



YOUR LOGO

Environment and Climate Change

FACULTY OF ECONOMICS, THAMMASAT UNIVERSITY

MODULE 11



Why is the environment important?

- Human livelihoods depend directly or indirectly on the environment
- Directly: food, livelihood, resources
- Indirectly: factor of production, air quality, water quality, climate
- Environmental quality strongly affects and is affected by, economic development



Impact of human activities on environment

- Human activities, among others, process raw materials to create goods
- However, human activities also create waste that negatively affect the environment
- These cause environmental degradation, deforestation, water pollution, air pollution and changes in climatic/weather patterns.

Environmental degradation

- Interaction between poverty and environmental degradation can be self-perpetuating
- Communities may destroy the very resources they depend upon for survival
- The poor: usually the victims of environmental degradation; most live in marginal areas



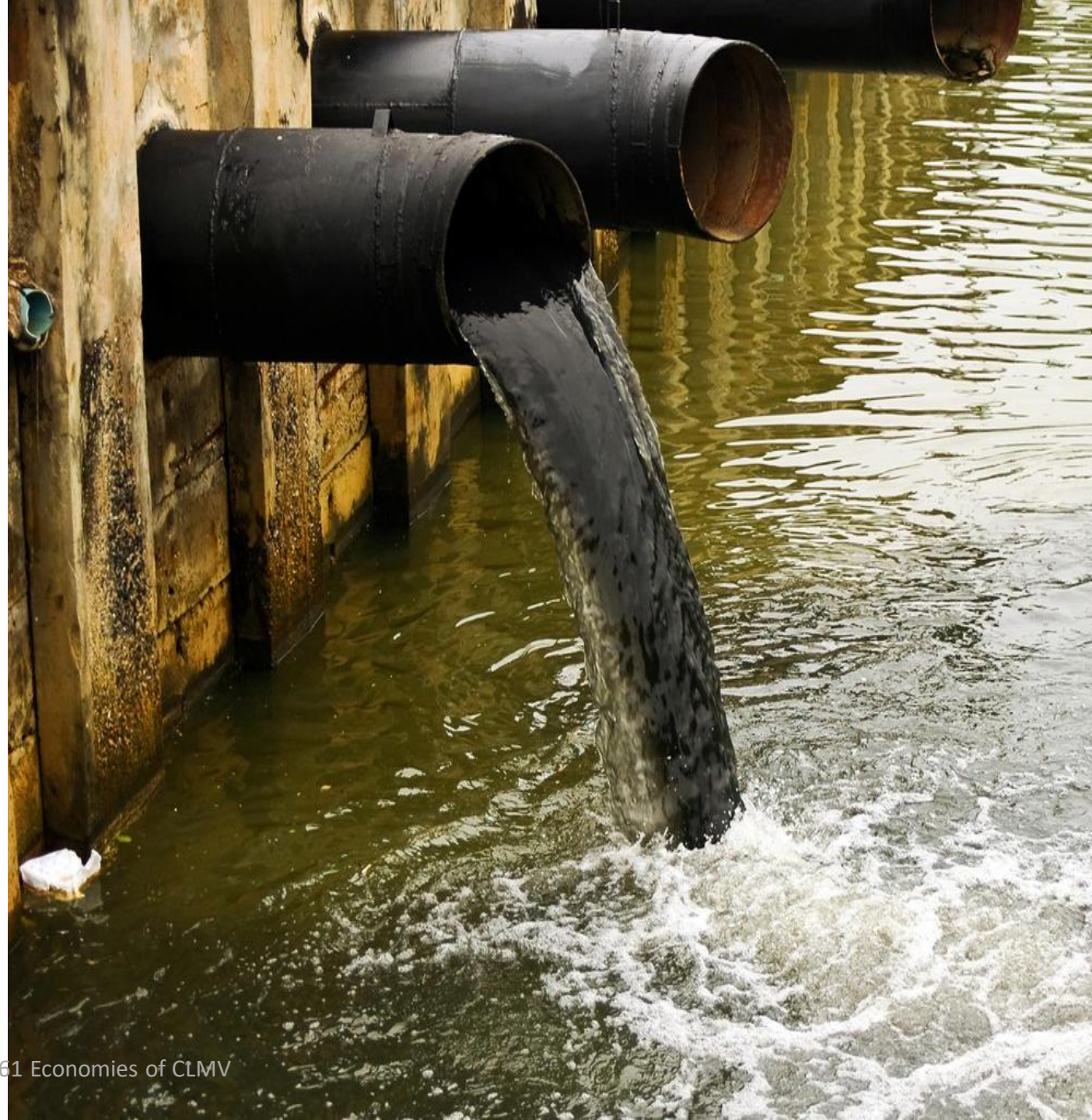
Deforestation

- Deforestation: one example how environment is affected by poverty
- Poor communities are unaware of the harmful ways in which they use natural resources
- Overuse of forest wood and soil destructs the environment



Water pollution

- Contamination of water sources; makes water unfit for human activities
- Sources of water pollution: sewage, wastewater, dumping in waterways, leakages, oil spills, agriculture sources, radioactive substances

