IJCRT.ORG

ISSN: 2320-2882



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

THE SOCIO-ECONOMIC IMPACTS OF THE GREATER PORT HARCOURT CITY MASTER PLAN IMPLEMENTATION

JOHNBULL, SIMEIPIRI WENIKE 1, IKIRIKO, OPIRIBA KARIBI 2

¹Department of Urban and Regional Planning Rivers State University, Port Harcourt, Nigeria

²Department of Urban and Regional Planning Captain Elechi Amadi Polytechnic, Port Harcourt, Nigeria

ABSTRACT

The study evaluated the process of implementation of the Greater Port Harcourt City Development Master Plan in Rivers State, Nigeria from its inception in 2009 to 2019. The study set out to socio-economic impacts of implementation of the Master Plan. In the study, subjects (respondents, 332) were studied in situ without experimental manipulation and at one period in time, i.e. the study adopted a passive-observational research design. The study utilized both primary and secondary data sources. The latter included face-to-face administration of a largely pre-coded household questionnaire to a probability sample of 332 respondents drawn from the three study communities. The study utilizes the Hazard and Effects Management Process. Both forms of assessment revealed that that the implementation of the Master Plan affected among others, traditional occupation s(livelihood), reduction in levels of income and financial flows, increase in level of poverty and rise in inflation in the study area. The study concludes that the negative effects notwithstanding, have led to sprouting of small business, temporary jobs. Recommendations proffered includes (1) that the Government or its Agency (GPHCDA) should ensure that it pays all outstanding compensation to affected community landowners to aid their occupational readjustment,(2) Government should also improve on the available sources of livelihood through the establishment of agro-based and other industries in the area to provide more job opportunities, thereby helping to alleviate poverty,(3) Government should create jobs and improve on the sources of income of the people; and (4)Reduce the level of poverty through the provision of employment opportunities and other empowerment schemes.

KEY WORDS-SOCIO-ECONOMIC, IMPACTS, MASTER PLAN, IMPLEMENTATION

Introduction

The place of implementation in the planning process cannot be overemphasized. Politics and public policy are the major factors that determine urban development; Master Plan for urban development is one of the policy documents (Keunta, 2010). It influences the growth of urban population, land use, infrastructure development and service provision. Implementation of the Master Plan determines the level of development of the geographical area it is meant to address. A Master Plan is usually designed for a specific period of

time, between ten and thirty years. It consists of an inventory of existing development in the geographic area of interest as well as proposals for future development.

The Greater Port Harcourt City Master Plan is a holistic plan for the development of the Greater Port Harcourt City Area, which spans eight Local Government Areas of Rivers State, namely- the whole of Port Harcourt Municipality and parts of Oyigbo, Ogu/ Bolo, Okrika, Obio/Akpor, Eleme, Etche and Ikwerre Local Government Areas. It covers an area of approximately 1,900 square kilometres (9,190,000 hectares of land) with a projected population of about two million people (Ede *et al.*, 2011).

On the 2nd of April 2009, the Greater Port Harcourt City Development Law establishing Greater Port Harcourt City Development Authority (GPHCDA) came into force. GPHCDA is a regulatory body with mandate to facilitate the implementation of the Greater Port Harcourt City Master Plan and build the New City called the Greater Port Harcourt City. According to the pioneer Administrator of the Authority, the whole project was "a call to duty with the mission to build a world class Garden City, thriving economically, operating efficiently, prosperously and assuring its residents a quality of life envied for its peacefulness, comfort and sustainability" (Cookey-Gam, 2011).

Focus of The Study

Most studies in Nigeria has only concentrated on Master Plan implementation, failing to adequately demonstrate the effects of such activities such the socio-economic effects of such on the environment, especially on the livelihoods of persons in affected areas. In other to fill this gap, this study has focused on the Greater Port Harcourt City Master Plan Phase 1 implementation. This study has carried out assessment of the effects on the socio-economic impacts on the environment in the Phase 1A implementation communities. Both subjectively (from the point of view of affected people themselves) and objectively (from the point of view of others).

