - Tomatoes are dripping or sometimes worm, a lot of wheat and rice sacks burst and It takes a lot of time to reach food, which causes fruits and vegetables to break down. The cold supply chain management becomes more challenging while dealing with the complex supply chains for transporting perishable goods at a longer distance.

Packaging

- Product damage is the most obvious side effect of poor packaging. When the first packaging or secondary packaging is not sturdy, enough to resist the conditions long-faced on the availability chain, then it is possible that the merchandise can reach its destination during a sub-optimal condition.
- When a large quantity of vegetables is stuffed in a sack, the ones that are on the bottom side get suppressed and spoiled. Moreover, consumers are not interested in buying those veggies.
- Recently Smithers Pira had a survey in which 58% of consumers stated that packaging damage would resist them from buying a product [5]. After which no consumer tends to buy that food and after it’s expiry it is of no use.

Farmer’s Protest

- After placing a lot of effort, when the farmers get less than that of his total investment i.e. they don’t get a profitable price by the govt or APMC market refuses to quote a good price (MSP) for the farmers crops after to which farmers show their frustration by dumping the worthless produce on the roads. Due to which loss of food occurs.
- Availability beyond the need is also one of the factors puts down the MSP rate and to which farmer protests. Moreover, this increases due to growing up the crops more for the sake of profit, on which the government is giving good MSP.

WHAT GOVERNMENT IS DOING?

Department of Food and Public Distribution is liable for guaranteeing food security through acquisition, storage, and distribution of food grains. The FCI is

liable for a number of these functions. In 2017-18, the Department has been allotted Rs 1,50,505 crore, that is ninety-eight of the Ministry's allocation [6]. Allocation to this Department accounts for 7.6% of the central government's budgeted expenditure.

Department of Consumer Affairs is responsible for spreading awareness among consumers about their rights, protecting their interests and preventing black marketing. In 2017-18, the Department has been allocated Rs 3,727 core, which is 2% of the Ministry's allocation [6].

PMKSY (Pradhan Mantri Kisan SAMPADA Yojana)

PMKSY, earlier only SAMPADA (Scheme for Agro-Marine Processing and Development of Agro-Processing Cluster), includes all the ongoing and new schemes of MoFPI (Ministry of Food Processing Units) supplement agriculture, modernize processing and decrease agricultural-waste. It is allocated to the budget Rs 6000 crores for the period of 2016-20 co-terminous with the 14th Finance Commission cycle. The budget is predicted to leverage the investment to 31,400 crores handling of 334 lakh MT agro-produce valuing Rs 1,04,125 crore, profit twenty lakh farmers and generate 5,30,500 direct/ indirect employment within the country by the year 2019-20 [7].

Table 2: 2017-18 Budget allocation for the ministry (in Crores)

Department	2015-16 Actual	2016-17 Revised	2017-18 Budgeted	%Change in 2017-18 over 2016-17
Food And Public Distribution	140521	140178	150505	7.40%
Consumer affairs	290	3810	3727	-2.20%
TOTAL	170810	143988	154232	7.11%

Sources: Expenditure Budget, Union Budget 2017-18; PRS

SUGGESTIONS

- More grain storage units and cold storage units (for fruits and veggies) are strictly needed to be installed in large quantity and the active 'cover and plinth' ones should be converted to 'silos'. Moreover, the current rates of the cold storage could be decreased so that the lower income producers can also have the facility.
- Food-grains bank and mandis should be created in almost every block/village so that farmers

would not have to travel more for the procurement and the perishable product's freshness persists.

- Consumer ministry should decide the buffer stock norms and the FCI should sell off the grains, which are above the buffer quota open market [4].
- Boost the strict action against food hoarding.
- Food should be procured at better MSP rates even at the time of excess availability that will make farmers satisfied as well as encourage in growing more for the next crops.
- Crop insurance schemes can be promoted with government meeting a major part of the insurance premium to protect the farmers against natural calamities.
- The transportation system should be checked; especially vans/trucks that transit the perishable product should have refrigeration.
- The transit vehicles must not be opened. They should be at least covered with tarpaulin to save the perishable food from rain and dust.
- Roads used for transportation should be well constructed, since, to save the fuel drivers of the vehicles take shortcut even if the road is rich in delve.
- Pic-bags should be used in packaging of grains. This already been started in India but still, it needs a boost. Moreover, the bags must have "ears" which will eliminate the hook requirement for the labourers while loading and unloading [4].
- Overloading and overstuffing of perishable products should be avoided, as they may get suppressed and spoiled. While packaging such products, some of the space should be left over in order to avoid suppresses.
- In the era of smart agriculture, the government should come up with some new inventions and instalment of new technologies that may detect the quality of the perishable product, so that the food that has been already attacked by microbes can be removed which will make easy to safeguard others.

