
**CHALLENGES & OPPORTUNITIES IN AGRICULTURAL ENTREPRENEURSHIP WITH REFERENCE
TO THANJAVUR DISTRICT**

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ABSTRACT

The study explores the challenges faced by entrepreneurs involved in agriculture and farming. It also aims to explain the booming opportunities available for them after undergoing a field study in the respective villages. The research has been initiated in the backdrop of agricultural crisis in Thanjavur District, Tamil Nadu, India.

The research methodology is based on exploratory study. The primary data is acquired by field visit and interviewing farmers from Kohoor, Sakottai, Thippirajapuram and Orathanadu villages of Thanjavur District, while the secondary data has been collected from various articles, newspapers, journals and magazines. In this research, analytical tools such as Percentile Analysis, Fish Bone Diagram and SCOPE Analysis are used to identify the various obstacles involved in agricultural entrepreneurship thereby solutions to overcome those obstacles are clearly determined.

A total of 120 respondents are taken as sample size from Thanjavur District, Tamil Nadu, India. Farmers comprising of landlords, small owners and tenant reapers are considered in this research. This survey is articulated through primary data which has been collected by means of field visits and interview methodology.

Objectives of the study are to establish the emergency of necessary infrastructure for agriculture, to identify the difficulties faced by farmers due to scarcity of resources, to identify the reasons for exploitation of resources, to analyze the importance in conservation of resources, to develop strategies for generating farm incomes on regular basis, to suggest strategies for the effective cultivation of crops, to suggest suitable measures for the sustainability of agricultural business in Thanjavur District, Tamil Nadu, India.

This research clearly depicts the available opportunities and possible strategies to synergize the outcomes from agricultural sector. Thus the study will help to create awareness among the farmers to reconstruct their farming methods through organic and traditional practices which end up in positive results.

Keywords: Crop Cultivation, Traditional Practices, Agriculture, Farmers Suicide, Water scarcity, Cauvery Delta Region, Chemical Fertilizers, Organic Farming, Thanjavur District, Agricultural Entrepreneurship, Psychology Counselling, Public Administration, Political Administration.

1. INTRODUCTION

Agriculture is considered as the backbone of Indian economy and about 58% of the rural population depends upon agriculture for their livelihood. In our country, agriculture contributes about 16% of the total GDP and about 10% of the total exports. Over 60% of India's land area is arable which makes it the 2nd largest country in crop cultivation.

India is the largest producer, consumer and exporter of spice & spice products and it is the largest producer of milk accounting for 18.5% of total production in the world. India is the second largest producer of fruits and sugar making it the sixth largest exporter of sugar. In spite of growing the maximum varieties of edible oils, it is the largest importer of the same.

Around 70% of Tamil Nadu population is engaged in agricultural activities as the state cultivates crops such as rice, cotton, sugarcane, ground nuts, coconut, tea and coffee as well as bananas, mangoes, pulses and other oil seeds crops. Agriculture is the largest consumer of water resources in the state accounting for 75% of the total water consumption in Tamil Nadu. **(Source: Indian Brand Equity Foundation, 2016)**



Source: www.thanjavur.tn.nic.in

Thanjavur District is considered as the “Rice Bowl of Tamil Nadu” and “Granary of South India”. The district was carved out from the composite district of Thanjavur, which had been branched into Thanjavur, Thiruvarur and Nagapattinam. Paddy is the principal crop grown in three seasons viz. Kuruvai, Samba and Thaladi. Pulses like blackgram & greengram and cash crops like cotton, turmeric & ginger are grown in rice fallows.

The district usually receives normal rainfall of around 535mm from the North East Monsoon which has been declined to 183mm in the recent days that shows 66% insufficiency of required rainfall. Shortage of water resources being the major reason, farmers are facing various problems significantly by financial modes which forces them to commit suicide being it the only option for them.

In adverse to current scenario, it has been identified that the farmers of ancient Thanjavur District have gained more profits through the agricultural sector by following traditional practices comprising of organic fertilizers, manual reaping techniques which may consume time and money but provided a positive environment for cultivation. In spite of giving high yields, chemical fertilizers spoil the nutrition of soil as well as increase the cost of crop cultivation.

