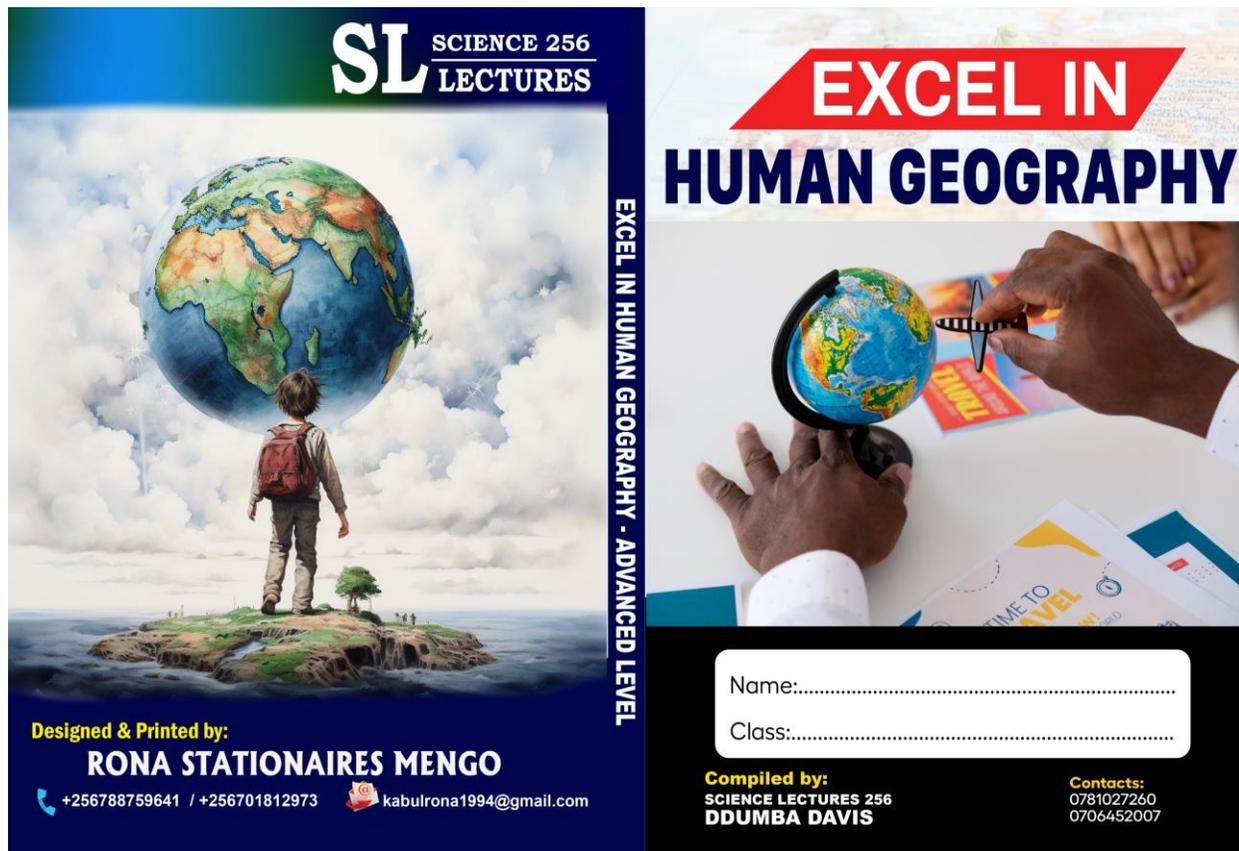


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PROBLEMS OF FOOD SUPPLY

Competency: The learner analyses local and global food supply problems as well as strategies adopted to address them using relevant information and geographic tools, and proposes innovative solutions to ensure food security for all.

A) EXAMINE THE RELATIONSHIP BETWEEN THE LEVEL OF ECONOMIC DEVELOPMENT AND FOOD SUPPLY IN A COUNTRY OR REGION BY USING STATISTICS AND OTHER INFORMATION

Trends in World food supply

- global and regional trends in food production and supply.

- regions with high food surpluses and deficits
- compare trends, debate causes of disparities, and explore possible solutions to food distributions challenges.
- countries and regions based on food surplus or deficit and their levels of economic **GLOBAL**

TRENDS IN FOOD PRODUCTION AND SUPPLY

1. Overall Increase in global food production: Over the last few decades, global food production has grown steadily due to advances in agricultural technology, mechanization, improved seeds, fertilizers, and irrigation. Major staple crops like maize, wheat, rice, and soybeans have seen significant yield improvements for example the Green Revolution in Asia (1960s-1980s) dramatically increased rice and wheat production in India, China, and the Philippines.