Scope of the Study

The geographical scope of the study will cover the Phase 1 area of the study location that comprises the Mbodo-Aluu, Omagwa and Igwuruta communities. Phase 1 commenced in 2009 but it is still at the construction stage of the project cycle and is expected to be completed by 2020. Phase 1 layout covers

1,692.07ha (16.921km²), extending from the Port-Harcourt International Airport junction across to Professor Tam David-West Road and part of Igwuruta. However, the intellectual scope is to carry out a process evaluation of the overall plan implementation of the Greater Port Harcourt City Master Plan (See Fig. 1).

Background Information about the Study Area

Old Port Harcourt City was a port city established in 1913 during British colonial rule. It was named after Lord Lewis Harcourt, the then British Secretary of State for the Colonies (Owei, *et al.*, 2010; Ede *et al.*, 2011). Due to its geographical location (at the coastal fringe), the city was established as a rail and seaport terminal for the exportation of coal and agricultural produce from the hinterland (Wolpe, 1974; Ikechukwu, 2015). The discovery of oil and gas in the late 1950 accelerated not only the population growth but also growth of the industrial and commercial activities resulting in the expansion beyond the initially planned inner core of the city to the outer area (pari-urban) leading to its uncontrolled development and rapid expansion.

By 1965, the municipality became the site of Nigeria's largest harbour and the centre of Nigeria's petroleum activities (Wolpe, 1974; Izeogu, 1989). With that, there has been a constant influx of people into the city. Apart from the rise in population, the city has seen a corresponding physical expansion. Presently, the city's planning authority(s) has struggled to cope with the rapid uncontrolled expansion population influx and overcrowding (ERML, 2009; Theis et al., 2009). Other studies have added that the existing infrastructure in the city has been in a deplorable condition, overburdened over time (Owei, et al., 2010; Ede, et al., 2011). The Greater Port-Harcourt City (GPHC) Master Plan as it stands includes the Port Harcourt City (Main Town) and the contiguous areas laid out for urban redevelopment, expansion and modernization. It is an agglomeration or conurbation of the old Port-Harcourt City and parts of other Local Government Areas (LGAs) defined in the Greater Port-Harcourt City Master plan. The eight LGAs comprise Port-Harcourt, Obio-Apkor, Okrika, Oyigbo, Ogu-Bolo, Etche, Eleme and Ikwerre. Oyigbo, Eleme, Okrika, and Ogu-Bolo LGAs are located in the east and south of the Central Business District. Obio/Akpor is situated north of Port-Harcourt LGA; Ikwerre LGA is situated north-west of Obio/Akpor LGA, while Etche LGA is in the north-east.

Review of Relevant Literature

Concept of the Master Plan

A Master Plan is a dynamic, multifaceted and comprehensive document that has different interpretations given by different scholars, but the intention has always been the same. For Kent (1964) the document serves as "ordinances or general plan with official statement of a municipal legislative body which set forth its major policies concerning desirable future physical development of an area". The perception of Roger (1999) regarding Master Plan is "a traditional document in Britain with master or comprehensive planning that develops a plan to cover development, use of land in order to maximize the overall benefit, and then ensuring adherence to the scheme in the urban area". Black (1975) on his part refers to the term as "the official public document adopted by a local government as a policy guide to decisions about the physical development of a community". Whichever perspective the document is being looked upon, Master Plans are documents designed by Town Planners and allied professionals with legal backing which involves series of activities of all sectors in any geographical area.

However, the aim of a Master Plan determines the roles the Master Plan plays. In any democratic society where the legislative body is involved in the master planning processes, a Master Plan document is one that should be able to draw the attention of stakeholders regarding challenges and opportunities (Black, 1975). For Black (1975), a Master Plan should be able to initiate policies through long-range appropriate phasing of the plan to provide a task for each period within its implementation period. Also, Kent (1964) asserts that a Master Plan should be able to serve as an avenue to convey policy directions by implementing agencies. He further asserts that a Master Plan document should also serve as an educational tool for those who access it. In the opinion of Roger (1999), a Master Plan should be able to serve as an avenue for exploration as it suggests many functions to the planning staff; the executives; operating agencies for physical development; voters; politician and the public at the drafting of the plan and its adoption. A Master Plan gives implementation direction for every development especially in the preparation of zoning ordinances, subdivision control, urban renewal, etc.

