Poverty Reduction and Resilience Development in an Insurgency Battered Region – Lessons from the Activities of Lake Chad Basin Commission in Nigeria

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Abstract: - Lake Chad Basin Commission (LCBC) is a regional organization concerned with the management of Lake Chad basin and its ecosystem. LCBC is financing the implementation of an emergency youth employment scheme which entails various projects in the respective countries. The objectives of the scheme are to provide emergency youth employment scheme for poverty reduction, also to lessen the effects of insurgency as well as divert the attention of the youth from joining terrorists' groups. It is equally intended to encourage replication of the project by federal, states and local governments and individuals. It is within that framework that, in Nigeria LCBC programmed community Afforestation in Jigawa and Yobe States under which 2629 ha were planted in 14- LGAs 2013; aquiculture under which 16 community fish ponds were constructed in 2016 and the development of 75 hectares of community drip irrigation in 13locations in 13LGAs 2017, which empowered 300 beneficiaries. Both projects were implemented in parts of Bauchi, Kano, Jigawa and Yobe States on the Nigerian side of the lake Chad Basin.

I. INTRODUCTION

The Lake Chad Basin Commission (LCBC) was established on 22nd of May 1964 by the four countries that border Lake Chad: Cameroon, Niger, Nigeria and Chad. The Republic of Central Africa joined the organization in 1996, Libya was admitted in 2008. Observer status is held by Sudan, Egypt, the Republic of Congo and the Democratic Republic of Congo. N'Djamena, Capital of Chad hosts the Headquarters of the Commission. LCBC is financing the implementation of an emergency youth employment scheme which entails various projects in the respective countries such projects in Nigeria are community Afforestation, construction of community fish ponds, and drip irrigation project.

The objectives of the scheme are to provide emergency youth employment scheme for poverty reduction, also to lessen the effects of insurgency as well as divert the attention of the youth from joining terrorists’ groups. It is equally intended to encourage replication of the project by federal, states and local governments and individuals.

It is within this framework that the promotion of the community Afforestation was programmed in 2013, aquiculture under which 16 community fish ponds were constructed in 2016, development of 75 hectares of community drip irrigation in 2017, a in Bauchi, Kano, Jigawa and Yobe States in the Nigerian part of the lake Chad Basin.

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The LCBC 2016 programme of activities was elaborated base on the five years investment plan and emergency plan, in accordance with the provision Strategic Action plan (SAP) of the LCBC.

That development budget which was elaborated in accordance with the objectives and targets of the SAP, which integrates two new objectives viz: the institutional development and operational framework of the LCBC and the emergency actions in favor of the vulnerable communities in the basin. LCBC is financing the implementation of an emergency youth employment scheme which entails various projects in the respective countries.

The executing unit of the program is the Secretariat of the Lake Chad Basin Commission and that, at the level of each LCBC country, activities are implemented through Probebalt Project anf by decentralized technical structures, the NGOs and the local specialized units under the supervision of LCBC.

In the Federal Republic of Nigeria, Land and Water Resources Management Consultants Firm was the implementing NGO for LCBC scheme including monitoring and evaluation.

The NGO solicited the support and cooperation of State Government and the respective ministries of Agriculture, Local Government, Animal and Fisheries Development and Environment in the concerned states to facilitate the execution and supervision of each scheme and to assist the communities whenever any need comes up, this is with a view to ensure sustainability of the scheme.
The firm sought the support and cooperation of concerned states and local governments through their relevant ministries and departments to facilitate the implementation and supervision of the scheme. Also to get them assist benefitting communities whenever any need comes up. That was to ensuring sustainability of the schemes.

All the projects were implemented with close collaboration with the states governments. Each state provided the sites and identified the beneficiaries. The states also supervised the implementation exercise.

II. COMMUNITY AFFORESTATION PROJECT

The project was planned for three states as follows: Rehabilitation of damaged ecosystem in Borno state, community Agroforestry in Yobe state and community Afforestation in Jigawa state. But with the growing insurgency it was restricted to Jigawa and Yobe states. All the lots allocated to Borno state were relocated to Jigawa and Yobe states. Seven local government areas in each state benefitted from the project. In Jigawa the local governments are Ringim, Taura, Jahun, Kafin Hausa, Kaugama, Malam Madori and Birniwa. A total of 19 sites were selected, 18 of them are 38 hectares each while one for Taura local government is 39 hectares. While in Yobe the local governments are Nguru, Bade, Bursari, Karasuwa, Jakusko, Yunusari and Geidam and with a total of 1610 hectares planted.

