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# **Surplus Foodgrains Management & Distribution**

**PROPOSED BY**

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# **EXECUTIVE SUMMARY**

## **OBJECTIVE**

A real-time, web-based digital solution for food grains storage warehouses to reduce inefficiency in (re)distribution of grains.

## **PROBLEM & THE PROPOSED SOLUTION**

The current food grains distribution and management system lacks the optimal use of data, raw facts and figures and technology. This results in poor distribution of the food grains leading to the wastage of several million tonnes of it.

The proposed solution aims at preparing a portal which will include information like: States having inadequate amount of food crops, states having enough food crops. For distribution process, information will be like: real-time in-transit status of the transportation, approximate delivery date of the food grains, their amount etc.

The immense data will be utilized to better assess every citizen's need, leading to a completely digitized distribution system

## **FINANCIAL FORECAST**

The project runs on approx. Rs 7.12 crore on yearly basis, excluding a one-time infrastructure cost (without considering government's subsidized rates for public services)

# BACKGROUND INFORMATION ABOUT THE PROBLEM

- The total production of food grains reached a record **316.65 million** tonnes in 2021-22. This is an increment of **23.52 million** tonnes than the previous 5 year's average production. Every financial year, the production is increasing by several percent.
- However, India's hunger stats remains the same every year; despite the increase in production each year.
- Sadly, the high-production of grains alone is not sufficient. Whether the food is reaching to every Indian's house or not - should also be prioritized equally.
- Every year in India, about 67 million tonnes of food is wasted, which has been estimated to be around of **Rs 92,651 crores**. In other words, **this amount is adequate to feed a state as large as Bihar for a year**.
- Nearly **21 million** metric tons of wheat is found to rot in India per year. **This number is equivalent to the gross annual production of Australia**.
- The existing system lacks the efficient use of technology, immense data, amount of storage warehouses, lack of proper transportation, outdated information about the grain quantities.

As on	Capacity with FCI	Storage Capacity Other Agencies	Total
01-04-2011	316.10	291.32	607.42
01-04-2012	336.04	341.35	677.39
01-04-2013	377.35	354.28	731.63
01-04-2014	368.90	379.18	748.08
01-04-2015	356.63	352.59	709.22
01-04-2016	357.89	456.95	814.84
01-04-2017	352.71	420.22	772.93
01-04-2018	362.50	480.53	843.03
01-04-2019	388.65	467.03	855.68
01-04-2020	412.03	343.91	755.94

This table from PIB India, shows the storage capacity of warehouses of India (in lakh tonnes). It can be observed that in a span of 9 years (2011 to 2020), there is an increment of only 148 lakh tonne.

It is safe to conclude that the Indian government is not investing in this affair like it should have.

Most of the times, due to lack of proper management, the good grains get rotten or spoiled in the storage houses itself.

ISHI rank	State	ISHI score	ISHI Level
1	Punjab	13.63	Serious
2	Kerala	17.63	Serious
3	Andhra Pradesh	19.53	Serious
4	Assam	19.83	Serious
5	Haryana	20.00	Alarming
6	Tamil nadu	20.87	Alarming
7	Rajasthan	20.97	Alarming
8	West Bengal	20.97	Alarming
9	Uttar Pradesh	22.13	Alarming
10	Maharashtra	22.80	Alarming
	India	23.30	Alarming
11	Karnataka	23.73	Alarming
12	Orissa	23.80	Alarming
13	Gujarat	24.70	Alarming
14	Chhattisgarh	26.63	Alarming
15	Bihar	27.30	Alarming
16	Jharkhand	28.67	Alarming
17	Madhya Pradesh	30.87	Extremely Alarming

- **Indian State Hunger Index** concluded that Madhya Pradesh had the highest hunger index score, even though Madhya Pradesh is the second largest producer of wheat and maize & 3rd largest producer of gram
- This concludes that there must be some serious issues with the existing crops distribution system

# SOLUTION TO THE PROBLEM

- Everything is available on the internet now, so should the information about India's grains warehouses
- I propose to build an internet portal for the management & distribution system of food grains
- It will include information like the States having adequate and inadequate amount of food resources, amount of grains with their type, availability or surplus at what State, what type of grain is needed at a State etc.
- Crops which are more prone to get spoiled will be prioritized more; they will be distributed sooner using the transportation system
- The portal will have a facility to track the logistics and transportation as soon as they leave the godown/warehouse
- Efficient use of data generated during the process - which is quite inexpensive nowadays

# BENEFITS

- India imports food grains & agricultural products costing around **\$6.14 billion** in 2021 even though we are one of the world's largest exporters (due to food-crop wastage). This amount can be reduced up to a great margin
- The hunger stats will be improved immensely
- Food pollution resulting from wastage of crops will be reduced greatly
- Many employment opportunities will be generated for human capital such as labors, training associates, drivers in transportations, logistic employees, etc.
- Less wastage will result in higher export which will contribute to total GDP

# LIMITATIONS

- Remote states and areas will have connectivity issues and network shortage; hence difficult to communicate
- During natural calamities like flood, the transportation system will get affected
- Accurate data acquisition of stats & information about food crops of some states can be difficult because it is state-government dependent

# POSSIBLE RISK

- Inaccurate or wrong statistical data of some States can lead to rise of several problems such as unnecessary transfer **or** no transfer of grains; which will lead to resource exploitation

# FINANCIAL FORECAST

## WEB PORTAL COSTING

- Website hosting: **Rs. 5,000/year**
- 10 full-stack web developer hire: **Rs 20 lakh x 10 = 2 crores/year**
- Cloud storage: **Rs 3.2/GB = 32 lakhs/year** assuming **1024 Terabytes** data

## MOBILE PORTAL

- Google play store dev account + iOS dev account: **Rs. 8000**
- 10 Android + 10 iOS developer hire: **Rs 20 lakh x 20 = 4 crores/year**
- AWS Cloud service: **5.2 lakhs/year**

## OTHERS

- Marketing, advertisement, ad-boards, social media campaigns, pillars etc
- For existing and new godown infrastructure, this is where JSW group can prosper in the proposal for providing construction material like cement, pipeline connections, labors etc., thus benefitting JSW group in the process.

## AGGREGATE COST OF THE PROJECT

Total yearly cost of the project is **Rs. 7.12 crores**