NIGER DELTA FLOODPLAINS AGROCADASTRAL MAPPING FOR POVERTY ERADICATION IN DELTA STATE OF NIGERIA

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Key words: Flood Plains; AgroCadastral Mapping; Poverty Eradication

SUMMARY

Niger Delta Floodplains in Delta State of Nigeria can be easily defined as fresh water seasonally flooded plains by the Banks of Delta of River Niger. The Area of this study is at average of 250meters from the river banks inward to the land. This space of lands are seasonally cultivated by peasant farmers both for subsistence and commercial purposes.

Figure 1: Map of Delta State as Inset. Source: Google Delta State Map

AgroCadastral Mapping (ACM) shall form the basis of the study to explore the opportunities and resources available for the farmers. The ACM will be limited to Fresh water parts of the flood plains in the Niger Delta of Delta with due focus on the Present State of Poverty Level; Using ACM for Cooperative Societies formations and Loans for the Farmers; Flood Disasters Control and Management; Poverty Eradication. The existing Agricultural practice and Government need for ACM for good Land Management will be studied. Literature Reviews with Area of Study Oral Questionnaire with the Farmers shall form the basis for the Methodology of the Study.

1.0 NIGER DELTA FLOODPLAINS IN DELTA STATE:

Figure 2: Tidal and Flood Marks on the Legs of Patani Bridge across River Niger Delta. Source: Hydroark Library 2019.

Niger Delta measures 36,470kilometer square, including 5340kilometer square of levees, dunes and other sandbars islands within that area stated. They also show that water coverage declines from 31,130kilometer square in wet periods to 3840kilometer square in the periods. The entire floodplain area is included in the 41,195kilometere square designated as a RAMSAR Wetland Site of International Importance in January 2004. Hydrology of Niger Delta gives seasonal flooding of Niger Delta which is the lifeline for the communities and the biodiversity of the flood dependent ecosystem and economy in all ramifications. (onisdin.info 2017).
Delta State is in the South South Geo Political Zone of Nigeria SIX GEO POLITICAL ZONES: 1. South South Zone; 2. South West Zone; 3. South East Zone; 4. North West Zone; 5. North Central Zone and 6. North East Zone.
Delta State of Nigeria is on the Western Side of Niger Delta, the Geographical setting of the area of study is a seasonal wetland of high flood line of submergence at the peak of Rainy

Seasons and low or no water coverage in Dry Seasons when there will be little or no rainfall for months. The window of months of dryness is the period of farming and easy access to land for agro allied economic activities in the area.

Flooding is a natural phenomenon and like other Natural Environmental events, the Niger Delta people have in the past adapted to flood natural occurrence. However over the years, land use/land cover change and poor land use planning have exacerbated the impact of flood disasters. (Mmom et al 2013).

Flood Plain Farming in the area of study was discovered to follow the flood pattern of the plain. Farming is with strict alliance with flood and rainfall pattern.

Food Crops are the major crops of the farming; the planting and harvesting are all within the cycle of the high annual rainfall ranging between 300cm to 450cm with double maxima characteristics of July and September peaks.

2.0 AGROCADASTRAL MAPPING AREA OF STUDY:

The need for AgroCadastral Surveys cum Mapping in Delta State is limited to large scale farming. AgroCadastral Surveys are usually to get the field boundaries which for layout of land use and in classifying land on the basis of soil capabilities or productivity in a cadastral series for many administartive purposes including Tax assessment. (www.fao.org).

AgroCadastral Mapping has a bold hand in hand with Geographic Information Systems using Geomatics Technology to enable farmers to map and project current and future fluctuations in the weather attributes. (www.geospatialworld.net)

The Area of study were defined using two selected linear locations along the rivers in the Niger Delta Zone of intrest.

Google Imagery was used to select the towns and farms along the flood plains.

The Area of Study was randomly selected from the Google Imagery using towns along the banks of the river as a reference of study.

All settlements are linear facing the river with exention inland.