2. Unequal distribution of food: Despite global production increases, food is unevenly distributed, causing both surpluses and deficits. Developed countries often produce more than they consume and export large quantities, while some developing regions remain food-insecure for example The United States, Canada, Brazil, and France are major exporters, while countries in Sub-Saharan Africa and parts of South Asia face shortages.

3. Shift toward commercial and export-oriented agriculture: Many countries are shifting from subsistence farming to commercial agriculture for domestic and international markets. This trend has increased global trade in food commodities but can sometimes reduce local food availability for example Thailand exports rice, Brazil exports soybeans, and Argentina exports beef, while local populations may still face price fluctuations.

4. Dependence on technology and inputs: Food production is increasingly dependent on high-yield seeds, fertilizers, pesticides, and machinery, mainly in developed and emerging economies. Countries unable to access these technologies often experience lower productivity, limiting food supply.

REGIONAL TRENDS IN FOOD PRODUCTION AND SUPPLY

1. North America and Europe

This region is characterized by high productivity and food surpluses. This is largely due to mechanized farming, irrigation, fertilizers, and research-intensive agriculture support surplus production for example the US produces surplus maize and soybeans, France exports wheat to Europe and Africa.

REGIONS WITH HIGH FOOD SURPLUSES AND DEFICITS
REGIONS WITH FOOD SURPLUSES

1. North America (USA and Canada)

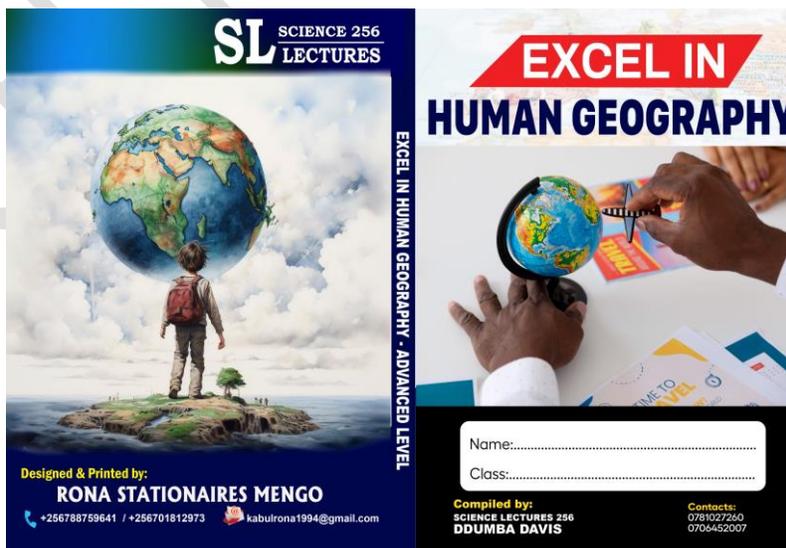
North America is one of the world’s largest food-surplus regions. The USA and Canada produce massive quantities of maize, wheat, soybeans, meat, and dairy products using mechanized farming, advanced technology, and large farm sizes. The USA is the world’s largest exporter of maize and soybeans. Average food energy supply exceeds 3,500 kcal per person per day, far above basic requirements. Surpluses are exported to Africa, Asia, and the Middle East.

CAUSES OF DISPARITIES IN TRENDS IN FOOD SUPPLY

1. Differences in level of agricultural technology

One of the main causes of disparities in food supply is the unequal access to modern agricultural technology. Developed regions such as **North America and Western Europe** use mechanization, improved seeds, fertilizers, pesticides, precision farming, and irrigation systems that greatly increase yields. For example, maize yields in the **USA** are more than three times higher than in many **Sub-Saharan African** countries, where farming is still largely subsistence-based and dependent on simple tools. This technological gap leads to consistent food surpluses in developed regions and persistent deficits in less developed ones.

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SOLUTIONS TO DISPARITIES IN TRENDS IN FOOD SUPPLY

10. Reducing food waste and improving food distribution

Reducing food waste is one of the fastest ways to improve food availability. Developed countries waste large amounts of food at consumer level, while developing countries lose food mainly after harvest. Improved storage, better packaging, consumer awareness, and redistribution systems such as food banks can significantly increase effective food supply without increasing production.