The government on a regular basis should do awareness campaign so that the people take the proper steps to avoid the food and economic loss. Media can play a big role to this as it can cover more peoples around and pressurize the government to take the actions.

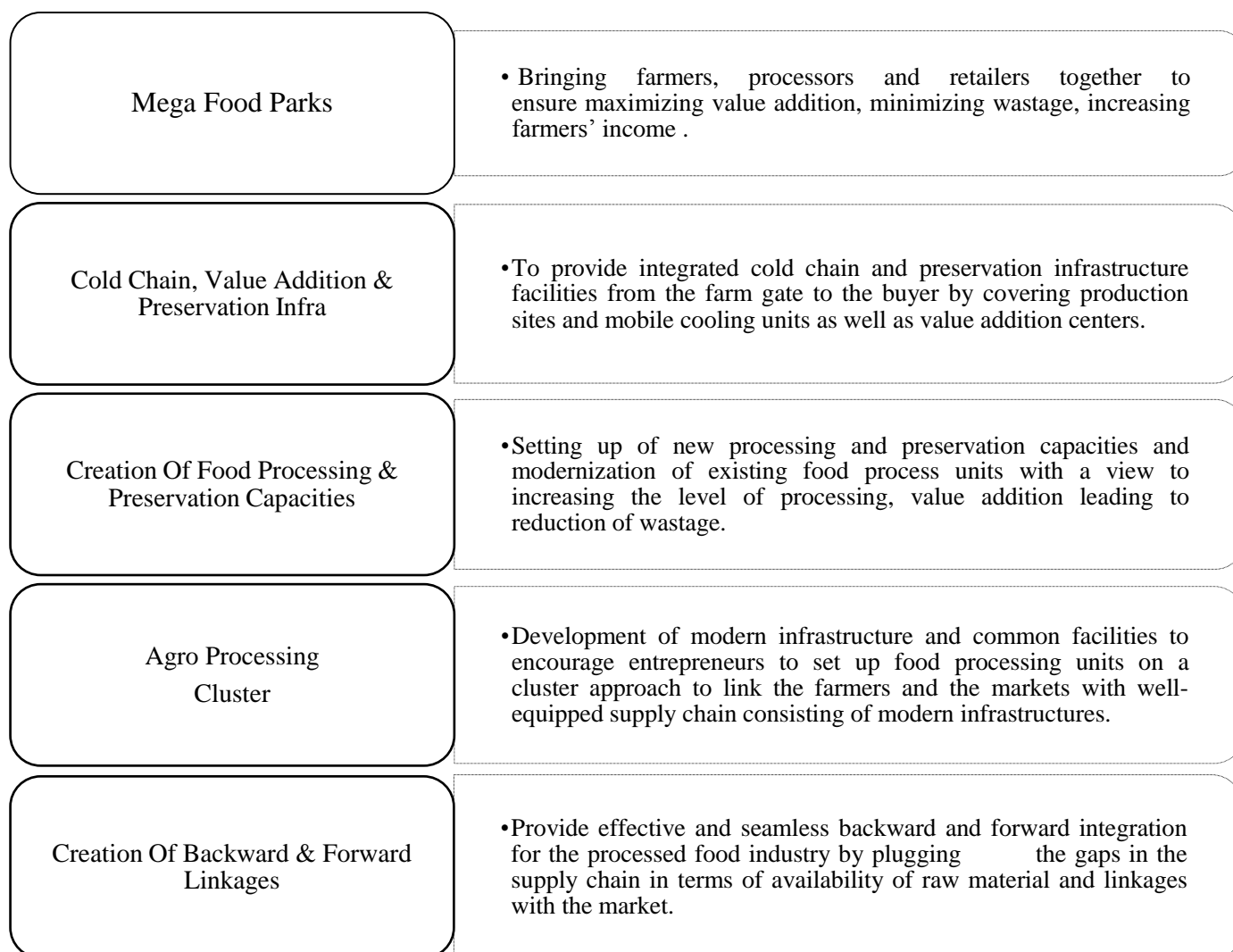


Figure 2: Schemes under PMKSY (Source: MoFPI) [8]

CONCLUSIONS

It is well aforementioned that “One man TRASH is another man TREASURE” which delivers a message that a worthless thing to anyone may be valuable for others. Despite huge availability still, numerous those can't afford alimentary food. India is quickly promoting the agriculture growth and already became one of the largest producers but there is an urgent need to understand the food loss problem. With over 1.35 billion individuals to feed, addressing the problem of food wastage is very important to India's efforts towards combating hunger and up food security. It is not solely the government's duty however additionally our responsibility to act against it and minimize the food loss. Alone it is not possible, but together as a whole nation, we can make it count.

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