



Addressing Environmental Degradation and Climate Change in the Niger Delta Region of Nigeria
 Students' handout

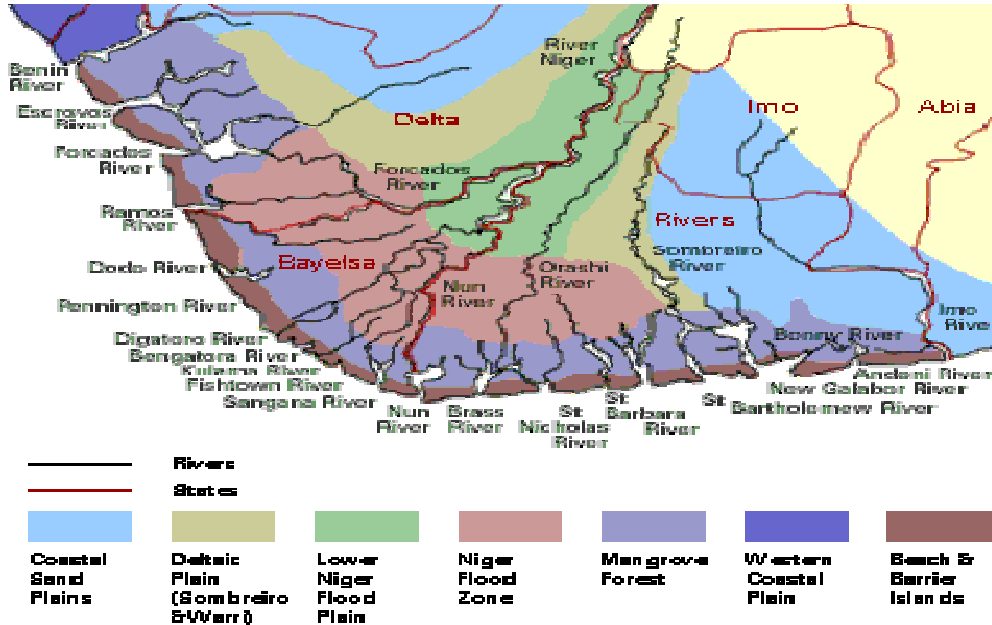


Figure2. Map of Niger Delta Region showing major ecological zones and coastal communities. Source: Nigeria Bureau of Statistics

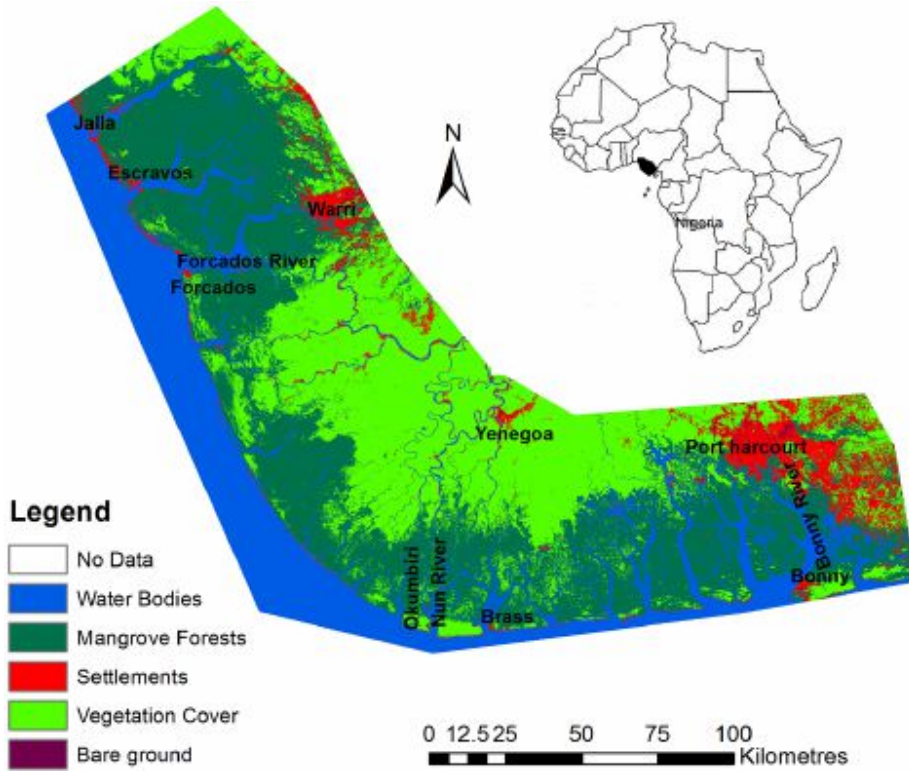


Figure 3: Niger Delta land cover map



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Figure4. Flooding and other environmental issues in the Niger Delta Region



Figure5. Settlements around the coastal areas in the Niger Delta region

Read and discuss in groups articles 1a and 2a. Then read articles 2a and 2b from home

Article 1a: Climate change: Any Impact on Nigeria?

