

AGRO-AIDS FOR ONE ACRE PADDY FARMING



Project Partners

Project Guides

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Why Paddy ?

Thrice a year

May to November

P2 timeline

[One more point]

Feeds 50% world population

83 million hectares (?)

Cultivated across 13 states

Mostly east and south

Area of perpetual research

Building

insights

NatuEco farming
Lakshmanan Iyer
Dr. Kesari

IITB MIT TATA centre
conference 2014
Chintan Vaishnav
Narendra G Shah
Abhay Gandhe

Bharatiya Agro Industries
Foundation [BAIF]
Jawhar, Thane

Subsistence farming
Pre Industrialization
Size of the field
Collaboration
Sharing equipment

Ergonomic evaluation of
Rice cultivation activities
& Implementation of
agricultural tools
Amar Kundu – PhD APS

Jugaad
Meenvandi
[and some other bullshit]

Jawhar Thane



Soil texture
Farm area / Terrain
Cluster farms
Dengachimet village
Accessibility / Bunds

Land



Pellet Driver
Acceptance of new Technology
Threshing drum – motorized
Lives close to field
Co-operative farming
Collaboration with NGOs

Farmer

Crops

Traditional tools
Paddy – Storage space
Jasmine, Cashew
De-weeding by ploughing
Manual Cono weeder





“

Agar sab cheez karne ke liye ek machine hota tho

”

sahi hota. Kaam bhi aasan padega

Thukkaram [Paddy farmer]

Paddy

machinery



Machinery for small farms ?

A machine easy to be carried around ?

