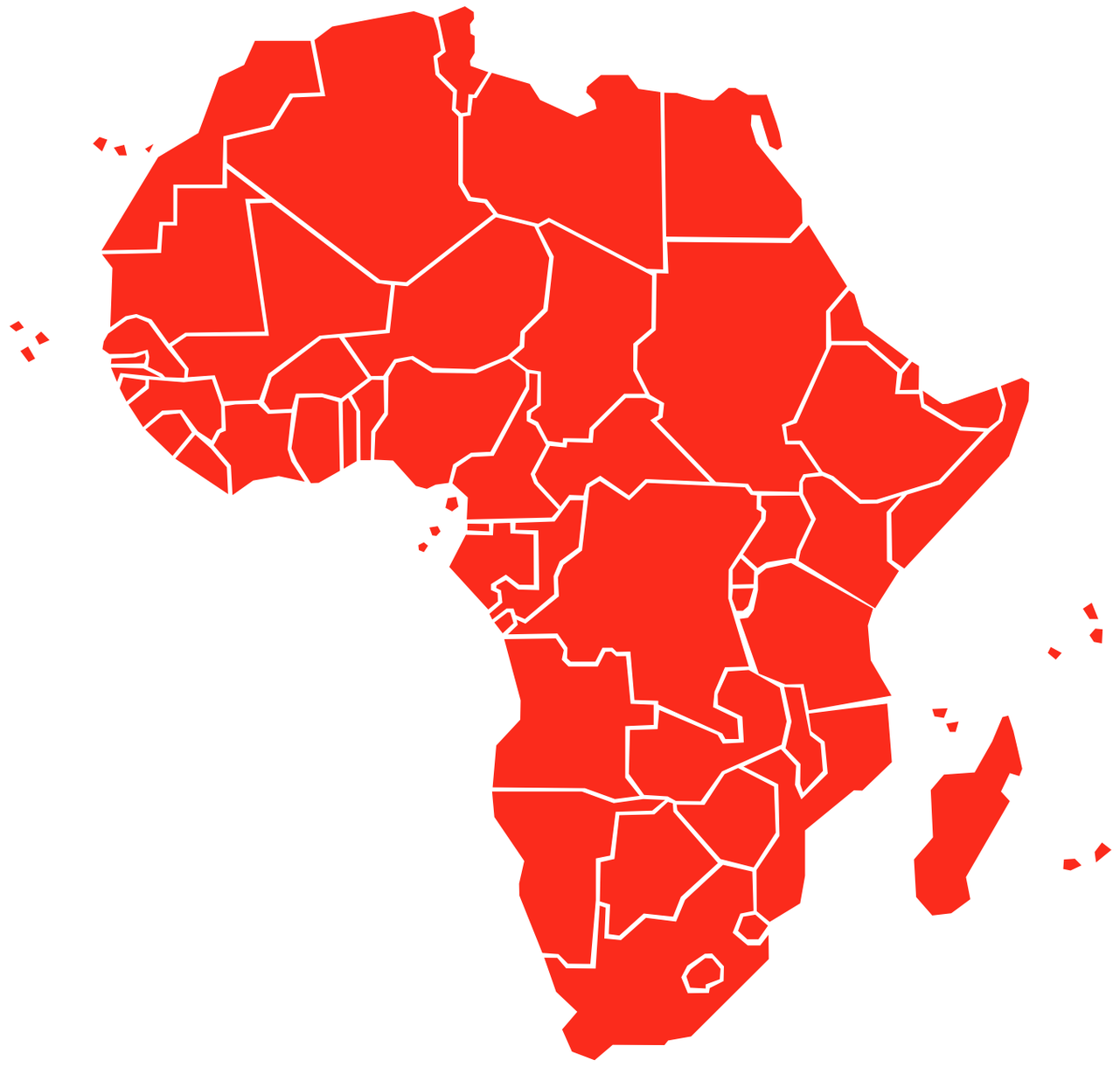
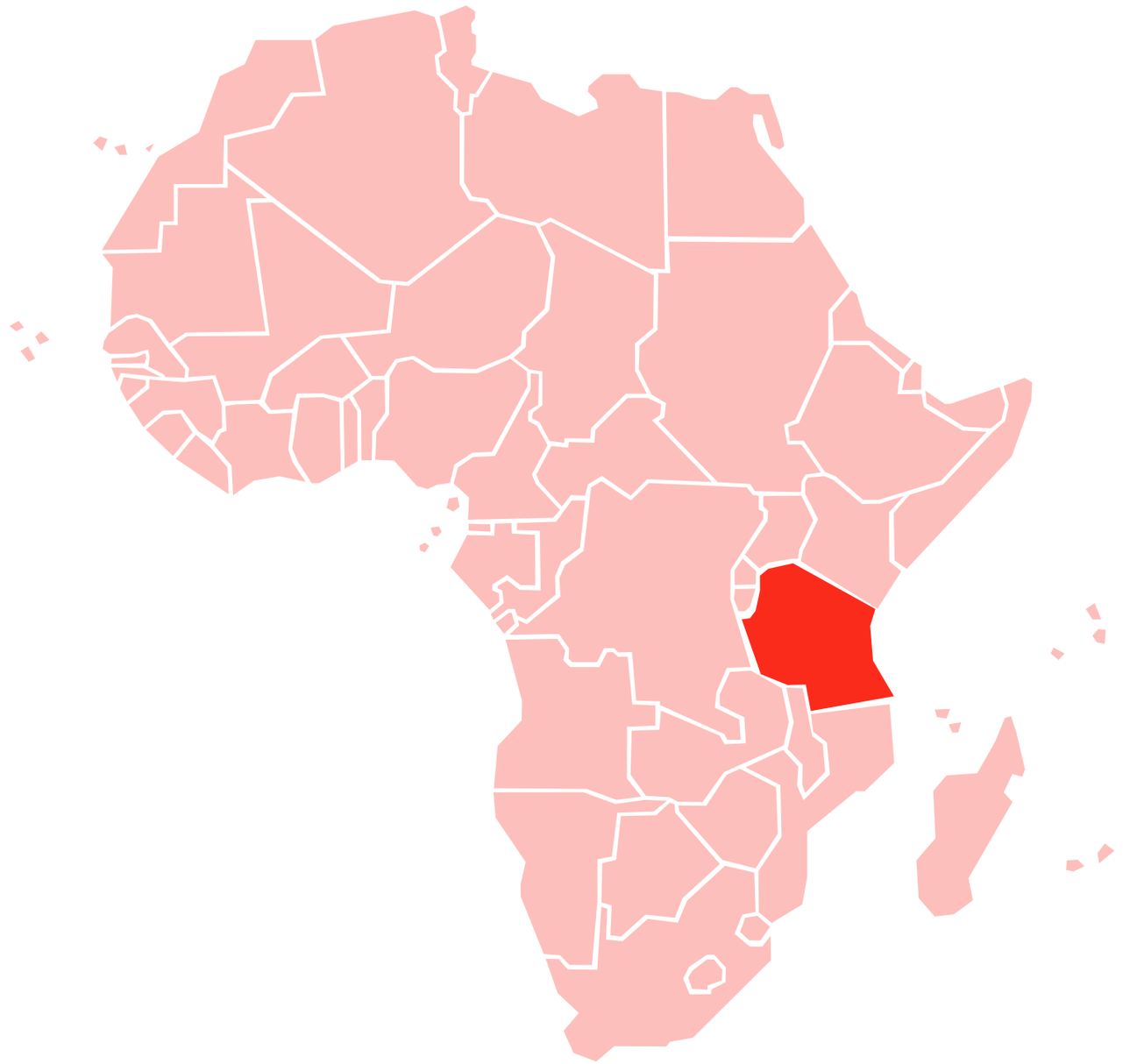