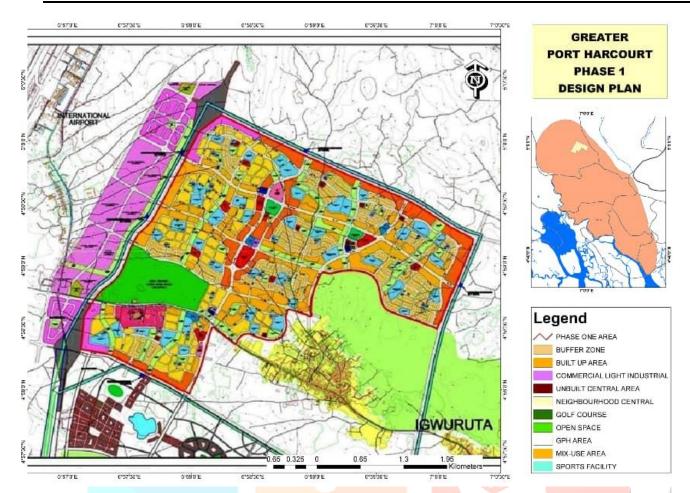


Fig.1 Phase 1 layout showing 1A, 1B, 1C, 1D Sub- Projects of the GPHCMP.

(Source: Arcus Gibb, 2009)

Research Methods

The target population of the study was made up of the total number of households in the study communities (321). This was ascertained through the listing of the households by trained assistants. Subjective socio – economic impact assessment was carried out by:

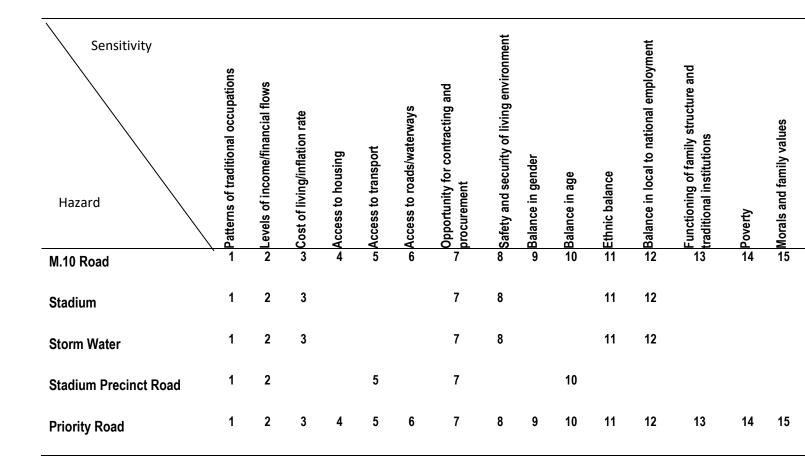
- (a) Questioning respondents in a 50% probability sample of the households (321) selected using systematic sampling approach (Kalton, 1983); trained assistants interviewed heads of the chosen households (or their spouse) face-to-face, using a large preceded questionnaire over a three months' period; and
- (b) Interviewing focus groups drawn from the occupational sub-groups (fisher's folk, farmers, exploiters of timber and non-timber forest products, artisans and small scale business owners).

Since there was no experimental manipulation, the study belongs to the class of research design referred to as "passive observational" (Cook and Campbell, 1979).

