



UPAJ AGRICULTURAL DIVERSIFICATION

Background

Agricultural diversification is the re-allocation of some of farm's productive resources, such as land, capital, farm equipment and labour force to number of farming activities and non-farming activities such as agri-tourism, agri-clinic etc. Factors leading to decisions to diversify are many, but include; reducing risk, responding to changing consumer demands or changing government policy and, more recently, as a consequence of climate change.

In a country like India, which has been one of the leaders in promoting diversification, the concept is applied both to individual farmers and to different regions, on account of different climatic conditions. The environment, socio-economic status, holding size and resource availability (water, land, and vegetation) in 132 Agro- ecological zones are different. The diversification not only conserves the resources but at the same time, enhances the productivity, profitability, sustainability, balanced food availability, adoption of improved technology, solving fodder, fuel and energy shortage, along with employment generation, regular income to the house-hold and above all promote the agri-based entrepreneurship.

A diversified portfolio of products ensures that farmers don't suffer complete ruin when the weather is unpredictable. It manages price risk because all products do not suffer low prices at the same time.

Need for Diversification

Indian agriculture is fraught with risk as 67% of the cultivated area is rainfed where in subsistence type of farming is being practiced. Late onset and early recession of monsoon along with erratic rainfall distribution leading to weather risks are the common features of the rainfed area. The technological advancements in watershed management not only provide the opportunity for diversification but also ensure sustainability by recycling of natural resources such as rain water and its multiple use including life saving irrigation in the catchment and command area.

The Indo-Gangetic plain, having adequate irrigation facilities, has rice- wheat as the predominant cropping system occupying about 60 per cent cultivated area. It is presently facing decline in water table, soil degradation due to excessive wet tillage, appearance of new biotypes of weeds/insect pests excessive use of pesticides environment pollution and multi nutrient deficiencies. Thus it invites immediate attention of farmers and planners for the adoption of agricultural diversification.

Diversification to commercial crops and other farm entrepreneurs becomes an essential strategy that can increase income in agriculture, minimize risk due to crop failures and above all increase in foreign exchange earnings.

Present Scenario

India is facing following problems:

- *Regional imbalance in production and productivity*
- *Soil degradation, salinity and alkalinity*



- *Decline in water table*
- *Untapped rainwater resources in dry land areas*
- *Rising cost of inputs hence, cost of production*
- *Reduction in factor productivity*

Thus Agriculture diversification is the need of the hour and best tool for conserving natural resources, rational use of the resources, recycling of the resources by promoting the cultivation of crops in combination with the live stock, vegetables, fruits, poultry, goat farming, rabbit rearing and piggery.

Task

Task – 1

Problem statement: *Participants are invited to present innovative ideas to develop suitable technologies for crop diversification in rice-wheat production system in Indo-Genetic Plains.*

Example: Development of appropriate cropping system (s) to increase farmer's income and check the decline in water table, degradation of soil health, decrease in productivity and environment pollution.

Task – 2

Problem statement: *Participants are required to come up with innovations for agricultural diversification for increasing the efficiency of land, water, labor and capital etc., under small and marginal farmers conditions in irrigated or rainfed areas.*

Example: Development of suitable farming system for the efficient use of resources enhancing the income of small and marginal farmers, create employment opportunities and ensure balances food, fuel, fodder and energy security.

Event Rules

REGISTRATION

- *The participating teams are required to register at **upaj.cufest@cumail.in***
- *In response, the participants will be given Team UID (Unique Identification Number) and which should be invariably mentioned in all the future correspondence.*
- *Having registered, the teams are expected to generate an Abstract of the Project Report which should include Objectives, Beneficiaries and Significance of the Project.*
- *They should submit the Abstract at **upaj.cufest@cumail.in***

Final Project Report Format and Guidelines:

1. *Title of the Project*
2. *Abstract including objectives, beneficiaries and significance of the project*
3. *Background*
4. *Problem statement:*
Participants are expected to briefly define the problem giving due background.
5. *Research*
 - i. *Practices in vogue (if any)*



- ii. *Recommended steps to overcome/solve the problem*
- iii. *Secondary approaches/solutions if any*
- iv. *Justification: How the solution suggested is unique, effective and more efficient than the existing one?*

Technical Report

Description of concepts, theories or approach involved in the proposed solution.

