



Global climate change adaptation and greenhouse gas mitigation in project design

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Structure of Presentation

- Background Information
- Definitions
- Global Context
- Local Context
- Sources of Green House Gases (GHGs)
- Impacts of Climate Change
- Mitigation and Adaptation Strategies

Objective

- To understand the basic concepts of Global Climate Change Adaptation and Green House Gas Mitigation in design of typical sectoral activities in the USAID/Zimbabwe portfolio

Basic Facts

- Climate change presents the most profound global threat to humanity in this era
- Reduced water flows, increased health hazards, turbulent weather and climatic disasters are some of the consequences
- Temperature increase, unreliable and unpredictable rainfall patterns and increased occurrence of droughts and floods in Zimbabwe are a threat to the agricultural sector and food security among others.

Basic Facts

- The impacts of climate change tend to damage people's livelihoods, property and environmental quality.
- Urban warming has implications on human comfort, health and wellbeing.
- Urbanisation has contributed to climate change directly and indirectly and it has been attributed as one of the major causes of climate change.
- The new risks posed by climate change on urban populace such as increased events of floods and storm, calls for proper planning in cities and urban areas in order to adapt to such changes.

What is Climate Change?

- Climate change is the alteration of the earth's climate caused by the atmospheric accumulation of greenhouse gases such as carbon dioxide as a result of human activities (IPCC, 2007).
- Climate change is a long term shift in the climate of a specific location, region or planet, the shift is measured by changes in features associated with average weather, such as temperature, wind patterns and precipitation.
- What most people don't know is that a change in the variability of climate is also considered climate change, even if average weather conditions remain the same (Andris, 2007).

Global Context

- The large and ever increasing fraction of the world's population living in cities and unsustainable use of resources significantly contributes to climate change.
- Other key drivers include:
 - Deforestation
 - Desertification
 - Loss of Biodiversity
 - Industrialisation etc

Zimbabwe's Context

- Zimbabwe is getting more vulnerable to climate change and local climatologists predict sectoral impacts affecting various sectors such as environment, agriculture and food security, health, water resources, economic activities and physical infrastructure.
- Zimbabwe has not been spared from climatic changes and the current dry spells affecting the country are being attributed to climate change.

Zimbabwe's Context

- Zimbabwe's economy is primarily agro-based with over 75 percent of the population living in rural areas and dependant on climate-sensitive livelihoods such as arable farming and livestock rearing.



Green House Gases and their Sources

- Carbon dioxide is undoubtedly, the most important greenhouse gas in the atmosphere. Changes in land use pattern, deforestation, land clearing, peri-urban agriculture, and other activities have all led to a rise in the emission of carbon dioxide emissions.
- Urbanisation is the main culprit through increased land use change and industrialisation

Green House Gases and their Sources

- ❑ Industries have created jobs over the years, people moved from the rural areas to the cities. This trend is continuing and natural resources are being used extensively for construction, industries, transport and consumption.
- ❑ Consumerism(our increasing want for material things/Carbon footprint) has increased to an incredible extent.
- ❑ All this has contributed to a rise in greenhouse gases in the atmosphere