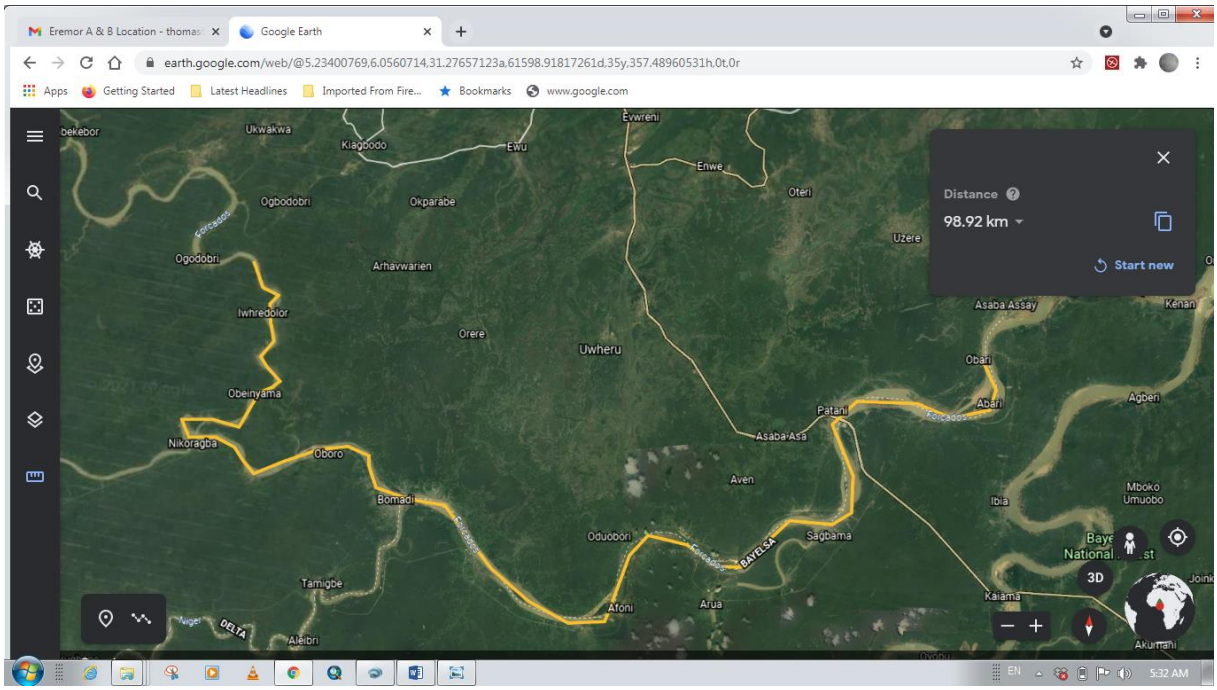


Figure 3: Route 1 Area of Study Linearly Verged Orange Color with the Towns.

S/N	TOWNS	LONGITUDE	LATITUDE	REMARKS
1.	OBARI	6* 16” 57”E	5* 15” 51”N	FORCADOS
2.	ABARI	6* 17’ 14”E	5* 14’ 10”N	FORCADOS
3.	PATANI	6* 11’ 26”E	5* 13’ 46”N	FORCADOS
4.	ANUBEZE	6* 14” 49”E	5* 13” 57”N	FORCADOS
5.	ODUOBORI	6* 04’ 04”E	5* 08’ 39”N	FORCADOS
6.	OLODIAMA	5* 58’ 14”E	5* 09’ 31”N	FORCADOS
7.	OBORO	5* 52’ 41”E	5* 11’ 29”N	FORCADOS
8.	NIKORAGBA	5* 48’ 05”E	5* 11’ 30”N	FORCADOS
9.	OBEINYAMA	5* 49’ 42”E	5*13’ 32”N	FORCADOS
10.	IWHERDOLOR	5* 50’ 43”E	5* 16’ 24”N	FORCADOS

Table 1: Route 1 Area of Study Attributes (Length – 98.92KILOMETERS)

From Obari down the river to Iwherdolor were subsistence farming of Food Crops ranging from Cassava, Suga Cane, Groundnut, Wateryam and Sweet Potatoes. Palm Trees are Wild ones with Raphia Palms of Wild. All farming are with manual tools of cutlasses and hoes.With average size of farm less than ONE ACRE on average.
The potentials and possibilities of Eleminating Poverty in the area is the focus of this work; by using AgroCadastral Mapping of the area for good land management.

The Flood Plain Land Area of Niger Delta is described as a unique ecological zone by virtue of its size and geophysical configuration (Mmom, 2003). It is one of the world's largest wetlands covering an area of approximately 70,000 km2, located in the south-south geopolitical region of Nigeria. It lies between latitude 4º and 6º North of the equator and longitude 5º and 7º East of Greenwich. No mapping of the flood plains as at the time of study for whatever purpose.

