B.S. Abdur Rahman Crescent Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956

PROJECT - FIELD IS FUTURE

SOCIAL IMMERSION PROJECT REPORT

Submitted

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In partial fulfillment for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION - STRATEGY FOCUS

CRESCENT SCHOOL OF BUSINESS

October 2021

CRESCENT SCHOOL OF BUSINESS

ACKNOWLEDGEMENT

The success and outcome of this project required a lot of guidance and assistance from many people and We are extremely fortunate to have got this all along with the completion of my project work.

We are using this opportunity to express our deepest gratitude and special thanks to our project mentor **Dr. D.J.E. Ravi Thilagan**, as well as the Dean **Dr. K. Srinivasan** and Dy. Dean **Dr. R. Anuradha,** Crescent School of Business who despite being busy with their duties, took time out to hear, guide, and keep us on the correct path and allow us to carry out the project.

We owe our profound gratitude to our project guide **Ms. Anupama Gopal** and **Ms. Latha Subramanian** of Bhoomika Trust, who took a keen interest in our project work and guided us all along till the completion of our project work by providing all the necessary information for developing a good system.

We perceive this opportunity as a big milestone in our career development. We will strive to use gained skills and knowledge in the best possible way.

ABSTRACT

This project Field is future, is focused on identifying the factors lying around the agricultural field and the need for a paddy dryer. From seeds procurement to selling crops what are the different steps they undergo and what hurdles they face regularly.

This project also helps to bridge the gap between the farmer's availability and their requirement. It also specifically stresses that radical market reforms such as strengthening of agricultural market infrastructures, improved procurement system covering all food grain and non-food grain crops, fixing MSP, abolishment of minimum export price for agricultural commodities, removing middlemen, and enacting act on ‘right to sell at MSP’ need immediate attention to secure the agricultural field.

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CHAPTER 1
INTRODUCTION

RESEARCH BACKGROUND

Agriculture plays a pivotal role in the Indian economy. Although its contribution to gross domestic product (GDP) is now around one-sixth, it employs 56 percent of the Indian workforce. Also, the forward and backward linkage effects of agriculture growth increase the incomes in the non-agriculture sector. The growth of some commercial crops has significant potential for promoting exports of agricultural commodities and bringing about faster development of agro-based industries. Thus, agriculture not only contributes to the overall growth of the economy but also reduces poverty by providing employment and food security to the majority of the population in the country, and thus it is the most inclusive growth sector of the Indian economy. The 12th Five Year Plan Approach Paper also indicates that agricultural development is an important component of a faster, more inclusive sustainable growth approach.

Indian agriculture is the home of small and marginal farmers (80%). Therefore, the future of sustainable agriculture growth and food security in India depends on the performance of small and marginal farmers. Agricultural Census data shows that there were about 121 million agricultural holdings in India in 2000-01. Around 99 million were small and marginal farmers. Small and marginal farmers account for more than 80% of the total farm. But their share in the operated area is around 44%. Thus, there are significant land inequalities in India.

Challenges Faced by Small and Marginal Farmers:

Some of the general issues that confront marginal-small farmers as agriculturalists are:

- Imperfect markets for inputs/products leading to smaller value realizations;
- Absence of access to credit markets or imperfect credit markets leading to sub-optimal investment decisions or input applications;
- Poor human resource base;
- Smaller access to suitable extension services restricting suitable decisions regarding cultivation practices and technological know-how;
- Poorer access to ‘public goods such as public irrigation, command area development, electricity grids;
- Greater negative externalities from poor quality land and water management

- **Role of women:** the importance of women in agriculture has been increasing. The share of rural females in agriculture was around 83 percent in 2004-05 as compared to 67% among rural men, showing the importance of women in agriculture in rural areas. Despite their importance, women are continually denied their property rights and access to other productive resources. Protecting women's rights in land, enhancing infrastructure support to women farmers, and giving legal support on existing laws, will facilitate recognition for women as farmers and enable them to access credit, inputs, and marketing outlets.
- **Social groups:** the proportion of socially disadvantaged groups such as scheduled castes (SC's) and scheduled tribes (STs) is higher among marginal and small farmers than that of medium and large farmers. Even after accounting for the quantity and quality of land owned by socially deprived classes, their access to information, marketing, credit, and publicly provided inputs and extension services are lower. This shows that they possibly suffer from discrimination in the delivery of public services as well as market
- **Low level of formal education and skills:** education and skills are important for improving farming practices, investment, and productivity. The NSS farmers' survey clearly shows that awareness about bio-fertilizers, minimum support prices, and WTO is associated with education levels which are lower for marginal and small farmers.
- **Credit and indebtedness:** small holdings need credit for both consumption and investment purposes. Increasing indebtedness is one of the reasons for indebtedness among these farmers in recent years.
- **Globalization challenges:** increasing globalization has added to the problems faced by smallholding agriculture. The policies of huge subsidies and protection policies by developed countries have negative effects on smallholding farmers in developing countries. If support is not given to small farms, globalization may become advantageous for large farms. There has been the adverse impact of trade liberalization on the agricultural economy of the region's growing crops such as plantation, cotton, and oilseeds in which foreign trade is important.
- **Impact of climate change:** climate change is a major challenge for agriculture, food security, and rural livelihoods for millions of people including the poor in India. The adverse impact will be more on smallholding farmers. E. Rural communities, particularly those living in already fragile environments, face an immediate and ever-growing risk of increased crop failure, loss of livestock, and reduced availability of marine, aquaculture, and forest products. They would have adverse effects on food security and the livelihoods of small farmers in particular. To have climate change-sensitive and pro-poor policies, there is a need to focus on small farmers. Agriculture adaptation and mitigation could provide benefits for small farmers.