LEVELS OF DEVELOPMENT WITH FOOD SUPPLY

3. Emerging economies with growing food surpluses

Several **middle-income or emerging economies** are becoming food-surplus regions due to rapid agricultural modernization. Countries such as **Brazil, Argentina, China, and Thailand** have invested heavily in agribusiness, irrigation, and improved seed varieties. Brazil is now one of the world's largest exporters of **soybeans, beef, and sugar**, while Thailand is a major exporter of **rice**. These countries demonstrate how rising economic development can transform food-deficit regions into surplus producers.

4. Developing countries with mixed food supply (local surpluses and deficits)

Many **low- and lower-middle-income countries** experience uneven food supply. Countries like **India, Nigeria, and Kenya** may produce enough food nationally but still face **regional deficits** due to poverty, poor distribution, and infrastructure gaps. For example, India produces large quantities of rice and wheat, yet some rural and urban populations remain food insecure. This shows that economic development alone does not guarantee equal food access.

6. Oil-rich but agriculturally poor economies

Some **high-income but agriculturally weak countries**, mainly in the **Middle East**, are food-deficit despite strong economies. Countries such as **Saudi Arabia, Qatar, Kuwait, and the UAE** have arid climates, water scarcity, and desert soils. They import over **80-90% of their food needs**. Their high income from oil allows them to afford imports, invest in overseas farmland, and use advanced desalination, but they remain structurally food-deficit.

B) DEMONSTRATE AN UNDERSTANDING OF FOOD SHORTAGES IN SUB-SAHARAN AFRICA AND OTHER DEVELOPING COUNTRIES BY USING RELEVANT INFORMATION