Climate change is a worldwide phenomenon but a second look at the topic suggests that Nigeria may be immune from it. Impact as used may be negative or positive or a combination. A literal definition of climate states that it is the general weather conditions prevailing in an area such as Nigeria over a period of time. In effect, climate change will mean a change in such weather condition for a particular location over time. What therefore is climate change; can Nigeria be affected; what impact has it on Nigeria? How can we mitigate the negative impact and ensure that climate change/global warming does not have disastrous consequence on Nigeria? Giving answers to these questions are at best guesstimate as no one can be definitive about them, but we still need to start thinking about them today to find answers to tomorrow's challenges. What then is climate change? This can be looked at as the continuing change of the earth's climate, which, in time past, was seen to be caused by natural causes. However, the term 'climate change' today is generally used when referring to the change in our climate which has been observed since the early part of the 20th century. The changes which are seen over recent years and those which are predicted over the next century are thought to be mainly due to human behaviour rather than due to natural changes in the atmosphere. What causes this change cannot be treated in isolation without looking at greenhouse effect which is caused by the release of destructive gases by



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human action which in turn brings about the warming of the earth surface by increase in the earth's temperature. The increase in temperature in turn causes the melting of ice which contributes to the rise in sea level among other disastrous consequences. Arising from this, is the question: Can Nigeria be affected by the global climate change? In this regard an example may suffice. The drought of the 1970s that swept most of the Sahel region of Africa left the region, including Nigeria, with general water resources issues. The consequence of that are the low agricultural output, limited water supply and inadequate water reserve for power generation which the region is associated with. Again the increasing flooding in the coastal and non-coastal regions of the country is indicative of the expected effect of climate change. There are two extremes of the expected challenges of the climate change in Nigeria, viz: increase in rainy and dry seasons with each lasting approximately six months on the average, that is, April to October and October to March, respectively. Nigeria daily temperature average differs according to location and period of the year. Average temperature ranges from 25oC in the southern coast to 40oC in the north. A rise in temperature of between 1.4oC to 5.8oC by 2100 according to Intergovernmental Panel on Climate Change, IPCC, will have serious negative effect on the socio-economic wellbeing of the country in the following ways: increase in amount of rains and number of rainy days -flooding in the coastal areas, higher risk of flooding occurring at shorter intervals; landslides especially in erosion prone areas; high temperature in the north will cause increase health issues such as meningitis, cataracts, malaria and yellow fever etc desertification will increase and more droughts which encourage locusts and white flies, which in turn will affect food and water supply; high cost of construction especially in the coastal areas; deforestation as a result of relocating of people from the flood affected areas of the coast; change in land use in the coast may have drastic effect on agricultural output and hence livelihood; wildlife will also be affected with possible effect on the entire food chain.

Source: Ngene Uche. News available at: <http://www.vanguardngr.com/2012/10/climate-change-any-impact-on-nigeria/>

2a Climate change story 1

A Sinking Home

Boma sat in the bus quietly, listening to music on his headphones, as the bus went galloping and creaking noisily over another road bump. There were several potholes in the road as was common on these parts. The roads were barely motor-able but a creaking bus with rough seats like this one always made it through somehow. The heat of the sun was unbearable, his cloths were already soaked through with sweat; he looked at the seat across his and wondered how the woman with a nursing baby could bear these conditions to travel. Poverty was after all common in these parts, he thought, yet many international organizations and the government turned a blind eye. He always wondered why they couldn't see what he saw. If he could only get them to