LCBC executed the scheme through PRODEBALT Project and Prodebalt in turn engaged a contractor for the job. The contractor was sub contracted seedlings production and planting to professional foresters in the states. The seedlings were raised in tree nurseries. The seedlings were inspected by a combined team of PRODEBALT regional and national monitoring and evaluation officers and HJKYB-FT team prior to planting. The inspection team ensured that the seedlings were the species in the Bill of quantity and reached the required planting size before giving the contractor the permission for the commencement of planting in August.

One of the nurseries where the seedlings were raised for the contractors

The contractor hired experienced foresters lines’ men and chain men who led the planting activities. All sites were been successfully planted.

Birniwa Local Government Area

- Diginsa 38 HA
- Gajiram A 38 HA
- Gajiram B 38 HA
- Kundi 38 HA
Kafin Hausa Local Government Area
Kwatalo A 38 HA
Kwatalo B 38 HA
Kwatalo C 38 HA
Ansaya 38 HA

Jahun Local Government Area
Malam Atuman 38HA
Darai 38 HA
Fagwalayi 38 HA

Ringim Local Government Area
Sankara A 38 HA
Sankara B 38 HA

Mallam Madori Local Government Area
Mairakumi 38 HA
Garun Gabsa 38 HA
Makaddari 38 HA

TOTAL HECTRAGE 418

Relocation of sites from Borno State

Due to the prevailing activities of insurgents in Borno State, all sites originally allocated to the state namely were relocated to Jigawa and Yobe States. Those are as follows:

Initial Locations in Borno State New Locations in Jigawa State
Kukawa LGA Birniwa LGA
Kazakariya Diginsa 1 71.4 HA
Kwatar Yobe Diginsa 2 71.4 HA
Kukawa LGA Malam Madori LGA
Dogon Chukwa Mairakumi 71.4 HA
Munguno LGA Birniwa LGA
Jibrillaram Kundi 1 71.4 HA
Dabar Massara Kundi 2 71.4 HA

TOTAL HECTAREGE 714 HA

YOBE STATE

Bade Local Government Area
Gabarwa 70 HA
Usur 70 HA
Dagona 70 HA

Karasuwa Local Government Area
Karasuwa Garin Guna 70 HA
Karasuwa Galu 70 HA
Jaji Maji 70 HA

Jakusko Local Government Area
Kalewa 70 HA
Gada 70 HA
Kajeko 70 HA

Bursari Local Government Area
Dapchi 70 HA
Bayamarri 70 HA
Kajiyari 70 HA

TOTAL HECTAREGE 840

III. COMMUNITY FISH PONDS

Introduction

1. Site Confirmation And Community Needs Assessment

This project was implemented in four states namely Bauchi, Kano, Jigawa and Yobe; four fish pond were constructed in each state. The selected sites were assessed and confirmed by a joint team of LCBC staff represented by Abdurrahman Sa’idu Head of Natural Resources Management Division and Aminu Magaji Bala Wetland Ecologist and representatives Land and Water Resources Management Film. The team visited and discussed with the communities members and local level traditional rulers. Some of the scene for the consultative meeting are shown below.
Plate 1: Consultation with fish pond benefitting community, Baturiya, Kirkasamma Local Government, Jigawa State, Nigeria

Plate 2: Consultation with fish pond benefitting community, Hadin, Kaugama Local Government, Jigawa State, Nigeria

Plate 3: Meeting of LCBC mission with beneficiaries of fish pond project in Katagum, Zaki LGA, Bauchi State
Plate 4: Meeting of LCBC mission with District Head of Sakwa and beneficiaries of fish pond project in his place.

Plate 5: Group photograph with District Head of Sakwa after handing over of fish pond site.

Plate 6: Meeting of LCBC mission with beneficiaries of fish pond project in Itas, Itas-Gadu LGA, Bauchi State.
2. **Meeting With Local Government Officials**

The team also visited concerned local government chairmen and briefed them about the project and the need for their moral, technical and financial supports as may be necessary. The local governments assigned their heads of agriculture and natural resources departments as the focal points for this project.