Existent semi – automated machinery for large farms that require ample space



Market

study



Power
source



Product
language

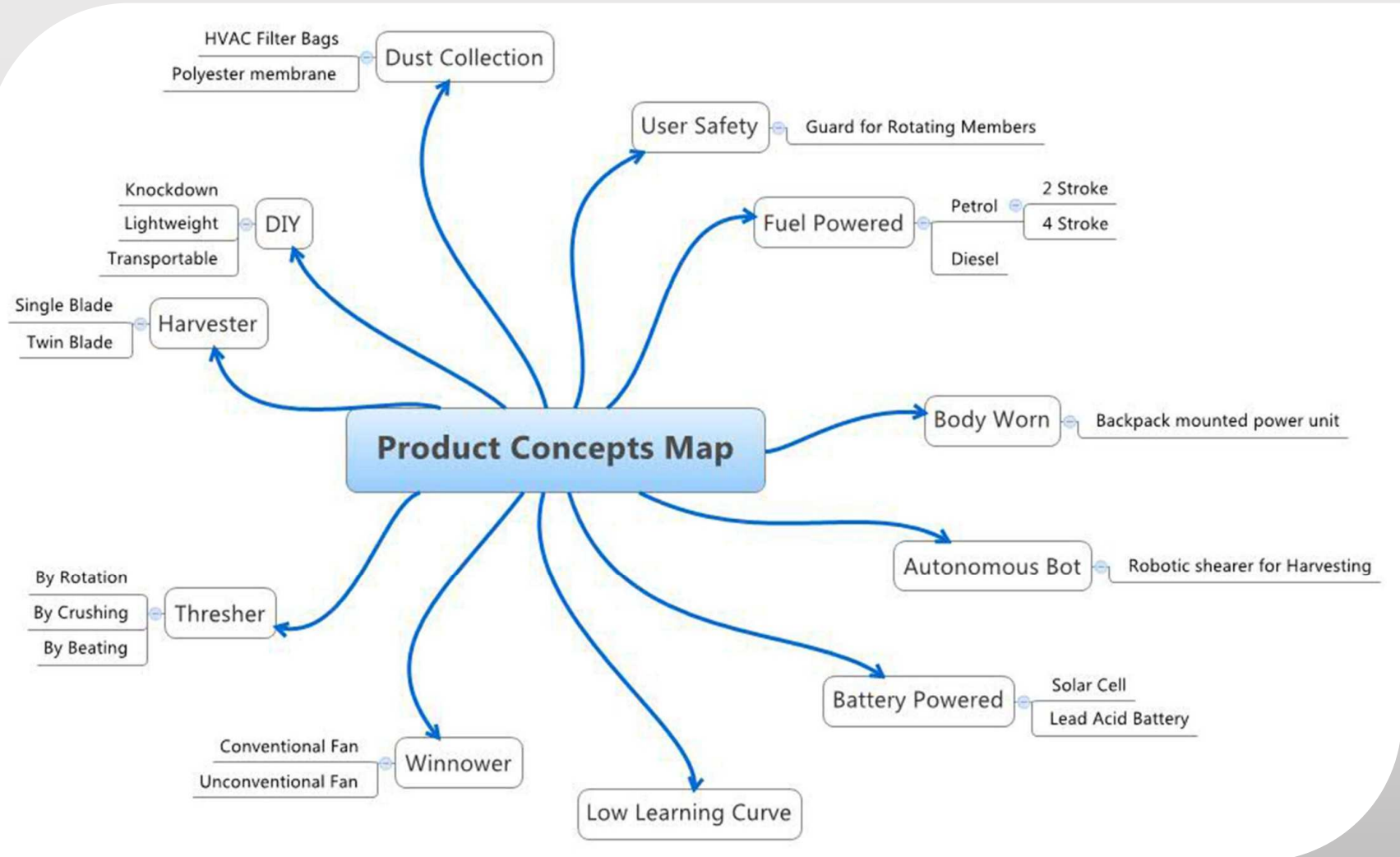


50 cc
Body worn
Highly manoeuvrable
Net weight 4 kg
Metal blade cutting end
0.6L capacity
0.4 Acre in 20 min

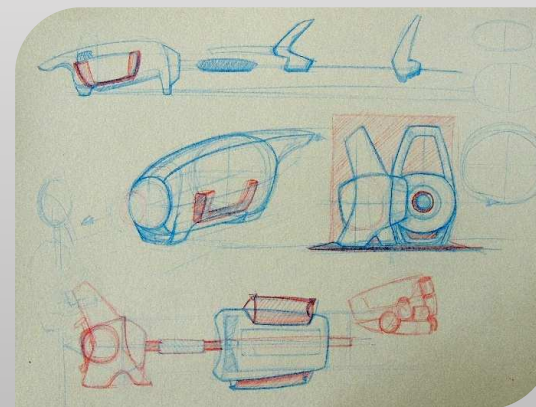
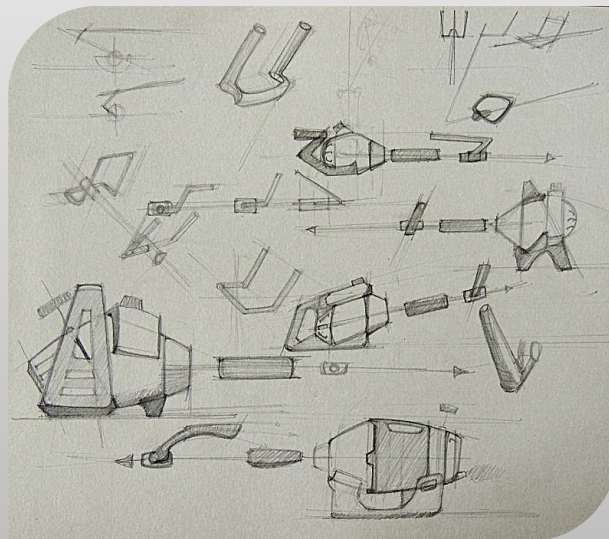
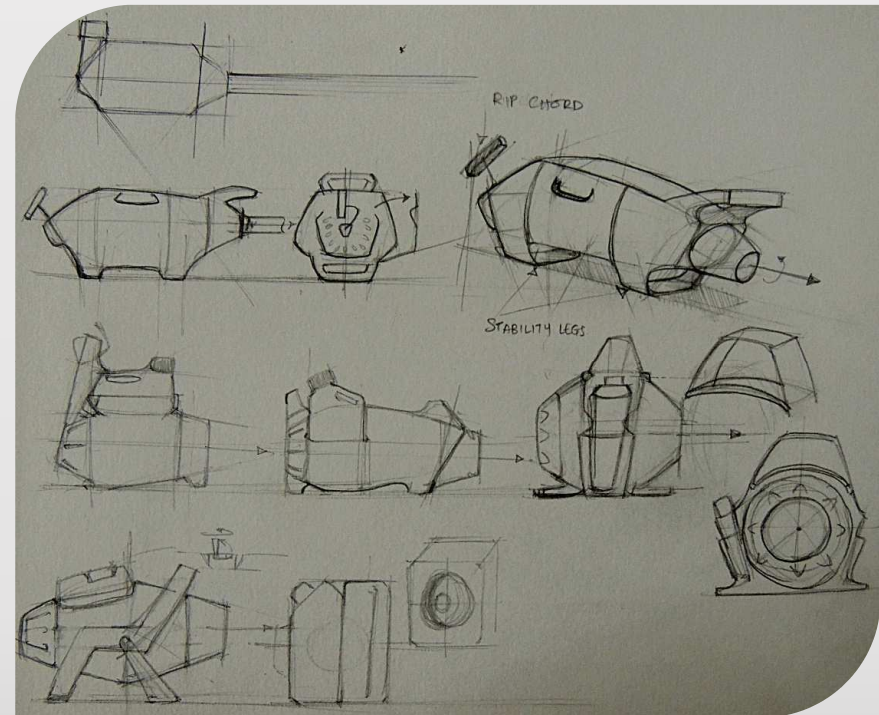
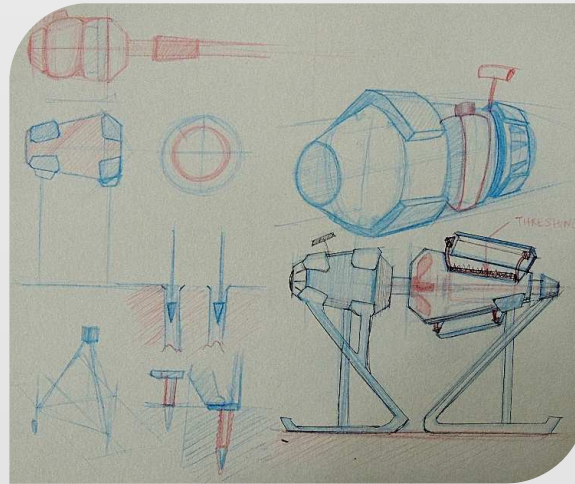
Paddy
Harvester