- **Diversification:** there has been the diversification of Indian diets away from food grains to high-value products like milk and meat products and vegetables and fruits. The increasing middle class due to rapid urbanization, increasing per-capita income, increased participation of women in urban jobs and the impact of globalization have been largely responsible for the diet diversification in India. S. Diversification to high-value crops and allied activities is one of the important sources for raising agricultural growth. Since risk is high for diversification, necessary support in infrastructure and marketing is needed. Price policy should also encourage diversification. Small and marginal farmers can get higher incomes with diversification. But there are risks in shifting to diversification as the support systems are more for food grains. There is a need for support systems for diversification to help smallholder farmers.
- **Risk and vulnerability:** There is enough evidence to suggest that poor and poorest of the poor households are vulnerable to a range of risks affecting individuals, households, or whole communities which can have a devastating effect on their livelihoods and wellbeing. They have higher exposure to a variety of risks at the individual or household level. Some of them are (a) health shocks: illness, injury, accidents, disability; (b) labor market risk: many works in the informal sector and have a high risk of unemployment and underemployment; (c)harvest risks, life cycle risks, social risk and special risks for vulnerable groups. In addition, they have community risks such as droughts, floods, cyclones, structural adjustment policies, etc. Small and marginal farmers are vulnerable to all these risks.
- **Procurement Challenges faced by small and marginal farmers:** Generally, paddy is procured with moist content of 17% in it, some of the large and high marginal farmers who has Dryer facility can fulfill this procurement level, but in the case of small and low marginal farmers who don't have such facility or equipment to dry their crop they sell in the very low margin in the market or too high marginal farmers who have such equipment.

IDENTIFIED PROBLEM

- Farmers face difficulties in selling the grains to the government procurement centers. The government has fixed 17% and below 17% moist levels for paddy but the moist level lies between 22% to 25% during the harvest.
- As the middlemen are standing as a barrier, the farmers find it difficult to sell the goods to Direct Procurement Centre (DPC).
- Paddy drying was one of the major challenges faced by the farmers. They dry grains on the concrete floors which were built by the village community and sometimes due

to unexpected rains, the grain gets wet and spoilt and as a result, they are unable to sell them.

- Since Mahatma Gandhi National Rural Employment Guarantee Scheme (100 days work scheme) was introduced by the government, there was a scarcity of laborers to work in the field.
- The expenditure incurred under Command Area Development and Water Management Programme is shared between Centre and State with a full grant. A minimum of 10% contribution by the beneficiaries for certain work components is mandatory. 25% of the cost of machinery or the ceiling limit prescribed by the Government of India for each machinery was not received by the farmers.
- The other challenges which were faced by the farmers were the pigs, insects, and unexpected rains which destroys the farmlands.

PADDY DRYER

Paddy Dryer is used to dry paddy to make it safe for storage and future usage without being spoiled. These dryers do not require any external boiler.

APPLICATIONS OF PADDY DRYER

- Rice Drying
- Rice Husk
- All types of paddy grains

KEY FEATURES OF PADDY DRYER

- High in performance
- Excellent Speed
- Long-Life span
- Easy to operate
- Less power consumption
- Easy to install
- Easy and simple maintenance
- Economical to operate
- Designed in such a manner that it suits all types of paddy grains

- Stainless steel and Mild steel construction
- Customized designs available
- Low power consumption
- Minimum Civil works
- Negligible maintenance

PRODUCT DESCRIPTION

The demands of farmers are never-ending. After careful and thorough research, the window for opportunity to harvest at optimal moisture levels for long-term storage and profitability is narrow. So, they are delighted to introduce their new product “Mobile Grain

Dryer” which can dry all sorts of grains such as wheat, corn, soybean, rice and other grains as sorghum, sunflower seeds, rapeseed/canola, barley, oats, etc., ranging from small to high quantities which shall be an added gem to our fellow farmers as well as to respective mills. They offer the widest range of Mobile Grain Dryer in the industry with technology that dries the grain easily and efficiently within no time. This Dryer espouses a heating method that utilizes low temperature for processing without disturbing the color, flavor, odor of the grain. Confinement of grain cracking ratio is guaranteed.