- © Objective impact assessment was carried out in accordance with the Hazards and Effects Management Process (HEMP) (SHELL,2005), which followed the following steps;
- (a) Identifying "hazards and sensitivities". A hazard (source of effect) has been defined as "an aspect of the activities or facilities of a project during all of its phases that has the potential to cause harm to the environment", while a sensitivity is a "a specific characteristic of the (social) environment, which once disturbed, leads to the disturbance of the stability or integrity of the environment" (SHELL,2005). To identify impacts, an interaction matrix of hazards (on the y axis) and sensitivities (on the x axis) was utilized (See Table.1). Each number shown in Table. 1 yielded one or more impacts (positive and negative) resulting from the interaction of the hazard and associated sensitivity at that point.
- (b) Qualifying impacts. This was done with reference to the following attributes: (a) positive or negative; (b) direct or indirect; (c) short term/ temporary or long term/ permanent; (d) reversible or irreversible; (e) phase of occurrence (mobilization, construction, operations, or decommissioning and abandonment); (f) local and / or regional, and / or national, and / or global); and (g) incremental or non-incremental.
- (c) Ratings of impacts- carried out with reference to the probability/likelihood of their occurrences and their consequences. Estimation of probability (likelihood) of occurrence is a qualitative issue-high probability (80-100%) refers to a very likely or very frequent impact (e.g., continuous/hourly; medium high probability (60-79%) refers to a likely or frequent impact (e.g., daily/weekly); medium probability (40-59%) refers to a possible or occasion impact (e.g., monthly); medium low probability (20-39%) refers to an unlikely impact (e.g., one that occurs in every 1-10 years); and low probability (1-19%) refers to a very unlikely or rare impact (e.g., one that will take over 10 years to occur). The potential consequence of an impact depends on two things: the

magnitude of the potential change to the (social) environment caused by a hazard; and the level of sensitivity of the receiving environment between the magnitude of change and receptor sensitivity will yield a level of effect as shown in Table.2. Levels of effect translate to potential consequences as shown in Table. 3.

Table 1: Interaction of Hazards (Sources of Effects) and Social sensitivities



(Source: Author's Assessment, March 2020

Table. 2: Interaction Matrix of Receptor Sensitivity and Magnitude of Change. Showing Resultant Effects

or change, s	Level of Change			
Low	Medium	High		
Trivial Effect	Slight Effect	Substantial Effect		
Slight Effect	Substantial Effect	Big Effect		
Significant Effect	Immense Effect	Massive Effect		
	Low Trivial Effect Slight Effect	Low Medium Trivial Effect Slight Effect Slight Effect Substantial Effect		

(d) (Source: Shell, 2005)

Table. 3: Levels of Effect and Potential Consequences

Levels of Effect		Potential Consequences
Massive		Extreme
Big		Great
Substantial		Considerable
Slight		Little
Trivial		Hardly Any
	(Source: Shell,	, 2005)

The potential consequences of social impacts can be described in the following manner;

Hardly Any – A trivial effect on the social environment is one which causes almost no nuisance or damage in the community. The local culture and lifestyle as well as the social infrastructure are somewhat negatively affected, but the effect is only temporary. The impact may perhaps result in some divergence opinion with stakeholder groups, but relationships will probably remain strong.

Little – Slight effect/impact on the social environment, which causes momentary changes in the way of life of the inhabitants of the community. The local traditions and societal structure are negatively affected. There appears to be disagreement with stakeholder groups, but relationship remains fairly strong.

Great - A big effect on the social environment. There is stable disruption to communal lifestyle. The local traditions and the societal structure suffer greatly. There exists a fundamental disagreement between the communities and its stakeholders that destabilizes the relationships. This may affect the speed and effectiveness of future decision making processes.

Extreme - A huge effect on the social environment. There is sustained large interference of, and changes to, the lifestyle of a community, leading to a reduction in quality of life of people in the area. Impacts have turn out to be a concern for all stakeholder groups. There is irreparable damage to social structure, traditional culture and social amenities, as well as total breakdown of stakeholder relationships.

The rating or risk assessment of potential impacts may be done numerically or qualitatively. Table. 4 show a qualitative impact assessment matrix.

Table.4: Qualitative Impact Assessment Matrix

		Potent ial	Consequences		
Likelihood B			Negative		
Positive	Hardly Hardly	Little	Considerable	Great	Extreme
	any	Bittle	Constactable	Great	Batt cine
High	Moderate	Moderate	Major	Major	Major
Medium High	Minor	Moderate	Moderate	Major	Major
Medium	Minor	Minor	Moderate	Moderate	Major
Medium Low	Negligible	Minor	Minor	Moderate	Moderate
Low	Negligible	Negligible	Minor	Minor	Moderate

(Source: Author's Field Survey, March 2020)

This matrix is employed with likelihood plotted on the y axis and Consequences on the x axis. The cells of the matrix, representing possible combinations of likelihood and consequence, give the levels of impact significance as judged by experts. For instance, an impact adjudged to have a low likelihood of occurrence but of great potential consequence will have a minor significance rating

Findings of Study

Basic Socio-economic Attributes of Residents of Study Communities.