Idea

clusters

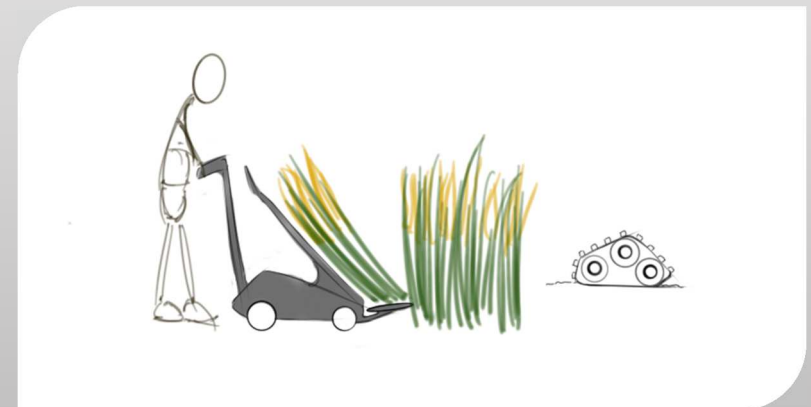
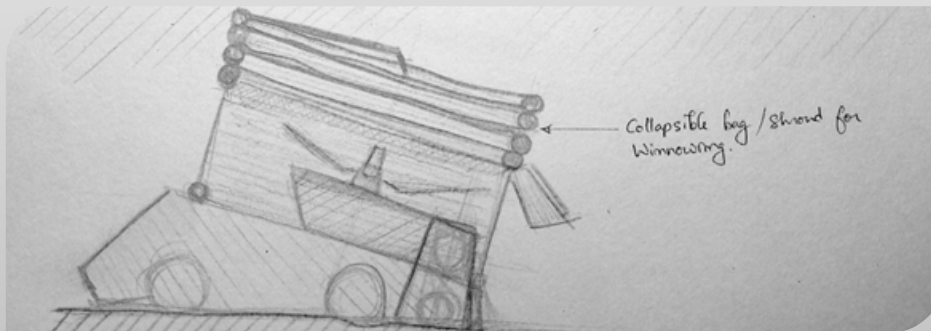
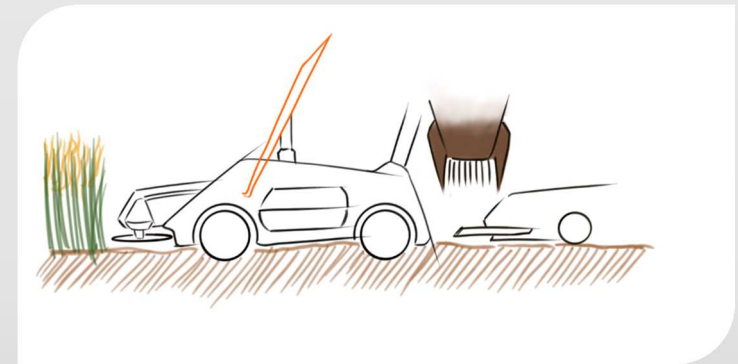
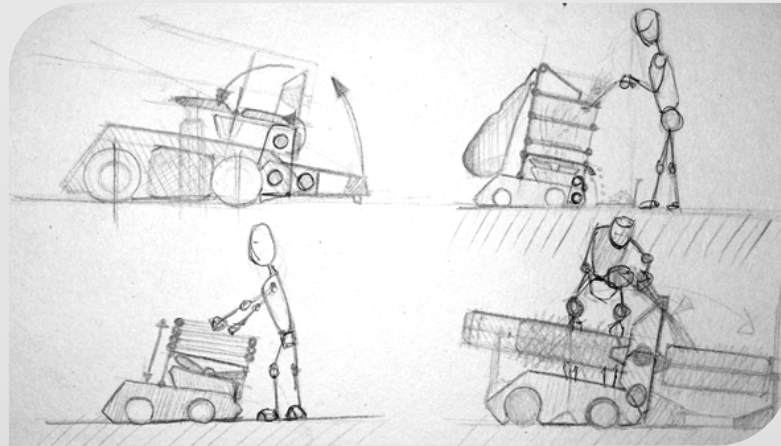