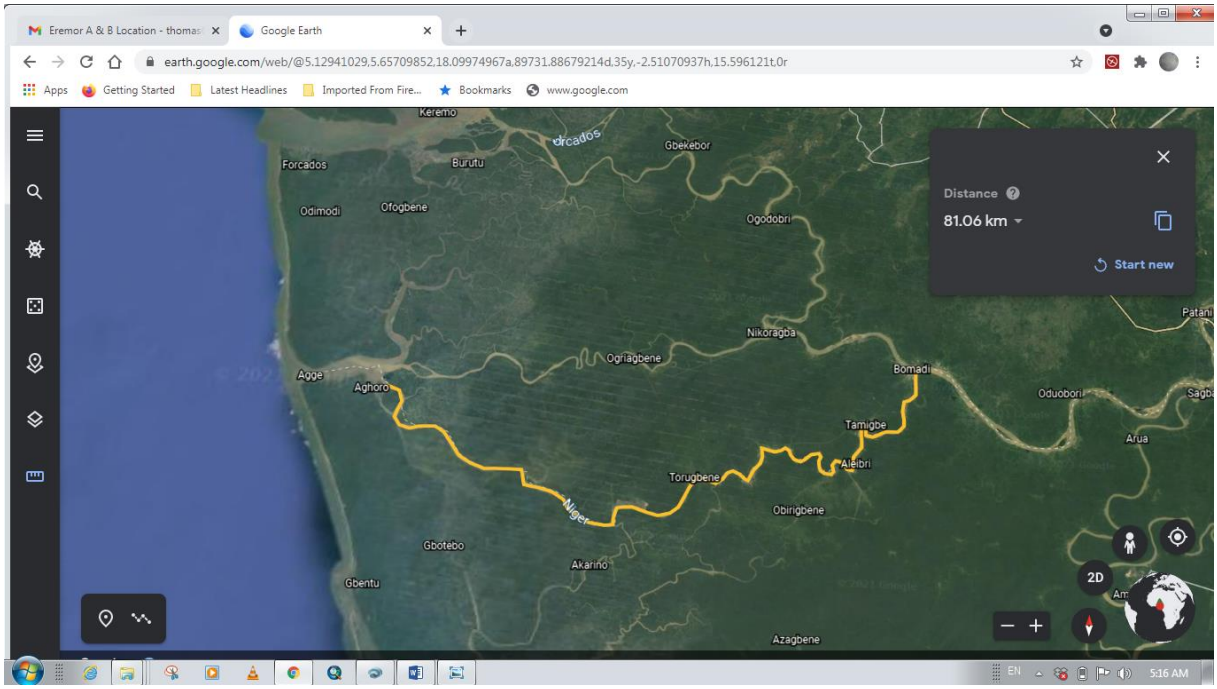


Figure 4: Route 2 Area of Study Linearly Verged Orange Color with the Towns.

S/N	TOWNS	LONGITUDE	LATITUDE	REMARKS
1.	BOMADI	5* 55' 22"E	5* 09' 50"N	NIGER
2.	TAMIGBE	5* 52' 49"E	5* 06' 36"N	NIGER
3.	ALEIBRI	5* 52' 40"E	5* 04' 23"N	NIGER
4.	TORUGBENE	5* 43' 53"E	5* 03' 18"N	NIGER
5.	NDORO	5* 36' 44"E	5* 04' 31"N	NIGER

Table 2: Route 2 Area of Study Attributes (Length – 81.06KILOMETERS)

3.0 METHODOLGY:

The methodolgy was simple and straithforward:

- Fifteen Communities were used in the study on the linear stretch along the Two Rivers Floodplains; all in Niger Delta of Nigeria.

- Most were along the Natural Boundaries of Delta and Bayelsa States of Western Niger Delta of Nigeria. All the areas are freshwater with rainforest.
- Major Economic Activities were Fishing, Farming, Lumbering and hunting all at peasant levels.
- Infrastructure Deficits very obvious. No Survey office or Hydrological Stations were found in the vicinity of studies.
- Settlements were mainly rural and linear.

Oral Questionaires were deployed by visual obersvations and random visits to the Area of Study asking leading questions from the peasant famers who were mostly WOMEN and their CHILDREN. The floodplains used for farming were mostly less than 250meters off the bank lines and less than ONE ACRE in size.