WORKINGS OF PADDY DRYER

Two variants in paddy drying machine:

TOTAL PROCESSING TIME

O 2 tonnes

Feeding - 20 minutes

Drying - 1 hour

Cooling - 20 minutes

Unloading - 20 minutes

O 4.5 tonnes

Expenses:

Diesel - 12 litres

- **2 tonnes**
  - Driver - Rs. 700
  - Feeder - Rs. 700

Outcome:

125 bags per day (If they run the machine for 5 batches a day)

- **4.5 tonnes**
  - Diesel - 17 liters
  - Driver - Rs. 700
  - Feeder - Rs. 700

Outcome:

250 bags per day (If they run the machine for 5 batches a day)

PADDY DRYING MACHINE

CHAPTER 2

LITERATURE SURVEY

REVIEW OF LITERATURE

Article 1 (Investigation on appropriate two-stage drying techniques for quality paddy seeds**)**

An attempt was made to investigate appropriate two-stage drying techniques for the quality of paddy seeds. In this research, two options of two-stage drying were conducted for three varieties of paddy (BR-11, BRRI Dhan-51, and Guti Swarna). In both options, first stage drying was carried out by a fluidized bed dryer using three temperatures (50, 55, and 60°C) at a constant bed thickness of 15 cm. After tempered, in the first option, samples were further dried in the second stage by sun-drying (28–32°C). In the second option, samples were further dried in the second stage in the same fluidized bed dryer using three temperatures (35, 40, and 45°C). Comparison of germination percentage in the first option revealed that higher germination percentage was obtained than sun-drying method while dried at 50°C in the first stage followed by sun-drying method at 30 ± 2°C in the second stage except in the case of Guti Swarna. The second option revealed that a higher germination percentage was obtained than the sun-drying method while dried in a fluidized bed dryer at 50°C in the first stage followed by 35°C in the second stage except in the case of variety Guti Swarna. Therefore, drying at optimum air temperature for both options can be applied for paddy seed drying in Bangladesh.

Review

In this article, an attempt was made to investigate which method of drying gives good quality of paddy seeds and the results say that drying in sun revealed higher germination and quality of seeds is maintained therefore drying in optimum air temperature is a slow process but when quality is considered it is the best method. when our team interacted with farmers in the village, they were asking for an option for a mobile paddy dryer that is concreated floor to dry their paddy, however, when it comes to considering climatic changes, population quick and efficient process technology is preferred by most of the farmers.

Article 2 (Practices and Technology Needs of a Network of Farmers in Tharaka Nithi, Kenya)

Farmers in rural areas of Kenya generally rely on traditional agricultural practices inherited from past generations. However, population increases and climate changes have put pressure

on resources such as land and water. These resource pressures have created a need to broaden and expand farming practices. We conducted an exploratory study with farmers in Tharaka Nithi, Kenya to explore their practices, if and how they used ICT, and how the technologies used might be designed to aid their practices, if at all. Overall, our results show that farmers desired more knowledge to enable them to apply ICT interventions in ways that improved yields. Farmers were also interested in accessing the information on soil fertility, water predictability, and market opportunities. These findings suggest opportunities for technology design to support farming practices among rural communities in rural settings.

Review

In this article farmers in rural areas of Kenya rely on traditional agriculture but as we have discussed in the previous article review when an increase in population more climatic changes force us to adapt to technology. But farmers desired to gain knowledge on these technologies and information of soil, pesticides ratio, fertilizers ratio, market opportunities, water-efficient usage and more, because of lack of knowledge in these farmers face failure, therefore, technology adoption is important but apart from that first and foremost step would be educating them on these things

Article 3 (Labor Scarcity – Its Immensity and Impact on Agriculture)

The labor scarcity being felt as a major impediment in agriculture, this study has probed into its magnitude, impacts, causes, and possible solutions in the Cuddalore district of Tamil Nadu. The study has revealed that the prevalence of acute labor scarcity in the district has affected the productivity levels of almost all crops and is even leading towards permanent changes in the cropping pattern. The important reasons identified for the labor scarcity include higher wages in other locally-available jobs, the seasonal nature of agricultural jobs, and the presumption of an agricultural job to be of low esteem. The level of adoption of labor-saving implements and technologies by the farmers is very low for the reasons of higher cost, lack of skill, and smaller size of holdings. The study has suggested that the agricultural extension system of the district/state/country should be geared-up, to bring out farmers from the conventional methods of cultivation and to educate them on the adoption of labor-saving implements and technologies. Also, a community-level approach should be encouraged among farmers for adopting/availing highly expensive labor-saving technologies and implementing cooperatively. In addition, agricultural jobs should be made more remunerative by increasing the wages at least at par with other jobs available locally.

