Theory of change
Climate Degradation
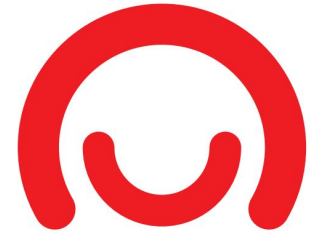
Polish aid

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OBJECTIVE FOR THE THEORY OF CHANGE

Global Education brings understanding for people who live all their lives in a single perspective. Deepening the understanding of the complexity of social, economic, and environmental issues in the Global South. Through education, workshops, discussions with international partners, and mentors from Poland, participants will gain knowledge about challenges such as: - gender inequality, - climate change (e.g., how to effectively protect biodiversity and ecosystems), - lack of access to education. This will enable participants to develop comprehensive social solutions.

Research shows that 3.6 billion people already live in areas highly susceptible to climate change. Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from undernutrition, malaria, diarrhoea and heat stress alone. Around 2.4 billion women of working age are not afforded equal economic opportunity and 178 countries maintain legal barriers that prevent their full economic participation, according to the World Bank's Women, Business and the Law 2022 report. Moreover, about 700 million people live in extreme poverty that means living on less than $1.90 per day. 783 Million People Face Hunger Globally According to FAO Report. In 2021, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) estimated that 2 billion people worldwide lack access to clean water.

The objective for Theory of Change is to present two mayor challenges across six selected countries. Each Theory of Change consists of mapping causes and effects from human, social, environment, policy, geopolitics point of view.

Sources WHO RISE AGAINST HUNGER VOX

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Osoby, które współtworzyły Teorie Zmian - Degradacja klimatu

Imię i nazwisko	Imię i nazwisko	Imię i nazwisko	Imię i nazwisko
Piotr Sawul	Julian Serobradzi	Maciej Kornitut	Michał Tuleza
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Amelia Kamińska	Julia Hoiauma	Agata Łojecwska	

Antonina Leonik	Hanna Bartis	Laura Brzyński	
Amelia Stypułkowska	Małgorzata Kraoć	Jakub Jungiełewicz	Jakub Sadowki
Adam Kaczanowski	Maciej Tyliniewicz	Helena Vermeir	

Wyniki prac Teorii Zmian - Degradacja klimatu

Publikacja Teoria Zmiany - Brak równości szans kobiet i mężczyzn dotyczy Projektu "Social Ventures For Humanity". Projekt współfinansowany w ramach polskiej współpracy rozwojowej Ministerstwa Spraw Zagranicznych RP - na podstawie Umowy EG/2024/A/09 zawartej 2 października 2024 roku pomiędzy Fundacją Unsung Heroes (KRS: 0001020541) oraz Fundacją Edukacja dla Demokracji (0000037647).

Uczestnicy wyrażają zgodę na rozpowszechnianie Rezultatów Projektu.

Osoby, które współtworzyły Teorie Zmian - Degradacja klimatu

Imię i nazwisko	Imię i nazwisko	Imię i nazwisko	Imię i nazwisko
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Adam Kaczanowski	Maciej Tynkiewicz	Helena Vermeir	

PERSPECTIVE OF SIX COUNTRIES

Michell Anyosa Cornelio

LinkedIn

Nelson John

LinkedIn

Joël Bagheni

LinkedIn

Claude Nimbona

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Edward Lalika

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Jahanara Begum

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PERU

Deforestation in Peru.

Peru is experiencing rapid environmental degradation, particularly in the form of deforestation, which threatens ecosystems and local communities. The loss of tropical forest areas has serious consequences for biodiversity and water resources.
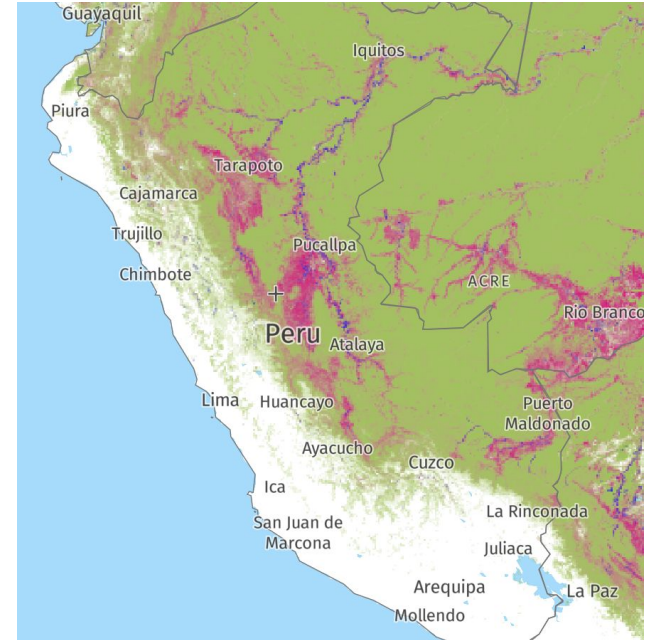
■ Peru Deforestation Rates 2001-2023 r.