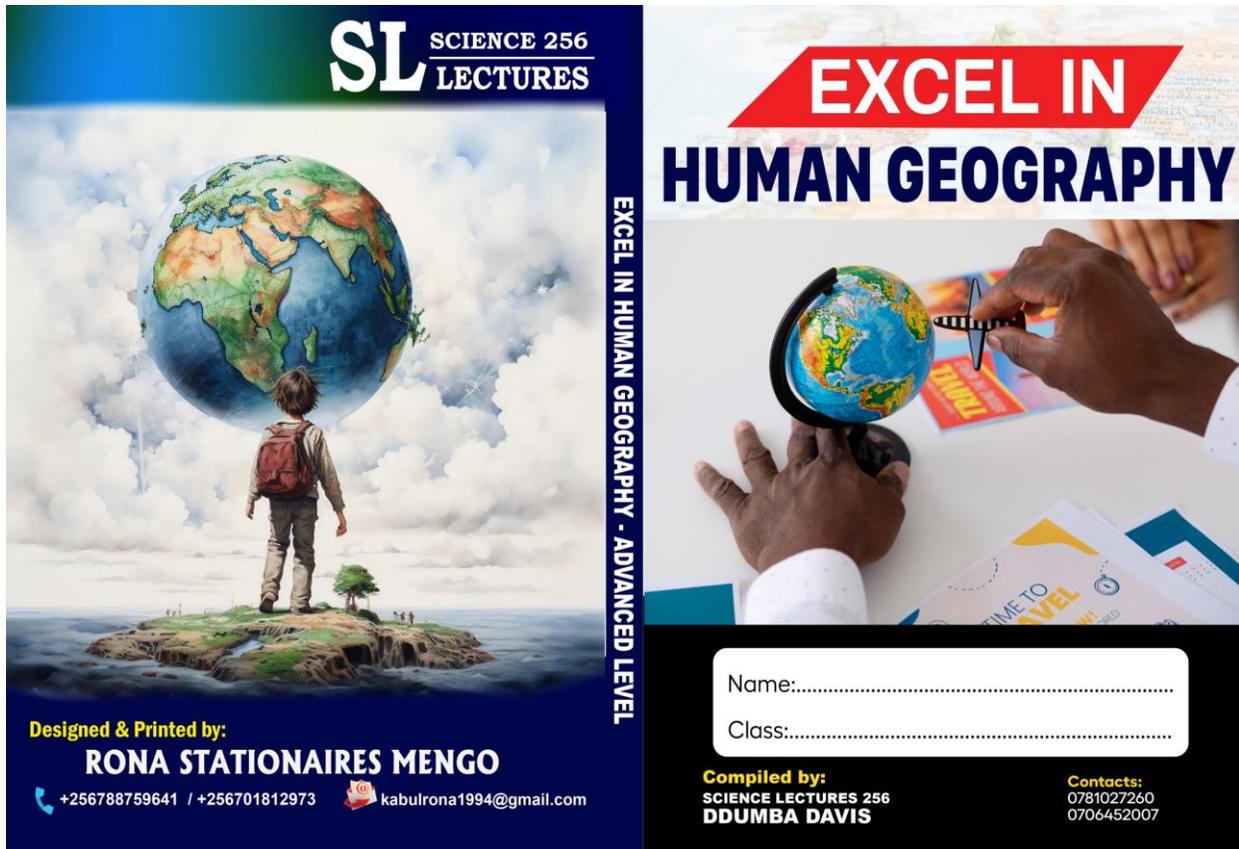
Food shortages in developing countries

- Account for the level of food supply situation in Uganda.
- Food shortages in Sub-Saharan Africa. They identify affected countries and analyse the underlying causes of food shortages in the region.
- The challenges linked to declining food supply in Sub-Saharan Africa, encouraging them to consider social, economic, and environmental factors.
- Analyse two case studies of countries outside Africa experiencing food shortages
- Identify and classify different forms of food shortages affecting Africa and other developing regions, discussing appropriate terminology to describe these conditions.

FACTORS FOR LOW FOOD PRODUCTION IN UGANDA

Uganda is traditionally regarded as one of East Africa's food baskets due to its fertile soils, favorable climate, and a large proportion of the population engaged in agriculture. The country produces a wide range of food crops such as bananas (matooke), maize, cassava, beans, sweet potatoes, and millet, which form the staple diet for most households. Despite this apparent agricultural potential, Uganda continues to experience **persistent food shortages and food insecurity**, especially in rural areas and among vulnerable populations.

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FOOD SHORTAGES IN AFRICA

Countries Most Affected by Food Shortages

Food shortages in Sub-Saharan Africa are not uniform; they are concentrated in specific regions, especially where climate stress, conflict, and poverty overlap.

(a) Horn of Africa

Countries such as Somalia, Ethiopia, Eritrea, and parts of Kenya are among the worst affected. Recurrent droughts, failed rainy seasons, and pastoral livelihoods make these countries highly vulnerable. Somalia, in particular, has faced near-famine conditions repeatedly due to drought and prolonged conflict.

(b) Sahel Region

The Sahel belt, including Niger, Chad, Mali, Burkina Faso, and northern Nigeria, experiences chronic food shortages. This semi-arid region has low rainfall, frequent droughts, and advancing desertification, which severely limits crop and livestock production.

(c) Central Africa

Countries such as South Sudan, Democratic Republic of Congo (DRC), and Central African Republic suffer from severe food insecurity. Here, food shortages are driven mainly by conflict, displacement, and weak institutions, despite fertile soils and abundant rainfall in some areas.

(d) Southern Africa (Periodic shortages)

Countries like Zimbabwe, Malawi, Mozambique, and Zambia experience seasonal or cyclical food shortages, especially during drought years linked to El Niño events. Crop failures in maize, the staple food, often result in national deficits.

(e) Parts of East Africa

In Uganda (Karamoja region), Tanzania (central areas), and South Sudan, localized food shortages persist due to climate variability, poverty, and limited access to markets.

FOOD SHORTAGE IN YEMEN

Yemen is experiencing **one of the worst food shortages and humanitarian crises in the world**, largely as a result of prolonged conflict, economic collapse, and environmental constraints. Even before the outbreak of civil war in 2015, Yemen was already food-insecure due to its arid climate, limited arable land, and heavy dependence on food imports. Today, these underlying challenges have been severely intensified, leaving millions of people unable to access adequate food. . Before the civil war, Yemen already depended heavily on **food imports**, especially wheat. Today, over **70-80% of food is imported**, making the country extremely vulnerable to conflict and global price shocks.