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look through his mind's eye and see it all. The frustration of this gnawed deeply at him. The bus came to a sudden halt, throwing most of the passengers forward forcefully, someone disembarked and the doors were closed sharply, making a shrilling noise. The sudden jolt made Boma look out his window to see the drying up trees and short shrubs. Then it all came back to him once more. These lands used to be a thriving rainforest with tall palm trees, mangroves on the shorelines bounding the Forcados River and other types of small shrubs. Burutu land was bounded by the creeks and rivulets that eventually emptied into the Atlantic Ocean. It was essentially an island on its own; an Island Boma loved very much. The swampy areas closer to the river banks on the West of Burutu of which were all but made of creeks were a blessing to the fisherman on the river. The rivers teamed with various fishes like the eels, catfish, croackers, shiny and more. He had learned to fish in the Forcados River as a child being thought and guided by his Grandfather. Granpa Papami was a patient man for a wildling like him in those years of excessive youthful energy. The Burutu city itself had a population of about three hundred thousand men, women and children. It was made a Port by the government and thus its population had grown over the years. The island had a traditional ruler who happened to be his Uncle. It was funny how life went when you realized that you are indeed royalty but it opened doors for him, especially in his education. It was that same education that had now become a source of knowledge and realization to him whilst he studied. His dearly beloved Island was sinking. Boma couldn't begin to comprehend it immediately but the more he listened to his professor who was specialist on climate Change and oceanography, the more he realized it was true. Over the past few years, they struggled to get fresh water to drink from the often shallow wells dug in most homes. As the years progressed, the less available good drinking was found. Now most of it was being shipped in rickety buses like this one from neighboring towns in bottles or the well known "pure water" bags. The rest came in through the boats and ships at ports. He had not understood why then, but now he knew why. It was salt water intrusion from the Atlantic Ocean, combined with subsidence. The rising sea levels of the world's ocean from 1993 – 2014 at a rate of 3.24mm per year caused by the increase in average world temperatures from 0.32oC to 0.75oC over the past 20 years invariably meant that there would be an increase in salt water intrusion in these parts. Their homes were constantly flooded too. Bund walls had been built to reduce the effect of the oceans on the shorelines. There seemed to be not much of a sharp distinction between the Rainy Season and the Harmattan Season as there was before; just constant water and an insatiable heat. Combined with subsidence, which was the gradual sinking of the ground because of underground material movement, the water table on the Burutu had risen further allowing for more salt water to reach areas where it was not found previously. The trees were not very salt water tolerable it seemed, most of them had withered away, or other new different species had risen that thrived vigorously on the Island. Most of the old fishes were gone too. Different ones had replaced them over the years. The mangroves in some parts of the shoreline were struggling to survive against the harsh conditions provided in the soil by the Nipa



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Palm whilst the Water Hyacinth flourish in water channels were it was not found before. Ah! A survival of the fittest just like Darwin said. The Island to a new comer would seem as beautiful as ever, but to an old dog like him, it had changed. People who could not cope with the changes had moved out into Cities like Port Harcourt or Warri, in search of greener pastures. Many had changed their professions to areas like teaching, plumbing, painting, and other various types of crafts that now thrived on the land. Whilst others who had discovered the pleasures of liquid gold delved deeper into the creeks where it is found and feasted on it like crows. It was not only the oil that was the issue as most people just stood to talk, it was also climate change. For Boma, it was climate change. People were just ignorant of the facts. The bus was coming to its last stop. Home was still a lovely place to be no matter how it had evolved over the years. He looked out the window to the road once more, wiping his sweaty brow; the tower of a Christmas tree of a company's flare stack burned brightly; emitting thick black smoke. He was going home and this time when he goes back to his school, there was no keeping silent. This time, he was lifting his pen

Nlekwa, D.C (2016). A Sinking Home. Available at:

https://ng.boell.org/sites/default/files/uploads/2016/01/a_sinking_home - doreen_nlekwa.pdf

Questions

1. Study the maps in figures 1-3 and
2. From the news article
 - Describe environmental and climate change issues, it causes and its main effects.
 - Describe how climate change is affecting the world
 - Describe how climate change is affecting the Nigeria
 - Describe how environmental degradation and climate change is affecting the Niger Delta and community
- 3 From the stories article
 - Describe how climate change is affecting the Nigeria
 - Describe how climate change is affecting the Niger Delta and community
- 4 In preparation for the next class, read articles 1b and 2b from home

News Article 1b: Available at: <https://www.thisdaylive.com/index.php/2017/10/03/impact-of-climate-change-on-health-in-nigeria/>

Climate change story 2b: Available at: <https://ng.boell.org/2016/01/05/plant-planet>