Review

This article says that labor scarcity is a major challenge faced in agriculture, and it also states various impacts it makes and also results in permeant cropping patterns. When our team interacted with farmers in Tiruvallur district the major problem they addressed was labor scarcity so as suggested in this study agriculture extension system of the Tiruvallur district should gear up from traditional way of agriculture to labor-saving methods and technologies also government should intervene and help them educating them with such things.

CHAPTER 3

RESEARCH METHODOLOGY

INTRODUCTION

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability. This section will therefore discuss the following: research design, target population, sampling strategy, data collection instruments, and process and analysis of the data.

RESEARCH DESIGN

- Research design is a strategy for collecting data. It is a detailed outline of how the research will be conducted and what instrument is to be used. This research will involve a survey method questionnaire to collect the data.
- This study adopted a quantitative research design to provide in-depth insights that will shed light on understanding the challenges faced by the farmers in Ittukkadu village, Tiruvallur district, Opportunities available for them and to know whether they are aware of paddy dryers and beneficial for them. Specifically, the study employed a survey research design, and data was collected using well designed and standard questionnaire design.

TOOLS USED FOR THE STUDY

To come out with the finding of the study, the following statistical tool was used.

- Frequency table
- Percentage analysis
- Personal datasheet.

PERSONAL DATASHEET

A personal data sheet was prepared by the investigator to collect the information on selected variables like the Name of the respondent, age & educational qualification.

Sampling Technique and Sample Size

This study adopted a random sampling method to collect information from the respondents/ individuals. The sample will be collected from around 17 Farmers who live in Ittukaadu village, Tiruvallur district through a survey method and well-designed questionnaire.

- Sampling Units: Rural farmers.
- Sample Technique: Random Sampling.
- Research Instrument: Structured Questionnaire.
- Contact Method: Personal Interview/Filling the Questionnaires.

SOURCES OF DATA

Data can be collected through primary and secondary methods. Primary data will be collected using survey and questionnaire methods and secondary data will be collected through articles, journals, research papers, etc.

Primary Source - The primary data was collected using a survey. Questionnaires were prepared and farmers of the village were approached to fill up the questionnaires. The questionnaire contains around 25 questions that reflect on the opportunities, challenges faced by the farmers and to understand the working principles of custom hirers with farmers. The filled-up information was later analyzed to obtain the required interpretation and the findings.

METHOD OF ANALYSIS

Percentage analysis

It is one of the basic statistical tools which is widely used in the analysis and interpretation of primary data. It deals with the number of respondents' responses to a particular question as a percentage arrived from the total population selected for the study.

Data Analysis

The data collected will be tabulated on tables, graphs, charts, etc. The data will be analyzed with the help of statistical tools. After the analysis, the data will be interpreted and then the recommendations will be made accordingly at the end of the report.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

DESCRIPTIVE ANALYSIS

From the interaction with **Customer Hirers**, we analyzed that

- Custom hiring is also known as farm mechanism hiring. They receive subsidies from the government but this takes at least 2 years to be executed. The custom hirer receives 8 lakh rupees as subsidies out of which 3 lakh rupees is given directly and 5 lakh rupees is out into FDI.
- After showing the work done by the custom hirers to the govt, the 5 lakh rupees in FDI are received by them. There is no need for advertisement for custom hirer as there's always demand for these types of machinery.
- The custom hirers face investment problems as the bank doesn't support them. Usually, the bank takes property against money. It takes at least 6 months to 1 year to get the loan processed. The Profit is not constant and the custom hiring work is done once every 3 months. Between the break, they involve themselves in maintenance or any other work related to farming.

DPC ANALYSIS

- The direct paddy procurement functions under Tamil Nadu Civil Supplies Corporation. depending upon the area of paddy cultivation and the season the temporary DPCs were established. For the farmers who harvest the crops in the Kuruvai season, the DPCs were opened in the month of October and November and for the Samba farmer, it was from January to March.
- Online monitoring of DPCs of the Corporation in the state was being done to ensure smooth functioning and proper procurement of paddy from farmers. Details like ground stock, the quantity of paddy procured, cash, and gunnies available were being monitored on a day-to-day basis by the Corporation headquarters in Chennai and offices in the districts. Bills were generated at the DPCs using Global Placement Tracing System.
- This would give details of bill number, the variety of the paddy purchased, number of bags, net weight, purchase rate per quintal, bonus rate per quintal, total value, moisture content, and the net amount paid to the farmers 1300 DPCs were functioning in the state. In the Thanjavur district, this included 353 DPCs. The farmers get tokens from DPCs immediately after the harvesting and based on the token order the DPCs procure

the paddy. The machinery was provided for free for winnowing the paddy. The winnowed paddy was tested for its humidity, store, and soil particles.

- A direct procurement Centre is a government agency that decides the price of the crop. Usually, a crop with less moisture content (i.e., >17) is sold for Rs 650 whereas, crops with the right moisture content (=<17) are sold for Rs 1000. Crops cannot be stored with moisture as it destroys the quality and efficiency of the crops.
- Normal soil gives less profit compared to red soil. Usually, in a 1acre land, 18 members work on a contract basis who get paid in advance. Hence the rate of output decides the wages of the workers. When crops don't get sold in DPC, such crops are sold in red hills which is the second option. The DPC rate for Nice arisi 1kg - 19 Rs, Gundu arisi 1kg -18 Rs. Deciding on which crop to harvest is done based on the season.

