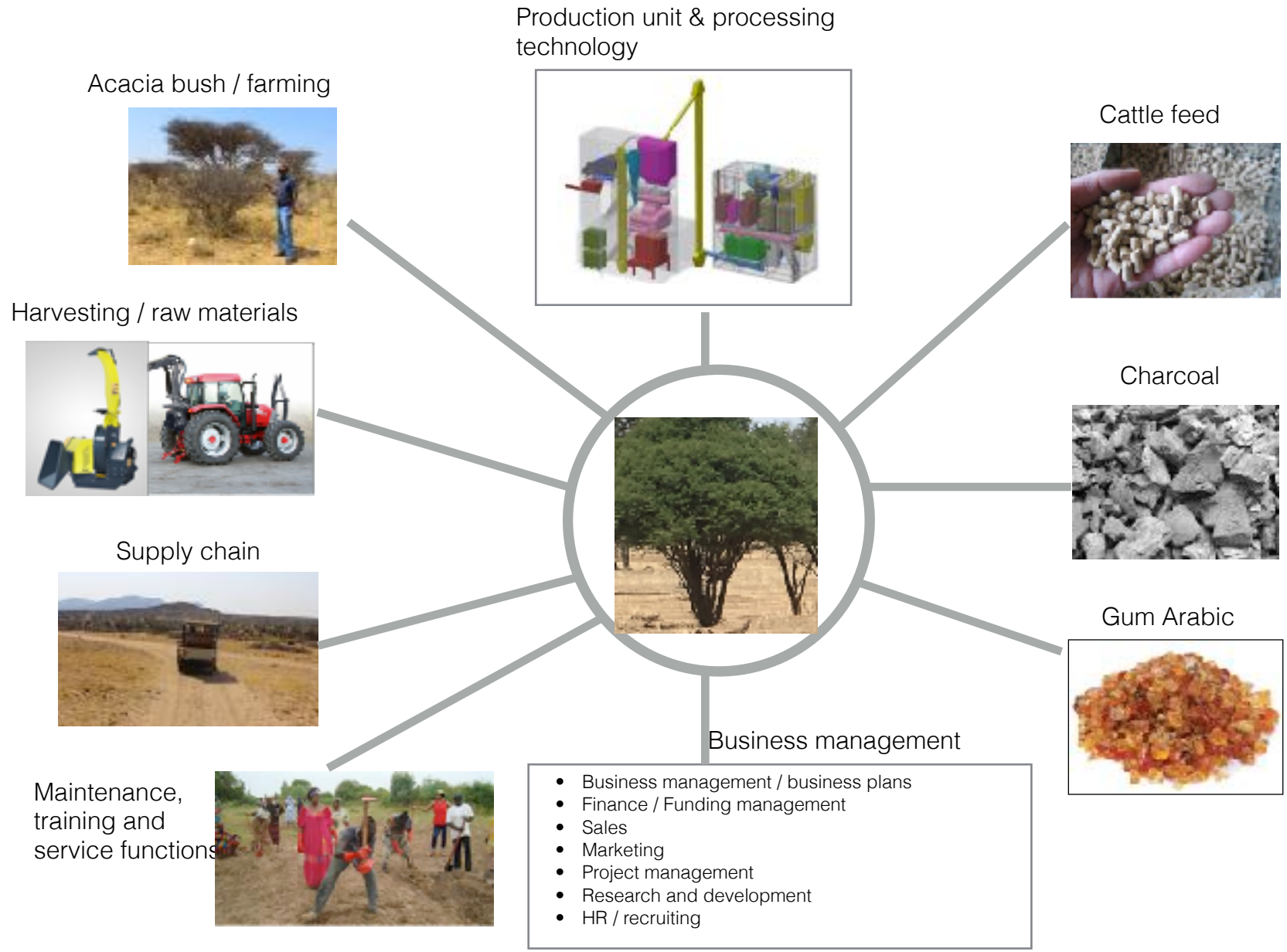


# Promoting sustainable value chains in Namibia

Comprehensive, profitable and sustainable utilization of bush

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# 1. Feasibility study areas



## 2. Animal feed and charcoal production



- The aim is to utilize bushes 100 %
- We start with products that already have enough demand
- New products/developments starts/continues when the show window production plant is ready