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Deforestation in the Amazon in Peru averages 500,000 hectares per year. Rural areas face droughts and soil degradation, directly threatening the livelihoods of 60% of the population dependent on agriculture.
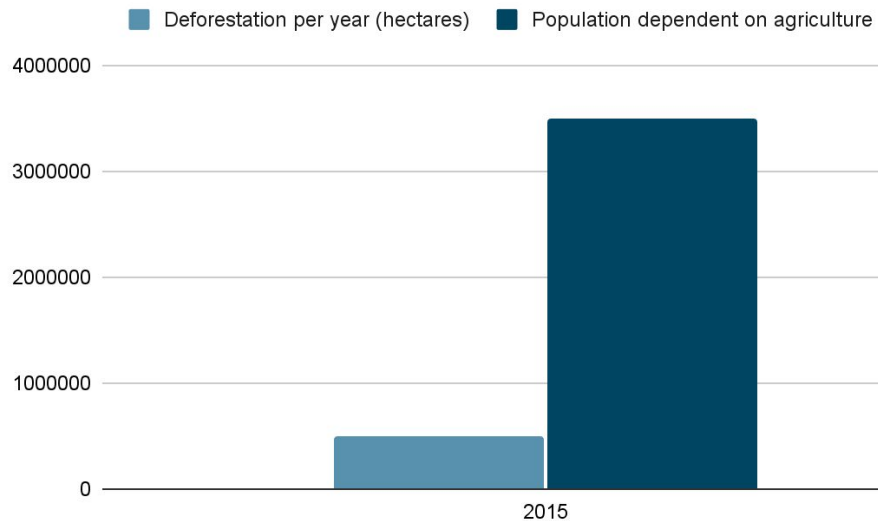
Deforestation per year (hectares) ■ Population dependent on agriculture

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CLIMATE DEGRADATION - PROBLEM EFFECTS

Environmental degradation leads to:

- **Ecological: Loss of biodiversity and increased risk of flooding.**
- **Social: Loss of income for local communities and deterioration of public health.**
- **Economic: Decreased agricultural productivity and increased costs to the national economy."**
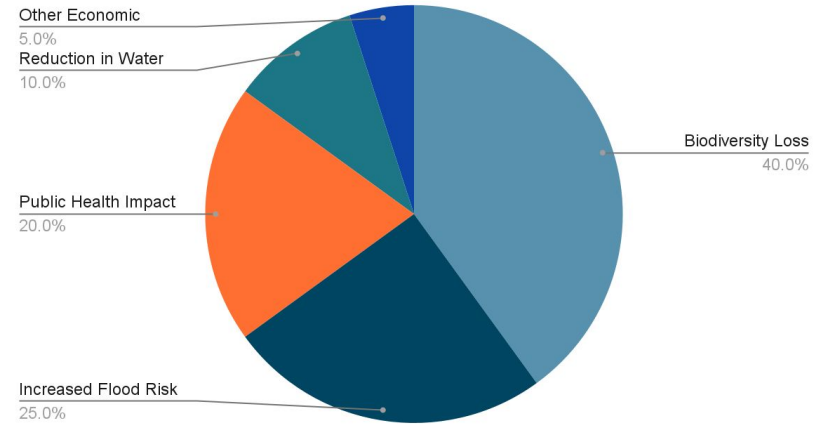
Other Economic
5.0%
Reduction in Water
10.0%
Public Health Impact
20.0%
Increased Flood Risk
25.0%
Biodiversity Loss
40.0%

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The main causes of environmental degradation in Peru are:
- Economic: Increased demand for land for crops such as coffee and cattle ranching.
- Political: Low effectiveness of environmental regulations and lack of resources to enforce them.
- Social: Low environmental awareness among farming communities.

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CLIMATE DEGRADATION - CORE PROBLEM DEFINITION

Definition: Climate degradation in Peru is driven by deforestation, mining, and agriculture, especially in the Amazon and Andes. These activities damage ecosystems, increase carbon emissions, and worsen droughts, floods, and soil erosion, endangering biodiversity and water resources.

Core Issues:

- **Deforestation and Habitat Loss:** 140,000 hectares of Amazon forest are lost annually, harming biodiversity and indigenous livelihoods.
- **Mining Impact:** Widespread mining contributes to water pollution, mercury contamination, and soil degradation.
- **Agricultural Vulnerability:** Droughts and floods disrupt rain-fed farming, leading to food insecurity for rural communities.

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CLIMATE DEGRADATION - NUMBERS

Deforestation
140,000 hectares of rainforest lost each year, mainly due to illegal logging and agriculture.

Emissions
51% of Peru's greenhouse gas emissions stem from deforestation and land-use changes.

Water Issues
The coastal area, home to 53% of the population, holds only 2% of water resources, with significant pollution due to mining.

Biodiversity Loss
Habitat destruction endangers many species in Peru's Amazon rainforest.

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SOCIAL VENTURES FOR HUMANITY

CLIMATE DEGRADATION - PROBLEM EFFECTS

Environmental Impact: Deforestation, primarily in the Amazon, threatens biodiversity and disrupts natural water cycles, worsening droughts and reducing clean water access.

Economic Consequences: Resource depletion from deforestation and mining impacts agricultural productivity and tourism, key economic sectors. Soil erosion and reduced water quality also drive up costs for farming and infrastructure repair.

Social and Cultural Effects: Indigenous communities, who rely on the forest for livelihood and cultural practices, face land loss and displacement. As rural resources dwindle, migration to urban areas increases, adding to poverty and straining public services.

Political Challenges: Weak enforcement of environmental regulations allows for ongoing illegal mining and logging, hindering sustainable management efforts and reducing trust in governance.