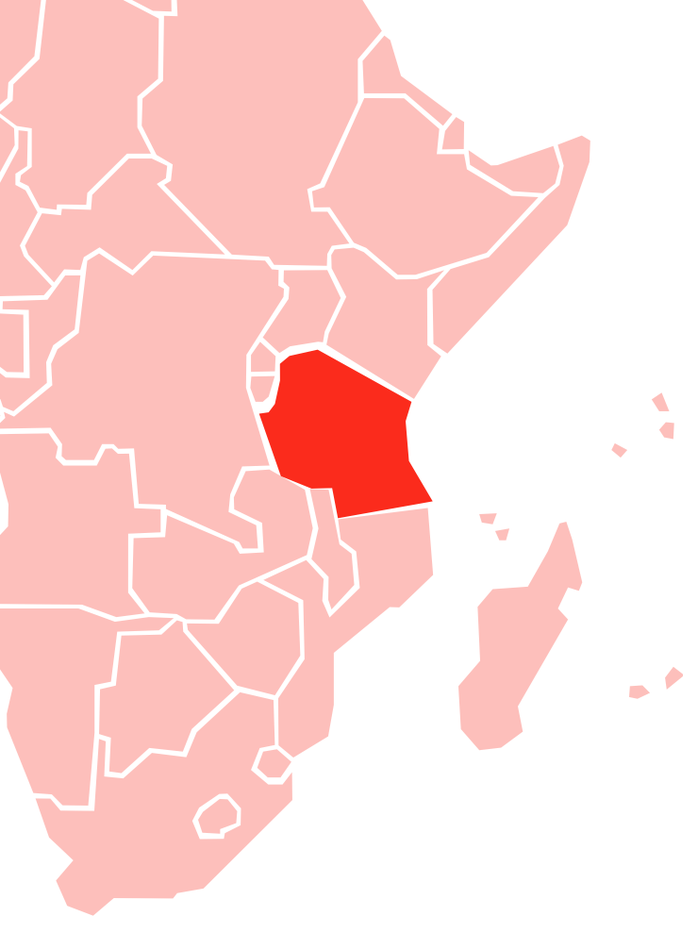
Sketch Model Review