- i. *Technical details of the proposed solution.*
- ii. *Elaborated technical specifications and diagrams.*
- iii. *Flowchart of the proposed solution*
- iv. *Performance evaluation*
- v. *Trials and justification of workability of proposed solutions.*
- vi. *Audio/Video/Photographs to substantiate the proposed solution.*

Outcomes:

Additional inputs/information (if any)

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References should be given at the end as per Harvard Reference Procedure.

SUBMISSION OF FINAL PROJECT REPORT

- *The final project report should be mailed to **upaj.cufest@cumail.in** with the subject – **UPAJ: Project Report Title: Team UID***
 - *(For example UPAJ: Project Report Title: UCUF1234)*
- *Do not forget to mention your Team UID in the subject while sending it. Teams must follow the following details for the submission.*
- *Along with this, participants will have to make a Physical Model/Prototype (if any) for the solution, which will be reviewed at this stage.*
- *The participants will be required to submit a project report and a video to demonstrate the progress made on their working model/prototype if any.*
- *A team of judges will evaluate all the submitted documents and videos etc. the suggestions of the judges evaluating the proposal if any will be conveyed to the participants.*

PROTOTYPE AND FINAL PRESENTATION

In the light of suggestion, if any the participants are required to improve upon the prototype/ working model of their project. They will also have to make a presentation covering the technical and financial aspects of their product in a detailed manner. The teams will have to bring their prototypes to be judged and showcased at CU Techfest 2016-17 working prototype should be as close as possible to the product that the team intends to present to the end user.

GENERAL INSTRUCTIONS

1. *The competition is open to all college students and research scholars free of cost.*
2. *Every team has to register online on our website for the competition. A registration number will be allocated to the team on registration which shall be used for future references.*
3. *A team can register at any point of time and can submit final abstract and video (as mentioned in the structure).*



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4. *The decision of the judges shall be treated as final and binding on all. CU Techfest 2016-17 has all the rights to verify the identity and accuracy of the details provided by the participants.*
5. *No responsibility will be held by CU Techfest 2016-17, Chandigarh University, Gharuan for any late, lost or misdirected entries or any such events.*
6. *The idea presented by the teams should be original (not protected by means of patent/copyright/technical publication by anyone).*
7. *Note that at any point of time the latest information will be that which is on the website. However, registered participants will be informed through mail about any changes on the website.*
8. *Transportation from Chandigarh Railway Station/Bus Stand/Airport (to and fro) to Chandigarh University, Gharuan will be provided by university.*
9. *Accommodation in CU hostels for stay will be provided if the participants inform the same to the organizing committee 7 days in advance from the date of the Event.*

JUDGING CRITERIA

Following are the broad guidelines for judging:

1. *Innovation and creativity in the method used or product developed will be given high weightage.*
2. *Implementability of the product to be assessed on the following parameters:*
 - i. *Technical feasibility*
 - ii. *Cost of the product*
 - iii. *Usability*
 - iv. *Acceptability*
 - v. *Market Value and acceptance*
 - vi. *Reliability/ durability of the product or method developed*

In case of any dispute, decision of the organizers or Judges will be final and binding on all.

CERTIFICATE POLICY

Only those teams which give final presentation about their work during Techfest 2016-17 would be awarded a Certificate of Participation. The top entries from this event would be provided with Certificate of Excellence.

TEAM SPECIFICATIONS

The participating entries must be in a team of a maximum of 4 [four] people. If the participating team feels that their idea requires more participants in their team, they can forward their request, with suitable reasons, to upaj.cufest@cumail.com with the subject "Upaj: Agricultural Diversification – Challenges and Solutions - Team number increase".

FACULTY COORDINATORS: -

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STUDENT COORDINATORS: -



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