



Assessment of Adaptation Knowledge based in Selected Rural Communities in Six Geopolitical Zones: An Approach to Building Resilience in Vulnerable/Rural/Poor Communities

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NASPA Workshop Abuja
22 March 2010

Objectives – respond to four issues/questions posed in the supporting information to this workshop



1. Are there some traditional adaptation strategies in rural communities?
2. How potent and sustainable have the strategies been?
3. Are there documented evidence/ research work done with regards to traditional adaptation?
4. Can modern technology play any role in strengthening traditional adaptation? If yes, how?

Sources of Information to respond to the questions



Building Nigeria's Response to Climate Change (BNRCC) - goal and purpose

- To enhance Nigeria's ability to achieve equitable, sustainable poverty reduction through more effective governance related to climate change in Nigeria.
- To build Nigeria's capacity to meet international commitments and to adapt to climate change through improved governance promoting gender equality, poverty reduction and more sustainable natural resource management.

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Components and funding of BNRCC



- **Building Response through:**
 - research
 - pilot projects
 - communication
 - Policy
- **CIDA funded**

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Research

-lessons from this can be useful in the assignments of the MSWG of the NASPA

- UNIYO (Akwa-Ibom, Ondo, Rivers)
- WACDI (Abia, Anambra, Ebonyi, Enugu and Imo)
- WEP (Benue, Borno and Kebbi)
- RULIN – Niger Delta (Delta, Bayelsa, Rivers) – nine communities (one island, one coastal and one inland in each state)
- CERD/OAU (Nation wide scenarios and modelling)