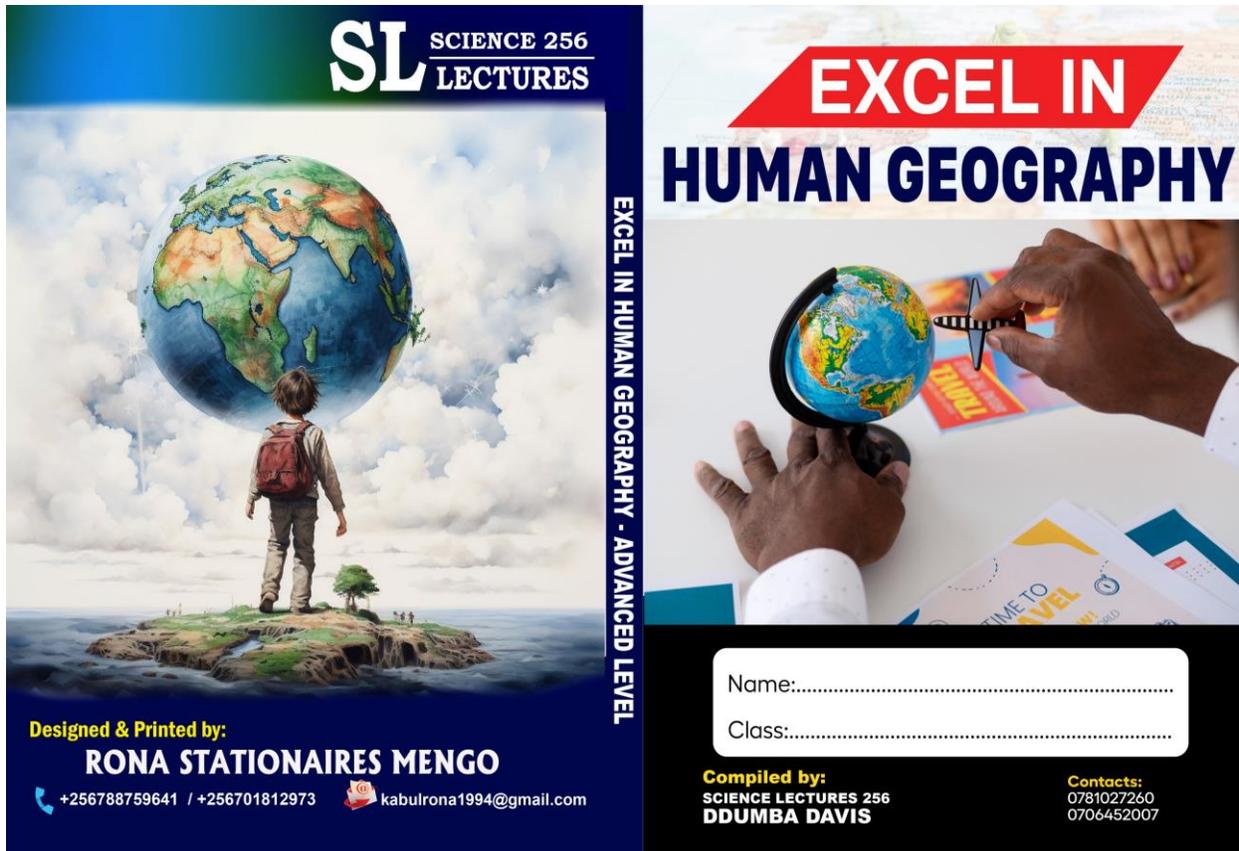


Causes of food shortages

Long-term economic and human development effects

In the long term, food shortage in Yemen has weakened human capital and slowed economic development. Chronic malnutrition affects physical and cognitive development, reducing productivity and future earning potential. A weakened workforce, combined with destroyed infrastructure and lost skills, limits the country's ability to recover economically, even after conflict ends.

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FORMS OF FOOD SHORTAGES AFFECTING AFRICA AND OTHER DEVELOPING REGIONS,

Food shortages can be classified based on their causes, duration, and scope. Understanding the types helps in designing effective interventions.