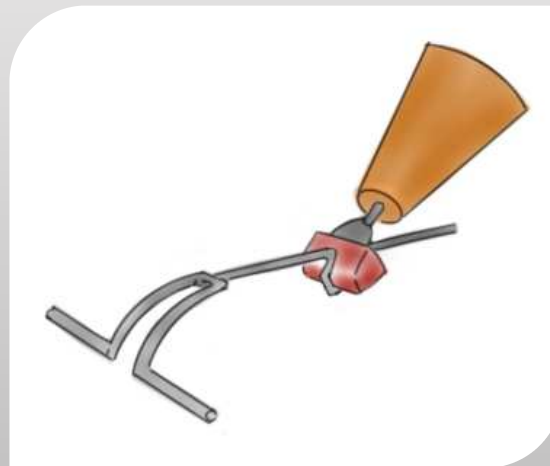
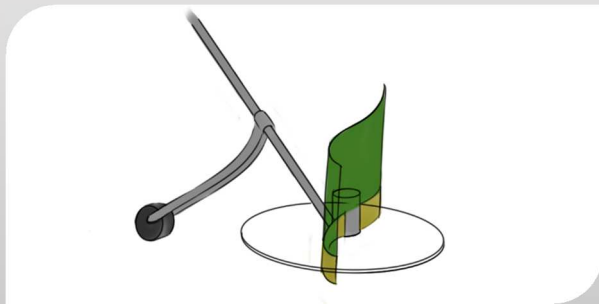
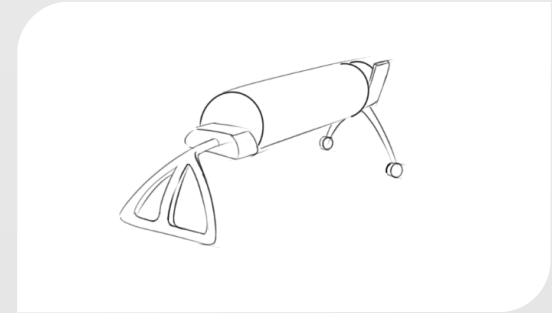
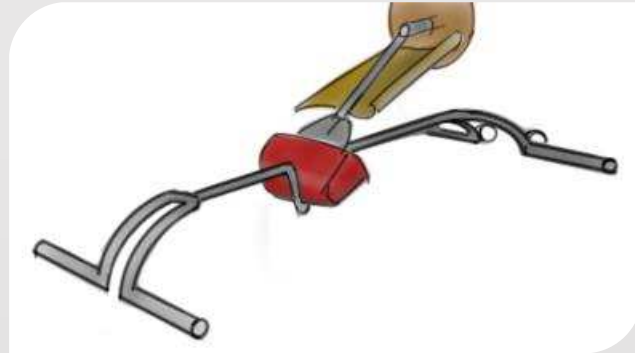
Power
units