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CLIMATE DEGRADATION - PROBLEM CAUSES

Environmental Causes: Deforestation for agriculture, especially in the Amazon, is a primary cause, along with illegal logging and mining activities. These lead to habitat destruction, soil erosion, and carbon emissions, intensifying climate change impacts.

Economic Factors: Economic reliance on extractive industries like mining and agriculture increases pressure on natural resources. As Peru's economy grows, there's a rising demand for land and resources, leading to unsustainable practices that deplete the environment.

Political Factors: Weak regulation and enforcement allow illegal deforestation and mining to persist. Limited government intervention, especially in remote areas, contributes to unchecked environmental damage.

Cultural and Social Factors: For rural and indigenous communities, land-use practices are closely tied to livelihoods, sometimes leading to unsustainable resource use under economic pressure. Additionally, lack of resources for education on sustainable practices contributes to the problem.

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CLIMATE DEGRADATION – ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

Deforestation:
Illegal logging and agriculture are major causes, leading to the loss of Amazon forests, increased carbon emissions, and disruption of ecosystems.

Mining:
Mining activities, especially illegal gold mining, cause deforestation, river contamination, and environmental pollution.

Agriculture:
Unsustainable agricultural expansion contributes to soil erosion, land degradation, and loss of biodiversity.

Weak Governance:
Inadequate enforcement of environmental laws, especially in remote areas, allows illegal activities to continue.

Climate Change Vulnerability:
Glacial retreat and rising sea levels threaten water resources and agriculture, impacting millions of people.

Cultural Practices:
Short-term economic benefits in rural areas often prioritize immediate needs over sustainable practices, worsening environmental issues.

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SOCIAL VENTURES FOR HUMANITY

SOURCES

- World Bank Reports on Gender Equality
- National Institute of Statistics and Informatics (INEI), Peru
- UN Women
- Peruvian Ministry of Development and Social Inclusion (MIDIS)

NIGERIA

SOCIAL VENTURES
FOR HUMANITY

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Core problem

The core environmental problem in Nigeria is flooding.

STATISTICS (15.10.2024)

- 1.3 M people from 33 states across Nigeria were affected by floods
- over 300 deaths
- nearly 3000 injured people
- almost 120k houses damaged about 710k people were displaced

most affected state is Borno

Causes of flooding

01 heavy rainfall during the rainy season (monthly on average across all states it is about 180mm/m^3)
--> river water levels rising even up   to 10 meters (around 3 meters is the average)

02 poor urban infrastructure and drainage systems

03 climate change

04 deforestation

05 blockages from waste disposal in the rivers

EFFECTS OF FLOODING

social
displacement of people, children separated from their caregivers, people stuck in the temporary shelters

agricultural loses, destroyed buisnesses and properties -> financial loses
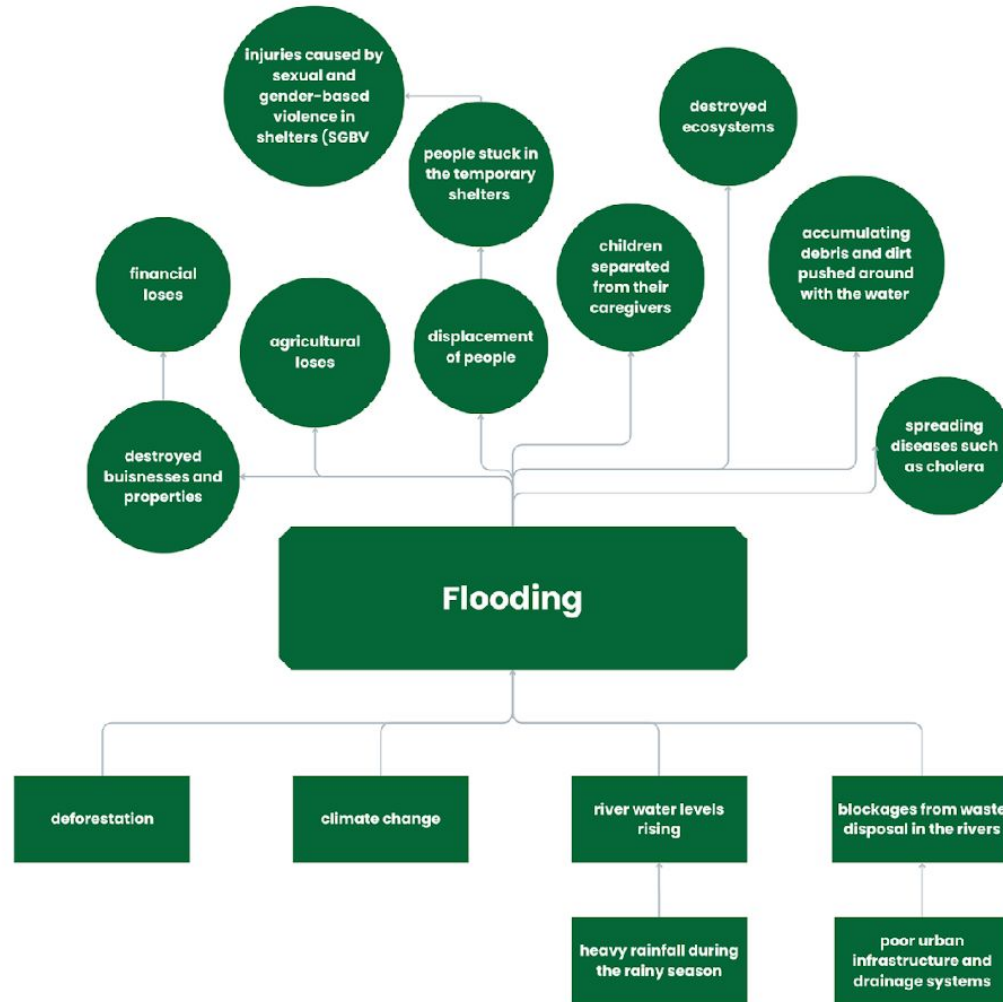economic