Tables 5-7 show the age-sex distribution of the sample of households in the study area.

Table. 5: Age-Sex Distribution for Omagwa

Age Cohort	M	[ale	Fen	nale	To	otal
	N	%	N	%	N	%
0 – 4	24	4.1	18	3.1	42	7.2
5 – 9	24	4.1	28	4.8	52	8.9
10 - 14	18	3.1	24	4.1	42	7.2
15 – 19	26	4.5	22	3.8	48	8.3
20 - 24	32	5.5	28	4.8	60	10.3
25 - 29	34	5.9	32	5.5	66	11.4
30 - 34	28	4.8	26	4.5	54	9.3
35 - 39	35	6.0	36	6.2	74	12.2
40 - 44	21	3.6	28	4.8	49	8.4
45 – 49	12	2.1	14	2.4	26	4.5
50 – 54	10	1.7	11	2.0	21	3.7
55 – 59	8	1.4	12	2.1	20	3.5
60 – 64	5	0.9	4	0.7	9	1.6
65 – 69	6	1.0	4	0.7	10	1.7
70 +	3	0.5	7	1.2	10	1.7
Total	286	49.2	294	50.7	580	100

(Source: Author's Field Survey, March, 2020)

Table. 6: Age-Sex Distribution for Igwurutali

Age Cohort	M	Male Fe		nale	To	otal
	N	%	N	%	N	%
0 – 4	10	1.8	8	1.5	18	3.3
5-9	12	2.2	11	2.0	23	4.2
10 – 14	22	4.0	18	3.3	40	7.3
15 – 19	26	4.7	21	3.9	47	8.6
20 – 24	29	5.3	24	4.4	53	9.7
25 – 29	31	5.7	29	5.3	60	11.0
30 - 34	26	4.7	23	4.2	49	8.9
35 – 39	27	5.0	22	4.0	49	9.0
40 - 44	31	5.7	26	4.7	57	10.4
45 – 49	26	4.7	21	3.9	47	8.6
50 - 54	21	3.9	18	3.3	39	7.2
55 – 59	16	3.0	14	2.6	30	5.6
60 - 64	9	1.7	7	1.3	16	3.0
65 - 69	5	1.0	4	0.7	9	1.7
70 +	2	0.4	6	1.1	8	1.5
Total	293	53.8	252	46.2	545	100

(Source: Researcher's Field Survey, March, 2020)

Table. 7: Age-Sex Distribution for Aluu

Age Cohort	Male		Female		Total	
	N	%	N	%	N	%
0 – 4	9	2.6	8	2.3	17	4.9
5 – 9	11	3.1	10	2.9	21	6.0
10 - 14	10	2.9	11	3.1	21	6.0
15 – 19	18	5.2	21	6.1	39	11.3
20 - 24	21	6.1	22	6.3	43	12.4
25 - 29	16	4.6	19	5.5	35	10.1
30 - 34	19	5.5	21	6.1	40	11.6
35 - 39	18	5.2	15	4.3	33	9.5
40 - 44	16	4.6	13	3.7	29	8.3
45 – 49	11	3.1	12	3.5	23	6.6
50 - 54	9	2.6	6	1.7	15	4.3
55 – 59	7	2.0	6	1.7	13	3.7
60 - 64	4	1.2	5	1.4	9	2.6
65 – 69	1	0.3	3	0.9	4	1.2
70 +	2	0.6	3	0.9	5	1.5
Total	172	49.6	175	50.4	347	100

(Source: Researcher's Field Survey, March, 2020)

Subjective Assessment of the effects of the Implementation MP.