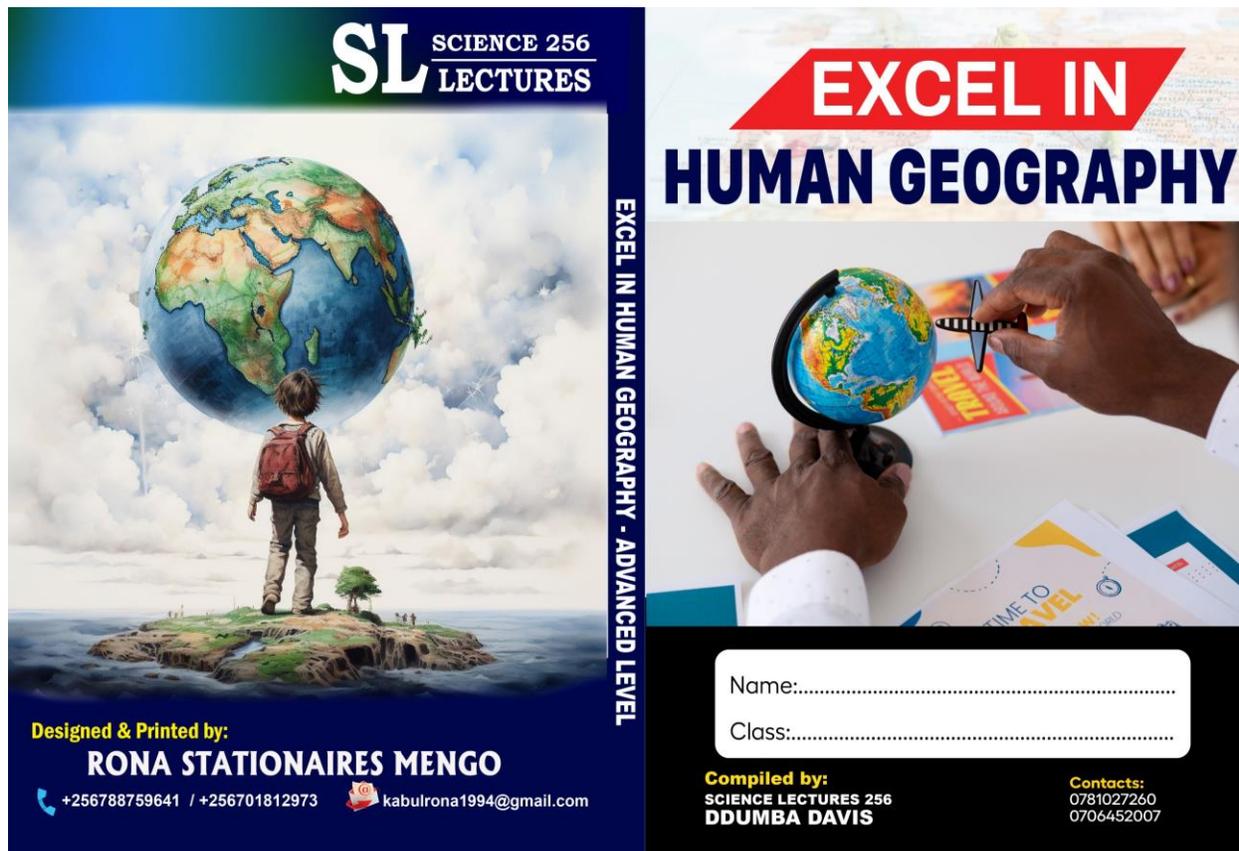
1. Chronic food shortages (Structural Food Shortages):

This is long-term and persistent shortages caused by systemic issues in agriculture and food supply. It occurs in Sahel countries (Niger, Chad, Mali) – persistent shortages due to semi-arid climate and desertification. ,Karamoja region, Uganda – chronic local shortages caused by drought and marginal soils. Parts of South Asia (Afghanistan, Nepal), and small island developing states.

2. Acute or Temporary food shortages (transitory food shortages)

This is short-term shortages caused by sudden shocks to production, supply, or distribution. It occurs in areas like Horn of Africa (Ethiopia, Somalia, Kenya) repeated acute shortages during drought cycles, Mozambique and Malawi, food deficits after cyclones and floods.

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C)EVALUATE POLICIES AND PROGRAMMES AIMED AT INCREASING FOOD SUPPLIES IN UGANDA AND OTHER DEVELOPING COUNTRIES .

- practical strategies to ensure adequate food supply at the family and community level, considering local resources and challenges.
- propose measures to address food shortages in Sub-Saharan Africa, evaluating their feasibility and sustainability.
- initiatives aimed at ending food shortages in Sub-Saharan Africa and other developing countries. They assess the effectiveness of these efforts
- d) develop an action plan or manifesto for addressing food shortages in Africa or any other area based on the causes and effects of the situation.

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Practical strategies to ensure adequate food supply at family and Community Level

- **Kitchen gardens or community gardens** provide regular access to vegetables and fruits, improving nutrition and food security. In urban or peri-urban areas, families can use small plots, containers, or rooftops for gardening. Community gardens can also serve as **training hubs** for improved farming techniques and collective harvesting.
- Reducing post-harvest losses is critical. Families can use **granaries, silos, airtight containers, solar dryers, or smoking techniques** to preserve grains, fruits, and vegetables. Community-level storage cooperatives allow small farmers to store surplus food safely for lean seasons, preventing spoilage and stabilizing local supply.
- Keeping **small livestock (chickens, goats, rabbits)** or practicing **fish farming** provides a reliable source of protein and income. Families can integrate livestock into cropping systems, using manure to fertilize crops. Communities can establish **shared fish ponds or poultry cooperatives** to benefit multiple households.