environmental
destroyed ecosystems, accumulating debris and dirt pushed around with the water

spreading diseases such as cholera, injuries caused by sexual and gender-based violence in shelters (SGBV)
health

Core problem:
Climate Change in
Nigeria
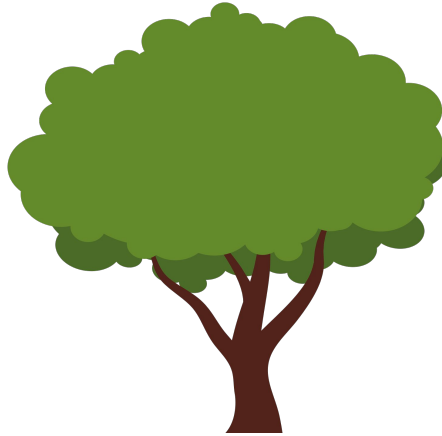
Effects:

- Lack of
food
- Droughts
- Floods

Causes:

- Deforestation
- Air and water pollution
- Lack of ecological
education

CLIMATE DEGRADATION -NUMBERS

Climate change in Nigeria affects over 100 million people, with agriculture, water, and health being the most impacted. Around 70% of Nigerians rely on farming, and crop yields have dropped by 25-30%, leading to food insecurity for 30 million people. Water scarcity affects 40% of the population, especially in the north. Coastal cities like Lagos face flooding and erosion, threatening over 2 million people. Climate change also increases diseases like malaria and cholera, affecting thousands annually.

CLIMATE DEGRADATION -PROBLEM EFFECTS

Cultural:

Traditional farming and fishing practices are disrupted, and cultural sites in vulnerable areas are at risk from flooding and droughts.

Economic:

Climate change reduces agricultural productivity by 25-30%, affecting food security for millions and increasing costs. Droughts and floods damage infrastructure, disrupting trade.

Environmental:

Rising temperatures and erratic rainfall cause desertification in the north and flooding in coastal areas. Lagos is particularly vulnerable to sea-level rise and erosion.

Political:

Displacement from flooding and desertification causes internal migration, leading to conflicts over resources. The government faces pressure to act, but resources are limited.

Other:

Health risks increase, with diseases like malaria and cholera spreading due to changing weather patterns. Urban areas face overcrowding as people migrate, putting strain on social services.

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SOCIAL VENTURES FOR HUMANITY

CLIMATE DEGRADATION -PROBLEM CAUSES

Cultural:

Traditional farming practices and overgrazing of livestock increase land degradation, contributing to desertification, particularly in northern Nigeria.

Economic:

High greenhouse gas emissions from industries, especially oil extraction, contribute to air pollution and climate change in Nigeria.

Environmental:

Deforestation and uncontrolled natural resource exploitation, such as logging and burning fossil fuels, lead to soil erosion, loss of biodiversity, and increased CO2 emissions.

Political:

Ineffective environmental policies and government corruption prevent strong action against climate change, as political and economic interests often take priority.

Other:

The growing number of vehicles and industrial development in cities raises emissions, while land-use changes due to urbanization lead to more pollution.

CLIMATE DEGRADATION -ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

- Agricultural practises: Unsustainable farming methods, such as slash-and-burn and overgrazing, degrade the land and release carbon into the atmosphere.
- Urbanization: Rapid urban growth increases energy consumption, pollution, and land use changes, which contribute to greenhouse gas emissions.
- Waste Managment: Poor waste management, including the burning of waste and lack of recycling, releases CO_2 and methane into the air.
- Population growth: A growing population puts pressure on resources, leading to more deforestation, land degradation, and pollution.

**DEMOCRATIC
REPUBLIC
OF CONGO**

CLIMATE DEGRADATION - CORE PROBLEM DEFINITION

Definition: Environmental destruction in the East of the Democratic Republic of the Congo is driven by both human and natural factors, including deforestation, volcanic eruptions, and conflicts. These factors disrupt the ecosystem, affecting both wildlife and agriculture, and contribute to worsening climate change.

Problem:

- **Deforestation and Park Destruction:** Over 120 km² of protected parks have already been destroyed due to ongoing conflicts and human encroachment. This leads to habitat loss for wildlife and contributes to increased carbon emissions.
- **Volcanic Activity:** Two volcanoes in the region are constantly erupting, disrupting both the local environment and agriculture, which exacerbates soil erosion and water scarcity.
- **Weather Disruptions:** The lack of a proper weather management system in the region results in erratic rainfall patterns, causing severe droughts and poor agricultural yields.
- **Hunger and Agricultural Decline:** Decreased agricultural productivity, loss of wild game, and migration for grazing land have led to widespread hunger, particularly in the eastern provinces.