Subjective assessment of the socio-economic impacts was carried out by (a) questioning household respondents, and (b) interviewing focus groups drawn from the main occupational groups, in order to gauge the distributional impacts of the implementation of the Master Plan on Each groups.

The heads of households (or their spouses) were asked to rate the effects of the Master Plan implementation on their communities (with respect to several dimensions of the socio-economic environment, namely: fishing, farming, exploitation of timber and non-timber forest products, cost of living, etc)

Table 8: Respondents' Perceptions of the Effects of GPHC

Master Plan Implementation

Assessment	Frequency	Percent
		,
Appreciation/ Increased Land Value	133	40.1
Increase in Rent	52	15.7
Increased Development	33	9.9
Increased Patronage of SMEs	22	6.6
Loss of Farmlands/	92	27.7
Riparian areas for Fishing		
Total	332	100

(Source: Author's Field Survey, March 2020)

Objective Assessment of the effects of Implementation.

Steps in the Hazards and EFFECTS Management Process (HEMP)- which was used in the objective impact assessment-have been stated under Methodology.

The impacts described below are those that were qualified as Negative and rated as being High significance (see Table. 9). Excluded here are the impacts qualified as Negative but rated as being of low significance.

Table. 9: Impacts Qualification and Rating

Interaction Code	Hazard (source of effect)	Sensitivity	Impact Description	Qualification	Likelihood	Consequence	Impact Rating
1.		Pattern of traditional occupations	Hindrance of traditional occupations	Negative	High	Great	
2.		Reduction in Level of Income/financial flows	2. Reduction in level of income/financial flows	Negative	High	Great	
3		Cost of Living /Inflation	3. Increase in Cost of Living/inflation	Negative	Medium Low	Little	
4		Access to Housing	4. Decrease in access to housing	Negative	Medium	Moderate	
5		Safety and security of living environment		Negative	High	Great	
6		Poverty	Rise in poverty	Negative	Medium Low	Great	
7		Religious/Tradition al Structure and Customs	Hindrance of family structure/traditional institution	Negative	High	Great	
	Legend			//.	Ch		
Great							
Moderate	;						
Little							

Table. 10: Social Impacts Mitigation and Enhancement Framework

S/No.	Impact Description	Gross Rating	Mitigation /Enhancement	Net Rating
			Mitigation Measures	
1.	Change in patterns of traditional occupation	Major	M1. Payment of adequate compensation for land take to enable the natives adjust to the present change in occupation	Minor
2.	Reduction in level of income and financial flow	Major	M2. Improvement in the available sources of livelihood through provision of grants and subsidies to natives.	Minor
3.	Rise in the cost of living/inflation rate	Major	M3. Creation of jobs and improvement in the sources of income	Minor
4.	Access to Housing	Moderate	M5. Provision of affordable housing units and mortgage financing.	Minor
5	Change in safety and security of living environment	Major	M8. Provision of additional security personnel to preserve and protect the living environment of the study area.	Minor
6.	Increase in level of poverty	Major	M4. Reduction in poverty level through the provision of employment opportunities and empowerment schemes.	Minor
7	Change in Religious/ traditional structure and custom	Major	M9. Respect for religion, tradition and custom of the area	Minor
			Enhancement Measures	
1.	Rise in levels of income and Financial Flows.		E.1 Pay adequate compensation to local for land take.	
2.	Opportunities for contracting and procurement		E.2 Locals should be encouraged/empowered to undertake all levels of procurement and contracting	
3.	Increase in job opportunities for locals and nationals	(Sa.,,,,,,,	E.3 All low-skill jobs should go to locals and agreed quota of high-skill jobs. Nationals should be allowed to participate in the latter.	

(Source: Author's Recommendation, March 2020)

Discussion of Findings

There is obvious congruence between the subjective ratings by the people themselves of the effects of the Master Plan implementation on the socio-economic environment and objective assessment by the researchers. Majority of the household respondents considered increase/appreciation of land value, while another seeming majority also said yes the implementation has appreciated the value of land in the area as more people are coming in, buying land lands to develop around the government acquired area, but there is this loss of riparian lands for fishing and farming. Similarly, the occupational subgroups of farmers, hunters and timber and non-timber forest harvesters re-affirm the deleterious effects of the implementation of the Master Plan on the

ecosystem in the form of fish mortality and wildlife. The objective assessment has also confirmed the serious negative effects of the implementation of the Master Plan, such as threat to the traditional livelihoods of the people, the findings of this study are consistent with those of some cited below, such as Nwankwo and Ifeadi (1988) and Stanley (1990) in a similar related studies.

