

UNIT SEVEN

CONTEMPORARY GEOGRAPHIC ISSUES AND PUBLIC CONCERNS IN ETHIOPIA

7.1 Natural Resource Degradation

7.1.1 Soil Degradation

Soil degradation refers to the deterioration of soil quality due to processes like erosion and leaching. Soil erosion, particularly by running water, is a severe issue in Ethiopia.

- **Erosion:** The process where soil is worn away by natural forces like water, wind, ice, or waves. While erosion is natural, human activities often accelerate it.

Causes of Soil Erosion

1. Natural Factors:

- **Topography:** Steep slopes increase erosion.
- **Rainfall:** Intense and prolonged rainfall can lead to higher erosion rates.
- **Soil Type:** Certain soil types are more prone to erosion.
- **Vegetation Cover:** Lack of vegetation increases soil vulnerability.

2. Human-made Factors:

- **Deforestation:** The removal of forests, which protect soil and prevent erosion.
- **Overgrazing:** Excessive grazing by livestock destroys vegetation, leaving soil exposed.
- **Bad Cultivation Practices:**
 - **Overcropping:** Planting too many crops depletes soil nutrients.
 - **Overcultivation:** Frequent tilling exhausts soil nutrients.
 - **Slash-and-Burn:** Clearing and burning vegetation leads to soil erosion.

In Ethiopia, approximately 1.9 billion tons of topsoil are lost annually, causing significant economic losses.

Conservation Measures

1. **Reforestation:** Planting trees in areas where forests have been removed.
2. **Afforestation:** Planting trees on land that was not previously forested.
3. **Terracing:** Creating level surfaces on slopes to reduce runoff.
4. **Strip Cultivation:** Alternating crops in strips to prevent erosion.
5. **Intercropping:** Growing multiple crops together to cover soil.

6. **Contour Ploughing:** Ploughing across slopes to slow runoff.
7. **Improved Grass Types:** Developing grasses that can support more livestock.
8. **Proper Track Construction:** Designing tracks to minimize erosion.
9. **Check Dams:** Building small dams to capture runoff.
10. **Shelter-Belts:** Planting trees to protect soil in arid areas.

Focus: Soil is a renewable resource that can be protected through effective conservation measures. Despite the cost, these measures are crucial for long-term sustainability.

7.1.2 Vegetation Degradation

Vegetation degradation is evident from deforestation, caused by:

- **Demand for Fuelwood:** Overharvesting trees for firewood.
- **Construction Material:** Clearing forests for building materials.
- **Expansion of Agricultural Lands:** Converting forests into farmland.
- **Slash-and-Burn Practices:** Clearing land by burning.
- **Overgrazing:** Excessive grazing reduces vegetation cover.
- **Forest Fires:** Both natural and human-induced fires destroy forests.
- **Expansion of Settlements:** Urban expansion into forest areas.

Mitigation Measures

1. **Reforestation:** Planting trees after deforestation.
2. **Afforestation:** Planting trees on previously non-forest land.
3. **Controlling Burning Practices:** Limiting slash-and-burn methods.
4. **Agroforestry:** Integrating trees and shrubs into agricultural systems.
5. **Alternative Energy Sources:** Reducing reliance on wood for fuel.
6. **Alternative Raw Materials:** Using non-wood materials for construction.
7. **Controlling Overgrazing:** Managing livestock to prevent overgrazing.
8. **Population Control:** Managing population growth to reduce pressure on forests.

Capacity Building and Institutional Development

1. **Environmental Education:** Raising awareness about forest management.
2. **Forest-Related Curricula:** Developing and implementing educational programs on forestry.
3. **Community Forest Protection:** Enforcing legal measures to protect community forests.
4. **Community Participation:** Engaging communities in forest conservation efforts.

7.1.3 Water Resource Degradation

Ethiopia, known as the “Water Tower of East Africa,” faces several water resource challenges:

- **Recurring Droughts:** Occurring every 3 to 5 years.
- **Lake Disappearance:** Some rift valley lakes are drying up.
- **Water Pollution:** Increasing contamination from pollutants.
- **Growing Demand:** Rising population increases the need for clean water.

Conservation and Management Strategies

1. **Include Costs and Benefits:** Assess the impact of protecting watersheds and ecosystems in projects.
2. **Protect Ecosystems:** Integrate the protection of wetlands and forests into water management.
3. **Control Health Hazards:** Ensure environmental health in dam and irrigation designs.
4. **Assess Exotic Species:** Study the impact of introducing new species into water ecosystems.
5. **Protect Water Interfaces:** Safeguard lake shores and riverbanks.
6. **Involve Local Users:** Engage communities in planning and managing water resources.
7. **Recycle Waste Water:** Safely reuse wastewater when possible.
8. **Artificial Recharge:** Enhance ground and surface water levels.
9. **Improve Water Management:** Optimize irrigation practices.
10. **Support Private Sector:** Provide technical and financial support for water resource development.

7.2 The Ethiopian “Green Legacy” Movement

Overview

The “**Green Legacy**” Initiative is a significant tree planting campaign launched by Ethiopian Prime Minister Abiy Ahmed in 2019. This movement aims to address climate change and combat deforestation through large-scale afforestation and reforestation efforts.

Objectives of the Green Legacy Movement

1. **Combat Climate Change:** By increasing the number of trees, the initiative helps absorb carbon dioxide from the atmosphere, which mitigates the effects of climate change.
2. **Reduce Deforestation:** The movement seeks to counteract the loss of forests caused by human activities such as logging and land clearing.
3. **Enhance Soil and Water Management:** Planting trees contributes to better soil conservation and improved water management by reducing soil erosion and enhancing the water-holding capacity of the soil.

4. **Promote Climate-Smart Agriculture:** The initiative supports farming practices that are more resilient to climate change, aiming to boost agricultural productivity and improve food security.
5. **Prevent Environmental Conflicts:** By managing natural resources sustainably, the movement seeks to reduce conflicts related to resource scarcity.
6. **Fight Desertification:** The tree planting efforts aim to restore degraded lands and prevent the spread of deserts.
7. **Build a Climate Resilient Economy:** The goal is to create a green economy that is less vulnerable to climate change impacts.
8. **Ensure Gender Equality:** The initiative emphasizes inclusive participation, ensuring that both men and women contribute to and benefit from the movement.

Key Components

- **Tree Planting Goal:** The Green Legacy initiative aims to plant 20 billion seedlings across Ethiopia over a four-year period (2020-2023).
- **Post-Planting Care:** After planting, ongoing care such as watering, weeding, and replacement planting is essential to ensure the survival and growth of the new trees.
- **Strategic Documents:** The movement is guided by several strategic documents, including the Climate Resilient Green Economy (CRGE) Strategy, the Ten-Year National Forest Sector Development Program, and the Bamboo Development Strategy and Action Plan. These documents align with global goals and outline Ethiopia's approach to afforestation, urban greening, and sustainable forest management.

Expected Effects

- **Environmental Benefits:** Increased tree cover helps reduce soil erosion, improves air quality, and enhances biodiversity.
- **Economic Benefits:** By boosting agricultural productivity and creating green jobs, the movement contributes to economic development.
- **Social Benefits:** The initiative promotes community engagement and improves the quality of life by restoring natural landscapes and providing recreational spaces.

Summary

The Ethiopian “Green Legacy” movement is a critical effort aimed at reversing environmental degradation through massive tree planting and sustainable land management practices. By addressing climate change, deforestation, and soil erosion, the initiative supports Ethiopia's long-term environmental, economic, and social goals.