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SOCIAL VENTURES FOR HUMANITY

CLIMATE DEGRADATION - NUMBERS

Deforestation: The DRC lost 7.1 million hectares of humid primary forest from 2000 to 2023, reducing forest cover by 15%.

Agriculture: Over 80% of the population relies on agriculture, making the country highly vulnerable to climate disruptions. Climate change has reduced crop yields by up to 20% in some areas

Water & Sanitation: 70% of rural households lack access to clean water, with water-borne diseases like typhoid and diarrhea being common.

Health: Anemia rates are increasing due to poor agricultural conditions and water scarcity.

Natural Disasters: Landslides and floods have become more frequent, worsened by deforestation and extreme weather.

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CLIMATE DEGRADATION - PROBLEM EFFECTS

Cultural effects:

- Climate change leads to displacement and disrupts traditional practices, particularly agriculture.
- Sacred lands and cultural heritage are threatened by environmental degradation .

Political effects:

- The lack of resources, especially water and land, increases conflicts and political instability, particularly in the east, where rebel groups operate .
- The government faces challenges in managing the impacts of climate change in already vulnerable regions.

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CLIMATE DEGRADATION - PROBLEM EFFECTS

Economic effects:

- Agriculture, a key sector of the economy, suffers from unpredictable weather patterns, leading to crop failures and food insecurity.
- Rising living costs, particularly for water, further burden households.

Environmental effects:

- Deforestation leads to soil erosion and biodiversity loss, damaging ecosystems and agriculture .
- Water shortages are exacerbated by changing rainfall patterns and overuse of unprotected water sources .

Health effects:

- Poor sanitation and contaminated water lead to diseases like typhoid and cholera, especially in rural areas.
- Increased malnutrition due to decreased agricultural production .

Social effects:

- Increased poverty in rural areas dependent on agriculture leads to greater migration to cities, which struggle with overburdened resources and social services.

CLIMATE DEGRADATION - PROBLEM CAUSES

1. **Agricultural Expansion**
   The demand for farmland, especially for crops like cassava and maize, leads to deforestation.
2. **Population Growth and Urbanization**
   Increased urbanization and population growth contribute to land pressure, with forests cleared for housing and infrastructure.
3. **Energy and Resource Extraction**
   Charcoal and firewood are primary energy sources, contributing to deforestation. Logging, both legal and illegal, also accelerates forest depletion.
4. **Policy and Regulatory Issues**
   Weak enforcement of forest protection laws and corruption allow illegal logging and resource exploitation.

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CLIMATE DEGRADATION – ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

Inadequate Support for Sustainable Farming:

- The DRC has a large rural population dependent on agriculture, often using traditional farming methods. These methods, especially in the absence of agroforestry or sustainable alternatives, lead to deforestation as farmers clear more land for crops like cassava, maize, and coffee.

Limited Access to Education and Awareness:

- Many rural communities in the DRC have limited access to education, which affects their ability to adopt sustainable farming practices or understand the environmental impacts of deforestation.

Insufficient Investment in Renewable Energy:

- The DRC heavily relies on charcoal and firewood for energy, which drives the demand for forest resources. This dependence contributes to the degradation of the country's forests, exacerbating climate change issues.

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SOURCES

UN Women Data Hub

Women for Women International

World Bank

UNICEF

FAO (Food and Agriculture Organization)

DRC National Gender Strategy (2021)

UGANDA

Deforestation

Deforestation is the process of permanently removing forested areas, most often through logging or burning vegetation, leading to a reduction in forested land.

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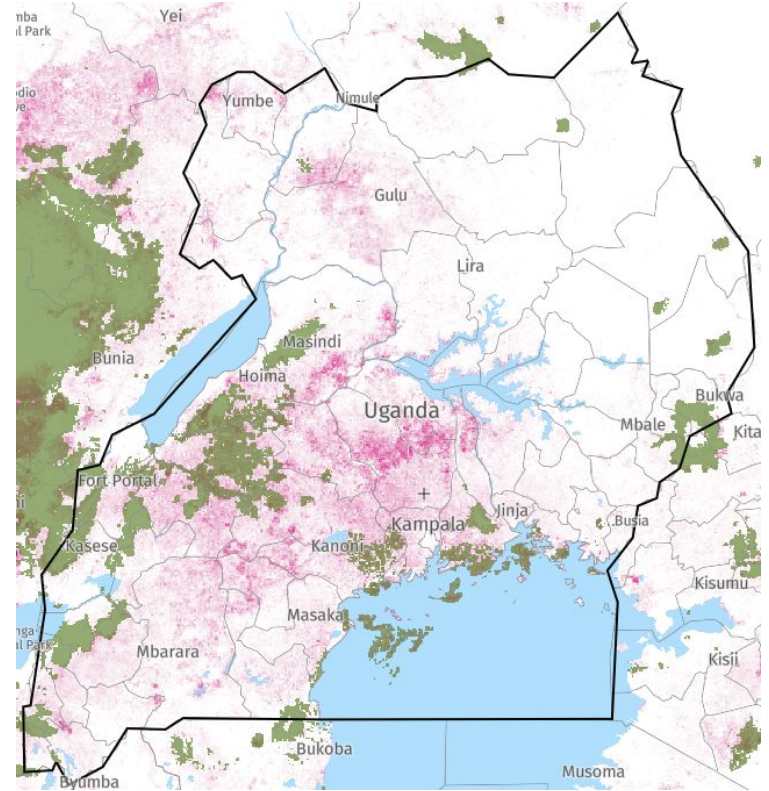
CLIMATE DEGRADATION - NUMBERS