3. **Pond Construction**

The pond dimensions range between 15 by 10 metres to 15 by 15 metres wide depending on community preference; water depth ranges between 1.5 to 2.1 metres. All the ponds were constructed, fenced and treated with lime. Cattle dung was also applied to enhance soil fertility in the pond and to facilitate the growth of natural fish food in the pond water. Sequence of the construction is given below.
Plate 5: Fish Pond construction in progress in Hadin

Plate 7: Earthwork completed Baturiya Fish Pond

Plate 8: Stone pietching in progress in Hadin
4. Training of Beneficiaries

An expert on fisheries delivered the training on fish management to ten representatives each state in one location to facilitate learning and exchange of ideas. It covers brief history of aquaculture, meaning and types of fish ponds, basic skills and capabilities required in fish pond management these include fish pond preparation (liming and fertilization), stocking (methods, density an timing), water management, stocked fish feeding relative to total weight and classes of feeding, regular sampling to determine growth rate/daily weight gain, daily routine checks and record keeping. Other aspects of the training are common stocked fish diseases, their signs, prevention, control and management. Fish harvesting, pond security and formation of pond management team as well as proceeds management (re-investment, community development activity/project from the income). At the end of the training a guide to fish pond management was produced in English and translated into Hausa for the trainees.
Plate 15: Cross-section of participants at the training of beneficiaries on fish pond management and fish meal formulation in Azare, Bauchi State.

Plate 16: Ingredients for demonstration of local fish meal practical demonstration to participants.

Plate 17: Weighing of ingredients for fish meal formulation in the training.
Plate 18: Fish meal produced during the training

Plate 19: Beneficiaries of fish pond project from Kano State formulating fish meal using machine during their training in Kano

Plate 20: Fish meal produced by beneficiaries at the training in Kano
5. Formation Of Project Management Committee

A project management committee of 10 - 12 people who will manage the ponds on behalf of their community was formed in each of the benefitting communities.

6. Pond Security And Publicity

Sixteen fish ponds had been constructed, fenced and one round of barb wire was placed above the fencing wire for extra security. In addition each pond inner walls were stoned pitched for up to two metres high to control bank erosion. A zinc room was also constructed at each site for security man. Three signboards were constructed for each site and placed in different positions to publicize the project to passers-by and guide visitors to the project sites.

7. Pond Stocking

Five Thousand (5000) *Clarias gariepinus* (catfish) juveniles, each juvenile had an average weight of 5 grammes were stocked in each pond. This species has high level of tolerance to stress;
Figure 11: Completed Fish Pond in Baturiya during stocking

Plate 19: Water Pump for Yakasawa Fish Pond

Plate 20: Weighing scale provided to each community under the project
Plate 5a: Sampling at Baturiya community fish pond

Plate 21: Security Guard’s Room at Baturiya

*Commissioning*
Direct Impacts

Indirect impacts – replication, employment, trade, transportation side crop cultivation

8. Monitoring And Evaluation Mechanisms

i. Monitoring

A number of monitoring strategies have been devised, these include frequent physical visits, telephone calls to the management team to determine the condition of the fish, sampling the stocked fish in order to determine their weight gain/ average daily weight per fish and connecting the management teams with our fisheries expert for direct advice at any time.

ii. Evaluation

The performance/ impact of the project will be evaluated after weighting and selling the fish and implementation of re-investment and community development plans by the management communities. Yardsticks for measuring the success and sustainability of the intervention will be community commitments to the project, income from the fish, re-investment from the proceed and replication by others.

9. Conclusion

All the three fish ponds have been constructed, treated and stocked with catfish juvenile. Each pond has its own independent water sources and water pump. Three signboards were produced for each site, the first one was positioned along a major road with an arrow pointing towards the project site, the second one at the project site and the third one after the project site in opposite direction of the first one also with an arrow pointing back to the site. All these are to publicize the project to passers-by and guide visitors to the project site.

Even though the project will be handed over to the communities, monitoring and evaluation will continue up to harvest. The yields and proceeds from each pond will be carefully recorded and communicated to LCBC in order to have complete records of performance of each and their impacts on the communities.

