🌍 Page 1: Introduction to Climate Change

What is Climate Change?
Climate change refers to long-term shifts in temperatures and weather patterns, primarily caused by human activities like burning fossil fuels, deforestation, and industrial emissions.

Key Drivers:

- Greenhouse gas emissions (CO_2, CH_4, N_2O)
- Urbanization and land-use changes
- Overconsumption of natural resources

Global Warming vs. Climate Change:
Global warming is the rise in Earth's average temperature, while climate change includes broader effects like extreme weather, sea-level rise, and ecosystem disruption.

🔥 Page 2: Causes of Climate Change

Natural Causes:

- Volcanic eruptions
- Solar radiation fluctuations
- Ocean currents

Human-Induced Causes:

- Burning fossil fuels (coal, oil, gas)
- Deforestation
- Industrial processes
- Agriculture and livestock (methane release)

Greenhouse Effect:
Gases trap heat in the atmosphere, warming the planet. This effect is natural, but human activities have intensified it beyond safe limits.

🌡️ Page 3: Effects on Temperature & Weather

Rising Temperatures:

- Global average temperature has increased by ~1.1°C since the late 19th century
- Arctic warming is nearly twice the global average

Extreme Weather Events:

- More frequent and intense heatwaves
- Unpredictable rainfall patterns
- Stronger hurricanes and cyclones
- Longer droughts and harsher winters

Impact on Seasons:

- Shifts in growing seasons
- Early snowmelt and delayed monsoons

🌊 Page 4: Melting Ice & Rising Sea Levels

Glacial Retreat:

- Ice sheets in Greenland and Antarctica are shrinking
- Himalayan glaciers are receding rapidly

Sea-Level Rise:

- Global sea level has risen ~8 inches since 1880
- Coastal cities like Mumbai, New York, and Jakarta face flooding risks

Consequences:

- Loss of coastal habitats
- Saltwater intrusion into freshwater sources
- Increased displacement and migration

🌾 Page 5: Impact on Agriculture & Food Security

Crop Yield Decline:

- Heat stress reduces productivity of wheat, rice, and maize
- Unpredictable rainfall affects irrigation and sowing cycles

Livestock Stress:

- Reduced fodder availability
- Heat-related illnesses in animals

Food Insecurity:

- Rising prices due to supply disruptions
- Malnutrition risks in vulnerable populations

🐾 Page 6: Biodiversity Loss & Ecosystem Disruption

Habitat Destruction:

- Coral bleaching due to ocean warming
- Forest fires destroying wildlife habitats

Species Extinction:

- Polar bears, amphibians, and insects at risk
- Migration patterns of birds and fish disrupted

Ecosystem Imbalance:

- Loss of pollinators affects food chains
- Invasive species thrive in altered climates

🧠 Page 7: Human Health Effects

Direct Impacts:

- Heatstroke, dehydration, and respiratory issues
- Spread of vector-borne diseases (malaria, dengue)

Indirect Impacts:

- Mental health stress from disasters and displacement

- Waterborne diseases from contaminated sources

Vulnerable Groups:

- Children, elderly, and low-income communities
- Urban populations in heat islands

💰 Page 8: Economic & Social Consequences

Economic Losses:

- Damage to infrastructure from floods and storms
- Reduced productivity due to heat stress
- Increased healthcare costs

Social Disruption:

- Climate refugees and migration pressures
- Conflicts over water and land resources
- Inequality in climate resilience

Global Response:

- Paris Agreement: Limit warming to below 2°C
- UN SDGs: Climate action as a core goal

✊ Page 9: Solutions & What You Can Do

Mitigation Strategies:

- Switch to renewable energy (solar, wind)
- Improve energy efficiency
- Reforestation and afforestation

Adaptation Measures:

- Climate-resilient crops
- Flood defenses and early warning systems

- Sustainable urban planning

Individual Actions:

- Reduce carbon footprint (bike, recycle, conserve)
- Support eco-friendly policies
- Educate and inspire others

Final Thought:
"We do not inherit the Earth from our ancestors; we borrow it from our children." – Native American Proverb
Let's act today for a livable tomorrow.