



Direct-seeding of rice on uneven fields

India is the largest producer of **rice** in the world. The crop is also the staple food of many people and provides food to almost half of the population. Cultivating rice requires high heat and humidity, and it is mainly grown in the low lying plains.

The basic objective of sowing operation is to put the seed and fertilizer in rows at desired **depth** and **spacing**, cover the seeds with soil and provide proper compaction over the seed. The recommended **row to row spacing**, seed rate, **seed to seed spacing** and depth of seed placement vary from crop to crop and for different agricultural and climatic conditions to achieve optimum yields and an efficient sowing machine should attempt to fulfil these requirements.

It has been observed that sowing the seeds at corners of squares of dimension **25x25 cm**, increases yield. This is the optimal plant-to-plant distance. This method increases the productivity and a [drum-seeder](#) (a really simple device) is used to achieve this. The issue still lies in the fact that, the drum seeder gives good results on **levelled land**. If the sowing area is **uneven**, the distance of 25cm is offset with an error and this gives less satisfactory results.

You need to design a similar device (or any other) to take into account the unevenness of the field and maintain the 25 cm distance.

A link to [System of Rice intensification](#)

Some keywords you could start with -

1. Drum seeder
2. System of rice intensification
3. Direct seed sowing of rice

Timeline

Idea Proposal (give a link to the Idea Proposal section)	January 10 th , 2016
Mentorship Kicks off! (give a link to the Mentorship section)	20 th January OR As soon as your idea is selected (whichever is earlier).
Submission of final report	7 th February, 2016
Presentation in Apogee, technical festival of BITS Pilani (give a link to the Presentation section)	February 25 th – 28 th , 2016
Implementation Phase (give a link to the Implementation section)	Based on the preferences of the organization (if providing an internship) and student