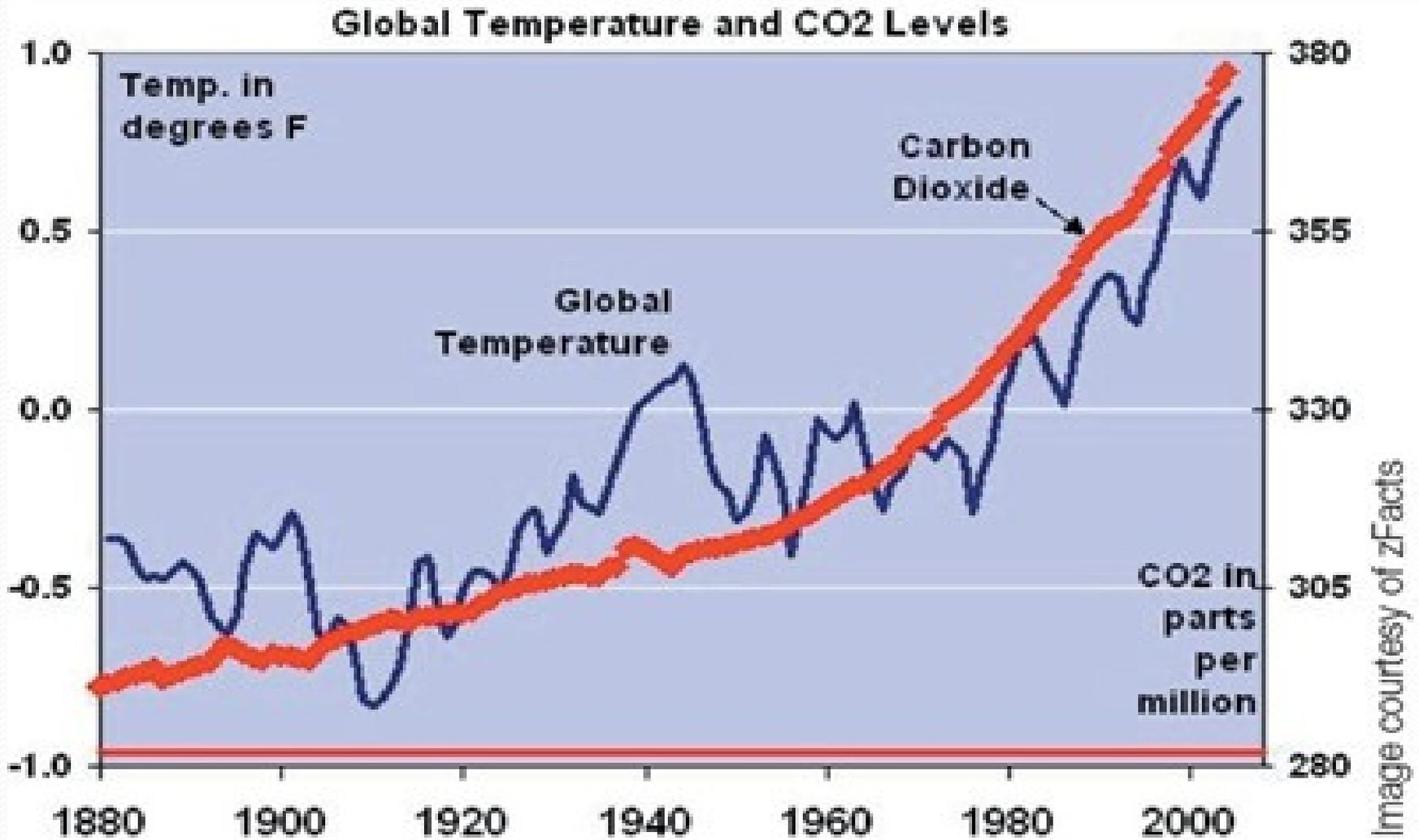
Green House Gases and their Sources

- Fossil fuels such as oil, coal and natural gas supply most of the energy needed to run vehicles, generate electricity for industries, households etc.
- The energy sector is responsible for about $\frac{3}{4}$ of the carbon dioxide emissions and this has caused the green house effect.

Sources of Green House Gases



DIAGRAM BELOW SHOWS TEMPERATURE CHANGES DUE TO THESE GASES



How we all contribute every day

- All of us in our daily lives contribute our bit to this change in the climate. Give these points a good, serious thought:
- Electricity is the main source of power in urban areas. All our gadgets run on electricity generated mainly from thermal power plants. These thermal power plants are run on fossil fuels (mostly coal) and are responsible for the emission of huge amounts of greenhouse gases and other pollutants.
- Cars, buses, and trucks are the principal ways by which goods and people are transported in most of our cities. These are run mainly on petrol or diesel, both fossil fuels.
- We generate large quantities of waste and some biodegradable waste forms methane gas which is twenty times dangerous than carbon dioxide.

How we all contribute every day

- We use a huge quantity of paper in our work at schools and in offices. Have we ever thought about the number of trees that we use in a day?
- Timber is used in large quantities for construction of houses, which means that large areas of forest have to be cut down.
- A growing population has meant more and more mouths to feed. Increase in rural-urban migration in search for better livelihoods has increased poverty in urban areas. To curb poverty most households engage in urban agriculture.

