

Food Production - Farming

Small scale subsistence farming - Swaziland

In Swaziland most people in rural areas are subsistence farmers.

Inputs:

- Labour (from family members generally)
- Capital (from other work)
- Traditional knowledge guided by religion and custom, hand tools, little use of fertilizers, simple irrigation.
- In dry winters pastures are burned to get rid of coarse dry grass and allow new nutritious shoots to emerge.

Outputs:

- Maize is milled at home to produce flour and is consumed by the family. Cattle produce meat and milk. There is production of vegetables.

Problems:

- Erratic rainfall causes droughts.
- Farmers lack capital (cannot buy improved seed and fertilizers).
- Soil erosion.
- Animal diseases (foot and mouth diseases).

Swaziland

60% of the land's cultivated area supports 70% of its population. Land in Swaziland is owned by the government. This separates farmers homes from their plot. As a result, some have to travel 3km to reach their farmland. The size of the land is 3 hectares and the main crop grown is maize. Raising cattle is also important as the number of cattle signifies wealth.

Inputs (physical):

- High weld, 1270 mm of annual rainfall.
- Thin and leached, steep slopes.
- Middle weld - 940 mm annual rainfall, rich soil in river valleys and gentle slopes.
- Low weld - 600 mm of annual rainfall, rich alluvial soil flat land.
- Lubombo uplands - 787 mm of annual rainfall, good red soil, steep slopes and thin soil.

Human Inputs:

- Labour (family members) - mostly women; men leave to South Africa.
- Capital is low, farmers get extra income from casual jobs.
- Fertilizer is animal manure.

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Process:

- Cattle guarded by herd boys, pastures burnt in winters to allow nutritious roots to grow.
- Rains arrive by October, seeds sown around this time.
- Land is ploughed in June.
- Harvest during April - May after which cattle are allowed to graze.
- Slopes of the high weld are terraced.

Outputs:

Millet is cooked and consumed by the family. Cattle provide milk and meat.

Case Study - Canada (Commercial Farming)

Wheat farms in Canada are very large. Over 600 hectares in size. This is an extensive form of agriculture- where there are few workers but mostly machines are used. There are three Prairie provinces - Alberta, Saskatchewan, and Manitoba.

Inputs:

- Flat land, generally undulating.
- 1500 kms of east to west.
- 300 hectares per farm.
- Dark humus rich soil.
- Good rainfall except in the north and south with most areas receiving 2500 - 250mm per year.
- Temperature should be between 15- 21degrees C during three months.
- Warm summer perfect for wheat, cold winter to kill the pests.
- Small but highly skilled labour force.
- Use of capital intensive machinery like combined harvesters.
- Increased use of fertilizers.
- GM seeds.

Processes:

- Sown in spring, harvested in autumn, and stored in grain elevators to be shipped to ports.
- Fields are ploughed using large tractors in May and seeds are planted using machines.
- The crop is also sprayed to control pests and diseases.
- The wheat ripens at the end of August and early September.
- Combined harvesters are used to cut the crop and separate the grain.

Problems:

- Soil erosion by wind.
- Agricultural pollution caused by chemicals and fertilizers.
- Due to insufficient farming practice, the soil is left to erosion and leads to declining fertility each year.

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- Eroded soil is deposited in areas such as rivers, streams, and surrounding fields.
- The process of agricultural pollution prevents the movement of water and nutrients

Case Study - Swaziland (food shortages)

It is a food deficit country with low agricultural productivity. Around three quarters of its population require food assistance.

Causes:

- Erratic weather impacts the livelihood of the Swazis. Frequent droughts cause widespread water insecurity. Lack of water infrastructure is a problem in rural areas.
- The country's low rainfall is barely enough to sustain dry farming. There is an overreliance on maize and this is a water intensive grain.
- Intermittent flooding in some areas also reduces the country's food security by destroying harvest and leading to increased food prices.
- Swaziland has the world's highest prevalence of HIV/AIDS and this has caused 96000 orphans in a population of about 1.4 millions.
- 2009 May's output was 71000 tonnes whereas the country's requirement was 140,000 tonnes. This has led to $\frac{2}{3}$ of the population relying on food from international aid. However, UN programs are moving away from food donations to encourage self-sufficiency programs. It was observed that farming after the drought of 1992 caused parents to give up farming and be dependent on aid. As a result children don't learn farming and that reduces the output further.
- More subsistence/small scale farmers grow cash crops like cotton, and sugarcane. And as a result it has reduced the output in food crops.
- The sugar industries are large industries that want families to join them as sugar is exported. As a result, trade agreements give farmers access to foreign markets.

Impacts :

- $\frac{1}{4}$ of the children are malnourished and suffer from stunted growth. This reduces education and leads to less economic growth.
- Rise in food prices; 60% of the food is imported.
- Farmers can't afford fertilizers. This reduces yield.

Natural causes:

- In 2019, 20% of the population was suffering from acute food insecurity due to El Nino drought emergency..
- 40% of the population required food aid.