Migration

Syrian Civil War Refugee Crisis (2011-Ongoing)

Cause: Armed conflict and War - Threatened lives (Push factor)

-Started in March 2011 when there were multiple anti-government protests that turned into a full scale civil war
-In 2023, about **6.8 million** Syrians fled the country to destinations like Jordan, Lebanon,Turkey and Europe
-Additionally about **6.7 millions** syrians are internally displaced in syria due to the widespread of armed conflict
-Migration or immediate evacuation was done due to bombings, persecution and the collapse of basic services
-The UNHCR (United Nations High Commissioner for Refugees) stated that it was the largest displacement crises of our time

Rohingya Crisis in Myanmar (2017-ongoing)

Cause: Ethnic and religious persecution (unstable Government)

-In August 2017 , the Myanmar military began major violent crackdowns against the Muslim Rohingya minority in the Rakhine State
-Over 740,000 Rohingyas fled to Cox's Bazar in Bangladesh in a matter of weeks to avoid violent deaths for no reason
-Homes were burned, civilians were killed and widespread reports started emerging that the government of Myanmar was executing the term "Ethnic cleansing"
-As of 2023, nearly 1 million Rohingya remain in refugee camps in Bangladesh.
-The UN described this phenomenon as text book "Ethnic cleansing"

Ukraine War (2022-present)

-Russia invaded Ukraine in February 2022, causing widespread displacement.
-Over 8 million Ukranians fled across Europe
-About 5.3 million civilians in Ukraine are internally displaced
-Fastest growing refugee crisis since ww2
-Triggered large scale response from the EU and the UNHCR

Population control policy to remember

China's one child policy (1979-2015) : This was done to control the massive population growth in the country. The Chinese government introduced the One Child Policy in 1979, which limited most families to one child. This policy was phased out in 2015 and replaced with a two-child policy, due to the aging population and skewed gender ratio.

Resources and its management- Impacts of resource extraction,

Athabasca Oil sands- Alberta Canada

Resource Extracted: Bitumen (Tar sands oil)

Extraction began in the early 1960s, then slowly started expansion in the 2000s

There are a plethora of impacts the extraction of Bitumen oil had on the country

Environmental impacts:

-Massive deforestation, estimated at 750 km (squared) cleared
-Greenhouse gas emissions 3x more than conventional oil
-Toxic tailings helped contaminate ponds and near ecosystems.

Social Impact

-Displacement of livelihoods
-Health contamination of indigenous communities (Cancer)\

Economic impact-

-Major contributor to Canada's GDP and energy exports

-Vulnerable to global oil price fluctuations (e.g., 2015 crash)

Coal production - Jharkhand India

Resource Extracted: Coal

Major production since 1970s, intensified especially after the 1991 liberalisation

-Jharkhand holds more than 25% of total Coal reserves in India (Ministry of Coal)

Environmental impacts:
-This induces air pollution: Open mining releases coal dust , particulate matter (PM2.5, PM10), sulfur dioxide, and nitrogen oxides, worsening air quality.

A major example is the city Dhanbad, which is known as the coal capital of India yet ranks in the top 10 most polluted cities in India.

Water pollution: Due to the discharge of heavy metals like (arsenic and mercury), which flows into the rivers like the Damodar river which makes the water unsafe for drinking and agriculture

Land degradation: Large areas of fertile land are turned into mining wastelands.

Between 2001- 2008, Jharkhand has lost 50,000 hectares of forest due to mining activities

Deforestation: Loss of forests man

Social Impact :

Displacement of tribal communities: Over 2.5 million people (mostly Adivasi/tribal communities like the Santhal and Munda) have been displaced in Jharkhand between 1950–2000, mainly due to mining (Society for Promotion of Wastelands Development, SPWD report).

Displacement of tribal communities: Over 2.5 millions people in mostly the Adivasi/tribe communities like the Santhal and the Munda have been displaced in Jharkhand between 1950-2000, mainly due to mining.

Health hazards:
Tuberculosis

Silicosis

Black lung disease

Economic Impacts:

Energy security:

In 2022, the Central electricity authority stated that of India's Electricity needs comes from Jharkhand Coal

Coal from Jharkhand fuels about **70% of India's electricity** needs (Central Electricity Authority, 2022).