Figure 5: A woman paddling Cassava Stems in overloaded Canoe Manually. See the Farm at Background. Source: Hydroark Library 2021

Figure 6: Lumber Boy and a Child in Niger Delta with a Motor Saw in the Canoe. Source: Hydroark Library 2021

Question asked in form of Questionaires were just TWELVE while other TEN were done by observations and inferences:

DIRECT QUESTIONS:

1. What is the size of your farmland?
2. Any Survey done to determine the size.
3. Any Governmental support.
4. Any cooperative society for the farming
5. Peasant or Commercial farming system.
6. Any Flood Control mechanism.
7. Any record of income from the farming.
8. Any further food processing.
9. Why only Women and Children.
10. Health Care Delivery System.
11. Flood Disaster Experience.
12. Mode of Transportation.

INFERENTIAL QUESTIONS:

1. Crops and Mode of Farming

2. Transportation of Farm products
3. Why no men on farms
4. Any Survey Cadastral Attributes in the vicinity.
5. Any Government Survey office
6. Any Town Planning office
7. Any Agric Extension Office
8. Any hired labors on farmland
9. Hydrological Station to monitor flood
10. Any Governmental Linkage

S/N	QUESTIONS	POSITIVE	NEGATIVE	REMARKS
1.	DIRECT	5%	95%	POOR
2.	INFERENTIAL	3%	97%	POOR

Table 3: The Results of the Study

The responses from the samples of farmers was a refelcetion of big potentials and possibilities if there is any POLITICAL WILL to turn poverty to prosperity for the people: See Table 4

S/N	ATTRIBUTES	PAST	PRESENT	FUTURE
1.	SIZE OF FARM	< 1 ACRE	< 1 ACRE	> 5 ACRES
2.	EQUIPMENT	MANUAL	MANUAL	MECHANISE
3.	INCOME PER ANNUM	< NGN100,000	<NGN100,000	>NGN500,000
4.	LABOUR	WOMEN	WOMEN	MIXED
5.	CROPS	FOOD	FOOD	FOOD + CASH
6.	CADASTRAL	NON	NON	NECESSITY
7.	FLOOD CONTROL	NON	NON	NECESSITY
8.	PLANNING	NON	NON	NECESSITY
9.	COOPERATIVE SOCIETY	NON	NON	NECESSITY
10.	TRANSPORTATION	MANUAL	MANUAL	AUTOMATED
11.	HEALTH CARE	NON	NON	NECESSITY
12.	POPULATION CONTROL	NON	NON	NECESSITY

Table 4: Pottentials and Target Possibilities

These twelve attributes were identified to be focal points for Poverty to Prosperity for the peasant farmers and the populace on the Flood plains of Niger Delta in the area of study.

Figure 7: Poor Housing System and Health Care Delivery System. Source: Hydroark Library 2021

4.0 POTENTIALS AND POSSIBILITIES:

- **The mapping of the floodplains can easily be done in the Dry Season. Method of Mapping can be done via Satellite Imageries with Mosaics. All Mapping must focus on Towns and Villages.**

- **Farming Seasons must be defined and Farmers Population Census must be done.**

- **State Government Mapping Agency and Ministry of Agriculture will need to have a synergy of purpose.**

- **Cooperative Societies to be created and Leadership Lines with Responsibilities well defined.**

- **Funding to be insulated from politics.**

- **A separate AGENCY to be in charge and report to Governor of State.**
- **Self-financing after seed funding.**
- **Holistic Approach and good focusing on attributes.**
- **Professionalism to be hallmark in all engagements.**
- **Source for Non-Governmental Organization Supports and Pilot Scheme Approach.**