Initiatives to end food shortages in Sub-Saharan Africa and developing countries

1. The World Food Programme (WFP)

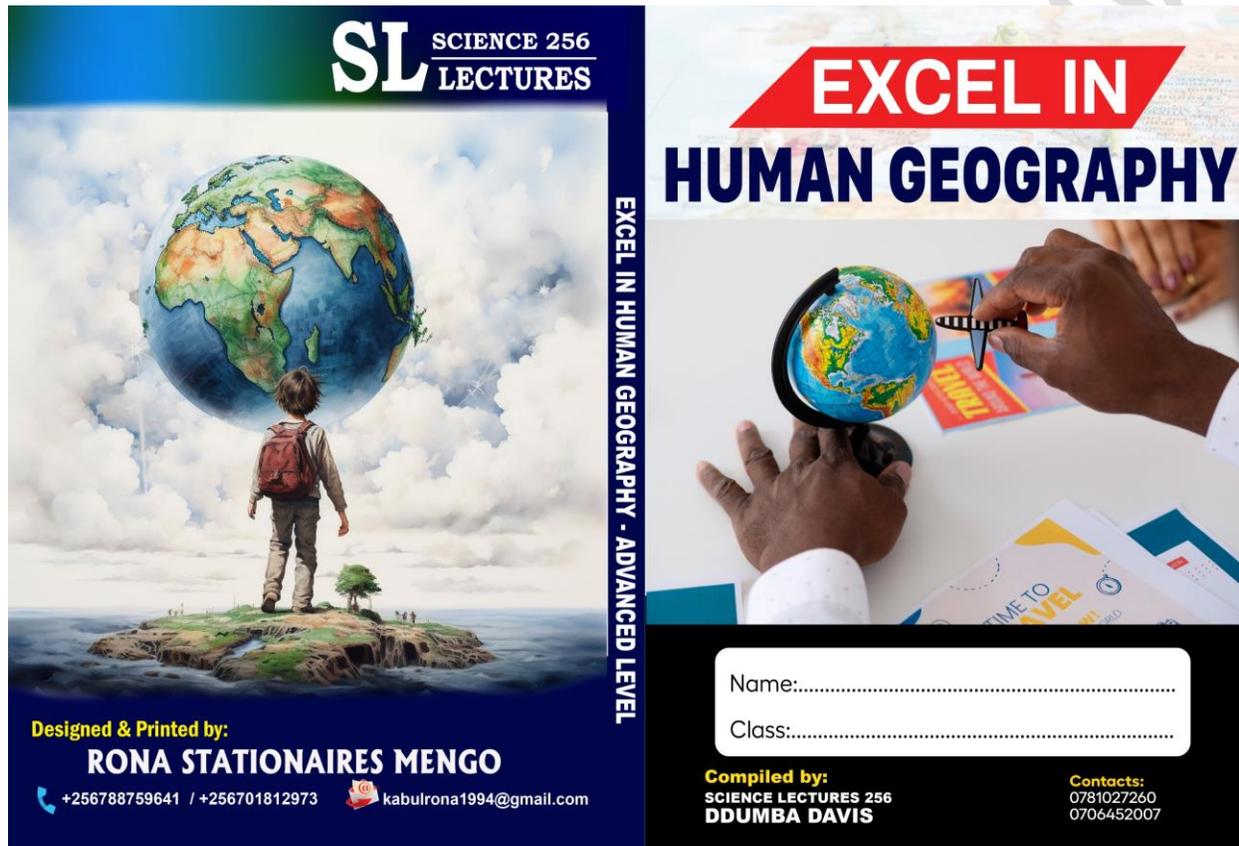
The WFP provides emergency food aid, nutrition support, and school feeding programs in countries affected by famine, drought, and conflict for example in Somalia, South Sudan, and Ethiopia receive emergency rations and nutrition supplements. School feeding programs in Malawi and Niger improve child nutrition and encourage attendance. Highly effective in saving lives during acute food crises. However, WFP programs are short-term solutions; they do not address structural causes of food shortages, making communities dependent on aid.