This helps stir revenue generation for many organizations:

Niger Delta Oil Extraction (Nigeria)\

Resource extracted: Oil

Production started: 1958

Environmental impact:

Over 7000 oils spills between 1970-2000

This contaminated the water and soil with harmful benzenes and hydrocarbons

Social Impact
Kidnapping of oil workers die to value

Reduced rate of fishing and farming due to oil extraction

Economic Impacts:

- Oil accounts for **90% of Nigeria's exports**
- Created a **"resource curse"**—other sectors (e.g., agriculture) declined

- **Infosys**: An Indian multinational corporation that provides IT services, including business consulting, information technology, and outsourcing. Companies in the United States and Europe often outsource their IT and customer service operations to Infosys to benefit from lower labor costs and specialized expertise.

Example: Nestlé

Contribution to the Global Economy: Nestlé, a Swiss transnational food and drink company, operates in 189 countries and has a significant impact on the global economy. By leveraging its extensive global supply chain, Nestlé contributes to international trade, job creation, and economic growth. The company invests in research and development to innovate and improve its product offerings, thereby driving consumer demand and supporting related industries such as agriculture, logistics, and retail.

Impact on Local Trade: While Nestlé's operations boost local economies by creating jobs and generating tax revenue, they can also have adverse effects on local trade. The company's large-scale production and distribution capabilities can overshadow smaller, local businesses, making it difficult for them to compete. Additionally, Nestlé's reliance on local resources for raw materials can strain local ecosystems and resource availability, potentially leading to environmental degradation and conflicts over resource use.

Example: McDonald's

Contribution to the Global Economy: McDonald's, an American transnational fast food corporation, has a profound impact on the global economy through its extensive network of over 38,000 locations in more than 100 countries. McDonald's contributes to international trade by sourcing ingredients and supplies from various countries, thus supporting global supply chains. The company creates millions of jobs worldwide, from restaurant staff to corporate positions, and invests in training and development programs. McDonald's also drives economic growth by franchising its brand, allowing entrepreneurs to open and operate their own McDonald's restaurants, thereby facilitating local business ownership and investment.

Impact on Local Trade: While McDonald's boosts local economies by creating jobs and generating tax revenue, its presence can also negatively impact local trade. The corporation's standardized and efficient business model can overshadow smaller, local restaurants, making it challenging for them to compete on price and convenience. Additionally, McDonald's global supply chain practices can lead to the homogenization of food cultures, potentially diminishing local culinary traditions. The company's demand for specific agricultural products can also strain local resources and impact local farmers, who may struggle to meet the stringent quality and quantity requirements set by McDonald's.

Resource Extraction

Revenue Generation: Chilean Copper Industry

Case: Chile is the world's largest copper producer, and copper has long been its economic backbone.

Impact: In **2006**, copper accounted for **20% of GDP** and **60% of exports**. The state-owned company **Codelco** generated billions in revenue for public spending.

Source: World Bank & Chilean Ministry of Finance.

EU and trade

- **Formation**: The EU was established to foster economic cooperation, with the idea that countries that trade together are more likely to avoid conflicts.
- **Single Market**: One of the EU's core components is the single market, which allows for the free movement of goods, services, capital, and people among member states.
- **Customs Union**: The EU operates as a customs union, meaning that member states apply a common external tariff on goods entering the union and have no tariffs or quotas among themselves.

Overfishing occurs when fish are caught faster than they can reproduce, leading to a decline in fish populations. In the European Union (EU), overfishing has been a significant issue, impacting marine ecosystems, biodiversity, and the livelihoods of those dependent on fishing industries. The EU, with its extensive coastline and rich marine resources, faces the challenge of balancing economic interests with the need to preserve marine environments for future generations.

Causes and Consequences

1. **High Demand:** The demand for seafood in Europe has driven intensive fishing activities.
2. **Advanced Fishing Technology:** Modern fishing vessels and gear can capture large quantities of fish, often indiscriminately.
3. **Regulatory Shortcomings:** Inconsistent enforcement of fishing quotas and regulations across EU member states has exacerbated the problem.

Consequences include:

- Depletion of fish stocks.
- Disruption of marine ecosystems.
- Economic hardship for fishing communities.
- Loss of biodiversity.

Policies and Measures

Several EU countries have implemented policies to combat overfishing, focusing on sustainable fishing practices, protection of marine environments, and restoration of fish stocks. Here are some key policies and examples from specific countries:

1. **Common Fisheries Policy (CFP):**
    - **Objective:** Ensure that fishing and aquaculture are environmentally, economically, and socially sustainable.
    - **Measures:**
        - Total Allowable Catches (TACs) and quotas.
        - Multi-annual management plans.
        - Technical measures to improve gear selectivity.