From 2001 to 2023 Uganda lost 1.10 Mha ~14% of tree cover

Since 2000 deforestation has contributed to the 500 Mt of CO_2 emissions

Since 2001 to 2023 Luvero had the most tree loss at 105 kha compared to an average of 19 kha

● **Primary forests**

● **Tree cover loss**

Sources: GLOBALFORESTWATCH

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- **Loss of biodiversity and habitats for many plants and animals**
- **Soil erosion**
- **Reducing wood resources which are the source of energy for most households**
- **Loss of many sources of water that are stored and filtered by trees and plants, dirty water causes many diseases**
- **Loss of forests where traditional ceremonies and rituals are practiced**
- **Conflicts and protests to stop climate change and deforestation (video about protests)**

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CLIMATE DEGRADATION - PROBLEM CAUSES

- **Climate changes that leads to desertification**
- **Failure to follow government advices (You cut down one tree, plant two trees)**
- **Cutting down and burning forests for agriculture**
- **The problem with illegal logging**
- **Expanding cities**
- **Armed conflicts that destroy forests**

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CLIMATE DEGRADATION – ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

- Cutting down trees fuels desertification and desertification fuels deforestation
- The government is taking the issue of deforestation very lightly, which is why the population does not respect it
- Low education of society in the field of ecology and small investments in this area
- Instead of planting new trees, residents are moving to areas with better conditions

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Deforestation in Uganda and its effects on agriculture

Definition: Widespread tree cutting for agriculture and fuel accelerates soil erosion and reduces water retention.

Problem: Prolonged periods of drought and erratic rainfalls have become more frequent due to massive deforestation. In the past 20 years, Uganda has lost over a million hectares of tree cover—nearly a third of the country's total.

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CLIMATE DEGRADATION - NUMBERS

Climate changes:

- **Water and Sanitation Issues**
  - **70%** of rural Ugandans rely on unprotected water sources, which are easily contaminated during heavy rains.
  - **96%** of illness in these communities is linked to poor sanitation and contaminated water.
  - **Diarrheal Diseases** (like typhoid) spike during rainy seasons, impacting community health and productivity.
- **Deforestation and Environmental Impact**
  - From **2002** to **2023**, Uganda lost **77.1 kha** of humid primary forest, making up **7.2%** of its total tree cover loss in the same time period. Total area of humid primary forest in Uganda decreased by **15%** in this time period.
  - **80%** of Ugandans depend on agriculture for their livelihood, making them highly vulnerable to climate disruptions.
  - Today, **27.8%** of land in Uganda is under forest, a significant decline from **32%** in 2000 (GFW, 2021).
- **Agricultural Vulnerability and Food Insecurity**
  - **80%** of Ugandans depend on agriculture for their livelihood, making them highly vulnerable to climate disruptions.
  - **40%** of households experience food insecurity during droughts, leading to malnutrition and economic stress.

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CLIMATE DEGRADATION - PROBLEM EFFECTS

Climate Impact

- **Rainfall Reduction:**
    - Forests in Uganda play a crucial role in the local water cycle. Loss of forests has been linked to decreasing rainfall, which impacts agriculture and water availability. Reduced rainfall also affects income for the 80% of Ugandans reliant on agriculture.
- **Resource Allocation Challenges:**
    - Rural areas struggle to receive the support needed for climate resilience and water access solutions.
- **Soil Degradation and Erosion**
    - Trees protect soil from erosion, so deforestation often results in soil degradation, making it difficult for the land to sustain crops and vegetation.

Economic and Social Impacts

- **Impact on Rural Communities**
    - loss of resources like fuelwood, medicinal plants, and non-timber forest products..
- **Community Health Impact**:
    - Widespread illness from contaminated water disrupts daily life and productivity.
- **Increased Poverty**
    - Reduced agricultural productivity and biodiversity loss worsen poverty in rural areas.

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CLIMATE DEGRADATION - PROBLEM CAUSES

Human Demand and Resource Pressure

- **Agricultural Expansion:**
  - Growing demand for farmland, particularly for crops like coffee, sugarcane, and tobacco.
- **Population Growth and Urbanization**
  - Increased demand for housing, infrastructure, and development, especially in expanding cities.

Energy and Resource Extraction

- **Charcoal and Timber Extraction:**
  - High reliance on wood fuel (charcoal and firewood) for energy needs.
- **Commercial Logging:**
  - Both legal and illegal logging for timber and wood products accelerates forest loss, driven by domestic and export demands.

Policy and Regulatory Issues

- **Land-Use Policies:**
  - Weak enforcement of forest protection laws and limited land management policies.
- **Corruption and Lack of Accountability:**
  - Corruption within local and national regulatory bodies often allows illegal logging and deforestation to continue unchecked, undermining conservation efforts.

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CLIMATE DEGRADATION – ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

Other indirect causes:

- **Inadequate Support for Sustainable Farming**
    - Lack of resources for sustainable agricultural practices, such as agroforestry, drives farmers to use traditional methods that require more land and resources, indirectly leading to forest clearing.