This study describes the challenges and opportunities available for future generation who have curiosity towards agriculture and farming related business in Thanjavur District. The research aims at motivating the agricultural sector to carry out innovative practices in order to achieve greater revenues thereby eliminating farmers suicide and improve their living practices.

Our study elaborates the factors that influence the crop cultivation practices in Thanjavur district and suggests measures to be implemented to overcome the existing problems due to water scarcity in their farmlands.

2. LITERATURE REVIEW:

The background of the study is based on the challenges and opportunities prevailing for agricultural entrepreneurs in Thanjavur District. The factors influencing increasing suicide and death of reapers are to be studied. The question of whether the farmers can sustain their agriculture inspite of increasing crisis, is being raised in our research study. Agriculture is considered to be the backbone of Indian economy over the years. Continued research on difficulties faced by farmers due to water scarcity and lack of conservative practices for effective utilization of available resources has showed various social scholars concentration in the studies of agriculture growth and necessity for established infrastructure for crop cultivation. (ICAR and NAAS 2010) explains degradation or deterioration of land quality for agricultural production and environmental protection has been a matter of concern for land users. Land degradation assessment undertaken by the various Central and State agencies resulted in the generation of databases on the degraded and wastelands. (Gopal 2008) has observed that Indian Agriculture has to face tremendous competition because of the driven global trends; agriculture crop growth is also weakened due to the uncertain climatic conditions. (Badrinath 2016) states that farmers of Thanjavur district, both the farm owners as well as the labourers, are facing number of problems in continuing their present occupation due to lack of water supply in river Cauvery, which is the main source for agriculture and depletion of ground water, erratic climate, monsoon failure and continuous loss due to increasing debts in agricultural operations etc. (Kannaiyan, Jayaram Venkatesan 2013) states that most farmers are completely dependent on the Cauvery water for irrigation and the crop is again going through a stress as rivers and canals have started drying up after the stoppage of water release. (Behere, Prakash B. and Manik C. Bhise 2009) discusses that farming environments are characterized by a broad and changeable range of physical, biological and chemical hazards that are similar across all cultures. Thus, it is important to view the issue of farmer's suicide from a global perspective. Suicides by farmers are an important aspect of rural welfare and rural immiseration that goes beyond conventional consumption-based poverty (Hebous, Sarah and Stefan Klonner 2014). It has been argued that if agricultural chemical input use increases, it becomes harmful to animal and human wealth (Frank Rathnakumar & Breshiney 2014). Integrated farming system approach is not only a reliable way of obtaining fairly high productivity with considerable scope for resource recycling, but also concept of ecological soundness leading to sustainable agriculture (Manjutha SB, Shivmurthy 2014). In spite of discouraging circumstances the farmers in Cauvery delta are fighting to cultivate their crops, most of them have skipped the process of raising a nursery and have directly sown seeds in the fields so the crop can be cut in time (Sruthisgar Yamunan 2016). The purpose of this research emphasizes on the emergency in developing strategies for improving the livelihood of farmers belonging to Thanjavur District, Tamil Nadu, India.

3. METHODOLOGY

The research methodology is based on exploratory study. The primary data is acquired by field visit and interviewing farmers from Kohoor, Sakottai, Thippirajapuram and Orathanadu villages of Thanjavur District, while the secondary data has been collected from various articles, newspapers, journals and magazines. In this research, analytical tools such as Percentile Analysis, Fish Bone Diagram and SCOPE Analysis are used to identify the various obstacles involved in agricultural

entrepreneurship thereby solutions to overcome those obstacles are clearly determined. The various respondents involved are landlords, small land owned farmers and tenants who do agriculture for their livelihood.

This research clearly depicts the available opportunities and possible strategies to synergize the outcomes from agricultural sector. Thus the study will help to create awareness among the farmers to reconstruct their farming methods through organic and traditional practices which end up in positive results.

Objectives of the study:

1. To establish the emergency of necessary infrastructure for agriculture.
2. To identify the difficulties faced by farmers due to scarcity of resources.
3. To identify the reasons for exploitation of resources.
4. To analyze the importance in conservation of resources.
5. To develop strategies for generating farm incomes on regular basis.
6. To suggest strategies for the effective cultivation of crops.
7. To suggest suitable measures for the sustainability of agricultural business in Thanjavur District.