10. Challenges/Difficulties Faced

The political nature of decision making in some places can jeopardize the sustainability of the project. Yakasawa pond had initial problem of bore failure and low water retention capacity of the site in Yakasawa; therefore Five Thousand (5,000) catfish Juveniles were raised in a remote pond in Kano and brought to the pond after rectifying the problem on Saturday 2\textsuperscript{nd} July 2016. There was over ambition and desire to get the fish grow by some communities which led to over feeding and hence wastage of the food.

11. Lessons Learnt/Recommendations

The construction of the pilot community fish pond in Jigawa State has come up with some important lessons for the next stage of the project. Some of the major ones are given below.

1. Prior the construction of any pond, there is the need to conduct test for water retention capability of the soil. This is to avoid heavy seepage of pond water and hence minimize the need for frequent addition of water;

2. There need for carrying all members of the benefitting community on board prior to the
construction of the pond, this is to create ownership of the project;

3. Membership of the pond management committee should cut across all community groups including youth and including women;

4. There are difference in community perception of the project, this leads to different levels of commitments and participation, therefore each community should be treated as an entity with its unique characteristics;

5. Some of the communities are struggling to survive, it is difficult for them to make financial contributions to the project, their contribution should be restricted to in-kind contribution only; to this end, it is advisable to provide little amount of money to each benefiting community for buying fuel to run the water pump when changing the pond water;

6. It is important to draw up financial management plan for proceeds from the fish pond, this should include re-investment plan, setting up short-term, medium-term and long-term community priorities to be met from the proceeds and remuneration for those who work on the fish pond;

7. There is need for the community to identify specific persons among them who will be responsible for guarding the pond and those who will be feeding the fish;

8. There is need to train the beneficiaries on methods of fish meal formulation locally in order to cut down the cost of feeding the stock;

9. It is very important to link each community with a fishery expert for advice and attending to emergencies during the period of culture.

12. Costs And - Benefit Analysis Per Fish Pond

The total cost for the construction, stocking, provision of fish meal and management is three million four hundred and seventy two thousand naira (3,472,000).

A. Expected Turnover

Total Stocked Fish 5,000

Allowing for 5% mortality the end number of fish will be 4,750

At the weight of 1kilogramme per fish the price ranges between 650 – 700 naira

At 650 Naira per kilo = 4750 x 650 Naira = 3,087,500
At 700 Naira per kilo = 4750 x 650 Naira = 3,325,000

B. Restocking Expenses

i. Fish Seed 250,000
ii. Fish Meal 1,222,000
iii. Local Management 150,000
iv. Fuel, Oil and Engine Pump Maintenance 50,000
v. Pond Treatment 10,000
vi. Unplanned Expenses 20,000

Total 1,702,000

Excess Cash to Community at first Harvest after restocking

At 650 Naira per kilo = 4750 x 650 Naira, excess cash will be 3,087,500 - 1,702,000 = 1,385,500

At 700 Naira per kilo = 4750 x 650 Naira, excess cash will be 3,325,000 - 1,702,000 = 1,623,000

Note: This can be revenue per one circle of stocking; fish can be raised three time in a year by adopting a 4-month production circle. If the beneficiaries are trained in fish meal formulation locally, the cost of fish meal can be curtailed; this means increasing excess revenue accruing to them.

The direct benefit of the fish pond project include income which helped grea, the skills of modern fish farming

IV. DRP IRRIGATION PROJECT

Introduction

Each state spread the project in order to achieve wider demonstration of the technology. Bauchi State had five sites, Jigawa four while Kano and Yobe States had three sites each. Each hectare was shared to four (4) farmers therefore the 75 hectares earmarked for Nigeria benefitted 300 smallholder farmers.

Package per Beneficiary are a quarter hectare of land, ploughed, harrowed and piped, one irrigation well, one 3-inch YAMAHA water pump, NPK and UREA fertilizers, maize seeds, and in a few places also tomatoes and onions, herbicide and pesticide. The beneficiaries also given training the drip irrigation farming techniques.