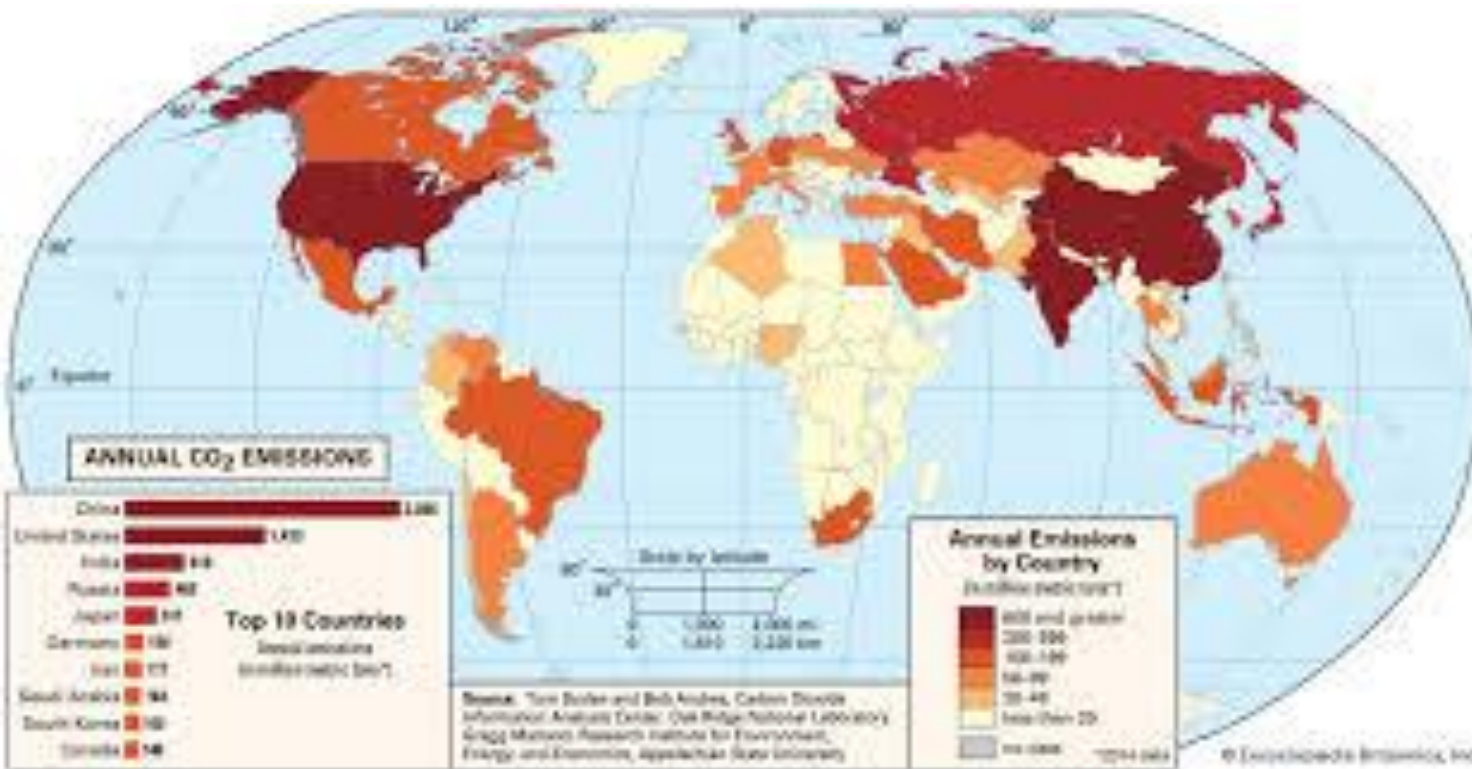


Air pollution

- Contamination of air due to harmful particles in the atmosphere
- Emission of greenhouse gases: industry, automobiles, cities
- Natural sources: fires, dust, volcano activities

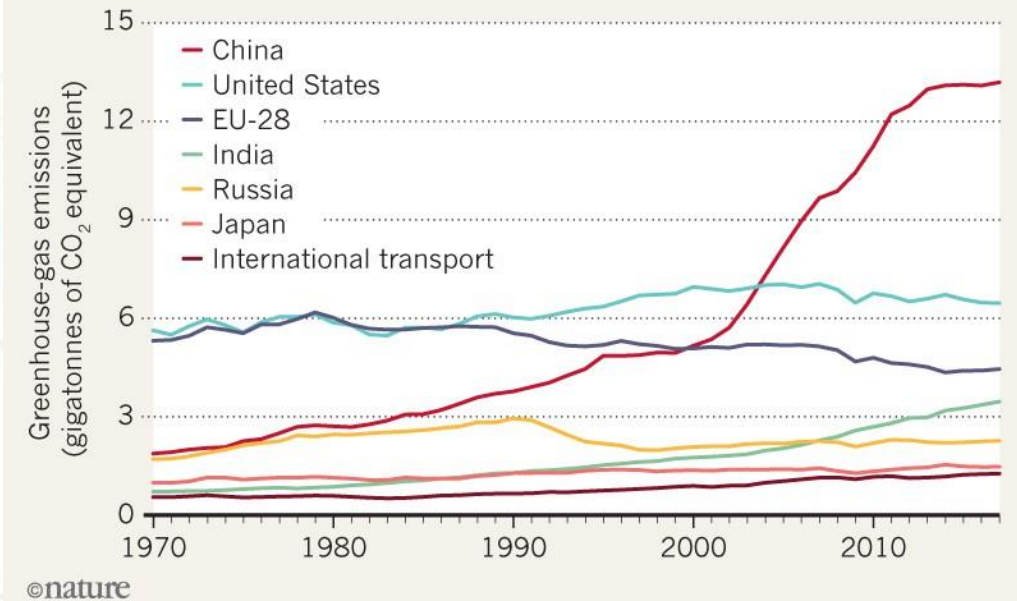


Top emitters



TOP EMITTERS

China, the United States, the European Union and India have contributed more than 56% of the planet's greenhouse-gas emissions over the past decade.



Link between economics and environment

- Development needs natural resources
- Growing consumption needs leads to the destruction of forests, wetlands, and waterways
- Extraction using unsustainable methods causes environmental degradation
- Examples: damage to soil, water supplies and forest land



Population pressure on the environment

- Population pressures on marginal land and increased demand for natural resources accelerates environmental degradation
- This leads to falling farm productivity and per capita food production



Environmental externalities

- Emission of greenhouses have implications such as global warming
- Environmental degradation is not calculated in the costs of production,
- Therefore it is a negative externality which requires government intervention
- Environmental considerations should integrated into government policymaking



Environmental accounting

- Environmental accounting: incorporation of environmental benefits and costs into the quantitative analysis of economic activities
- Environmental capital: The portion of a country's overall capital assets that directly relate to the environment (e.g., forests, soil quality, and ground water)