1. India and the United States – IT Services vs Agriculture

- **India**: Not as productive in farming or manufacturing compared to the US, but has a **comparative advantage in IT services** due to a large, skilled, English-speaking workforce and lower wages.
- **USA**: Has a **comparative advantage in agriculture** due to advanced technology, infrastructure, and high productivity.

🟢 **Trade Benefit**:

- India specializes in **software and tech services**.
- The US specializes in **food exports** like wheat and corn.

  → Both benefit even though the US could technically do both more efficiently.

🏭 2. China and Germany – Manufacturing vs Machinery

- **China**: Has a **comparative advantage in mass manufacturing**, especially electronics, textiles, and toys, due to cheap labor and scale.
- **Germany**: Has a **comparative advantage in precision engineering and high-tech machinery**.

🟢 **Trade Benefit**:

- China exports **electronics and consumer goods**.
- Germany exports **cars and industrial machinery**.

  → Both specialize in what they do best (in terms of opportunity cost), even though Germany may be more advanced overall.

🌴 3. Brazil and Japan – Coffee vs Cars

- **Brazil**: Has ideal climate conditions for growing **coffee** and other tropical products—comparative advantage in agriculture.
- **Japan**: Lacks natural resources, but has high-tech industries and **comparative advantage in car manufacturing**.

🟢 **Trade Benefit**:

- Brazil exports **coffee and soybeans**.
- Japan exports **automobiles and electronics**.

  → They trade and both gain, despite Japan being more developed.

Amazon Rainforest Deforestation (Ongoing, Accelerated in 2019-2023)

Description:

The Amazon Rainforest, often called the "lungs of the Earth," plays a crucial role in absorbing CO_2. However, **mass deforestation** caused by illegal logging, agriculture, and wildfires has significantly reduced its ability to regulate global temperatures. **In 2019, deforestation rates surged by 85% compared to 2018, reaching 9,762 km² lost in a single year (Brazil's National Institute for Space Research - INPE).**

Climate Change Impact:

- Carbon sinks are reduced, leading to **higher CO_2 levels.**
- Increases **global warming** and extreme weather.
- Causes **biodiversity loss** and disrupts rainfall patterns worldwide.

Evidence:

🌍 **NASA (2021)** confirmed that parts of the Amazon are now emitting **more CO_2 than they absorb** due to deforestation and fires.

Greenland Ice Sheet Melting (Rapid Acceleration Since 2000, Major Loss in 2019 & 2022)

Description:

The **Greenland Ice Sheet** contains **8% of the world's freshwater** and its melting contributes directly to **rising sea levels.** Since 2000, melting has **quadrupled** due to global warming. **In 2019, Greenland lost 532 billion tons of ice—the highest annual loss ever recorded (NASA, 2020).**

Climate Change Impact:

- **Rising sea levels** threaten coastal cities (e.g., New York, Jakarta, Dhaka).
- Alters **ocean currents**, affecting weather patterns worldwide.
- Leads to **stronger hurricanes and typhoons** due to warmer waters.

Evidence:

🌎 **European Space Agency (ESA, 2022)** reported that if Greenland's ice continues melting at this rate, **global sea levels will rise by 7 meters** over centuries.

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3. China's Air Pollution & CO_2 Emissions (Beijing Smog Crisis – 2013 & Ongoing)

Description:

China is the world's largest CO_2 emitter, largely due to **coal-powered industries and vehicles.** The **2013 Beijing Smog Crisis** saw PM2.5 pollution levels **40 times higher than WHO safety limits.** By 2021, China's CO_2 emissions reached **10.7 billion metric tons**—the highest in history (Global Carbon Budget, 2022).

Climate Change Impact:

- CO_2 & methane emissions **trap heat**, worsening **global warming.**
- Air pollution causes **respiratory diseases**, shortening life expectancy.
- Acid rain damages **forests and crops**, reducing food security.

Evidence:

📊 **UNEP (2022)** states China must cut emissions by **45% by 2030** to meet Paris Agreement goals.

