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An Evaluation of Physical Planning Inputs in the Process of Resettling the Inhabitants of Flood Plain Areas of River Niger, Niger State

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Abstract

This study evaluates the physical planning input in the process of resettling the victims of the flood plain of River Niger and Kaduna, by the Niger state Government. Evaluation studies of resettlement programmes in African countries have tended to focus on socio-economic considerations and less on physical planning, knowledge of which is useful for promoting programme success. A number of criteria were adopted in the method of evaluation. These were the regional context of the resettlement site; conveniences and adequacy of the site for resettlement; nature of housing delivery for the resettles; and the production base of the new villages. The outcome of the evaluation of the inputs showed that some aspects have shown the potential to influence the success of the programme, such as the location and layout design and the inadequacy of land for residential and farm activities. The study made an attempt to suggest some physical planning corrective measures that will assist the success of the programme, which are captured in the concluding part of the report.

Keywords: Evaluation, Physical planning input, Criteria, Resettlement, Corrective measures.

1. Introduction

The flood plains of River Niger and Kaduna covers about 200 square kilometer. There are 41 settlements scattered within the area with fishing as their means of livelihood. They fall under one district Head which is divided into 4 village are [1]

Table-1. Existing settlement Hierarchy

Village Head Area Settlement	No Of Villages	Household Population	Functional Hierarchy	Order of settlement
Muregi	21	1335	District Headquarters	1
Sunlati	10	874	Village Head	
Dangi	7	680	Village Head	2
Gazhe	3	252	Village Head	
Total	41	3,141		

Source: Niger State Government Resettlement Scheme [1].

The compounds range between 30 m x 35m to 70 to 75m (table2)

Table-2. Sampled compound Sizes observed in the affected area

Compound Dimension	Observed No Of Household	% Distribution
30m x 35m	20	20
40m x 45m	22	22
50m x 55m	47	47
60m x 65m	8	8
70m x 75m	3	3

Source: field survey, 2000.

Table shows 47% of the compound survey has 50m x 55m.

In recent times, the areas have been threatened by flood annually as a result of Kainji, Jebba and Shiroro Dam constructions over the two Rivers. This has disrupted the intensive fishing activities. The people have now resulted to farming as a compliment to fishing. Average farm size of the farmers as observed is presented on Table 3.

Table-3. Average Farm size distribution

Average Farm Size (Hectares)	No of Respondent	% Distribution
1.5	25	4
2.5	79	13
3.5	495	83
Total	600	100

Source: field Survey 2000

From the above, the farm size distribution is an evidence of small - scale farming. The phenomenon of constant flooding has often washed away homes, farmlands, fish ponds and other commercial facilities as well as displaced the flood plain community. This intimated the Niger State government and initiated resettling the victims, at suitable locations away from prone plains

2. Procedures and Physical Planning Input

Physical Planning is concerned primarily with orderly and efficient organization of space [2]. In resettlement programmes, it enhances the coordination of all forms of developmental activities by making the fullest and most effective use of available resources [3]. It covers aspect ranging from activities in site selection, site design, land use planning, housing and facilities provision, etc. The physical planning input in the Niger flood plain resettlement programme include, site selection, site design, land acquisition and housing provision. The analysis of these inputs was done to establish a base for the evaluation.

Site selection:- Two sites were selected, new Muregi and Chekugi sites. The Muregi site covered an area of 136.8 hectares of land and Chekugi site has an area of 163.2 hectares of land [1]. The two sites fall within the same geographical region. With particular reference to the Niger State capability Map, the selected areas are blessed with good environmental conditions that support the cultivation of both cash and food crops. It has nearly level to gently sloping topography conducive for settlement development.

Site Design: Two layout plans (proposed Muregi and Chekugi plans) were designed for the two sites (fig 1 & 2) Muregi plan adopted grid iron pattern with integrated hierarchical pattern of roads with 472 uniform plots sizes of 15m by 30m, and covers an area of 136.8 hectares of land with residential plots occupying 21.24 hectares of land and 115.56 hectares for utility, facility services. The proposed Chekugi plan, adopted curvilinear design concept and served with integrated hierarchical pattern of road with residential plots occupying 21.15 and 142.05 hectares for utility, facility services. The total land acquired for the whole programme both for residential and agricultural purposes is 300 hectares and 5505 hectares respectively.