MOBILE PROCUREMENT CENTRE

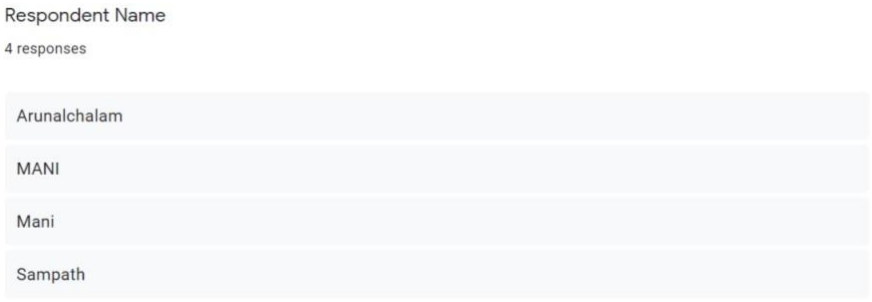
- The temporary mobile DPCs function similarly to the regular direct procurement centers. To avoid the delay in procurement the mobile DPCs were brought. In many places because of the absence of the DPCs, these temporary DPCs were established. This was operated from February 2011 by Tamil Nadu Civil Supplies Corporation.
- If any farmers or the group of farmers have 300 bags or more and if he informs, then the DPC goes to the area and procures the Paddy Directly in the field. The rules and the regulations applied for regular DPCs apply this too. The Corporation's mobile procurement center will go to the doorsteps of farmers who had harvested 300 bags of paddy and procured them.

FARMER ANALYSIS

- We had interaction with 17 farmers and gathered various information from them. they buy seeds from private shops because the government does not provide them with any seeds or any manures for farming. They depend on private shops for everything. Such as from seeds to Pesticides. Total of Rs 18000- Rs 20000 expenses incur by farmers, and they gain a profit of Rs2000- Rs 3000, after certain percentage taken by the middlemen.
- They sell their crops to private markets and earn a lesser amount because sometimes they are unable to meet government expectations for paddy moisture or the government is not procuring the crops from them.
- There were many challenges faced by the farmers such as crops being destroyed by pigs, insects, unavailability of finance, and one of the major issues discussed among them was the 100-day program provided by the government.

- Even though there are various subsidies and allowances available for farmers, they are not been reached to farmers. They are unable to avail it after several trials.

ANALYSIS USING STATISTICAL TOOLS AND TABULATION OF RESULTS

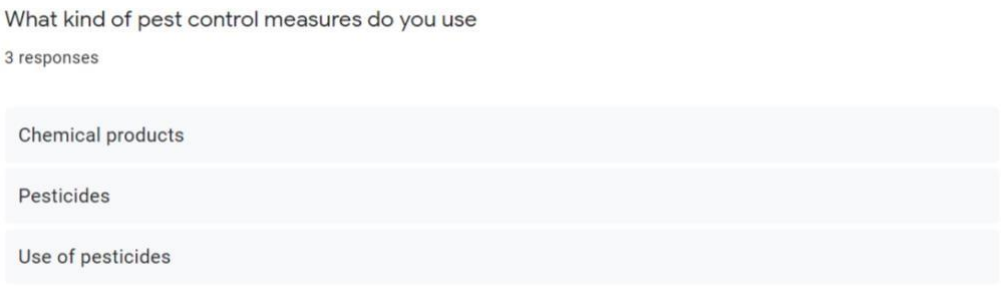


Analysis: We had interaction with various farmers, few among them are shared here.

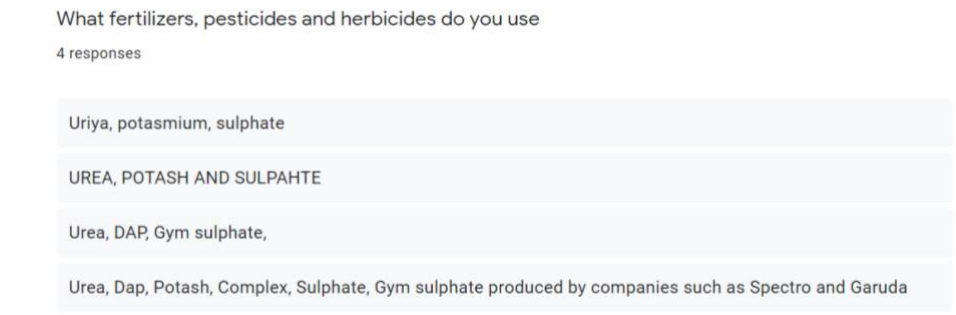
Analysis: Many farmers get financial support from money lenders because they find it to be easy.