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4. Australia's Bushfires (2019-2020 Black Summer)

Description:

In **2019-2020**, Australia experienced **one of the worst wildfire seasons in history, called 'Black Summer.'** Over **18 million hectares (44 million acres) burned**, killing **3 billion animals** and destroying thousands of homes. **Higher temperatures (1.52°C above average) and prolonged droughts made fires more intense and frequent (Bureau of Meteorology, 2021).**

Climate Change Impact:

- Wildfires release **massive CO_2**, worsening global warming.
- Loss of **forests** reduces the Earth's ability to absorb carbon.
- Increases **heatwaves, droughts, and habitat destruction.**

Evidence:

🔥 **CSIRO (2021)** confirmed that climate change increased the **likelihood of extreme bushfires by at least 30%.**

Recession of 2012 (Global Context)

✅ Background

- This was not a full-blown global recession like in 2008, but a **slowdown** was observed in many regions, especially Europe and parts of Asia.

🌍 Major Causes

- **Eurozone Debt Crisis**: Greece, Spain, Portugal, and Italy were facing **sovereign debt issues**. Bailouts and austerity measures led to protests and stagnation.
- **Weak Global Demand**: Following the 2008 financial crash, demand for exports fell.
- **High Unemployment**: Many countries in Europe had unemployment rates >20% (e.g., Spain).
- **U.S. Recovery Was Slow**: Though recovering from 2008, the U.S. economy was still fragile.

🌐 Impact on Developing Countries

- Countries like **Myanmar** (undergoing economic opening in 2011–2012) struggled with **limited investment** and outdated infrastructure.
- Lower demand for raw materials and weak trade reduced GDP growth in fragile economies.

🔹 2. Recession of 2018 (Global Slowdown)

✅ Overview

- This wasn't a formal recession by definition (no two consecutive quarters of negative growth globally), but several warning signs appeared.

🌍 Major Triggers

- **U.S.-China Trade War**:
  - Imposition of tariffs by both countries.
  - Disturbed global supply chains.
  - Increased cost of goods worldwide.
- **Global Tech Slowdown**:
  - Weak sales in smartphones, chips, and consumer electronics.

- **Rising U.S. Interest Rates**:
    - Caused **capital outflow** from emerging markets like Haiti and Myanmar.
    - Led to **currency depreciation** and rising **import costs**.
- **Stock Market Volatility** in Q4 of 2018.

🌐 Impact on Poorer Nations

- Fragile economies faced inflation and currency crisis.
- IMF had to assist some countries with bailouts.
- Development projects were stalled due to high borrowing costs.

🔹 3. Myanmar Earthquake (2011–2012)

📍 Event Details

- **Date**: March 24, 2011 (main event), with aftershocks continuing into 2012.
- **Magnitude**: 6.8 on the **Moment Magnitude Scale (Mw)**.
- **Depth**: Shallow earthquake (~10 km) – more destructive.
- **Location**: Eastern Myanmar, near the Thai-Laos border.

🌐 Scientific Cause

- Tectonic activity along the **Sagaing Fault** – a major **strike-slip fault** accommodating movement between the **Indian Plate** and **Southeast Asian block**.
- Area is seismically active due to **convergent plate boundaries**.

⚠️ Impact

- 70+ deaths reported.
- Severe infrastructure damage in Shan State and nearby regions.
- Historic temples in Thailand and Myanmar were damaged.

🔹 4. Haiti Earthquake (2010 – Aftershocks till 2012)

📍 Event Details

- **Date**: January 12, 2010 (main quake); aftershocks continued into 2011–2012.
- **Magnitude**: 7.0 Mw
- **Depth**: 13 km (shallow and destructive)
- **Epicenter**: 25 km west of Port-au-Prince

🌐 Scientific Cause

- Occurred along the **Enriquillo-Plantain Garden Fault Zone**.
- A **left-lateral strike-slip fault** between the **Caribbean Plate** and **North American Plate**.
- No warning signs were detected due to the lack of modern sensors in Haiti.

⚠️ Impact

- One of the **deadliest earthquakes** in history:
  - 230,000+ deaths.
  - 300,000+ injured.
  - 1.5 million displaced.
- Infrastructure collapsed due to **poor building codes**.
- Disease outbreaks (e.g., cholera), famine, and aid mismanagement followed.

🔬 Devices Used to Measure Earthquakes (Scientific Details)

📡 1. Seismometer / Seismograph

- Measures seismic waves (P-waves, S-waves, and surface waves).
- **How it works**: A weight is suspended over a spring. When the ground shakes, the base moves but the weight stays stationary. This relative motion is converted to an electrical signal and recorded.
- Produces a **seismogram** — a graph showing wave amplitude vs. time.
- Digital seismometers now use **piezoelectric sensors** or **electromagnetic induction** to detect ground motion.

