

An Indian-Australian research partnership

Project Title:	Design interventions in farm equipments for Indian small farmers	
Project Number	ID00686	
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Research Academy Clusters:

Highlight which of the Academy's CLUSTERS this project will address? (Please nominate <b>JUST one</b> . For more information, see <a href="http://www.iXXXXX.org">www.iXXXXX.org</a> )	
1	Material Science/Engineering (including Nano, Metallurgy)
2	Energy, Green Chem, Chemistry, Catalysis, Reaction Eng
3	Math, CFD, Modelling, Manufacturing
4	CSE, IT, Optimisation, Data, Sensors, Systems, Signal Processing, Control
5	Earth Sciences and Civil Engineering (Geo, Water, Climate)
6	Bio, Stem Cells, Bio Chem, Pharma, Food
7	Semi-Conductors, Optics, Photonics, Networks, Telecomm, Power Eng
8	HSS, <b>Design</b> , Management

## The research problem

*Define the problem*

Farm equipments are extremely useful for the farmers. These enhance the efficiency and contribute to a boost in crop production and overall yield. However, the small farmers struggle to maintain a balance between the investment towards these expensive equipments and their crop yield. This leads to either underutilization of these equipments or their application in multiple undesired areas to take out maximum utility out of them. Both the circumstances are undesirable. This dissertation aims towards understanding the changing dynamics of current needs and wants of the small farmers to design better solutions. The newer generation of these farm equipments would contribute more to the Agrarian economy through their improved efficiency and multi-utility application.

## Project aims

*Define the aims of the project*

To address above mentioned issues in agriculture this project proposes to study and design a low cost technology intervention to increase the efficiency and productivity of agriculture.

## Expected outcomes

*Highlight the expected outcomes of the project*

This research will lead to the design and development of low cost low capacity multi-purpose farm equipment.

Field testing of developed systems or machinery will help to validate its performance. This will be demonstrated through models/prototypes supported by experimental research analysis data .

## How will the project address the Goals of the above Themes?

*Describe how the project will address the goals of one or more of the 6 Themes listed above.*

These project goals will capture within the research the themes of (1) Engineering, (8) Design, and (3) Manufacturing in supporting role.

## Capabilities and Degrees Required

*List the ideal set of capabilities that a student should have for this project. Feel free to be as specific or as general as you like. These capabilities will be input into the online application form and students who opt for this project will be required to show that they can demonstrate these capabilities.*

A background in Industrial Design, preferably a Masters or high level Bachelor degree in accordance with the eligibility regulations. The candidate's portfolio should demonstrate adequate rigor and inclination towards problem identification and solution finding through research.

## Potential Collaborators

*Please visit the IITB website [www.iitb.ac.in](http://www.iitb.ac.in) OR Monash Website [www.monash.edu](http://www.monash.edu) to highlight some potential collaborators that would be best suited for the area of research you are intending to float.*

- 1) Department of Science and Technology
- 2) Council of Scientific and Industrial Research
- 3) Agricultural Machinery Industries such as John Deer, Mahindra etc.

Select up to (4) keywords from the Academy's approved keyword list (available at [www.iitbmonash.org](http://www.iitbmonash.org)) relating to this project to make it easier for the students to apply.