Results of the study also tend to corroborate the observations of others on the deleterious effects of the Master Plan implementation, it was observed that the peasant local economy of the people and the environment are impacted disastrously and hence the livelihood and basic survival of the people is threatened. It was also observed that owing to the land take, farming which is the sole source of livelihood to the people is greatly affected. Furthermore, land inheritance for new family formation and housing developments by such new families (especially for future generations) will be greatly impaired due to the loss of land for the Greater Port Harcourt Project.

Conclusions

So far emphasis has been on the negative aspect of Master Plan implementation activities on the study communities or locations. While this study tends to confirm the forgoing, it must als point out that there are massive beneficial aspects. Infact, it was pointed out in both the subjective and objective assessment that the Master Plan implementation has increased the land value of area, , there is also an increase in development in the area as more and more people are buying lands and developing within the neighbourhood, it is also seen as a blessing in disguise because it has giving opportunities for the sprouting of small businesses, temporary employment for locals, etc.

Recommendations

The study provided a framework for the assessment of social impacts, it is therefore suggested that the Government or its Agency (GPHCDA) should ensure that it pays all outstanding compensation to affected community landowners to aid their occupational readjustment, Government should also improve on the available sources of livelihood through the establishment of agro-based and other industries in the area to provide more job opportunities, thereby helping to alleviate poverty, Government should create jobs and

improve on the sources of income of the people; and Reduce the level of poverty through the provision of employment opportunities and other empowerment schemes.

References

- Berke, P., Backhurst, M., Day, M., Ericksen, N., Laurian, L., Crawford, J., & Dixon, J. (2006) What makes plan implementation successful? An evaluation of local plans and implementation practices in New Zealand. *Environment and Planning B: Planning and Design*, 33(4), 581–600
- Calkins, H.W. (1979) "The Planning Monitor: An Accountability Theory of Plan Evaluation," *Environment and Planning A*, 11(7), 745-758.
- ERML, (2009). Greater Port-Harcourt City Phase-1A Development, Environmental Impact
- GPHCDA, (2008). Greater Port-Harcourt City Development Masterplan 2008. Greater Port-Harcourt City Development Authority, Government of Rivers State of Nigeria, Accus Gibbs.
- Ikechukwu, E.E., (2015). The Socio-Economic Impact of the Greater Port-Harcourt

 Implication for Efficient Urban Planning. Journal of Environment and Earth Science 4,
 Information System 5, 123.
- Izeogu, C.V., (1989). Urban development and the environment in Port-Harcourt. Environment
- Kent, T. J. (1964). The Urban General Plan. San Francisco: Chandler Publishing Co.
- Keunta, K. (2010). An Assessment of the Impact of Form-Based Code and Conventional Zoning on Fort McPherson Redevelopment. M.sc Thesis, School of City and Regional Planning, Georgia Institute of Technology, U.S.A
- Nwankwo,N and Ifeadi, C.N. (1988). "Case studies on the environmental impact of oil production and marketing in Nigeria" University of Lagos, Nigeria.
- Owei, O., Ede, P., and Akarolo, C., (2008). Land Market Distortions in Nigerian Cities and Urban.
- Shell (2005). Global Process for HEMP Application EP2005-0140. The Hague, Holland
- Stanley, W.R. (1990). Socio-economic impact of oil spill in Nigeria, Geography Journal, vol. 22(1): Pp51-68
- Roger, A. R. (1999). Planning for Performance: Developing Programmes that Produced Result.
- UNECA, 2011. National Strategies for Sustainable Development in Africa. United Nations
- Wolpe, H., 1974. Urban politics in Nigeria: a study of Port-Harcourt. Univ of California