Analysis: Every farmer gets seeds and fertilizers in time, but they procure them from private shops.

Analysis: Various factors which affect the field are, such pigs entering the farmland, insects spreading, unexpected rain, and moisture content**.**

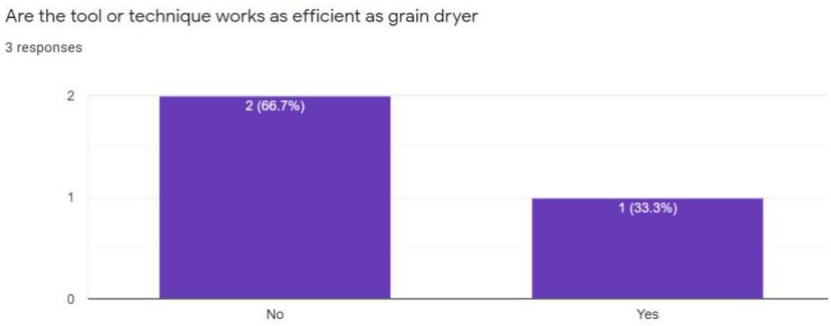


Analysis: To control pests farmers use Pesticides.



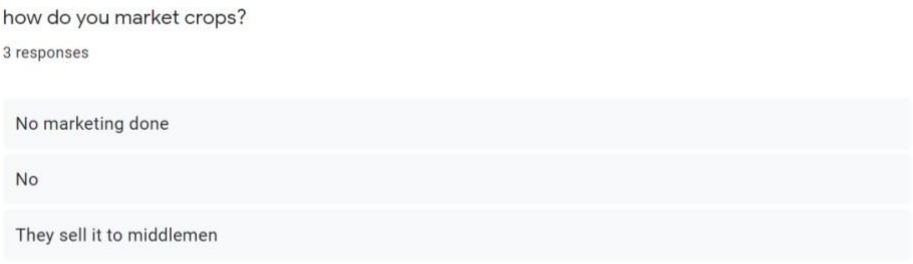
Analysis: Various fertilizers and pesticides used by farmers are Urea, Potassium, Sulphate, DAP, Complex, and much more.

Analysis: Farmers use two methods for drying crops as Using concrete floors and drying the crops on roads.

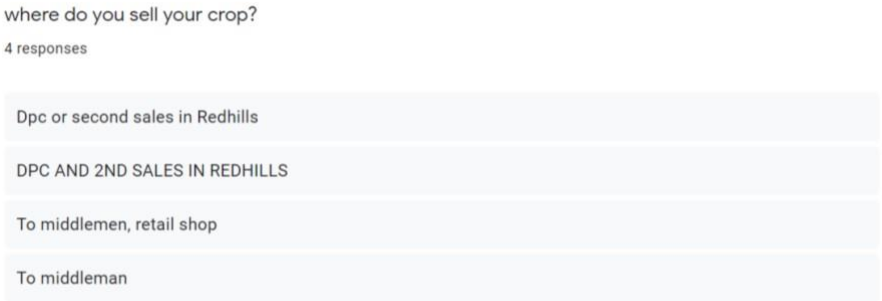


Analysis: The majority of people said that drying on roads and concrete floors is not as effective as using a paddy dryer.

Analysis: All the farmers are in want of dryers and they are ready to adapt to that technology.



Analysis: They do not market the crops, whereas they sell them directly to middlemen.



Analysis: Almost every farmer sells the crop to Middlemen, whereas few sell it to DPC.

what is the size of your farm?

4 responses

1 acre

2 acre

1- 2 acre

3 acres

Analysis: The size of the land each farmer holds varies from 2-24 acres.

how many people work on your farm ?

4 responses

18 people working on contract basis

18 people

10 per acre

10 members

Analysis: On an acre of land, 8-10 people work on a contractual basis.

Are you aware of government plans and facilities?

3 responses

Yes

Aware but not getting benefits

Yes, But not receiving benefits from government

Analysis: Few people are aware of government plans, whereas few aren't aware of them. But still, no one is getting benefitted by those plans.

how do you decide what to grow from year to year ?

4 responses

Based on seasonality, usually paddy is grown as manual work is less

BASED ON SEASONALITY

Based on the season, climate

It depends on monsoon, in summer- beans, peanuts, in rainy- Paddy

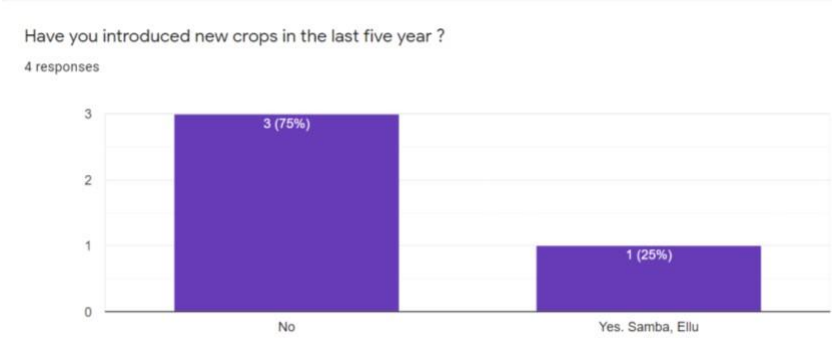
Analysis: Based on the season the farmers decide on what crops to be grown, for example, if it is summer season, they grow green gram if it is the rainy season they grow paddy.