2. Food Security and Agricultural Development Programs

These initiatives aim to boost domestic food production through improved seeds, irrigation, fertilizers, and mechanization for example Operation Wealth Creation (OWC) in Uganda provides inputs and technical support to smallholder farmers, Green Revolution programs in parts of Asia (India, Bangladesh) increased cereal production significantly. They are effective in increasing crop yields and national food availability.

Challenges remain, such as unequal access, low adoption rates, and poor extension services in rural Africa.

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ACTION PLAN FOR ADDRESSING FOOD SHORTAGES IN AFRICA

1. Strengthen agricultural productivity

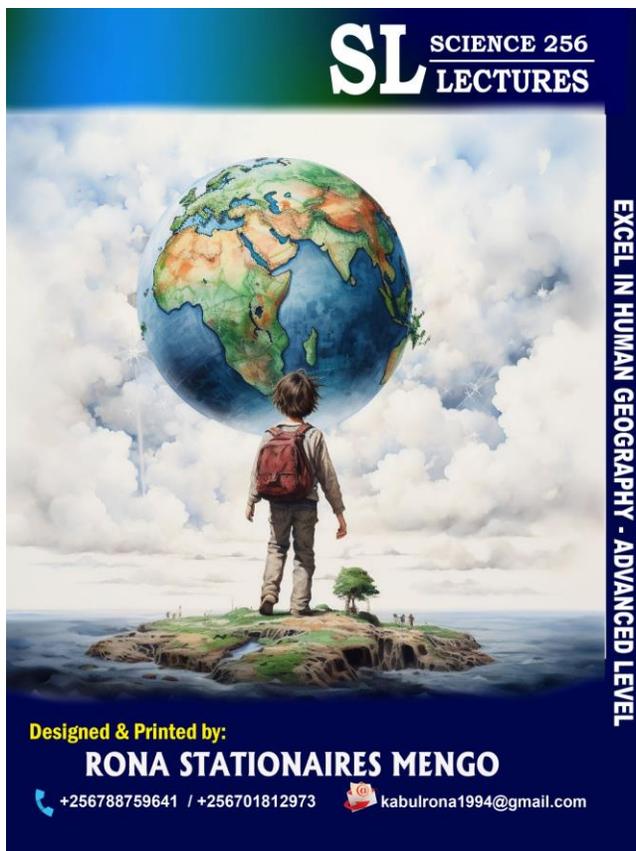
This can be done through:

- Provide **improved seeds, fertilizers, and farming tools** to smallholder farmers.
- Promote **mechanization** and modern farming techniques.
- Establish **agricultural extension services** to train farmers in pest control, soil management, and crop rotation.

This will increase food production, reduced regional disparities, higher household incomes.

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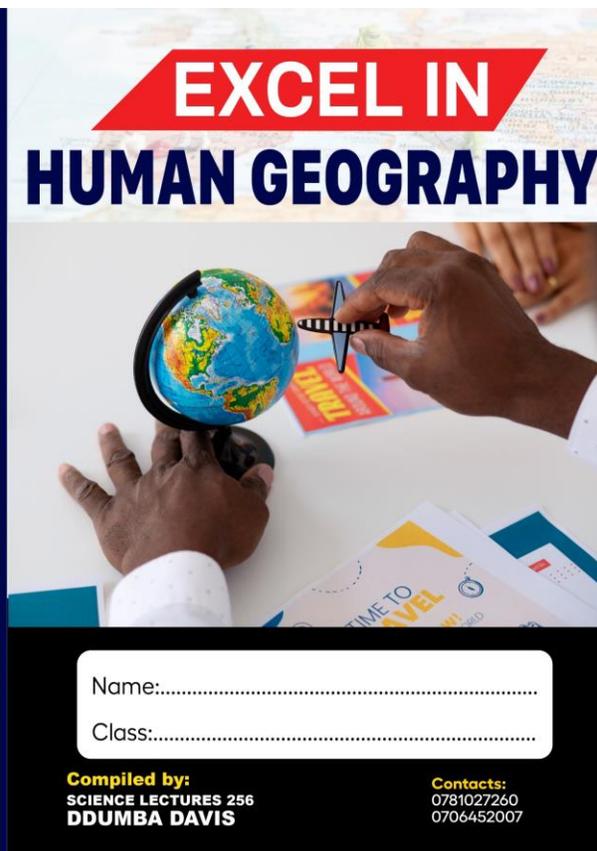


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