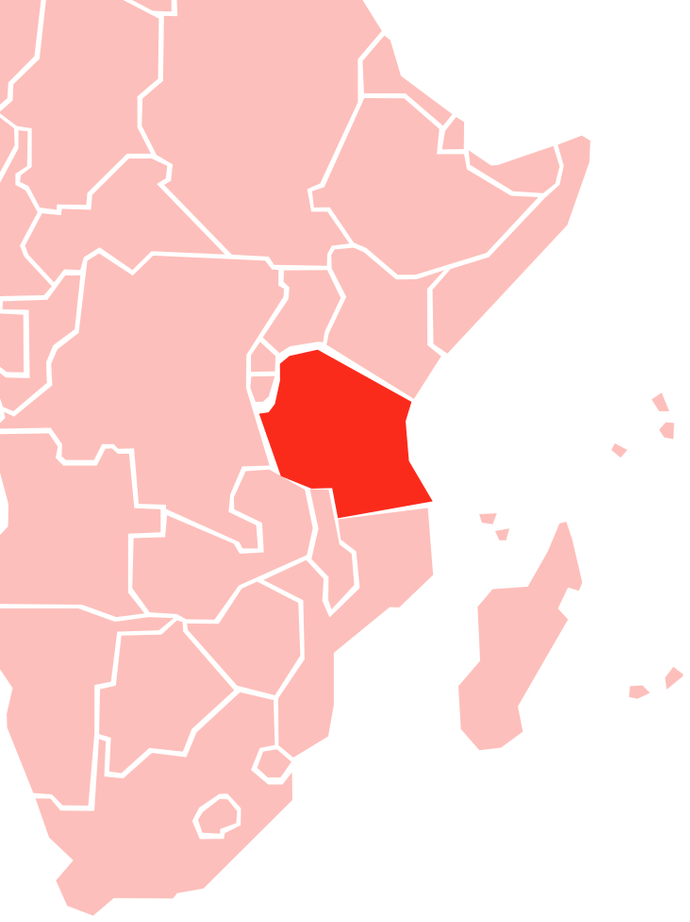
MotoThresher

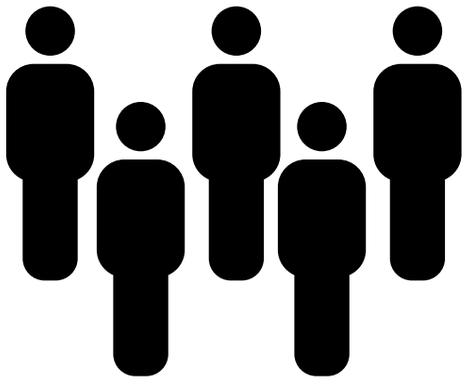
Empowering Tanzanian Farmers

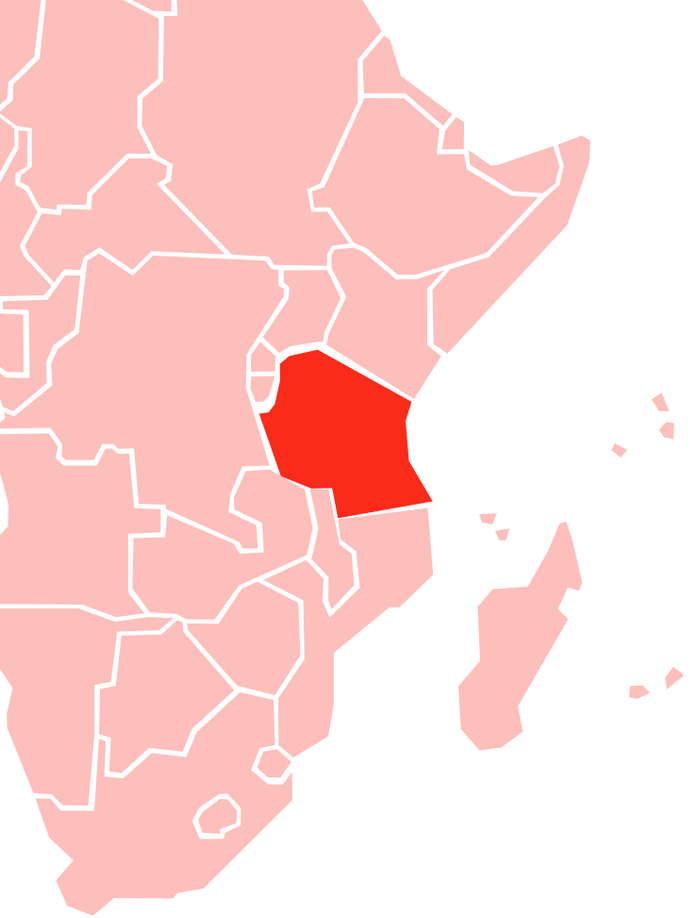