Impacts of Climate Change

- Increased frequency of droughts and floods
- Increase in number of warm days and reduced number of cold days
- Increase in annual average temperatures (1.5-3.5°C by 2050)
- Increasing sea level rise
- Loss of biodiversity
- Reduced mean annual rainfall resulting in water scarcity
- Poor distribution of rains (changing rainfall patterns)
- Reduced food production

Government's Position

- The Government of Zimbabwe is cognisant that Agriculture accounts for over 30% of global land use, contributes 25-40% of GDP and it is the main source of income and livelihoods for rural households.
- It has joined other countries to mitigate and adapt to climate change impacts.
- It is therefore a signatory to the UNFCCC and the Kyoto Protocol.
- Climate change issues exist in different sectoral policies but it is critical that we develop a strategy/policy document that addresses climate change in detail and ensures that it is mainstreamed.
- Zimbabwe has embarked on a process to formulate a comprehensive National Climate Change Strategy in order to facilitate a more unified and well-coordinated national response to climate change.

The Climate Change Strategy

formulation process will involve:

- Review of past and current climatic trends in Zimbabwe as well as future climate scenarios up to 2030;
- Review national climate change initiatives to date
- Undertake a comprehensive review of past and ongoing climate change mitigation and adaptation activities.
- Assess the gender-specific vulnerabilities, impacts, technology and capacity gaps and opportunities for mitigation and adaptation of climate sensitive sectors.

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- Review the key financial mechanisms/ resources available to Zimbabwe to tackle climate change and the role of Government and key stakeholders to effectively tap into the funding windows and indigenous, local and global knowledge and technologies;
 - Review the legislative framework governing climate change in Zimbabwe including the role of Parliament and other key stakeholders
 - Recommend capacity development interventions and areas requiring technical assistance for climate change mitigation and adaptation

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- Analyze existing institutional and coordination arrangements in addressing climate change and make recommendations for effective implementation of the climate change response strategy;
 - Assess the country's compliance with international climate change obligations including national negotiating capacity and domestication;
 - Assess the preparedness and response mechanisms for natural disasters at national and local levels;
 - Develop a communication, education, training and advocacy strategy

- The Government is advocating for research on mitigation and adaptation to improve the farmers' resilience and reduce their vulnerability:
 - Increasing yields under marginal climatic and soil conditions (cereals, legumes, root crops and livestock)
 - Developing cultivars which are resistant to heat stress, short growing season and drought.
 - Manipulate feed quality to reduce GHGs from livestock
 - Ways of staggering during planting to reduce post harvest losses
 - The role of indigenous knowledge systems in climate change

Government's Concerns

- Climate change has not attracted enough attention from a wide cross-section of our society, including political leaders.
- Public awareness for policy and decision-makers is therefore an important element for effective implementation of the Convention and its Kyoto Protocol.
- While climate change is global ,its adverse effects are local and most felt by poor people and poor countries because of their low adaptive capacity.
- This therefore makes adaptation to adverse effects of climate change a priority, demanding policy direction at the highest level.
- Zimbabwe fully participated at the global negotiations that took place in Doha, Qatar, South Africa from the 28th of November to the 9th of December 2011.

Zimbabwean Issues at COP18

- Zimbabwe, among other developing countries will take on mitigation actions enabled by finance, technology and capacity building from developed countries;
- Zimbabwe seeks to be supported together with other developing countries to undertake adaptation actions.
- Zimbabwe requires technology transfer from developed countries to adapt to climate change.

Conclusion

- Taking action on climate change can make our economy more internationally competitive by creating growth and jobs while producing less waste, pollution and greenhouse gases.
- Our climate may already be changing because of the existing buildup of greenhouse gases in the atmosphere, therefore we need to adapt to these changes.
- Adaptation involves taking action to minimize the negative impacts of climate change and taking advantage of new opportunities that may arise. The types of adaptation measures adopted will depend on the impact of climate change on particular regions and economic sectors. Increasing our capacity to adapt reduces our vulnerability to the effects of climate change.

Conclusion

- There is need for sustainable urbanisation so as to curb its negative effects on climate change. Sustainable sources of energy such as wind and solar may used by households to power home gadgets which do not need a lot of energy.
- Buildings that allow penetration of natural light during the should be promoted so as to save lighting electricity for the night.
- Promote greener industries which will use less of coal and other fossil fuels as sources of energy.
- We must start planning our adaptive responses now; by doing so, we may help to lessen some of the environmental, economic and social costs of climate change.





THANK YOU

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Year to Act

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