Housing Delivery: - The resettlement committee proposed 4 options for the community housing provision. These include:- (i) Gradual construction of dwelling units for the victims by the government (ii) Construction of all dwelling units from foundations to floor slap level and allow beneficiaries to continue to finish (iii) Allocation of plots to beneficiaries and supplemented with building materials. (vi) Allocation of funds and plots to beneficiaries to reduce too much government involvement. Option one was adopted by the government. Under the option the government is to provide each of the 3,141 household with 3 bedroom semi detached housing unit.

3. Methods

The 41 settlement affected were ranked into 4 classes (table 1). All the villages in each of the classes were assigned a number. In each class, 3 villages were selected randomly using table of random numbers and questionnaire administered to their inhabitants. 1,000 questionnaires were administered among the selected villages with the help of field assistant. The questionnaire was design to retrieve information on the pattern of socio-economic activities of the people, their opinion on the resettlement programme. Numbers of criteria were adopted in the evaluation. These were limited to regional context of site; conveniences and adequacy of the site, nature of housing delivery and the production base of New Villages.

4. Results and Discussion

The Regional Context of the Site: - Two variables of sites are considered here:- Site specific attributes and infrastructure support attributes. The site specific is the physical properties of sites, such as terrain, soil fertility; etc as support base for development purposes, while infrastructure support is the existing developments in terms of transportation network, utility, facility and services etc. The terrain in the old settlements areas is generally flat on a height of about 100 meters above sea level and a slope gradient of less than 2% while the new site lie on a gently sloping topography, on a height of 380 meters above sea level and a slope angle of over 4% (fig 3).

Table-3. Slope Categories

Land Uses	Slope standard (%)	Field Observation slope angle	
		Old Site	New Site
Difficult Terrain for development	0 – 1%	Less than 2%	More than 2%
Recreational facilities	1 – 3%		
Intensive Activities	1 – 4%		
High Density Residential	1 – 5%		

Source: Planning standard and field survey, 2000.

In terms of soil fertility, the old sites are characterized by loamy and clay sediments deposits, good for fadama development under mechanical cultivation, Frequent flooding is its main constraints. Soil of the new site have deep, well drain to medium fertile soil, capable of sustaining cereal crops and perennial crops with no physical limitation to mechanical cultivations. Comparing these variables, soil of the new sites could be accepted. In terms of accessibility, the old sites are only accessible by footpath during the dry season, while new sites are accessible through the two dominant regional roads.

From the assessment, the new sites could be appropriate for the resettlement of the victims. This was confirm through the opinion survey (Table 4)

Table-4. Households responses to the selected sites

Opinion	Household Responses	% Distribution
Like it	730	73%
Dislike it	140	14%
Indifferent	130	13%
Total	1000	100

Source: field Survey 2000

The responses therefore is indicative of people willingness to accept the new sites

Conveniences and Adequacy of the site:- There are 3,141 households with an estimated population of 26,748 people in the existing settlements of the flood plain (table 5)

Table-5. Present and projected population to year 2010

Name of Village Area	Present household Population Year 2000	Estimated Population year 2000	Projected Household pop year 2000	Projected estimated pop 2010
Muregi	1,335	11, 543	1,669	14,429
Sunlati	874	7,768	1,093	9,710
Dangi	680	5,321	850	6,651
Gazhe	252	2,116	315	2,645
Total	3,141	26,748	3,927	33,435

Source: field survey, 2000

A linear measurement of a sample of 100 household compound plots was made to determine the sizes of plots by individuals household (see table 2).

The observed result shows that 47% of the household have average compound plot sizes of 50m by 55 meters. Theses size accommodates larger families together with their future needs and activities. Only 30m x 15m each were proposed and sites designed for Muregi and Chekugi.

Considering the present population, this is grossly inadequate if all the communities are to be relocated, hence neglect in variation of family size.

Nature of housing Delivery: The four proposed options were assessed to determine which would meet the requirements of the victims. The variables uses are: psychological, economic, political, cultural and social functions of a house. One hundred present (100%) weights were allocated to each option proportionally to their roles in a resettlement scheme on a ration 5:4:3:2:1 among the 4 option in descending order of their importance (table 6)

Table-6. Showing the evaluation of alternative option for housing

S/N	Option	Psychological	Cultural	Economical	Political	Social	Total
1.	Gradual construction of all the dwelling units for the victims	0	0	26.7	20	0	46.7%
2.	Construction of all dwelling units from foundation to flow slap level and allow beneficiaries to continue to finish	33.3	13.3	0	20	0	66.6%
3.	Allocation of plots to beneficiaries and supplemented with building materials	33.3	13.3	26.7	0	6.7	80%
4.	Allocation of funds and plots to beneficiaries to reduce too much government involvement	33.3	13.3	26.7	20	6.7	100%

Source: field survey, 2000 [1].