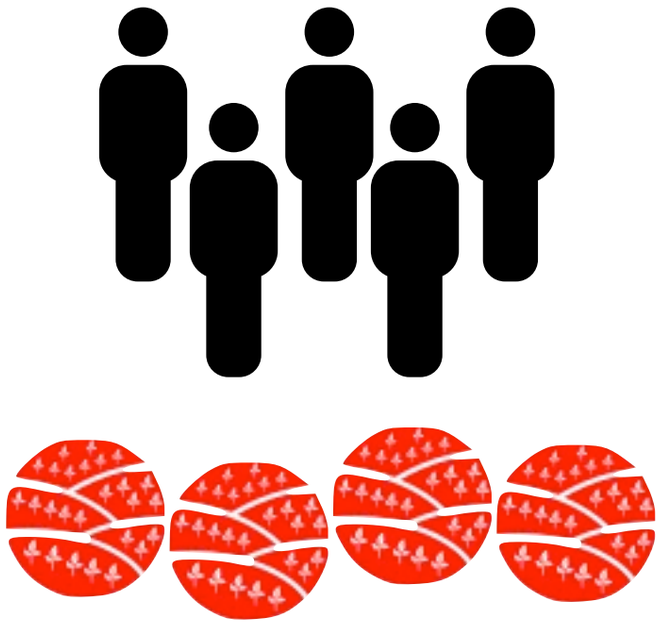


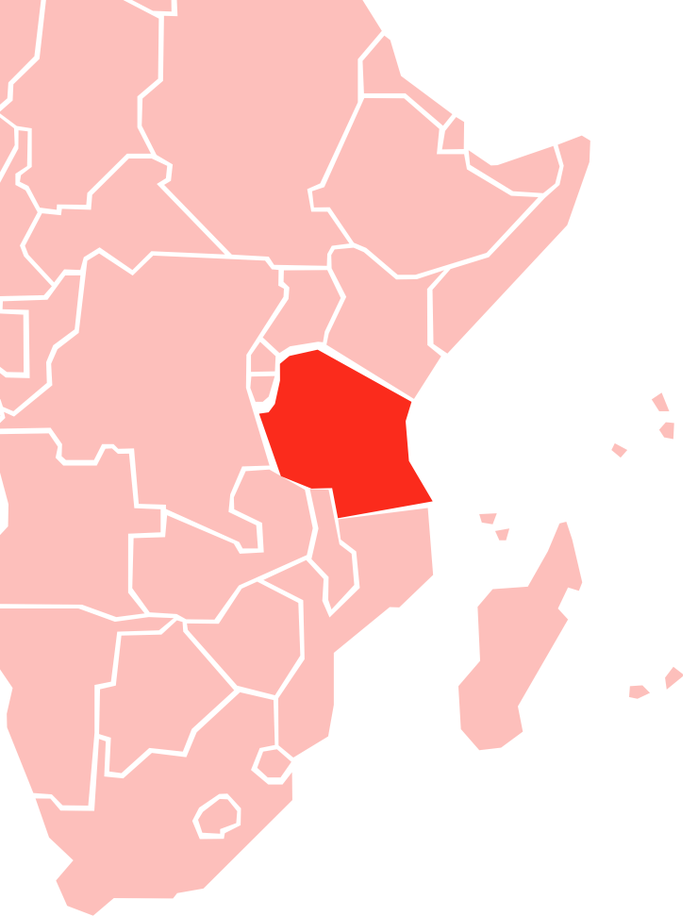


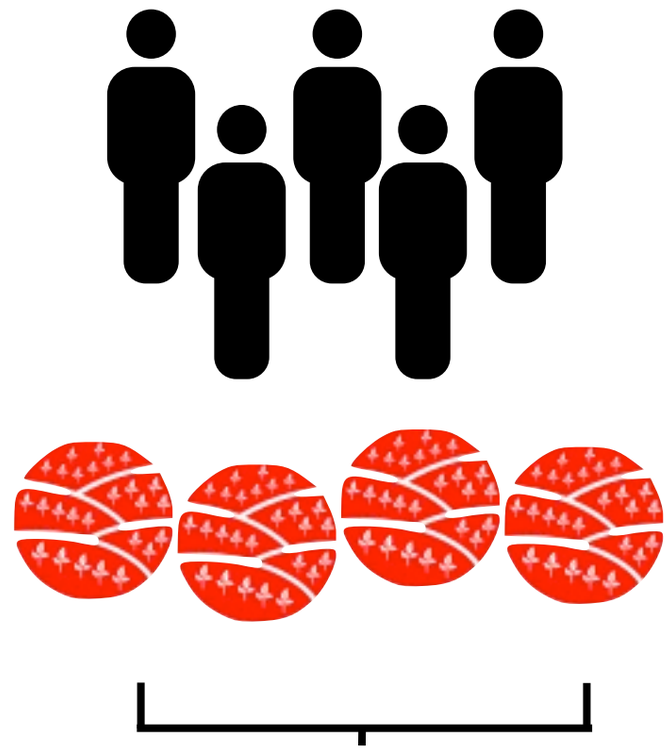