Sustainable net national income: an environmental accounting measure of the total annual income that can be consumed without diminishing the overall capital assets of a nation

Environmental accounting

- Future growth and overall quality of life depend on the quality of environment
- The stock of overall environmental capital assets remains constant or rises over time
- If an environmental resource is damaged or depleted in a particular area, a resource of equal or greater value should be regenerated elsewhere



ENVIRONMENTAL POLICIES



Proactive stance toward climate change and environmental degradation through public policies

Sustainable Development Goals 2030

- 2030 SDGs emphasize the importance of the environment and sustainability of natural resources
- Objectives: to alleviate poverty; maintain health, acquire food and agriculture products, ensure water and sanitation, human settlements, energy, and climate change

The 17 Sustainable Development Goals (SDGs) aim to end poverty, protect the planet, and ensure peace and prosperity for all

United Nations SDG 2030



Reducing poverty

- Ensure property rights and resource ownership
- Investment in household sanitation and water; granting land tenure to the poor
- Programs to reduce poverty: irrigation, sustainable farming, livelihood programs, and incentives to increase farmers' productivity



Emissions abatement

- Issue regulations to limit industrial pollution, including taxation on emissions, tradeable emission permits, quotas and standards
- Ensure proper resource pricing: cut subsidies to industries encourage unsustainable methods of production



Issues on gender and the environment

- Raise the economic status of women
- Improve educational attainment for women
- Increases the range of economic alternatives
- Increase knowledge in family health and hygiene



GLOBAL WARMING AND CLIMATE CHANGE



This Photo by Unknown Author is licensed under [CC BY-NC](#)

Global warming

- Destruction of the world's remaining forests and gas emissions from industries and cars contribute to climate change caused by global warming through the greenhouse effect
- Mitigation and adaptation are two responses to address climate change