The above shows that option four (4) will be more realistic as against option one adopted by the government. Essence is to allow them build houses of their choice and maintain their cultural values. This was confirm through opinion survey about government plan to build houses for them (table 7)

Table-7. Household responses to the option adopted by government

Opinion	Household Responses	% Distribution
Welcome it	26	2.6
Dislike it	967	96.7
Indifference	7	0.7
Total	**1000**	**100**

Source: field survey, 2000

The level of response above is an indicative of people opposing the plan by government to provide houses.

The production base of the resettlement:- Their production base is Agriculture farming is the second production activity after the disruption of fishing activities as a result of flooding. Average farm size observed shows that 83% have an average of 3.5 hectares of land (see table 3).

The committee has proposed and acquired 5505 hectares of farm for the scheme, representing 1.8 hectares of land per person. This is inadequate if we are to consider the present population and its projection to year 2010. The implication of this shall be shortage of farming lands that may lead to land crisis and acute poverty as the communities are resettled as the case in Agazera and Volta Dam Schemes [4].

5. Summary and Physical Planning Proposal

The study revealed some physical planning lapses in the process of resettlement, such as inadequacy in the size of land acquired for the resettlement and the option adoption for the proposed housing provision. There is therefore, the need for appropriate corrective measures for the success of the programme. This is to ensure a successful resettlement programme for the people. The following attempts were made to estimate both the present and future requirement of landmass for both residential and agriculture purposes.

Increase the residential land Areas:- To achieve this, attempt was made to determine land for residential purposes, both for the present and the future requirement. This was based on the observed average ratio of compound sizes of the household made on (table.2). This is translated below.

Table-8. Population and residential/compound size ratio estimate between 2000 -2010

Name of Villages	2000		2010	
			Projection at 2.5%	
	Number of household	Observed compound Size (0.275Ha)	Population	Residential Land
Muregi	1335	367.1	1669	459.0
Sunlati	874	240.1	1093	300.6
Dangi	680	187.0	850	233.8
Gazhe	252	69.3	315	86.6
Total	3,141	863.7	3,927	1,080

Source: Field Survey, 2000

The result shows that the resettlement communities would require 863.7 hectares of land to start with and 1080 hectares of land in 2010 AD as projected. This is against 300 hectares proposed by the resettlement committee.

In housing Provision, the option adopted by the government will not meet the desires of the beneficiaries based on the result of the evaluation (table 6).

Thus, option 4 will be more realistic, which will allow them to build houses of their taste, choice and maintaining their cultural values.

Increase the Agricultural Land Areas:- Agriculture is the production base of the community. An attempt was made to estimate present and futures requirement of agriculture land. This was based on the average farm size ratio observed in the flood plain area (table 3). This is translated below:

Table-9. Population and Agricultural Land size ratio estimate between the years 2000 – 2010

Name of Villages	2000		2010	
	Number of household	Observed farm ration	Population and farm sizes projection	
			Population projection at 2.5%	Farm sizes projection at 3.5ha
Muregi	1335	4671.5	1669	5841.5
Sunlati	874	3059.0	1093	3825.5
Dangi	680	2380.0	850	2975.0
Gazhe	252	882.0	315	1102.5
Total	3,141	10,993.5	3,927	13,744.5

Source: field survey 2000.

From the above table, 10,993.5 hectares, of land is required at the start with 13744.5 hectares projected to 2010 as against 5505 proposed by the communities

6. Concluding Remarks

The government initiative to resettle the people of Niger flood plain is a welcome development and it is worth cherishing. How to accomplish these goals remains a great challenging to many discipline amongst which is physical planning. The evaluation of the project has revealed a number of lapses relating to physical planning which if not corrected will result to failure of the scheme. A number of problems have been raised and corrective measures proffered, but the great deal is whether these corrective measures will be implemented. Nevertheless, the research has established facts, which will be useful for success of the Niger flood plain resettlement scheme

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