⚡ 2. Accelerometer

- Measures **acceleration** of the ground (how fast it speeds up).
- Critical in **earthquake engineering**: it shows how much force is felt on buildings.
- **Used in phones**, buildings, and bridges.
- Data helps design **earthquake-resistant structures**.

📍 3. Global Positioning System (GPS)

- Measures the **precise movement** of Earth's crust over time.
- High-resolution GPS can detect movement as small as **1 mm**.
- Helps scientists understand **plate tectonics** and **strain accumulation**.
- Used to model **ground displacement maps** after earthquakes.

🧪 4. Strainmeter

- Measures **changes in length or volume** of the crust.
- Installed in boreholes (100–200 m underground).
- Detects **tiny deformations** before earthquakes.
- Data is useful for predicting **slow-slip events** (precursors to larger quakes).

🎯 5. Tiltmeter

- Measures **changes in ground slope** or tilt.
- Often used in **volcanic areas** to detect magma movement.
- Helps monitor tectonic uplift and surface deformation.

⚖️ 6. Gravimeter

- Detects **tiny changes in gravity** due to movement of large masses underground.
- Useful for:
    - **Tracking magma movement** before eruptions.
    - Monitoring **subsurface water** or **crustal mass shifts**.
- Extremely sensitive and must be used in controlled environments.

1. Mass Tourism: Thailand — Phuket

- 📅 **Before COVID (2019):** Over **10 million** tourists visited Phuket alone.
- 🌊 Impact: Beach erosion, coral reef damage, extreme overcrowding.
- 🛑 Reaction: In **2018**, Thai authorities **closed Maya Bay** (famous from "The Beach" movie) to tourists **to let the environment recover**.
- ♻️ Recovery: By **2022**, corals started regrowing after the ban.

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2. Mass Tourism: Venice, Italy

- 📅 **Pre-COVID (2019):** 25–30 million tourists annually, in a city with only ~50,000 residents.
- 🚢 Problem: Huge cruise ships caused erosion of canals, damaged foundations.
- 🛑 Action: **August 2021**, Italy **banned large cruise ships** from entering the lagoon.

- 🧹 Current Issues: Overtourism still a major problem — local population dropping.

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3. Mass Tourism: Barcelona, Spain

- 📅 **Boom:** Since the **1992 Olympics**, tourist numbers exploded to **~30 million visitors per year** by 2019.
- 😡 Local Reaction: Anti-tourism protests in **2017** (“Tourists go home!” signs).
- 🛡️ City Measures: In **2016**, new Airbnb licenses were frozen; tourist taxes increased.

🌿 Eco-Tourism Examples:

4. Eco-Tourism: Costa Rica

- 📅 **Since the 1990s**, Costa Rica made eco-tourism a national strategy.
- 🌳 Fact: **25% of Costa Rica** is protected natural parks.
- 💰 Impact: Eco-tourism now makes up **5-7%** of Costa Rica's GDP.
- 🌱 Example: **Monteverde Cloud Forest Reserve** — strict visitor limits and reforestation programs.

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5. Eco-Tourism: Bhutan

- 📅 **Since 1974**, Bhutan only allowed **“High Value, Low Volume”** tourism.
- 💵 Policy: Tourists must pay **$200–250 USD per day** (Sustainable Development Fee).
- 🌱 Impact: Protects culture, environment, and controls tourist numbers.
- 🏔️ Fun fact: Bhutan is one of the **only carbon-negative countries**!

Fairtrade

Case Study 1: Fairtrade Cocoa Cooperatives in Côte d'Ivoire

In Côte d'Ivoire, women cocoa farmers face exclusion from decision-making and earn less than male counterparts. Through **Fairtrade International**, cooperatives like the **CAVD** (Coopérative Agricole Vavoua Dougroupale) ensure:

- Equal pay and profit-sharing
- Training in sustainable farming
- Investment in schools and maternity health care

This initiative helped over **600 women** earn direct incomes, manage their own cocoa plots, and participate in leadership roles, supporting SDG 5.

Case Study 2: Cotton Farming and Female Empowerment in India

India is the second-largest cotton producer. In **Andhra Pradesh**, many women work in cotton fields but face poor wages and unsafe working conditions. The **CottonConnect** programme trains women in:

- Organic farming practices
- Leadership development
- Digital literacy and finance

As a result, women have formed collectives to negotiate better prices and reduce pesticide use. One village reported a **30% increase in women's income** after sustainable trade policies were introduced.