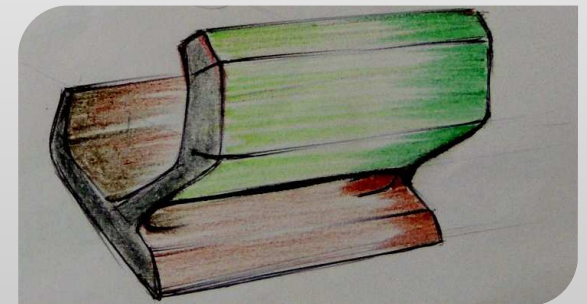
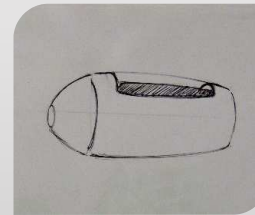
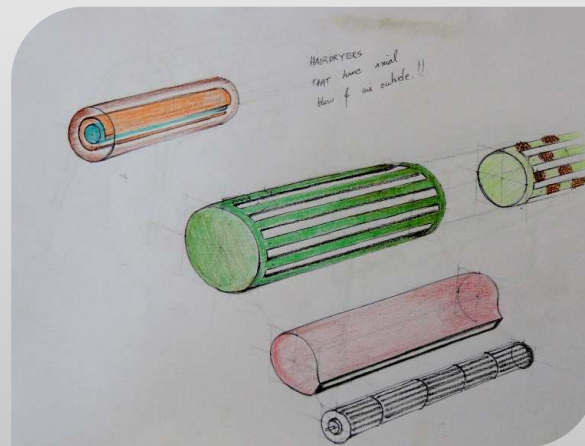
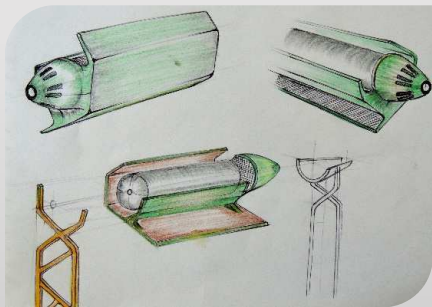
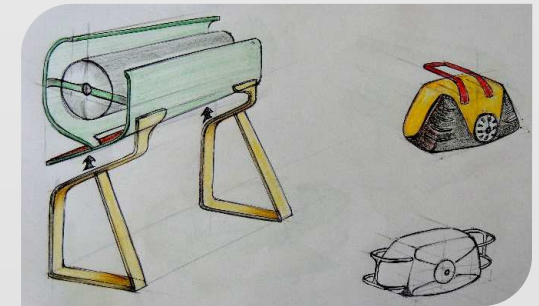
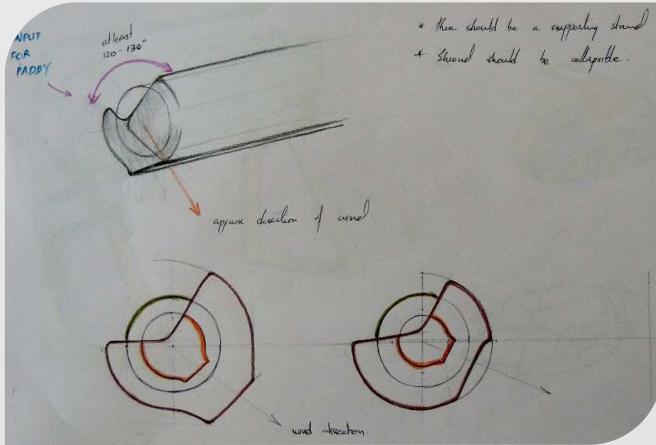