Unit 2

Activity 1

Developing a problem tree and climate change adaptation measures

Study the table and figure below to guide you in developing a problem tree

Table 1: Example of Environmental issues in the Niger Delta Area

Category	
Land resource degradation	<ul style="list-style-type: none"> • Agricultural land degradation • Flooding • Coastal erosion • Riverbank erosion • Sea level rise
Renewable resource degradation	<ul style="list-style-type: none"> • Fisheries depletion • Fisheries habitat degradation • Biodiversity loss • Water hyacinth expansion • Mangrove degradation
Environmental pollution	<ul style="list-style-type: none"> • Gas flaring • Sewage • Vehicular emissions • Municipal solid wastes • Toxic and hazardous substances • Oil pollution • Industrial effluents • Industrial air emissions • Industrial solid wastes
Mention other issues	<ul style="list-style-type: none"> •

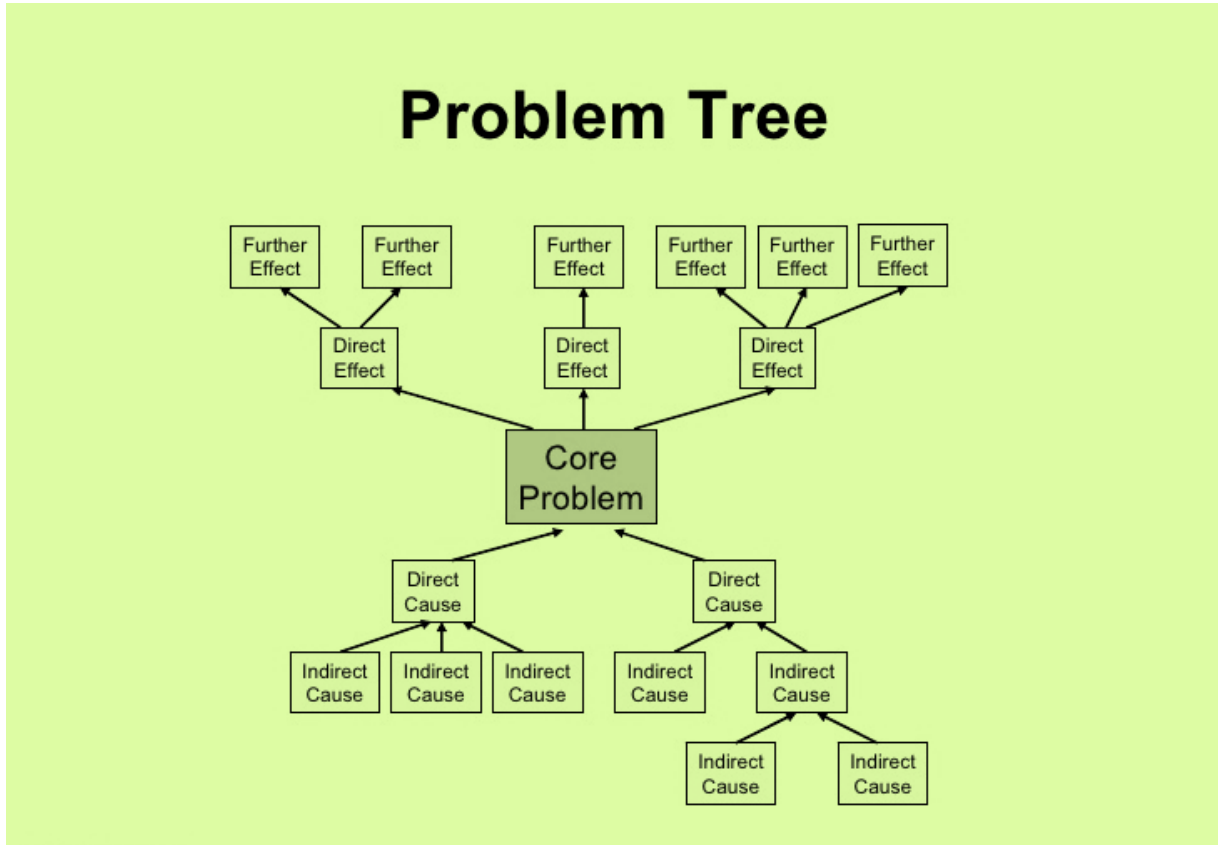


Figure 6. Problem tree template



Activity 2

Study the examples of adaptation measures in table 2. Complete the table by including other adaptation measures

Table 2: Examples of adaptation measures

Infrastructure and changes in practices	Ecosystem-based Measures	Governance, training and capacity Development
<ul style="list-style-type: none"> • Building grain silos • Improved post harvest technologies such as: setting up small-scale agro processing industries to utilize farm products • Building small and medium dams • Building flood-resistant roads to ensure market access • Specify others • 	<ul style="list-style-type: none"> • Promoting sustainable agriculture. • Organic farming and appropriate technology to reduce degradation • Erosion control by encouraging contour farming and water storing • Restoring vegetation around river beds to limiting flooding • Specify others..... • 	<ul style="list-style-type: none"> • Sustainable water management • Farmers education – water harvesting and contour farming • Training centers and microfinance credit to develop skills for off-farming season activities • Vocational training – especially for youth, in places with high in-migration • Creation of markets and training in other sector skills • Developing agricultural extension services • Specify others..... •

Source: Bizikova and Bailey, 2009

Unit 3: Developing stakeholder analysis and communication message

Activity 1

The questions listed below should serve as a guide for identifying appropriate stakeholders to design and implement an adaptation initiative (UNDP, 2010).