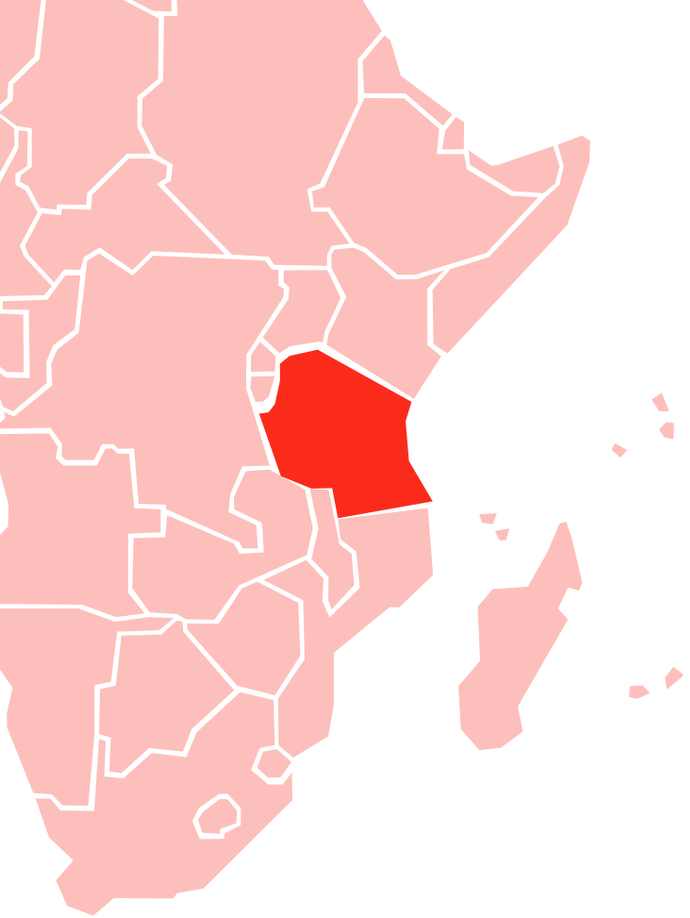


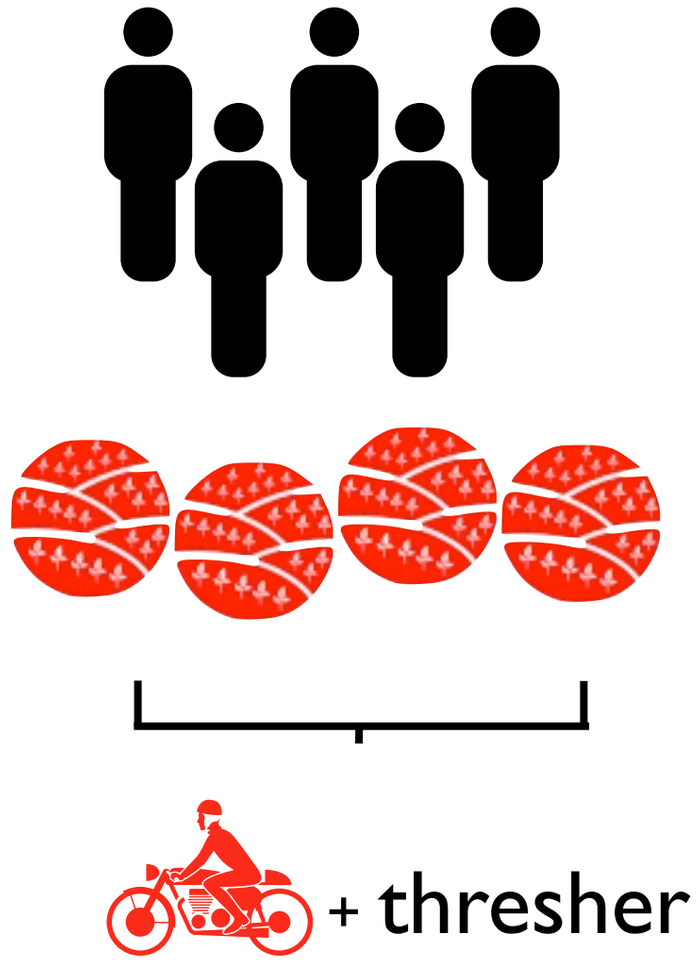











+ thresher

MotoThresher

$3000

price [$]

$115

50

100

300

throughput [kg/hr]