System

layout







Benchmarking

product

INR 4500

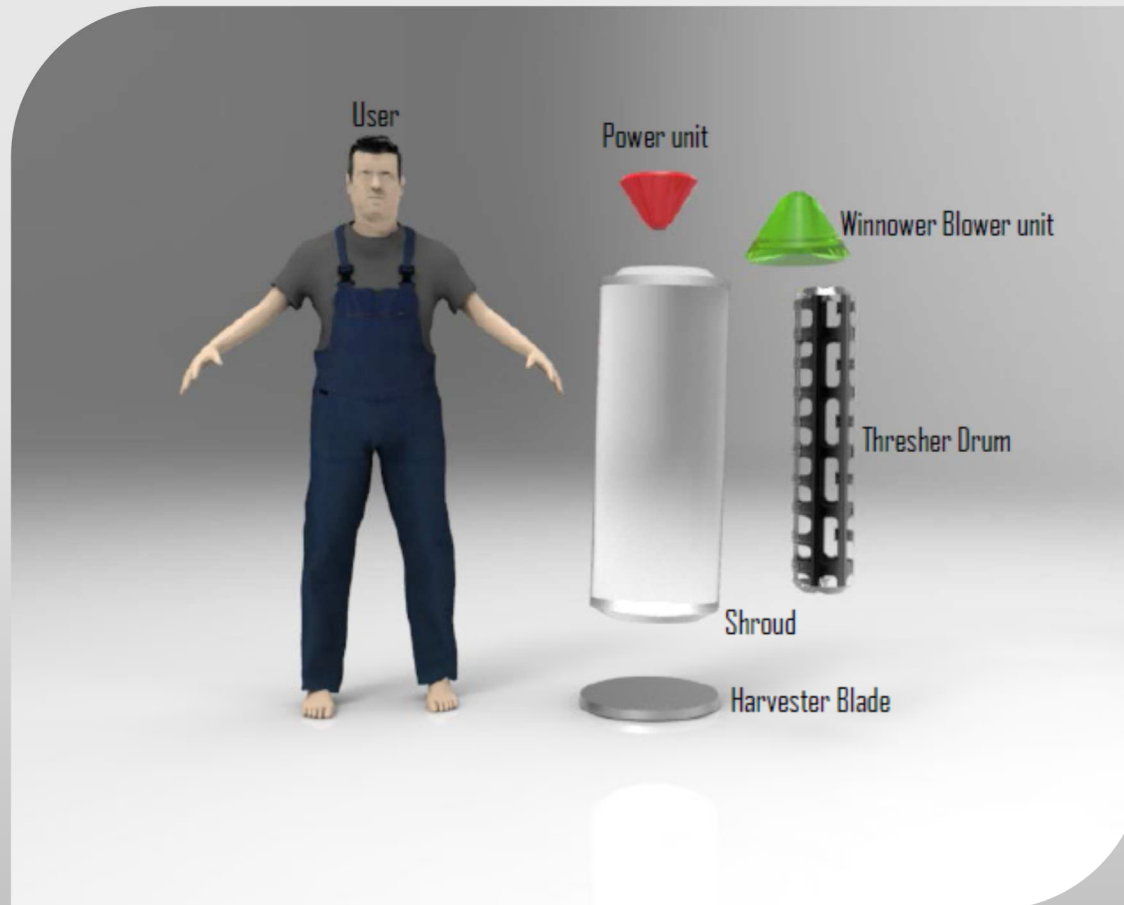
Component assembly

Performance



Human

factors



System into units
Product interaction

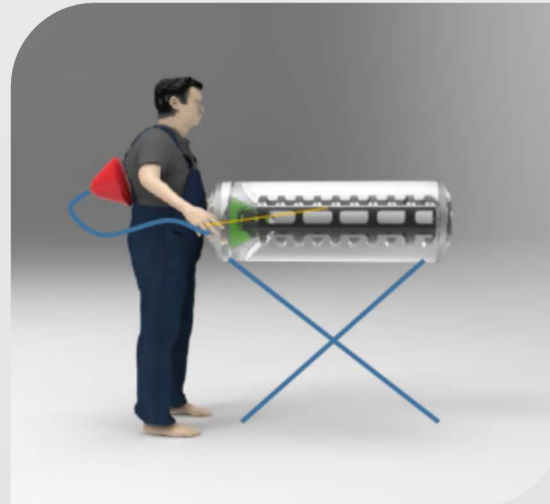
Pros:
Manoeuvrability,
Even Weight distribution

Cons:
User Fatigue - vibration and heat,
Wear and tear of shaft



Pros:
Manoeuvrability,
Even Weight distribution,
Easy loading of paddy stalk

Cons:
Unstable Structure of Winnowing and Threshing
unit



Pros:
Rel. stable structure,
Rel. efficient means of obtaining grains

Cons:
Manoeuvrability, Intimidating product
appearance



Pros:
Manoeuvrability,
Even Weight distribution,
Easy loading of paddy stalk

Cons:
Vibration along the shaft,
Maintenance of the power unit





Rig testing



Threshing drum
Threshing profile
Axial fan blade
Kill switch
Imbalance