Limitations of the study:

The research is developed based on understanding the farmer's situations pertaining to the above mentioned villages considering it to be the similar situation of neighbourhood villages & its farmers. Some of the limitations of the study are lack of co operation, hesitation to explore their problems, subjectivity, confidentiality and personal opinions. The study is based upon the current status and available information.

4. ANALYSIS

Table 4.1: Crop Seasons: Thanjavur District

Seasons	Period (Months)
Kuruvai season	June - September
Thaladi season	September - March
Samba season	August - January

Source: Primary Data

Table 4.2: Crop Cultivation – Percentage Analysis

Crops	Percentage
Paddy	55%
Cotton	31%
Sugarcane	7%
Oil Seeds	3.5%
Grams	2.8%
Others	0.7%

Source: Primary Data

Table 4.3: River Basins – Watersheds for Agriculture

River Basins	Regions
Grand Anaicut Canal	Thanjavur, Orathanadu, Pattukkottai & Peravurani
Vennar	Thanjavur & Papanasam
Cauvery	Thiruvaiyaru, Papanasam, Kumbakonam & Thiruvaidaimarudhur

Source: Shodhganga 2009

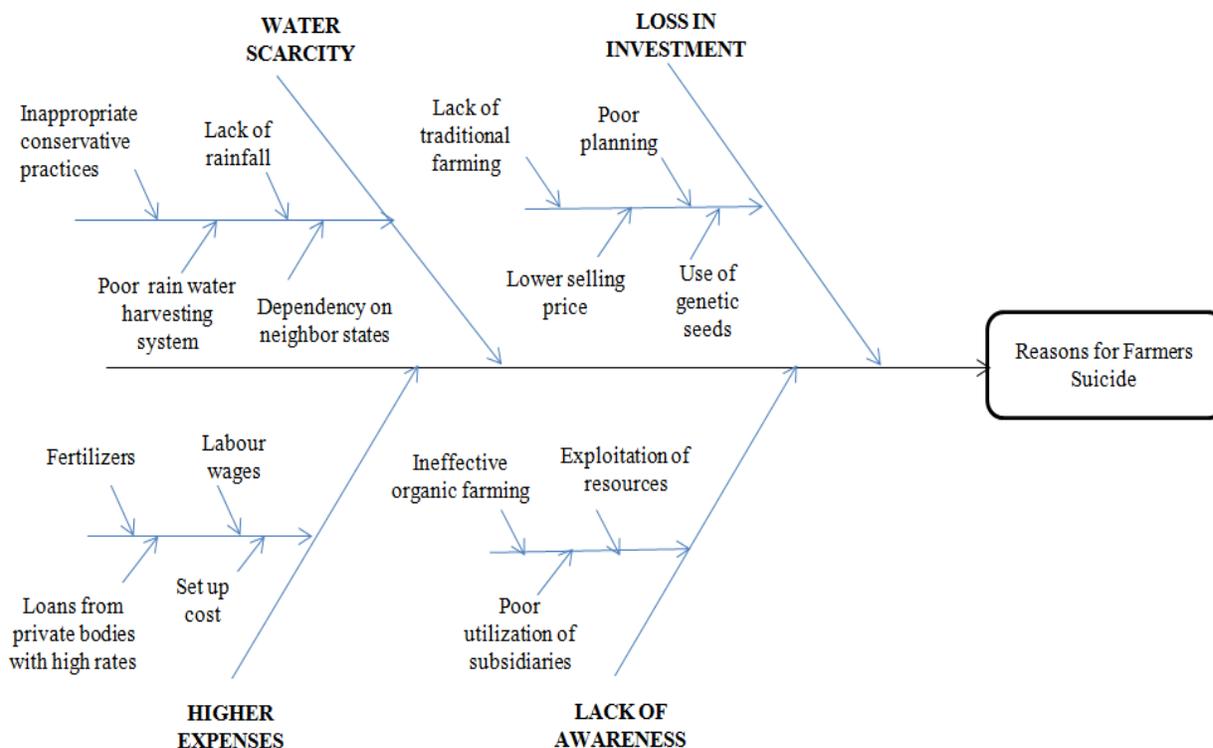
Table 4.4: Season wise Rainfall in Thanjavur District (in mm)