- Who is directly affected by climate change, including variability?
- Who might already have experiences in this domain?
- Who could be the potential leaders in this initiative?
- Who might have access to the funds necessary to make this initiative possible?
- Who can help inform the discussion on problem identification based on a thorough understanding of the issues?

- Who can help inform the discussion on potential response measures to manage the short, medium, and long-term implications of climate change, including variability?
- Who is in a position to influence policy adjustments to support adaptation in the context of the identified problem?
- Who can advise on the governance, institutional, policy, economic and other systems required to ensure that the response measures deliver long-term results and benefits?
- Who can provide assistance in preparing a monitoring system for measuring the effectiveness of response measures?

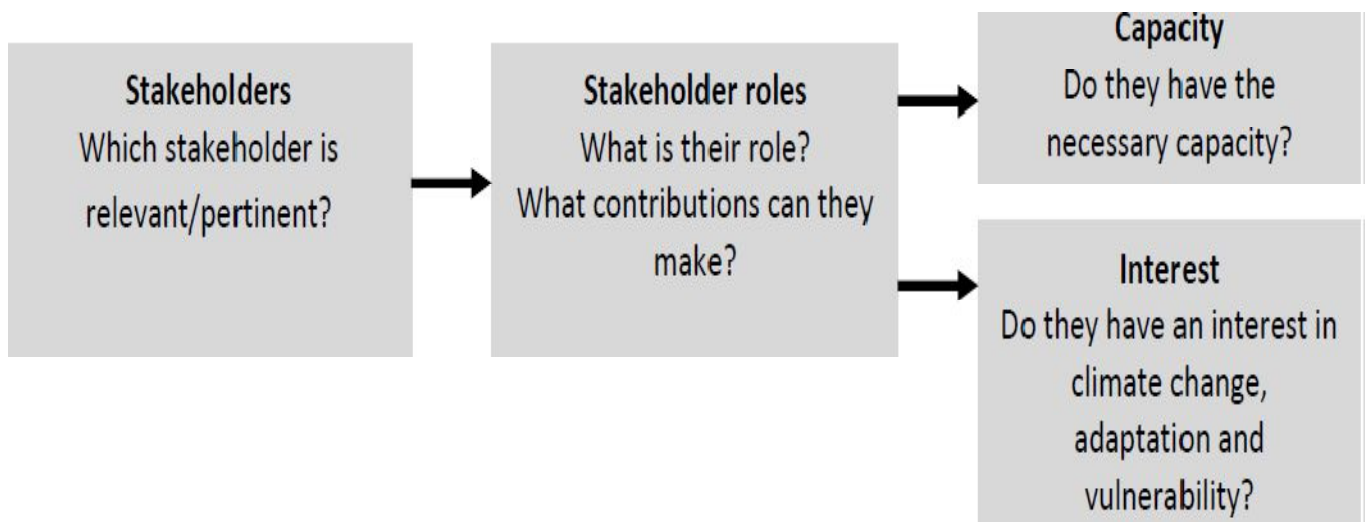


Figure 7: Identifying stakeholders, their roles and interests



Study figure 7 and complete the table below

Table 2: List of detailed stakeholders in climate change by influence and interest

Stakeholders	Influence to promote action at different levels of governance	Interest in participating in work on climate change	Capacity to participate (Expertise, data, availability etc.)
Public sector • List them			
Private sector • List them			
Civil societies • List them			
International/multinational organization • List them			
Others • List them			

Activity 2

Developing a communication message

A **communication plan** helps you to be clear about: what change you want to bring about using communication (objectives);

- Identify your target audience (from the stakeholders analysis)
- What do you want to tell them (from the problem tree and adaptation measures)
- How do you want to tell them (Discuss and decide which method of communication you want to use e.g write a policy brief; role play; interactive stakeholders engagement etc)
- Evaluate your plan
- Present a report on your choice of communication.