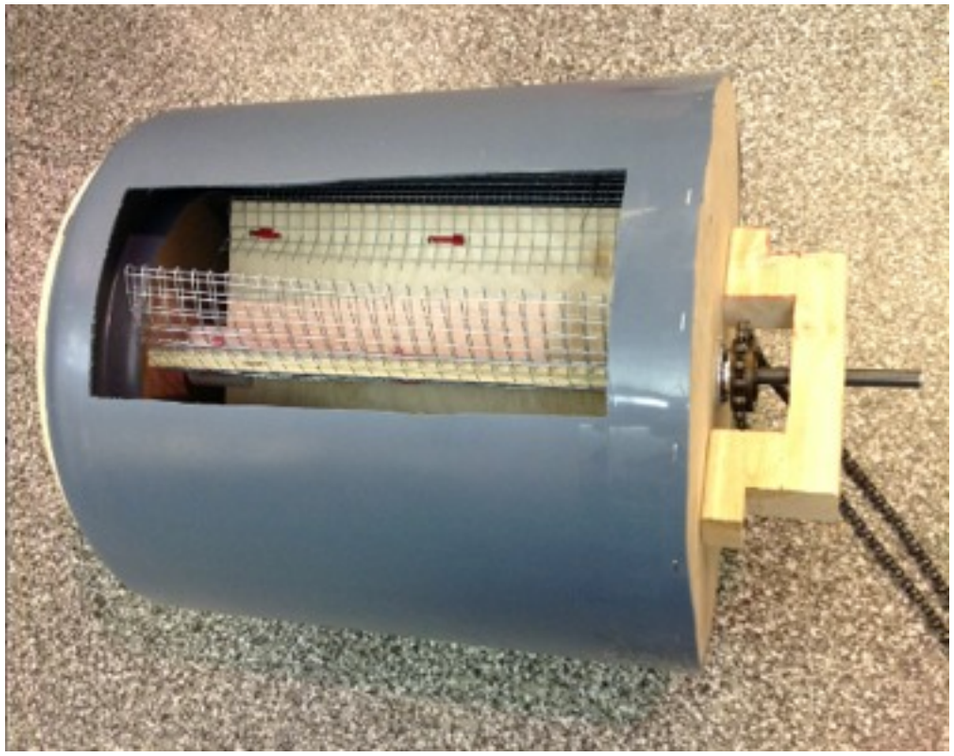
Product Contract

A motorcycle-powered grain thresher for Tanzanian farmers

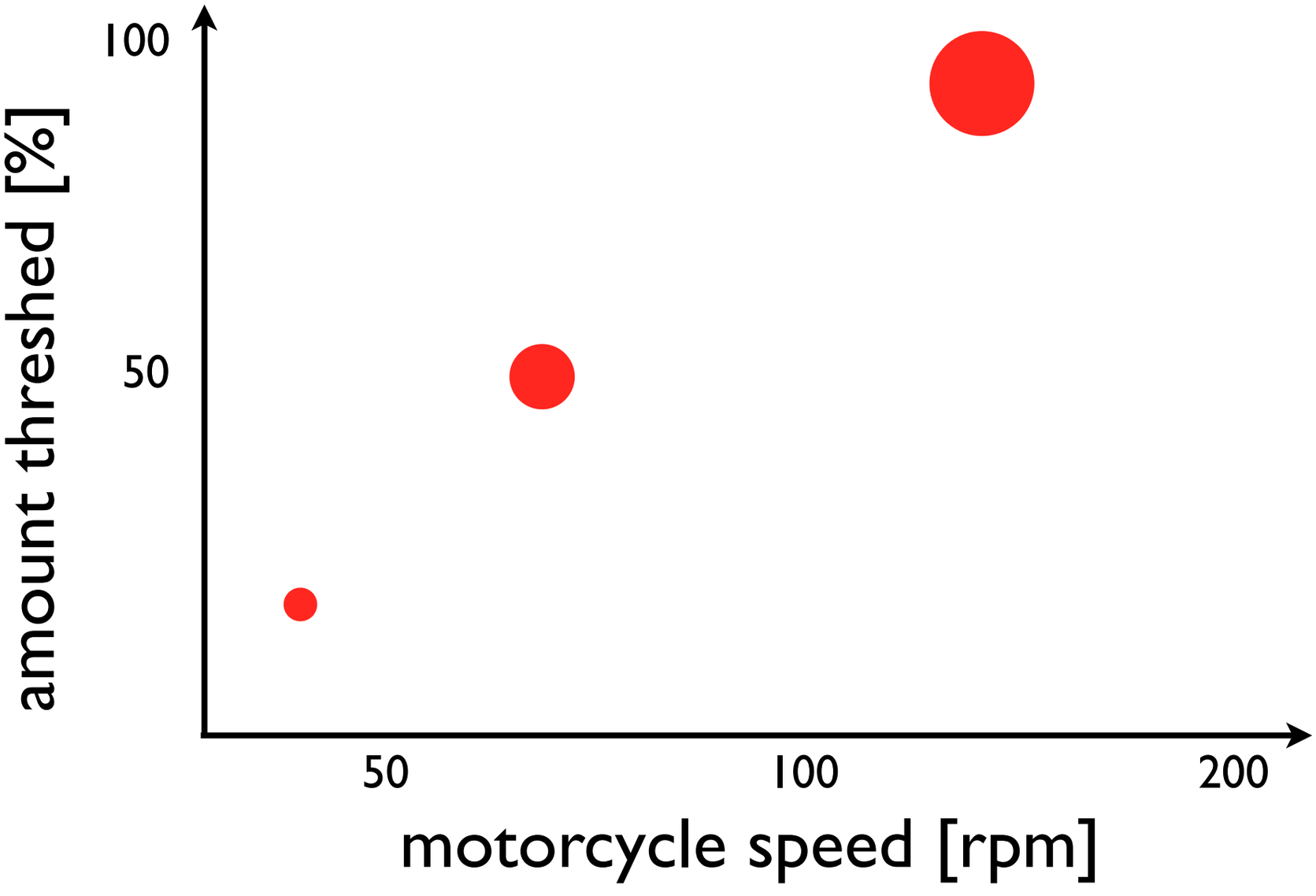
Customer Need	Product Attribute	Engineering Specifications
More efficient than traditional methods	Throughput [kg grain processed / person-hours]	50kg/hour
Can be towed by a motorcycle	Weight [kg]	<50kg
Affordable	Cost [$USD]	~$100USD
Adaptable to various motorcycles	Universal connection	No modifications to bike required
Multi-crop capabilities	Capable of processing different inputs	Rice, wheat, millet
User operability	Safety	Moving parts not exposed to user