Land preparation
Ploughed and harrowed site in Dachia, Jakusko, LGA, Yobe State

**Drilling Irrigation Wels**

**Supply of materials**

Several pictorial activity displays of the project are given below:

Plate 10: Drilling works going on in Kubaraichi Site, Kano State
Drilling going on in Dachia, Jakusko LGA, Yobe State

Inspecting wells at Dachia, Bursari LGA, Yobe State

Piping
Laid pipes prior to coering them
Plate 3: Another of the cleared and piped site in Baturiya, Kiri Kasamma LGA, Jigawa State

Plate 5: Pipng in progress, before earthing the pipes in Baturiya, Kiri Kasamma LGA, Jigawa State
Plate 6: Another view of ppe laying in Baturiya, Kiri Kasamma LGA, Jigawa State

Plate 1: Cleared and covered pipes site of Drip Irrigation in Baturiya, Kiri Kasamma LGA, Jigawa State
Project Inspection by LCBC Mission

Plate 2: Completed site of Drip Irrigation plot awaiting planting in Baturiya, Kiri Kasamma LGA, Jigawa State

Emir of Dass inspecting the irrigation package in his palace
Emir of Dass Alhaji Usman Bilyaminu Usman presenting water pumps to beneficiaries in Dass Bauchi State

Some beneficiaries in Dass showcasing the package
Plate 7: On-field training for beneficiaries at Baturiya

Plate 8: Village head of Baturiya receiving water pumps and fertilizers on behalf of the beneficiaries of his community

Plate 9: Some of the beneficiaries in Jigawa State displaying the water pumps and seed given to them under the LCBC Irrigation Project
Farm plot allocation to beneficiaries

Marke site.

Signboard in Dachia, Jakusko LGA, Yobe State

Project Commissioning and Handing Over to Beneficiaries
Jahun Local Government team during the distribution of irrigation package to beneficiaries in Darai

Plate 1  Security setting on farm during the commissioning of LCBC Drip Irrigation Project in Yobe State at Garin Gada, Nangere LGA Yobe State

Plate 2  Display of inputs for distribution to beneficiaries at Garin Gada, Nangere LGA Yobe State

Plate 3  Display of water pumps and other inputs during the commissioning of LCBC Drip Irrigation Project, Garin Gada, Nangere LGA Yobe State
Plate 5 Coordinator of Land and Water Resources Management Consultants responding to questions during commissioning at Garin Gada, Nangere LGA Yobe State

Plate 6 Malam Gambomi Goni Chairman Yobe State Task Force on Irrigation reading the address of Hon. Commissioner Yobe State Ministry of Agriculture during the commissioning of LCBC Drip Irrigation Project in Yobe State

Plate 7 Presentation of water pump to beneficiaries
Project Results
Another view of Baturiya Farm

Demonstration of Califonian Irrigation System

Dawakin Tofa
### Project Summary

C. Summary of Project Locations Number of Hectares/Beneficiaries And Crops Cultivated

<table>
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<tr>
<th>S/N</th>
<th>State</th>
<th>Local Government Area</th>
<th>Project Location</th>
<th>Number of hectares</th>
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V. CONCLUSION

Lake Chad Basin Commission (LCBC) is a regional organization concerned with the management of Lake Chad basin and its ecosystem. LCBC is financing the implementation of an emergency youth employment scheme which entails various projects in the respective countries. The objectives of the scheme are to provide emergency youth employment scheme for poverty reduction, also to lessen the effects of insurgency as well as divert the attention of the youth from joining terrorists’ groups. It is equally intended to encourage replication of the project by federal, states and local governments and individuals. It is within that framework that, in Nigeria LCBC programmed community Afforestation in Jigawa and Yobe States. 1019 ha in Jigawa state and 1610 in Yobe state were planted in 14 LGAs 2013; aquiculture under which 16 community fish ponds were constructed in 16 LGAs and 16 communities in 2016 and the development of 75 hectares of community drip irrigation in 13locations in 13LGAs 2017, which empowered 300 beneficiaries. Both projects were implemented in parts of Bauchi, Kano, Jigawa and Yobe States on the Nigerian side of the lake Chad Basin.

VI. CHALLENGES

Challenges associated with community plantations include some post planting problems were noticed. Include damage by stray animal, problem of water, over-flooding and trees suffocation, shortage of required land area due to scarcity of unoccupied land. The type of project is new to the beneficiaries as such there are high suspicions and lukewarm attitudes towards it.

Fish pond project  
Drip irrigation project