- **Limited Access to Education and Awareness:**
    - Low levels of environmental awareness contribute to unsustainable land use practices. Many communities lack education on sustainable farming, forest conservation, and alternative livelihoods.

- **Insufficient Investment in Renewable Energy**
    - With limited infrastructure and investment in renewable energy, households continue to depend on wood fuel. This indirect cause perpetuates the demand for charcoal and firewood from forests.

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TANZANIA

Cobalt mines are contaminating environment, there are also children working there. There is no clean and drinkable water available and mines are making this problem even worse.

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CLIMATE DEGRADATION - PROBLEM CAUSES

Causes:

- Presence of natural resources and minerals in the area
- Economic structure (country living form agriculture and industry)
- Country being in debt are making DRC an easy target for rich western countries to open their mines there.
- Damage to water infrastructure - prolonged conflict has led to the destruction of water infrastructure, such as pipelines, pumps, and treatment facilities. When infrastructure is damaged, it becomes difficult to deliver clean, safe water to communities, especially in rural and conflict-prone areas.
- Pollution from Mining Activities - Unregulated mining for valuable minerals pollutes rivers and groundwater with toxic chemicals, severely impacting water quality. This pollution reduces the availability of safe drinking water for surrounding communities and harms local ecosystems.

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Effects :
- Loss of Agricultural Productivity. Polluted water impacts crop irrigation and soil health, reducing agricultural productivity and food security. Local farmers struggle to grow healthy crops, affecting both local food supplies and incomes, and increasing malnutrition rates.
- Cobalt mines have very high nitrogen dioxide and carbon dioxide emission.
  It contamines water, landscapes and harvests.
  This contamination leads to serious health problems, including respiratory diseases, developmental issues, and cancer, especially among vulnerable populations, like children.
- Contamination of water is the main reason why there are no sanitary conditions in hospitals, houses and public places. It causes death-rate between newborns and mothers very high. It also makes epidemies like cholera or ebola spread, because of drinking rainwater or water from contaminated sources.

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CLIMATE DEGRADATION - NUMBERS

 DRC is the primary producer of cobalt and the third largest producer of copper. 88% of DRC's cobalt is produced by industrial mines operated by some of the world's largest mining companies; the remaining 12% is from artisanal miners. In one of the first in-depth studies on the environmental impacts of cobalt mining on Congolese communities who live near the mines, RAID and AFREWATCH visited 25 villages and towns, and collected detailed testimonies from 144 people living around five of the world's largest cobalt and copper mines.

- *6% of the interviewees expressed serious concerns about the health of their children, whom they said appeared to experience the effects of water pollution more intensely than the adults and to develop a range of diseases at alarming rates.
- 72% reported recurring skin diseases including itching, spots, rashes, and white patches on the skin following contact with contaminated water.
- 56% expressed serious concerns about the health of their children, who they said seem to experience the effects of water pollution more intensely than the adults.
- Nearly everyone said contaminated water is negatively impacting their income and pushing them further into poverty.
- Nearly 60% said the loss of income brought about by the water pollution has forced them remove their children from school as they could no longer afford school fees.
- 59% said they have been forced to reduce their food intake to one meal a day.
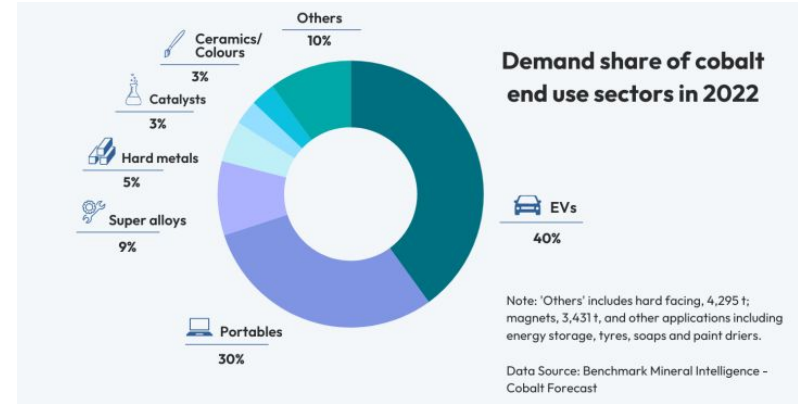- 75% say they could no longer afford healthcare or medicine when sick.

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CLIMATE DEGRADATION – ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

Political Instability and Weak Governance- Decades of political instability and conflict have weakened the DRC's governance structures, making it difficult to implement effective water management policies and environmental protections. Corruption and regulatory gaps also allow mining companies to operate without proper environmental oversight, exacerbating pollution and over-extraction of resources.

Demand share of cobalt end use sectors in 2022

- Others 10%
- Ceramics/Colours 3%
- Catalysts 3%
- Hard metals 5%
- Super alloys 9%
- Portables 30%
- EVs 40%

Note: 'Others' includes hard facing, 4,295 t; magnets, 3,431 t, and other applications including energy storage, tyres, soaps and paint driers.

Data Source: Benchmark Mineral Intelligence – Cobalt Forecast

According to the scientists, preliminary results from analysis in March 2024 showed that the five water bodies they assessed are all affected by acidified industrial pollution. The Katapula and the Kalenge rivers were classed as "hyper-acidic", while the Dipeta and Dilala Rivers were "very acidic". The scientists said these four rivers are unable to host fish, and their water is toxic for human and animal health.