How is the price determined ?

4 responses

By the dpc, nice rice - rs 18, gundu rice - rs 19
By the DPC AND PRIVATE MARKETERS
Procurement officer determines the price by checking the moist level of the paddy
By moisture content of paddy

Analysis: The price is determined by the direct procurement center based on moisture content.



Analysis: Few farmers have introduced new crops in the last five years, whereas few farmers did not introduce any new crops.

Do most of the farmers in this area own their land or do they rent it ?

4 responses

Owned
Own their land
Own lands
Own land

Analysis: Everyone has their land and they crop there.

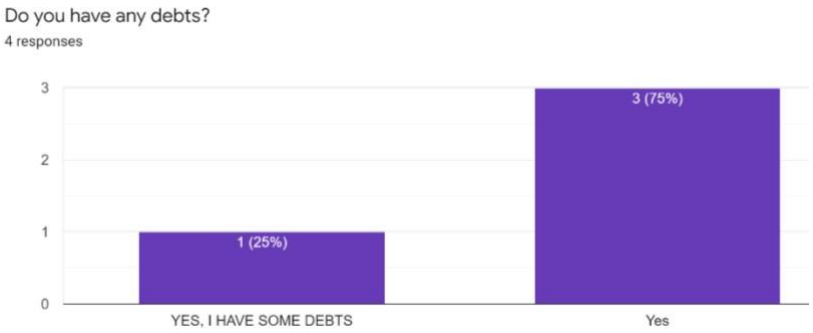
What variety of paddy do you grow ?

4 responses

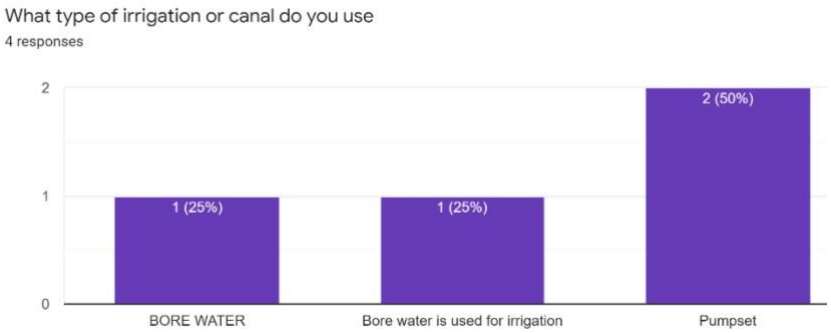
Bappadla, samba, guduravali
Samba
Samba , Baapatla
Samba, Bapatla

Analysis: In paddy, they grow different varieties such as Samba, Bapatla.

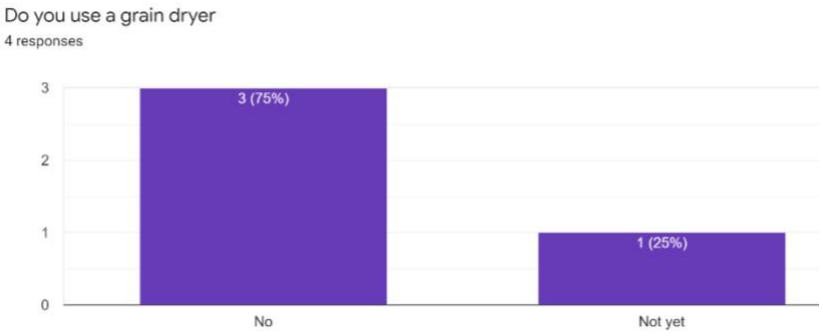
Analysis: They grow various crops such as Paddy, sugar cane, foxtail millet, Whole Mung beans, Dry chili, Bajra, Groundnut.



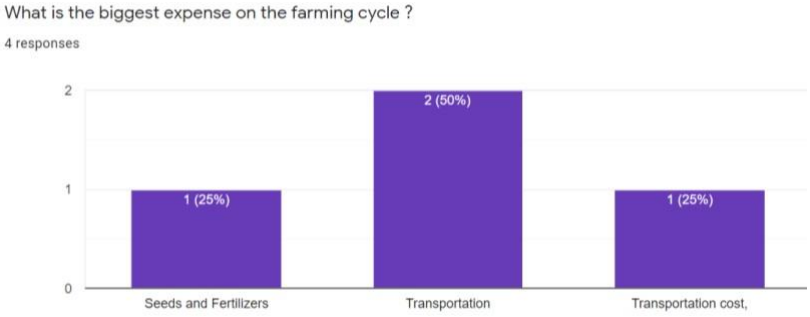
Analysis: Every farmer lends money to start farming, at a 2% interest rate. Because they find it to be easily accessible.