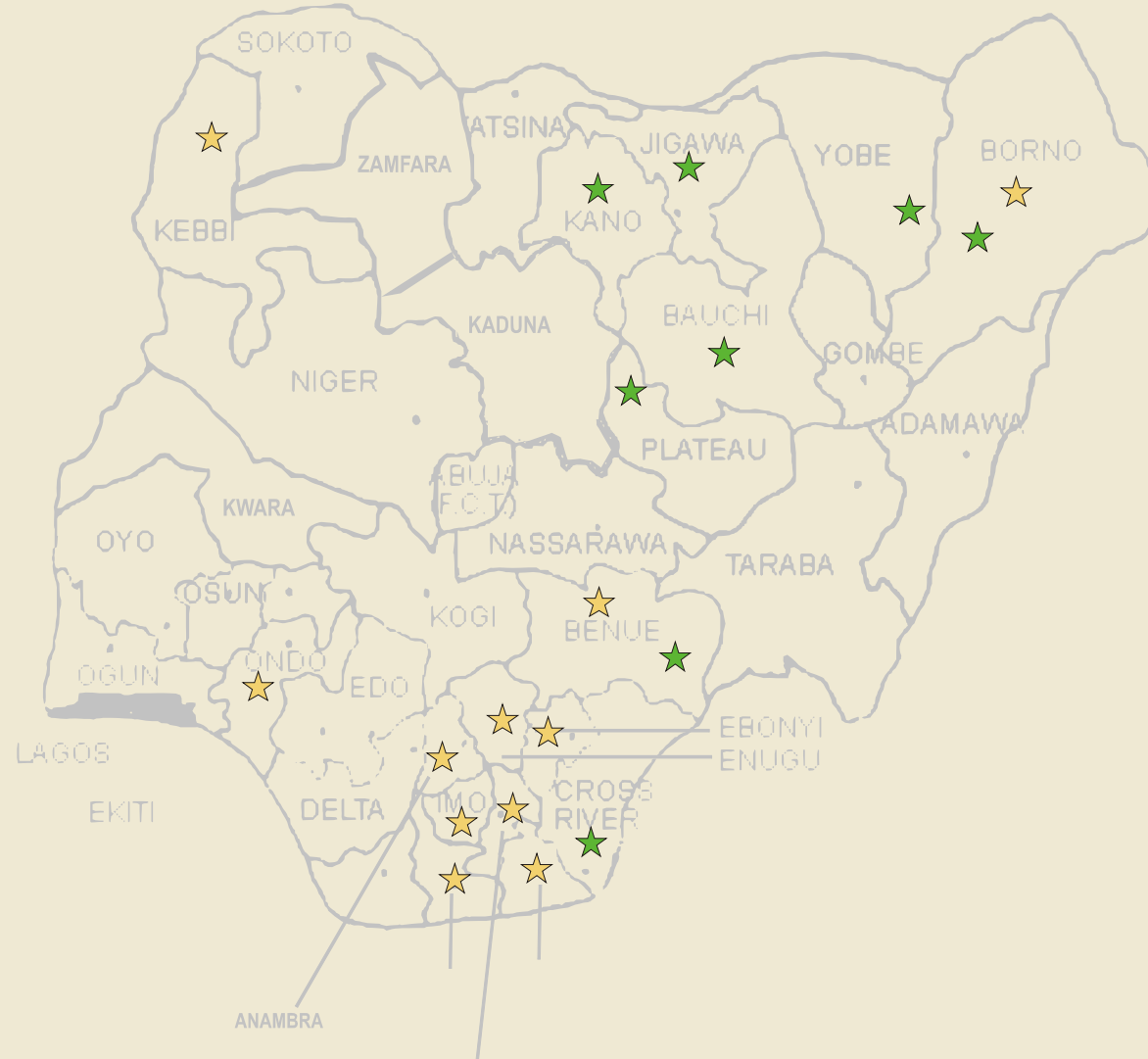
Community-based Pilot Projects

Lessons from this can be utilized by the MSWG of NASPA



- BNRCC pilot projects in 15 communities across the country would form good and broad perspective to NASPA on community-based approaches to adaptation
- CERCOPAN/DIN/COLIN (Six communities in Cross Rivers state from coastal to rainforest ecologies)
- Greenwatch (Benue and Kano state in Guinea and Sudan savannah)
- CARUDEP (Plateau – Sudan savannah)
- ATBU (Bauchi and Jigawa – Sudan and Sahel savannah)
- UNIMAID (Borno and Yobe states – Sahel)

Locations of BNRCC Pilot Projects



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key Sectors and Eco-zones



- Sectors

- **Infrastructure** (Energy, transportation, information technology, wastewater, human settlements, industry and commerce)
- **Natural Resources** (Water resources, coastal resources, fisheries, forestry, land resources, biodiversity/wildlife)
- **Agriculture** (Crops, livestock, food security)
- **Health & Sanitation** (waste management, diseases)
- **Cross-Sectoral** (Finance, security, migration, rural livelihoods, urban livelihoods, youth, gender, disaster, mass media)

- Eco-zones

- coastal, rainforest, savannah, highlands, arid

Adaptation, Coping and Livelihood – basic concepts



- Adaptation strategies are those activities taken to mitigate the impact of climate change/vulnerability in the long term. e.g. construction of an embankment or construction of a canal to prevent erosion from sea level rise; planting of trees; identification/use of alternate energy sources to reduce the green house gas emissions. Adaptation is the response, action or activities taken to mitigate the impact of climate change in the long term.
- Coping strategies are short term responses to the impact of climatic events e.g. migrating from one place to another to avoid flooding.
- Livelihood strategies are activities undertaken to earn a living and ensure sustenance, which could be a coping or adaptation strategy to mitigate hunger or poverty or for increased income and empowerment.

Lessons learnt so far



- UNIMAID (Sahel): Adaptation strategies include: rehabilitating sand dunes, production of fodder, water harvesting and fuel wood production. A coping strategy is water harvesting. Livelihood strategies include: food processing, water harvesting and fuel wood production.
- ATBU (Sudan and Sahel savannah): Adaptation strategies include drought-resistant varieties, tree wind breaks, water harvesting. Coping mechanisms include temporary shelters, food and material aid. Livelihood strategies include tree planting, and improved irrigation methods. Labour migration is included in all 3 categories.
- CARUDEP (Guinea and Sudan savannah): Adaptation strategies include: improvement of earth dam, rain water harvesting, tree planting, water purification, improved seed and early maturing crops. Livelihood strategies include: irrigation farming, livestock management and micro credit.

Lessons learnt so far (Contd.)



- Greenwatch Initiative (Guinea and Sudan savannah): adaptation strategies are long term and include wash wells for dry season farming, bee keeping, mixed cropping and tree planting. Coping strategies identified by the community include charcoal production, logging, fuel wood sales, craft making. Livelihood strategies are development oriented whereas adaptation strategies are sustainable climate change measures.



- CERCOPAN/COLIN/DIN (coastal to rainforest ecologies): Adaptation options include tree planting, fuel efficient wood stoves, domestication of NTFPs (bush mango, afang), fish pond (as a result of over dependence on mangrove resources), processing of cassava. Coping includes cassava production.



Actions to improve sustainability of the project in these areas

- i) ownership
- ii) conflict management
- iii) mainstreaming gender
- iv) monitoring and evaluation



Actions to improve sustainability of the project in these areas



- **i) ownership**
- Active involvement of all stakeholders at all stages of the project, e.g. they could make contributions in cash or in kind. Ownership is through encouraging more input and participation from the community from the beginning of the project and in project management. Collect data on the initial situation in the community. Should be participatory and use: stakeholder analysis and involvement of all stakeholders and building confidence in them, resource mapping, timeline and forcefield analysis. Community participation in planning and implementation. For ownership, need to involve community members in design and implementation, cash or in kind contributions by communities, make project implementation committees, maintain constant. Communication with community. Beneficiaries must be involved from inception and provide labour and in-kind contribution, develop democratically elected management committee, projects should be financially self-supporting, community by-laws.
- **ii) conflict management**
- Being neutral and transparent and encouraging engagement of parties in conflict. For conflict management, ensure transparency at all levels to enhance involvement and prevent conflict. Hold regular meetings to address issues that might lead to conflict. conflict management – organize a conflict management workshop for the community.