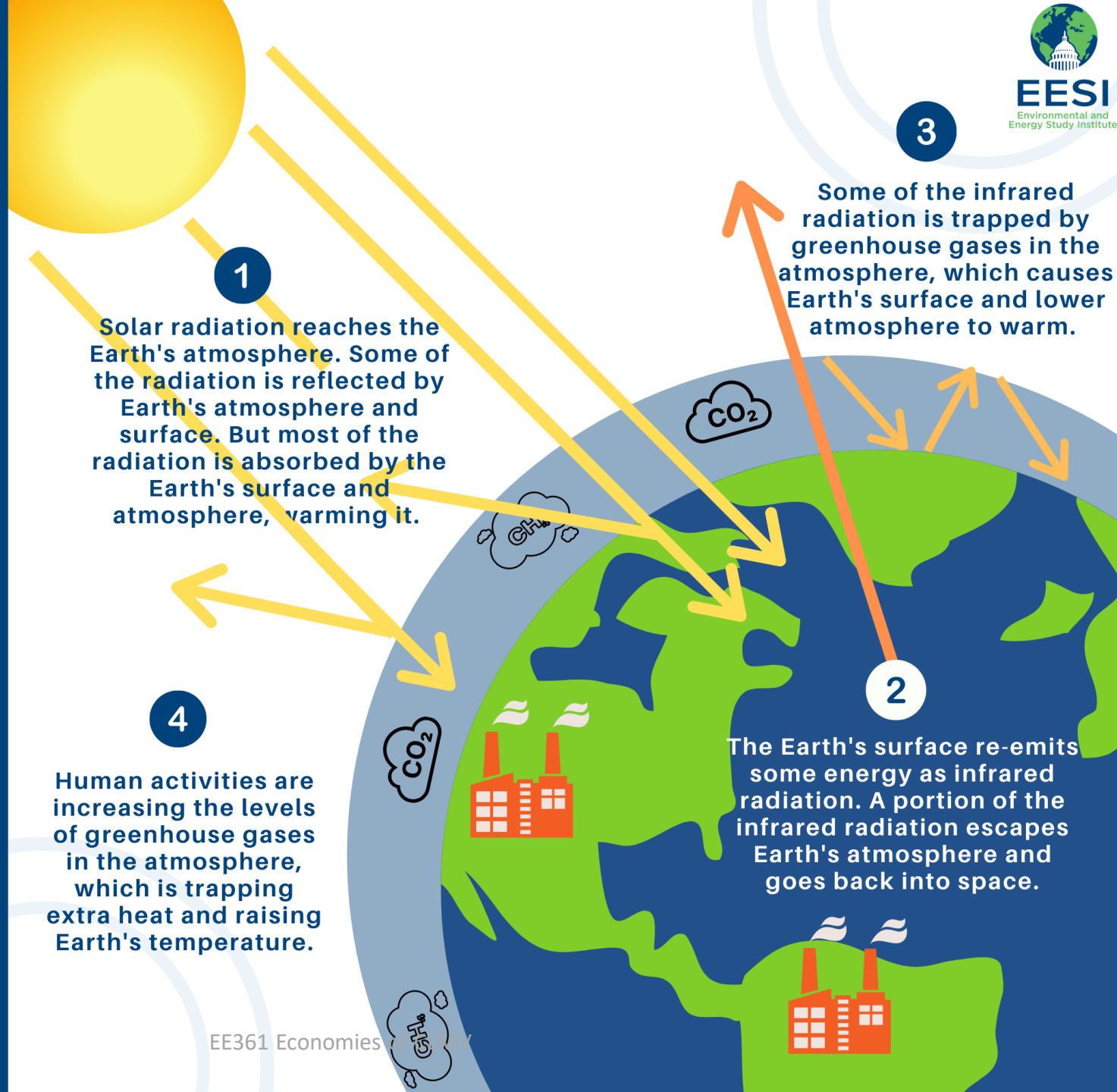


GUIDE TO THE GREENHOUSE EFFECT

The greenhouse effect is a natural process in which atmospheric gases trap the sun's heat and warm the Earth's surface and lower atmosphere. This makes Earth hospitable for life.

Human activities, such as burning fossil fuels for transportation and electricity generation, are increasing the concentration of greenhouse gases in the atmosphere. This enhances the greenhouse effect, trapping extra heat in the Earth's atmosphere and slowly warming the planet.

Graphic By: Sydney O'Shaughnessy



What is climate change mitigation?

Any action or effort taken to reduce or prevent the long-term risks of climate change on human life and property by reducing the sources or enhancing the sinks of greenhouse gases emissions



Climate change mitigation strategies

- Adopt renewable energy sources like solar, wind and small hydro
- Develop sustainable transport (bus rapid transit, electric vehicles, and biofuels)
- Promote more sustainable uses of land



What is climate change adaptation?

Adjustments in ecological, social or economic systems in response to actual or expected climatic effects

Requires changes in processes and practices to lessen the impacts of climate change



Climate change adaptation strategies

- Inventory and track ecological resources
- Implement early warning systems to anticipate natural disasters
- Restore and expand natural ecosystem barriers (mangroves, reforestation)
- construct infrastructure to serve the poor (shelters, flood barriers, protected roads, bridges)



Climate change adaptation strategies

- use scarce water resources more efficiently
- adapt building codes to future climate conditions
- build flood protection; raise dyke levels
- develop drought-tolerant crops
- choose tree species and better forestry practices
- demand more government transparency
- ensure voice and empowerment for the poor





CONCLUSION

Conclusion

- Humans depend on the environment; however human activities often end up destructing the very resources they need to survive
- There is a strong link between economics and the environment; they are not necessarily mutually exclusive
- Environmental accounting is the incorporation of environmental benefits and costs into the quantitative analysis of economic activities

Conclusion

- As a result of human activities, greenhouse gases are emitted to the atmosphere, creating a greenhouse effect which is commonly understood as global warming
- Climate change is inevitable but could be addressed through climate change adaptation and climate change mitigation
- Government has a role in meeting the challenges brought about by global warming and climate change; these include regulations, pricing policies, involving communities and women, and assistance to the poor

THANK **Y**OU!

Merry Christmas!

Made with ❤️ by **showeet**