Analysis: They use two types of irrigation method which is bore water and pump set.



Analysis: No, farmers in that village use paddy dryers.



Analysis: The biggest expenses incurred by the farmers include seeds and fertilizers, Transportation. But the majority of farmers said transportation cost is a lot from their side.

Interpretation

Farmers face many challenges, one among the main issue is the drying of crops and a 10day work program. They are willing to accept paddy dryers if provided with the government procuring the crop from them.

CHAPTER 5

CONCLUSIONS

SUMMARY OF FINDINGS

Farmers face many challenges like cultivation, transportation, harvesting. The main issue though is the drying of crops and a 10-day work program. Transportation has become a pain because of the hike in diesel prices. There are not many warehouses or godowns in and around the area hence they take a long way to store it. They are willing to accept paddy dryers provided if the government decides to procure the crop from them. They also feel such machinery must be handled by the technical person; they feel machinery cannot be handled by the government. Irrigation is also a major challenge farmers have stated. The canal is important for irrigation at the end of the day, storage of rainwater is crucial for farming.

The farmers are expecting there will be a shortage of labor in the future and hence they are ready to adapt to modern agriculture if they are taught about it. They strongly believe that farming mechanism has to be revolutionized.

RECOMMENDATIONS AND SUGGESTIONS

A. Sun drying is a traditional drying method used to reduce the water content of rice by spreading grains in the sun. Solar radiation heats the grain and the surrounding air, increasing the evaporation of water from the grain. This is the most widely used drying method in Asia because it is cheaper than mechanical drying. Since it uses the sun as a heat source and does not generate CO2, it is an environmentally friendly product with low investment. However, sun drying is usually labor-intensive and has a limited capacity. Temperature control is also difficult with this process, which can cause the grain to overheat, crack the grain and reduce milling quality. Also, it cannot be dried in the sun at night or in the rain.

B. In-store drying is a technique wherein Paddy with moisture content below 18% can be slowly dried in storage bins using aeration with slightly pre-heated air (3−6K above ambient temperature). It can be used for Farms to a commercial level, and the capacity depends on storage structure. The Drying time takes from days to weeks

C. A flatbed dryer is a perforated sheet metal floor above the plenum chamber, where the grain to be dried is placed to a depth of approximately 1 foot. From the plenum under the bed, heated air passes through the grain mass.

Grain loading and unloading from the dry floor are done manually.

CONCLUSION

India's agro-food sector is at a critical time facing multiple challenges and multiple opportunities. The political direction embarked on now and in the coming years is that India has created food security for its huge population of 4,444, improving the quality of life of millions of smallholders, and serious resources and climate. It plays a big role in how successful you are in overcoming the pressure of India. At the same time, it creates a modern, efficient, and resilient agro-food system that can generate sustainable productivity growth and contribute to the comprehensive growth and employment of the economy as a whole.

APPENDIX

Questionnaire for Farmers

Basic information like Name, Age, Education qualification

1. Do you get seeds and fertilizers on time?
2. What factors affect your yield?
3. What Fertilizers, pesticides, and herbicides do you use?
4. What kind of pest control measures do you use?
5. What variety of crops do you grow?
6. What type of irrigation or canal do you use?
7. Do you use a grain dryer?
8. If not grain dryer, what are the other tools or techniques used to dry grains?
9. Are that tool or technique works as efficient as a grain dryer?
10. If u get to use the dryer will u store your crop and dry them and sell or do you prefer to sell without drying for immediate cash
11. How do you market your crops?
12. Where do you sell your crop?
13. What is the size of your farm?
14. How many people work on your farm?
15. Are you aware of Government plans and facilities?
16. How do you decide what to grow from year to year?
17. What is the biggest expense on the farming cycle?
18. Where do you sell your crops? How is the price determined?
19. Have you introduced new crops in the last five years?
20. Do most of the farmers in this area own their land or do they rent it?
21. What variety of paddy do you grow?
22. Do you have any debts?
23. From where do you get financial support?

Questionnaire for custom hirers

1. As a custom hire, what will you do?
2. Are you aware of the Drier machine?
3. What do you know about the drier machine?
4. How much will it cost you?
5. Do you get any financial support from the government?
6. Are your works in a farming field or professional custom hires?
7. Can you explain how the Paddy Drier works?
8. Will it work on gas or diesel? which one do you prefer?
9. How often we should maintain the machine?
10. How much will u charge per bag of Paddy to dry?

DATA SOURCE

PRIMARY:

- Executive Engineer (AE)
- Farmer
- Custom hirers
- Agripreneur

SECONDARY:

- Journal
- Article
- Research.net
- Google Scholar

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