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CLIMATE DEGRADATION – CORE PROBLEM DEFINITION

Definition:
Climate change in Tanzania, driven by human and natural factors, leads to environmental, agricultural, and societal damage. Deforestation, industrial emissions, and poor waste management contribute to global warming, disrupting weather patterns, causing water scarcity, and harming biodiversity.

Key Problems:

1. **Deforestation and Land Use Change:**
   Conversion of forests to agriculture releases CO2, exacerbates soil erosion, and reduces agricultural productivity, especially for rain-fed farming.
2. **Agricultural Vulnerability:**
   Climate change causes reduced rainfall, crop failure, and food insecurity, affecting 60% of the population dependent on agriculture.
3. **Water Issues:**
   Increased evaporation and rising sea levels worsen water scarcity and saltwater intrusion, while flooding damages infrastructure.
4. **Health and Social Impacts:**
   Climate change raises disease risks, including malaria and waterborne diseases, while environmental stress exacerbates mental health issues and social instability.

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CLIMATE DEGRADATION - NUMBERS

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CLIMATE DEGRADATION - PROBLEM EFFECTS

Cultural Effects:
Climate change disrupts traditional farming, affecting cultural practices and community structures, particularly in rural areas. Migration due to agricultural collapse is eroding local identities and traditions.

Political Effects:
Climate-induced resource scarcity strains government capacity, creating potential conflicts over land and water. The political system struggles to manage the growing pressures of migration and poverty.

Economic Effects:
Tanzania's economy, reliant on agriculture, faces major losses from droughts and crop failures. Water scarcity increases the cost of living, particularly in urban areas, hindering economic growth.

Environmental Effects:
Deforestation leads to soil erosion, biodiversity loss, and worsens climate impacts. Water shortages and rising sea levels threaten ecosystems, while flooding destroys infrastructure and agriculture.

Social Effects:
Health risks rise, including malaria and waterborne diseases. Food insecurity and malnutrition increase, particularly in vulnerable populations, exacerbating poverty and inequality.

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CLIMATE DEGRADATION - PROBLEM CAUSES

Cultural Causes:

- Dependence on rain-fed agriculture makes rural communities vulnerable to climate change, impacting livelihoods and traditional farming practices.

Political Causes:

- Weak governance and poor policy enforcement contribute to deforestation and resource conflicts, exacerbating environmental degradation.

Economic Causes:

- The country's heavy reliance on agriculture makes it vulnerable to climate impacts like droughts and floods. Urbanization and industrial growth also contribute to pollution.

Environmental Causes:

- Deforestation, soil erosion, and water scarcity are major environmental causes, worsened by climate change, affecting agriculture and ecosystems.

Other Causes:

- Global climate change, driven by emissions from developed countries, intensifies local weather extremes, further impacting Tanzania's climate and resources.

CLIMATE DEGRADATION - ADDITIONAL INFORMATION ABOUT CAUSES OF THE PROBLEM

Land Use and Deforestation: Deforestation and land conversion for agriculture and urban development increase CO_2 emissions, contributing to climate change. This loss of forests also disrupts ecosystems .

Agriculture: Over-reliance on rain-fed agriculture, coupled with emissions from livestock and land degradation, worsens climate change. More than 60% of Tanzanians depend on agriculture, making them vulnerable to weather shifts.

Industrialization and Mining: Growing industries, including mining, contribute to air and water pollution, deforestation, and CO_2 emissions.

Waste Management: Poor waste disposal practices, especially in informal settlements, lead to methane emissions and environmental degradation.

Urbanization: Rapid urban growth strains resources and increases emissions from transportation, waste, and energy use, especially in vulnerable informal settlements.

Water Scarcity: Climate change has led to erratic rainfall, droughts, and water pollution, intensifying water shortages and reducing water quality.

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BANGLADESH

Problem Statements

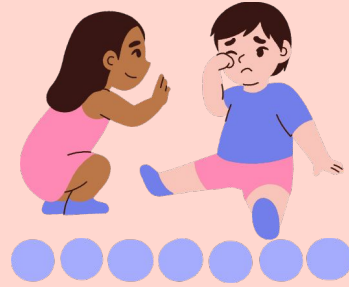1.Climate Degradation in Bangladesh
Bangladesh is one of the countries most severely impacted by climate change. The country faces significant climate threats, including frequent floods and rising sea levels, which pose serious challenges to its environment and population.

Characteristics and Numbers

1.Climate Degradation
- Floods affect approximately 70% of Bangladesh's land area annually.
- Around 15 million people are at risk of forced displacement by 2040 due to rising sea levels.
- Climate change affects 80% of people who depends on agriculture due to floods destroying crops.

Identification of Problem Sources

1.Climate Degradation
- Environmental Sources: Floods are intensifying due to climate change and rising sea levels.
- Economic Sources: Bangladesh's economy, largely reliant on agriculture and the garment industry, suffers from natural disasters that destroy infrastructure and resources.
- Political Sources: Bangladesh's limited financial and technological resources, along with minimal international support, hinder the implementation of adaptive measures.

Recap of the problems

- High risk of natural disasters.

Causes and Reasons Behind These Causes

- Bangladesh's geographic location.
- Climate change — intense storms, cyclones, and regular heavy rainfall bring serious consequences.
- Lack of global resources that could help in some way.

Thank you for your attention

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