Season	Month	Normal Rainfall
South West Monsoon	June	36.7
	July	70.9
	August	115.8
	September	115.8
	TOTAL	342.0 (32.48)
North East Monsoon	October	190.5
	November	208.7
	December	146.5
	TOTAL	545.7 (51.8)
Winter Season	January	32.8
	February	17.9
	TOTAL	50.7 (4.82)
Summer Season	March	21.9
	April	36.1
	May	56.6
	TOTAL	114.6 (10.88)
TOTAL (Annual)		1053.00 (100)

Source: Season and Crop Report: 2005-06, DES, Chennai

5. INTERPRETATIONS

Figure 5.1: Fish Bone Diagram Analysis on Farmers Suicide – Thanjavur District



5.2 SCOPE Analyses – Agricultural Entrepreneurship in Thanjavur District:

5.2.1 SITUATION

- Lack of rainfall during the North West Monsoon has affected the harvesting pattern of reapers during the season.
- Crops being dried due to shortage of water affects the farmers to gain their expected revenue through crop cultivation.
- Mono crop of rice in the delta region coupled with unfavourable weather conditions in a year lead to heavy incidence of pests/diseases in crops.
- Insufficient secondary water resources due to poor water conservation practices have been a suppressing factor for the cultivation of crops.
- Increased investments in fertilizers forced the framers to find funds through private modes which comprises of huge interest rates to be paid.
- Many farmers are forced to suicide due to the huge loss occurred in cultivated lands.

5.2.2 CORE COMPETENCIES

- Rice has been the prime source food in Tamil Nadu people which accounts for paddy cultivation as a mandatory factor.
- The geological formation of the Thanjavur District is made up of cretaceous, tertiary and alluvial deposits.
- Thanjavur District is considered to be the major source of rice cultivation in Tamil Nadu.
- Organic farming implemented in this district has greater benefits which strengthens the immune system of human beings.

5.2.3 OBSTACLES

- Migration of people towards other businesses from agriculture, as a result of increased loss over the years.
- Farmers usually are not practiced to dry the seeds to the prescribed moisture level under prescribed condition.
- There is an existence of long term river disputes between states which affects the irrigation of crops during different seasons.
- Irrigation facilities are inadequate and there is no effective management system for storing water resources required for cultivation.
- Increasing scarcity of groundwater is a major threat to expansion of irrigated agricultural production.
- Farmers depend more on technology advances which increases their investments for crop cultivation practices.

5.2.4 PROSPECTIVES

- Increased usage of fertilizers may harm the soil fertility, which results in poor health of cultivated crops in respective farms.
- Entrepreneurs in agriculture need to identify possible organic practices which was followed traditionally, otherwise artificial seeds tend to reduce expected outputs.
- Lack of water availability for irrigation purposes. leads to destruction of tillage.
- If farmers fail to develop horticulture along with agriculture, the future generation should rely on artificial dairy products.
- Reapers should be aware of the subsidiaries and facilities available for them from Government and other sponsoring agencies.
- Farmers must learn to utilize the resources effectively to gain maximum outcomes and profits from their lands.

5.2.5 EXPECTATIONS

- Special training programs need to be executed to improve the skills of farmers.

- Organic farming is to attain importance to facilitate healthy crop cultivation and securing soil fertility in Thanjavur District.
- Both Central and State Government must come forward in identifying the crisis faced by farmers which is considered important for economic growth of the country.
- Sufficient funds must be allocated to farmers during the case of droughts, floods, water scarcity etc.
- The farmers need to improve their knowledge about the schemes and benefits provided to them during different crisis situations.
- When reapers develop effective water conservation methods appropriately there is no need for seeking help for water resources.