# 3. Harvesting bushes

We have to take care of

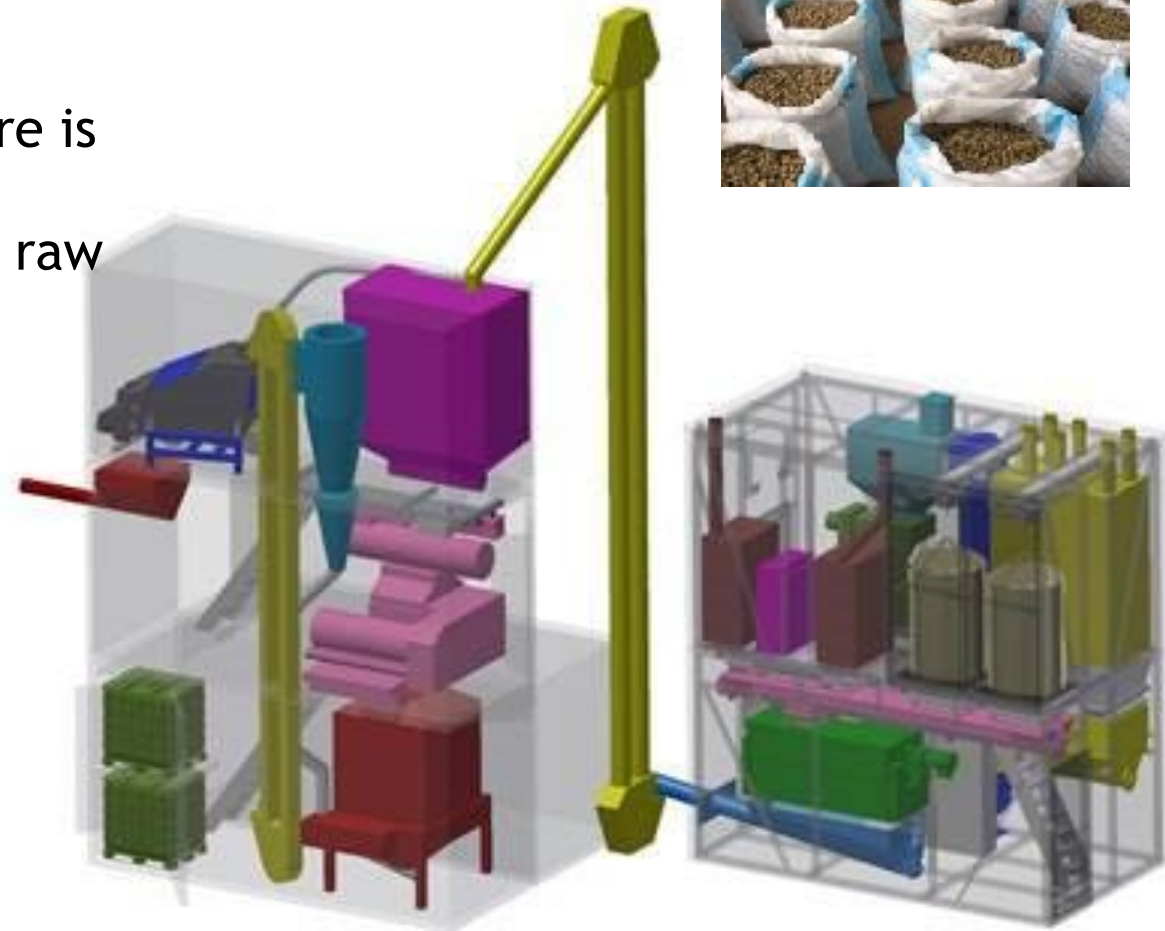
- Hand work - machine work  
(work safety and efficiency)
- Cleanness of raw material  
(quality of final products)
- Quality control  
(nutritional value of animal feed)
- Segmentation  
(right parts to right production)



# 4. Animal feed production

4 800 tons of feed per year

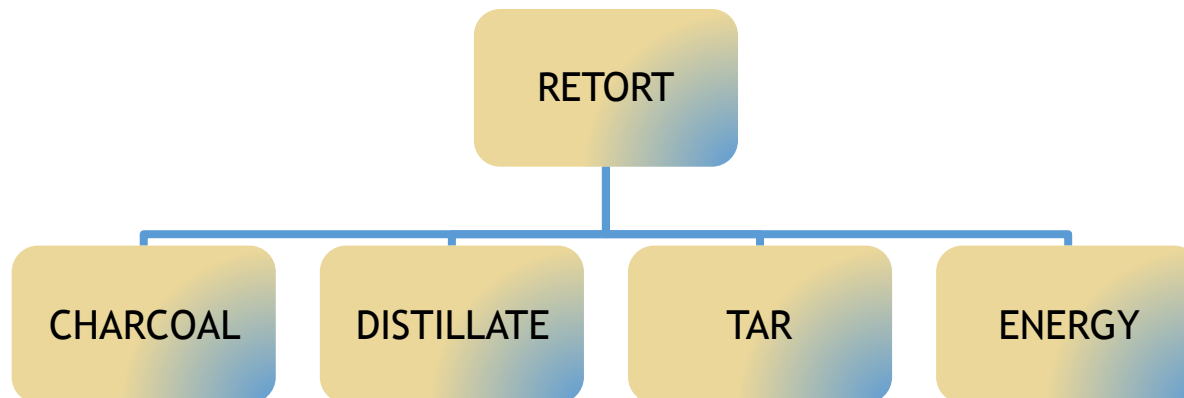
- 6000 cattle can be fed with this amount
- Shelf life one year makes it possible that there is enough feed until the next rain season
- Receipt easy to change/develop according to raw materials available
- System can use extra heat from charcoal production
- Modular production line is easy to adjust everywhere



# 5. Production of charcoal

## New process method

- More cleaner than the traditional method (less flue gas)
- Better yield of final product (can be up to 70 % higher)
- More stable quality of final product (strictly controlled production)
- New products from the process (more profit to producer)
- Modular production line is easy to adjust everywhere



## 6. Online quality control for animal feed production

New NIR (Near Infrared) technology raises the production to a new level

- Strict quality control of each batch (protection of purchaser)
- Quality based salary (fair to producer and employee)
- Direct information for product adjustment and development



# 7. R&D cooperation

The aim is to create a network for R&D between UNAM and Finnish UAS-network (Seinäjäjoki UAS, Savonia UAS...) for concentrating to bush based studies

- Animal feed for export market
- Possibilities for Arabic Gum
- White charcoal / bio products
- Animal feed for milk production
- Isolator material from bush etc





# Bush project changing problems to possibilities