Can we design an effective threshing mechanism?

Threshing



Threshing performance

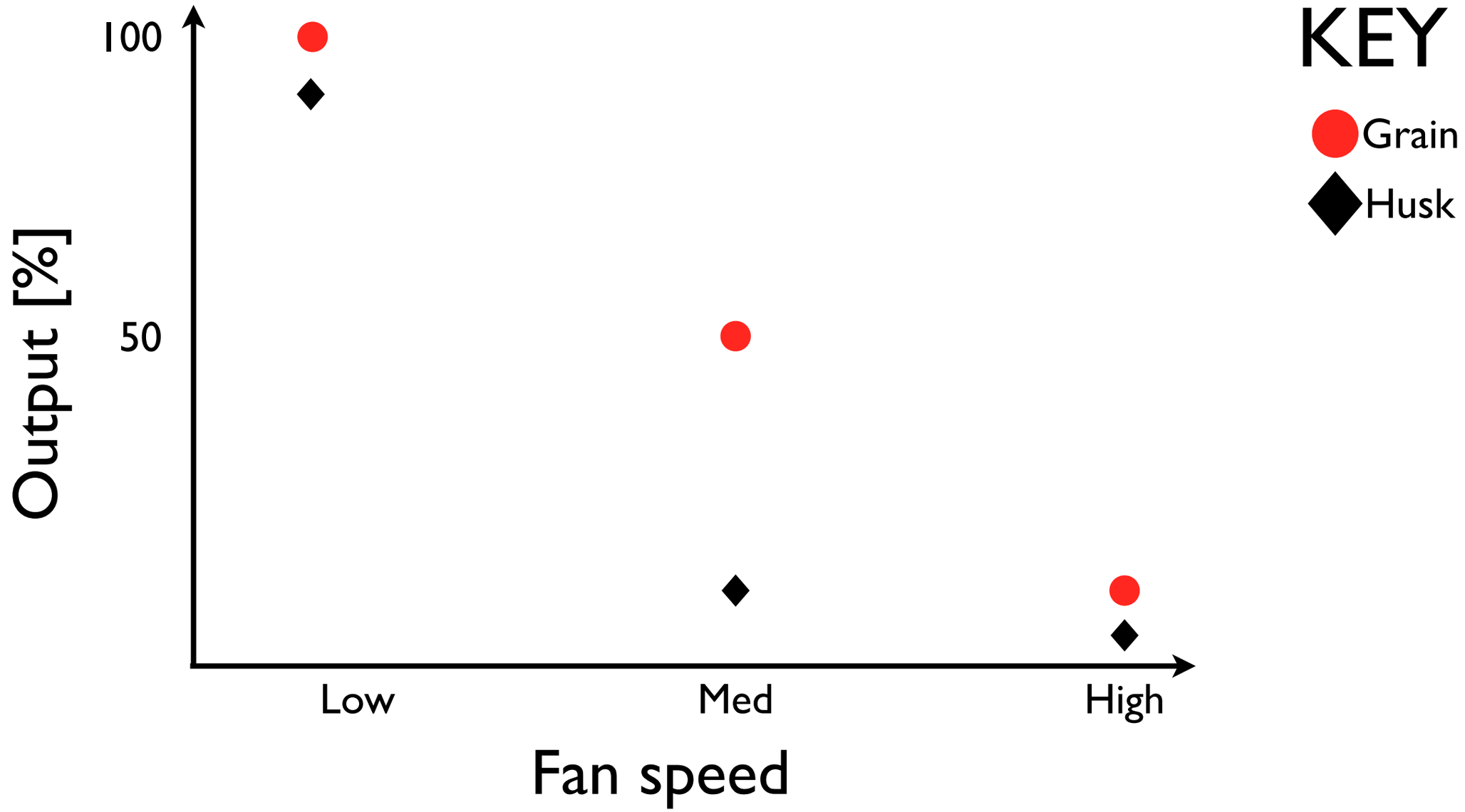


Can we winnow effectively using a fan?