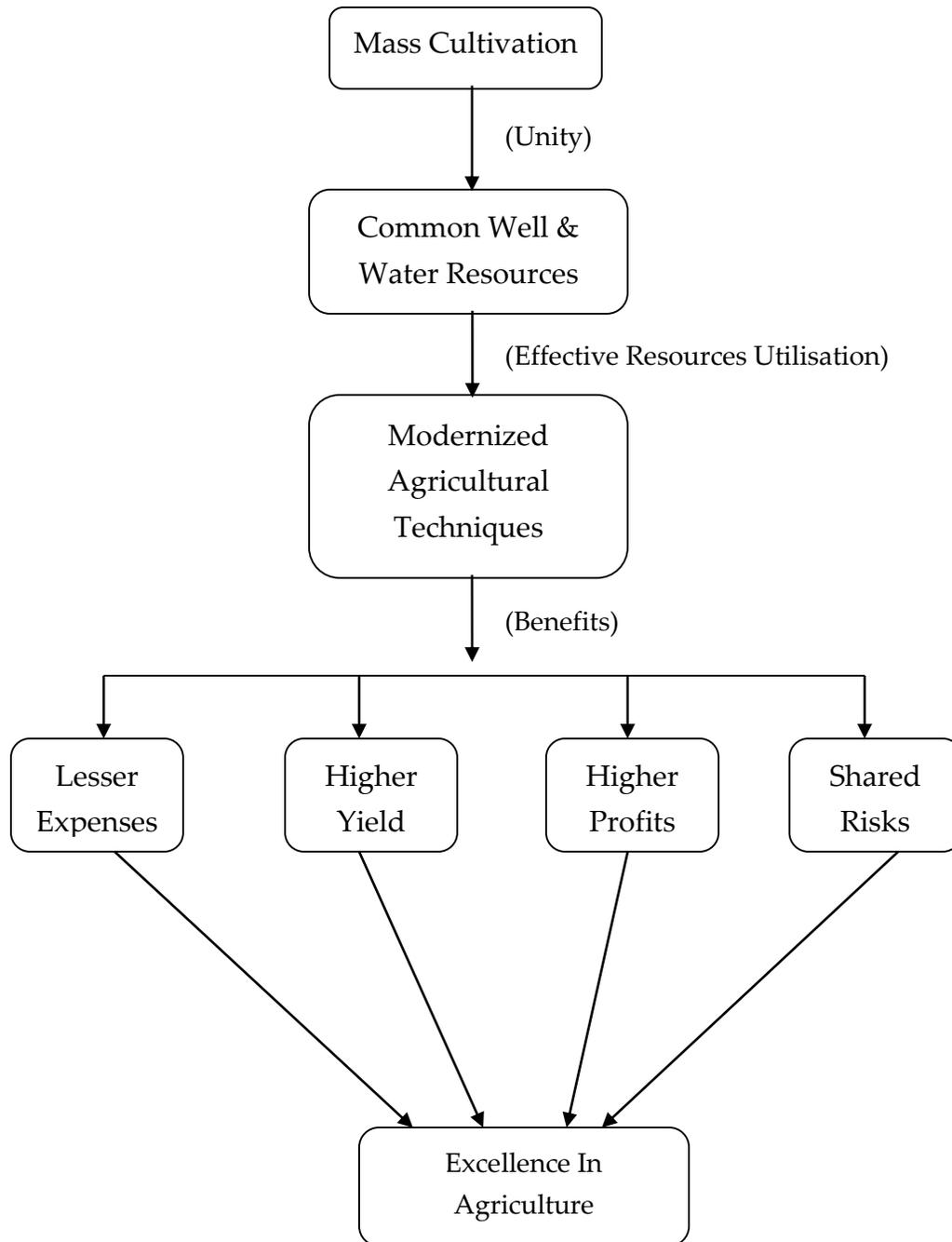
6. FINDINGS & OBSERVATIONS

- The agriculture business in Thanjavur district is greatly influenced by artificial practices like using fertilizers, tractors for ploughing etc.
- Many farmers shifted their occupation from agriculture to other business sectors due to decreased profit and constraints in recent years.
- The current generation farmers failed to adopt traditional cultivation methods in spite of established strategies for standardized and consistent development.
- The farmers are not cultivating crops depending upon seasonal circumstances; instead perform activities by imitating the neighbour to yield high profits.
- Technology based agronomics such as corporate's artificial chemicals have been implemented by farmers in order to gain spontaneous profit oriented results within limited time periods. Due to this, the quality of crop cultivation has been minimized.
- As the people involved in reaping don't conserve their produced seeds for future requirements, they tend to depend upon genetic seeds provided by corporate companies.
- Though both Government and banks help the reapers by means of loans and subsidiaries, people seek help from brokers and agents who provide money with very high interest rates.
- It is found that the farmers are finding it difficult to access the websites assigned exclusively for agricultural benefits.
- When the farmers become incapable in repaying the amount borrowed from agents, they tend to suicide.
- After demonetization effect, the farmers are unable to hire employees since the circulation of money is found relatively low.
- No new dams were constructed since independence, and the existing dams are not maintained appropriately to fulfill the needs of farmers.
- Although there are many water resources such as ponds, lakes, rivers and dams, the crofters rely on rainfall and support from other neighbour states for irrigation.
- It is found that, many of the farms do not have ponds in built or nearby. If it has been properly established, this enables them to utilize the ground water effectively.
- There are no conservative measures for saving rain water for their future tillage.