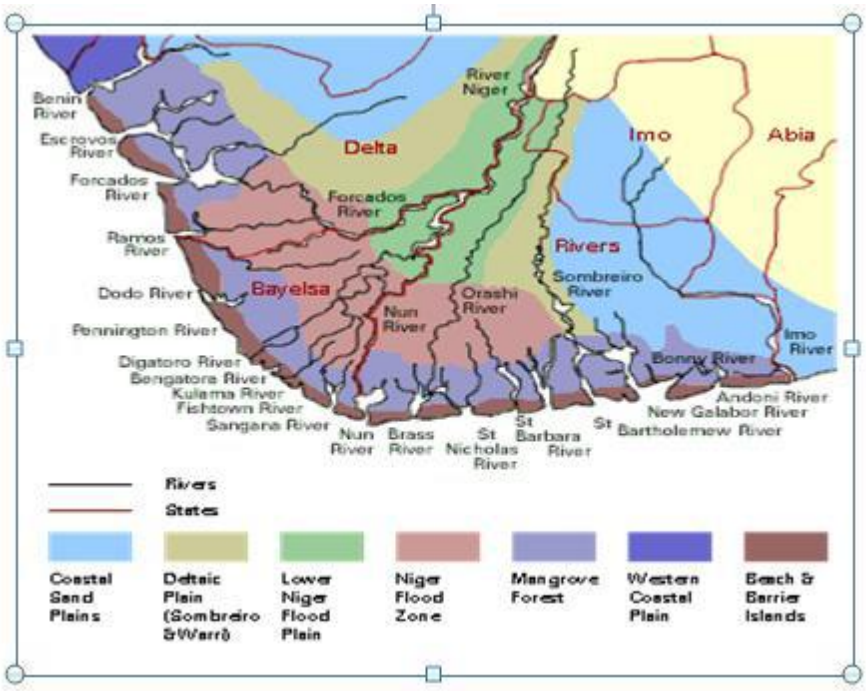
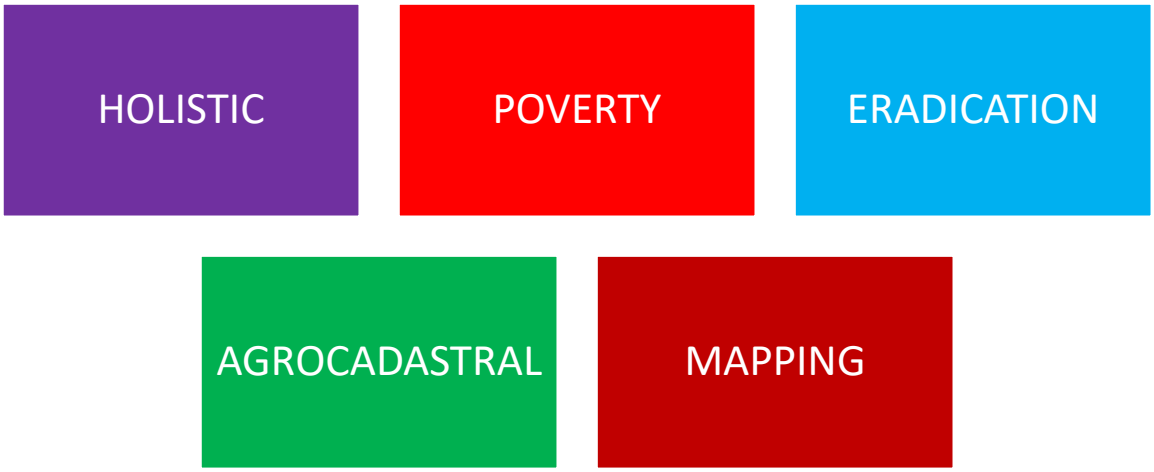


Figure 8: Map of the Niger Delta showing the various river systems and floodplains. Source: Mmom 2013



5.0 CONCLUSION:

The need for AgroCadastre Mapping is a reconstruction agenda rather than social modeling. The objective of the study is to create a foundation for further development and poverty eradication programme.

Its main aim was to identify the characteristics of a society that is regularly flooded in terms of its vulnerability and resilienceto survive and make a good living. Types of data collected were, primary data using verbal questionnaires and complemented by personal interviews and secondary through literature review process.

The collected data were analysed using qualitative techniques.

Basically, the data were analysed using frequency tables and percentages. Qualitative data were analysed by associating responses and interpretations with simple inferences.

Before the discovery of crude oil, agriculture was the dominant occupation of the people. Crude oil was discovered in commercial quantity in the region specifically in the present Bayelsa State in 1956 (Omofonmwa and Odia, 2009). Since then oil exploration and exploitation has continued resulting into what is termed environmental destruction due to neglect and less concern of the multinational companies in environmental management in the area. Apart from environmental degradation resulting from Oil & Gas mining activities, the Niger Delta is plagued with the problem of perennial flooding and shoreline erosion which has accounted severe loss of lives & properties in the region owing to its physiographic configurations.

The Niger Delta with a population over 10 million people is one of the industrial and commercial hubs of Nigeria. It is the home of Nigeria‟s Oil and Gas Industries and a commercial nexus in Nigeria because of its coastal location. In fact, it is witnessing rapid economic growth and little or no development. (Mmom 2013)

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BIOGRAPHICAL NOTES

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