Winnowing

- Separation of the grain from the husk
- Wind blows lighter material away
- Heavier material collected at the bottom

Winnowing performance



Future Plans

1. Threshing
2. Winnowing I
3. Dehusking
4. Winnowing II

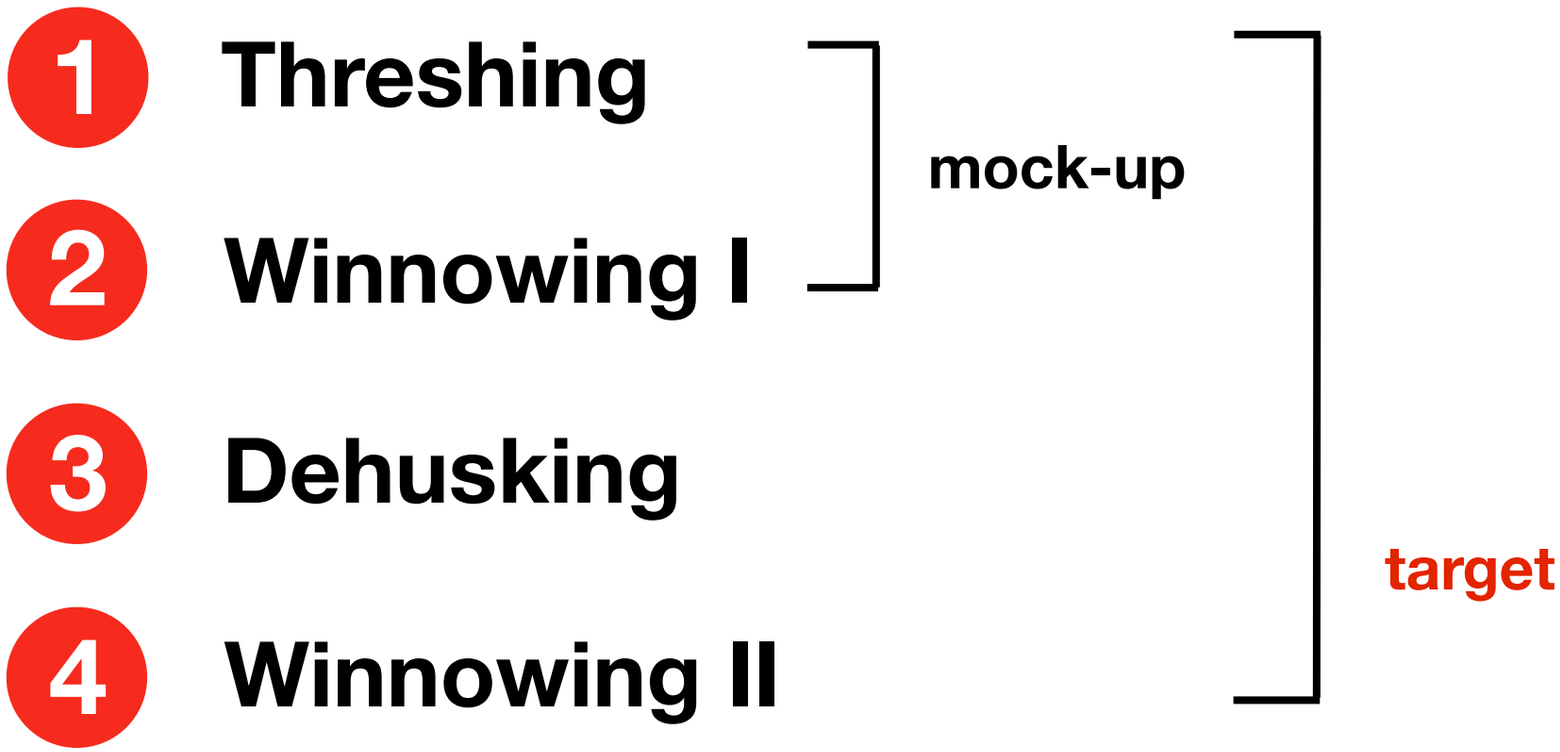
Future Plans

1. Threshing
2. Winnowing I

mock-up

3. Dehusking
4. Winnowing II

Future Plans



MotoThresher

Empowering Tanzanian Farmers