

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 16 communities from 16 LGAs in 2016 and the development of 75 hectares of community drip irrigation in 13 locations in 13 LGAs 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'Djaména, 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 Prodebalet Project and 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	38HA
Ansaya	38 HA

Jahun Local Government Area

Malam Atuman	38HA
Darai	38 HA
Fagwalayi	38 HA

TOTAL HECTRAGE 418

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
Taura Local Government Area	
Kayar Gazara	39 HA
Kaugama Local Government Area	
Marke	38 HA
Hadin	38 HA

Total Hectarege 305

1. 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

Yowa Bilmi	Gajiram	71.4 HA
Mbulawa	Diginsa	71.4 HA

Kukawa LGA

Kangarwa	Darai	71.4 HA
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Kukawa LGA

Doron Naira	Ansaya	71.4 HA
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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
Bayamari	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



Plat 3: Meeting of LCBC mission with beneficiaries of fish pond project in Katagum, Zaki LGA, Bauchi State



Plat 4: Meeting of LCBC mission with District Head of Sakwa and beneficiaries of fish pond project in his place



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



Plat 6: Meeting of LCBC mission with beneficiaries of fish pond project in Itas, Itas-Gadu LGA, Bauchi State



Plate 7: Group picture with village Head and community elders after site handing over in Kotorko, Yobe 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 4: Fish Pond under construction in Baturiya



Plate 5: Fish Pond construction in progress in Hadin



Plate 7: Earthwork completed Baturiya Fish Pond



Plate 8: Stone pitching in progress in Hadin



Plate 13: Completed and Stockrd Pond wih Signboard at 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 16: Cross-section of participants during the training on fish pond management



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;



Plate 17: Pond Socking at Hadin



Plate 18: Pond Socking in Yakasawa



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 these 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 2nd 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

ple pictoral activity displays of the project are given below:



Plate 10: Drilling works going on in Kubarachi 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 eneficiaries in Jigawa State displaying the water pumps and seed gien to the 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, Nahgere LGA Yobe State



Plate 3 Display of water pumps and other inputs during the commissioning of LCBC Drip Irrigation Project, Garin Gada, Nahgere 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



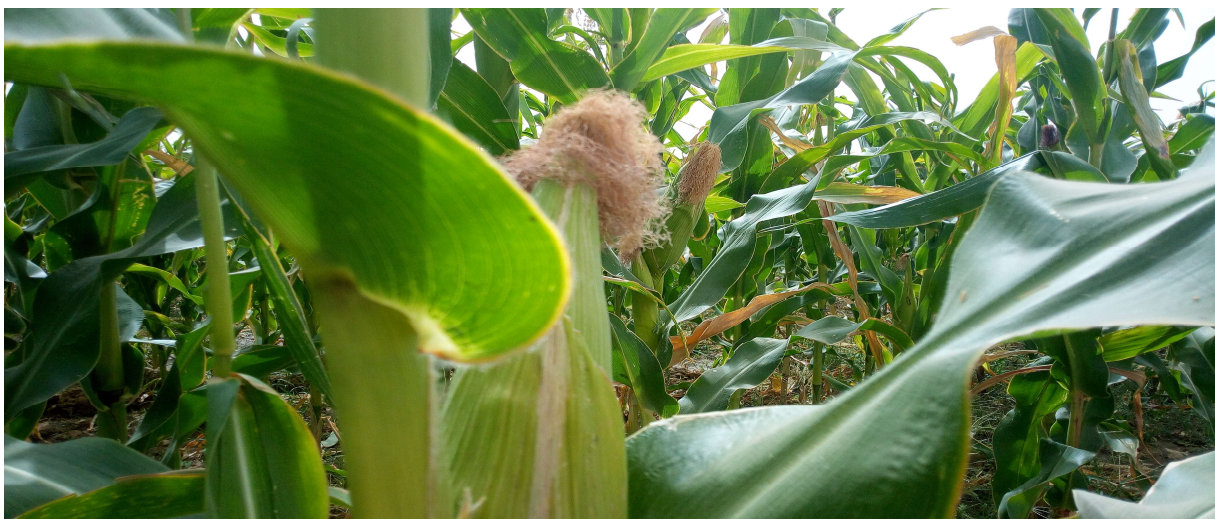
Plate 8 Chairman Nangere Local government presenting inputs to beneficiaries



Plate 10 Testing the project's function during commissioning

Project Results





Another view of Baturiya Farm



Demonstration of Califonan Irrigation Sytem



Dawakin Tofa

Project Summary

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

S/N	State	Local Government Area	Project Location	Number of hectares	Number of Beneficiaries	Crop Cultvated in the Dry Season	Crop Cultvated in the Rany Season
1.	Bauchi	Dambam	Dambam	6	24	Maize	Rice
		Dass	Dass, KagadamWan di, Yelwa, Lukshi	1 1 1 1 2	04 04 04 04 08	Maize	
		Jama'are	Jama'are	6	24	Maize	Rice
2.	Kano	Madobi	Kubarachi	6	24	Maize/Onios	Rice
		Dawakin Tofa	Dawakin Tofa	5	20	Maize/Onions	Rice
		Gabasawa	Zakirai	8	28	Maize/Vegetables	Rice/Vegetables
3.	Jigawa	Kirikasamma	Baturiya	2	0 8	Maize	Rice
		Kaugama	Marke	5	24	Maize	Rice
		Jahun	Darai	6	24	Maize	Rice
		Ringim	Danmakeri	6	24		
4.	Yobe	Nangere	Garin Gada	6	24	Maize	
		Bursari	Damaya	7	28	Maize	
		Jakusko	Dachia	6	24		
Totals				75	300		

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 13 locations in 13 LGAs 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