Challenges in maize production

This land is no longer productive. I have been growing maize on this land season after season.

What is wrong with your maize?

- Poor soil fertility
- Pest & disease problems
- Low yield & high postharvest losses
- Low quality seeds
- No intercropping
- No crop rotation
- Inappropriate planting time
Improved management of maize production

Your maize looks very healthy now. What did you do?

I was trained on how to manage my maize fields better. The maize is growing well thanks to…

...natural hedges around the maize garden to encourage natural enemies.

...animal and green manures to improve soil fertility.

...intercropping with beans.

...weeding on time.

...planting on time.

...rotating maize with legume cover crops.
Criteria for selecting maize varieties

- Adaptability to local conditions
- Good adaption to the duration of the rainy season
- Resistance or tolerance to main pests, diseases and weeds
- Good for processing and marketing
- Good seed germination
- Good yield capacity
- Good for processing and marketing
Multiplying your own maize seed varieties

1. Select a field, 300m from nearby maize fields
2. Select and plant the preferred variety
3. Select only healthy looking cobs
4. Dry the cobs
5. Thresh and store well
Options of intercropping in maize

1. Maize and legume
   Legumes such as beans or peas fix nitrogen required for proper maize growth.

2. Maize and green manure
   The green manure cover crop is regularly slashed and left to cover the soil.

3. Maize and agroforestry
   Legume shrubs are regularly pruned and the prunings left to cover the soil.
Soil fertility management in maize production

1. **Crop rotation**
   Rotate with a green manure crop that should be slashed and seeds directly planted.

2. **Improved fallow**
   A fallow with legume cover crops and shrubs for 1 to 3 years rejuvenates the soil and suppresses weeds.

3. **Add manure/plant residues**
   Incorporate animal manure during land preparation, and leave all dry plant materials in the field as ground cover.
Striga management

1. Crop rotation
Rotating or intercropping legume crops with maize suppresses the multiplication of the striga weed.

2. Improved fallow
Under heavy infestation, it is better to fallow the land for about 2 seasons.

3. Hand weeding
Uproot any growing striga plants before they produce seeds.
Management of stem borer (push-pull strategy)

Desmodium produces an odour that ‘pushes’ away the stem borer from the maize.

Napier grass attracts the stem borer to lay eggs that get killed in the sticky sap of the napier grass.
Maize streak virus control measures

› Use resistant varieties

› Apply botanical pesticides against leaf hoppers

› Ensure regular weeding to remove alternative hosts (grasses)

› Ensure early planting before the buildup of leaf hopper populations
Proper postharvest handling procedures

1. Timely harvesting
2. Drying
3. Shelling
4. Sorting and packaging
5. Storage