7. SUGGESTIONS:

- Multiple crop cultivation practices should be adopted instead of repetitions of same variants such as paddy and cotton respectively.
- An exclusive zone for agriculture should be established similar to that of industrial zones, which enables to entertain only farming related activities.
- Farmers must have increased knowledge about crop rotation practices and ability to maximize the opportunities available in the cultivation fields.
- Agricultural experts must identify natural resources and manures to execute it in lands instead of artificial chemicals and fertilizers to develop soil fertility.
- Farmers should be trained to produce crops by means of organic farming, which can reduce the cost involved in fertilizers and can also enrich the quality of crops.
- Awareness programs regarding conservation of water resources must be provided to reapers for better utilization of water when there is scarcity existence.
- Emerging youth generation must be encouraged in active participation of agricultural entrepreneurship in Tamil Nadu. This can provide intense job opportunities for existing graduates and can improve their skills effectively.
- The government should set up a process immediately to identify all such cases of suicide in the state due to agriculture as well as other deaths related to agriculture.
- The Government must provide sufficient schemes for crop cultivation and subsidiaries for buying seeds, bank assistance for loans and insurance of crops.
- State government have to take required initiatives in improving the skills of the farmers and also facilitate alternative sources of income during crisis such as lack of rainfall, drought etc.
- Sufficient training and development programs for the reapers need to be established.
- Both Central and State government authorities need to plan well in prior for critical situations which can provide water facility necessary for cultivation.
- The State Government websites existing for providing agricultural information have to improvise their bandwidth range in order to make it feasible to everyone.
- The reapers need sufficient support from the state government to develop measures for obtaining resources such as water, electricity by seeking other states co operations.
- It is considerably essential to communicate the weather forecast information to farmers in order to make precautionary measures to handle natural calamities such as floods, cyclones and other disasters.
- Multiple farmers by means of mutual understandings can combine small areas of farming land into an extended land so that cultivation can be performed as a whole with increased usage of available infrastructure.
- Technology and advanced equipments should be brought in and should be shared among the farmers to minimise the expenses involved.
- By forming societies for their need and requirements, the farmers can resolve their problems instead of suicide claims.
- Counselling centre need to be established in order to regulate reaper's attitude towards effective traditional agricultural practices and to avoid increased suicide attempts.

- Irrigation facilities have to be monitored appropriately to ensure that there is no shortage of water resources during the course of cultivation.
- Common wells management should be adopted which can support water requirements for the entire farming societies of Thanjavur district.
- Improved rain water harvesting methods should be implemented in order to avoid water discrepancies in the state during the cultivation periods.
- The following Model is a comprehensive model suggested through this research article:



8. CONCLUSION

We conclude our research study by stating that, the above mentioned issues such as water scarcity, increased suicides faced by farmers are to be identified clearly by both Central & State Government bodies to avoid critical circumstances arising in agriculture of Thanjavur District. They must also need to initiate suitable measures to overcome the barriers involved in crop cultivation. Farmers should also improve traditional practices similar to organic farming, rainwater harvesting systems etc., instead of depending corporates support and freebies from Government. Each and every citizen of India have to come forward to standardise agriculture as the backbone of Indian economy. The coming generation of Indian farmers needs to be both innovative and competitive in the global market. It is the task of government, policy-makers, educators, researchers, and extension workers to ensure they have the tools, technologies, and new farming systems that enable them to be so. The approach should be participatory, involving farmers, researchers, the market, and the political level. Training new generation agricultural scientists will take time, commitment, and resources from the government, universities, and the agricultural industries. Urgent measures are needed to attract bright students into agriculture.

A reorientation in the mindset of teachers and agricultural graduates can be brought about only by innovative changes in curricula and courses in Indian agricultural universities. It will accelerate development and adoption of improved agricultural practices and technologies to meet future constraints imposed by climate changes, population pressure, and increased food and feed demand supporting economic development in India.

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