Actions to improve sustainability of the project in these areas (Contd.)



- **iii) mainstreaming gender**

- Identifying roles, responsibilities and expectations of men, women, boys and girls and incorporating this into all stages of the project. Bring in other groups such as boys and girls and the physically challenged. Men, women, boys and girls will be involved at all stages of the project. Ensure equal representation of men and women.

- **iv) monitoring and evaluation**

- Training of community members in organization, implementation, monitoring and evaluation processes. M and E should be participatory and include project beneficiaries. Address emerging issues that can cause conflict, allow differing parties to express their point of view, maintain project focus. Participatory M and E, address the concerns and needs of men and women equally, capacity building for beneficiaries. SAS tools used should include stakeholder analysis and time line and force field.



How BNRCC research and pilot projects can contribute to NASPA

- Provision of dependable data for policy formulations. Increased awareness of issues at different levels will make for popular acceptance of adaptation policy. Scaling up can be done by sensitization of the scientific community with the outcomes of the projects.
- Make available project experiences, outcomes and lessons to NASPA. Involvement of the local government and state government agencies concerned with climate change in the whole project process. Share project experiences and lessons with the local government and state agencies involved in climate change.

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How BNRCC research and pilot projects can contribute to NASPA (Contd.)



- Ensures that policy formulated is bottom up to accommodate community input. Use early warning systems at the Federal/State/LGA areas. Awareness raising and capacity building of government and agric extension. Greater cooperation among government agencies and line ministries and make climate change a cross cutting issue. Synchronization and greater synergy among researchers, institutions, policy makers, government agencies, NGOs and ultimate beneficiaries. Create line of communication that is open and ensure feedback both ways.
- Share project outcome with local government and other relevant government agencies.
- Engages all relevant agencies in project activities (e.g. state planning commission, relevant ministries, LGAs), publish project activities, attend stakeholder consultations in legislative houses/relevant agencies.
- Liaise with ministry of agriculture for improved seedlings and techniques and provision of interest-free micro credit to farmers. Raises a need to institutionalize by-laws on issues of environmental degradation.

Responses to the four questions posed



1. Are there some traditional adaptation strategies in rural communities?

Yes there are. Examples are:

- Planting of Indian bamboo inside gully sites which was observed at Akanukwu Ohafia in Abia State as well as in Okwudor in Imo State. Bamboos are effective in stabilizing gullies and halting the development of gullies.
- Construction of wide pit to receive and store flood water. This is a form of water harvesting which was observed in Ngwo-Uno in Enugu State. It is an effective means of checking flooding of farms, residential areas and roads.
- One early warning system in the Bauchi area is the traditional knowledge that looks at the position of bird nests: when they are high in the trees, it means there will be drought; when the nests are mid way up the tree, it means it will be very rainy.

How potent and sustainable have the strategies been?



- Bamboo planting is a sustainable biological means of rehabilitating degraded lands. Biological approaches like tree planting may have some advantages in controlling/managing gullies. One of such merits is that the vegetation of trees and shrubs cover the land surface, preventing the direct impact of rain drops on the soil surface; while the roots hold soil particles into aggregates, enhancing their resistance to erosion.

- Flood water harvesting using pits has been sustainable in checking the menace of flood especially on roads and in residential areas. The water collected during the rainy season can be used for a different purposes during the dry season when water is scarce. The pit can be constructed by an individual or group. Its maintenance is also within the capacity of the individual.

- Recent experience suggest that the birds are becoming confused by the absence of a clear rain pattern.

Are there documented evidence/ research work done with regards to traditional adaptation in Communities?



- Not much exists of documented evidence or research works on these traditional adaptation measures.

Can modern technology play any role in strengthening traditional adaptation in your area? If yes, how?



- Modern technology can play a role in strengthening traditional adaptation. This can be achieved by a careful blend of both traditional and modern strategies such that the effectiveness and sustainability of the traditional techniques can be enhanced.
- Example, since people are used to planting bamboo trees to check gully erosion, a careful selection of fast growing trees with deep rooting systems can complement the effectiveness of bamboo trees.
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- Mass production of such selected tree species using biotechnology strategies like tissue culture can fast track the management of gullies.
- Regarding the construction of flood harvesting pits, flooded areas always occupy the lowland portions of the landscape in every locality. It should be possible for Town Planning authorities to conduct topographic surveys that will inform the proper location and adequate sizes of flood pits within the locality. In these ways, some traditional coping strategies can be elevated to adaptation measures to deal with climate induced changes.

Conclusions



- Nigeria has wide ecological diversity ranging from arid and semi-arid ecosystems in the north to flood-prone ecosystems in the south. Climatic challenges are diverse, and therefore adaptation measures should vary accordingly.

Appreciation/Acknowledgment



- The BNRCC Team
- Project partners
- Communities
- Thank you for listening

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