

## Community Participation in Upgrading Infrastructure and Services in Ishong Agwom and Rwangjeh Communities, Jos North and South, Plateau State, Nigeria

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### Abstract

Community participation is the process by which residents organize themselves and become involved at the level of a living area or neighborhood, to improve the conditions of their daily lives which could either be; water, sanitation, health, education, electricity, drainages, etc. This study attempted to investigate the factors that motivate community participation in upgrading infrastructure and services and to also determine the influence of socioeconomic and process factors on the level of involvement on the upgrading processes in Ishong Agwom and Rwangjeh communities. Questionnaire administration was used to collect primary data and relevant literatures and publications were used to collect secondary data. Probability sampling (stratified and systematic sampling techniques) was used to collect data from the residents. The findings revealed the following as factors that motivate community participation in the study areas: - projects meeting community interests, lack of infrastructure and services in the communities, trust between community members and leaders of the communities, leadership accountability/sincerity in the handling of community's finance amongst others. The t-test conducted showed that there was a statistical significant difference in the factors that motivate the respondents to participate in the upgrading processes between Ishong Agwom and Rwangjeh communities ( $t(193.814) = -3.163, p < .002, d = -0.44928$ ). The analysis showed that there was a positive strong correlation between involvement level and socioeconomic factors and also there was a positive strong correlation between involvement level and satisfaction level with process factors between the two communities. The multiple regressions result shows that socioeconomic factors in Ishong Agwom community have higher effects on involvement level by 24.9% and socioeconomic factors in Rwangjeh have significant impact slightly lower than Ishong Agwom by 17.7%. Process factors in Rwangjeh community have higher effects on involvement level by 27.7% and process factors in Ishong Agwom have significant impact slightly lower than Rwangjeh by 14.4%. Mediums such as the use of loud speakers, announcement in places of worships and cultural meetings, house to house visitations by sub-zones leaders, community face book page in addition to the text messages sent to the household heads should be used to create awareness among community members on community upgrading processes.

**Keywords:** *Community participation, Infrastructure and services, Upgrading process, Ishong Agwom and Rwangjeh.*

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### **Background of the Study**

One of the major complex problems that governments are facing in developing countries; is making available sufficient infrastructure and basic services for the increasing urban population. Despite the important role the infrastructure and services play in the overall development of the inhabitants and the urban areas, their delivery is becoming difficult to the government. Combinations of the following factors are responsible for the inadequacy of infrastructure and services in developing countries; persistent economic and political crises, high urbanization rate, ineffective infrastructural delivery systems, little investment into the sector and bad governance (Ibem, 2009). There is barely a city in Nigeria where water supply, electricity, affordable housing, good health care services, good quality schools, good transportation networks and recreational facilities amongst others is adequately provided for the residents (Ejaro and Abubakar, 2013). In terms of water supply and sanitation coverage, Nigeria is placed 130 out of 140 countries in the globe based on water poverty index (WPI) values for Nigeria are 47% and 30%. Therefore, it is obvious that a lot of hard work needs to be done for Nigeria to fall into the top twenty water rich countries of the globe (National Planning Commission, 2009).

Nederhand, Bekkers, and Voorberg, (2015), asserts that the role of government in providing the citizens with infrastructure and basic services has been a subject matter of discussion in the last decades. Community-driven participation have been formed in many cities in the last decades, given the fact that government is gradually withdrawing from the welfare sector. This created a gap resulting in citizens taking the idea to upgrade their own community welfare services. "Policy makers across the world have embraced the initiative that communities are interesting alternative to take over the provision of the infrastructure and services. Cameron recommended that in order to resolve the current social issues the involvement of the 'Big society' is needed" (Nederhand, Bekkers, and Voorberg, 2015). Boonstra and Boelens (2011) states that worldwide, new supportive methods for community involvement in upgrading infrastructure and services are coming up.

In the Netherlands, different attempts have been in place since the 1960s to engage citizens from the very beginning to the end, in all spatial planning development processes, and collaboration is advocated connecting government agencies, industrialists and community organizations or between public, business and civic organizations, as a multi-actor approach to planning (Boonstra and Boelens, 2011).

Ibem (2009) stated that government efforts at addressing the infrastructure challenges in Nigeria have followed the adoption of a number of measures, such as the public sector allocation of funds to infrastructure provision and engagement of reform programmes. The failure of the measures and persistent economic and political crises has led the government to some extent withdraw from sufficiently providing infrastructure and services to her urban populace. Subsequently, government attention has since shifted from acting as primary provider of infrastructure and services, to that of a facilitator. Nigerian *Vision 2020*, the policy recognizes that community participation is significant to the success of any development project as it will bring about ownership and

sustainability of the project. The objective of the policy as it relates to community participation is to enable the local populace to be involved in the initiating, planning, implementing, managing and evaluating projects based on their needs. This study attempts to investigate the factors that motivate community participation in upgrading infrastructure and services and to also determine the influence of socioeconomic and process factors on the level of involvement in the upgrading processes in Ishong Agwomand Rwangjeh communities.

### **Conceptual Clarifications**

#### **Definition of Terms used in the Study**

Community is defined as a group of people with face-to-face contact, a sense of belonging together and with common interests and values.

Participation: Assumes project development which the community initiates.

Upgrading is defined as the physical, social, economic, organizational, and environmental improvements that are started cooperatively amongst community groups.

Infrastructure and services for this study are; local bridges, electricity transformer and poles, boreholes, feeder road, drainages and box culverts.

#### **Factors that Influence Community Participation**

Community participation is influenced by many factors. These factors can further be grouped into either motivating or constraining factors, that is, these factors either encourages citizens' to participate or hinders citizens from participating in community organized activities. Emmett, (2000) in his analysis of conflicting interests of various categories of inhabitants in Bekkersdal, shows that tenants, informal settlers and home owners in a community have diverse interests which in return affect the development of such community. He further states that to resolve the diverse interests in the community, representativeness and inclusivity of the inhabitants should be increased so as to give them a sense of belonging in the community. When community members are motivated by self-interest to be involved in a community project and it turns out that the project does not meet their expectations, then any or combination of the following responses should be expected from such members (Emmett, 2000); Interest for the on-going project may decrease and the members may withdraw their services from the project. The members may twist the rules of the project so as to benefit themselves and those close to them. They may put pressure on the external agent to provide compensation either directly or indirectly to them. Conflicts may arise among the community and the external agent and/or among some members of the community.

Swapan, (2014), asserted that the following factors affect citizens' participation in the upgrading process in Bangladesh; Trust in the people involved, from their past experience the people had the feelings that their demands were not going to be incorporated in the final plan. That makes them not to have confidence in the planning agencies thereby affecting their levels of participation in any form of planning activity. Sense of urgency–It was revealed that most people only attend public hearing and meetings when they are affected by the projects negatively, or else they do not go for the meetings. Economic conditions–The level of poverty is very high in most cities of developing countries, thus

making people feel as an alternative of attending community meetings, they use the time to work to meet their daily needs. Awareness & effectiveness of communication strategies taken by the planning agency-About half of the inhabitants claimed they were not informed of the upgrading process and some also complaint that the means of communication was a barrier to why they do not attend community meetings. Due to the gap created as a result of government inability or withdrawal from providing basic services to the citizens lead to communities establishing self-organized initiatives to improve their communities (Nederhand, Bekkers, and Voorberg,(2015). Lack of access to essential services such as health, education, housing and other services make people in the rural and urban areas to be involved in community participation as asserted in (Emmanuel, 2014).

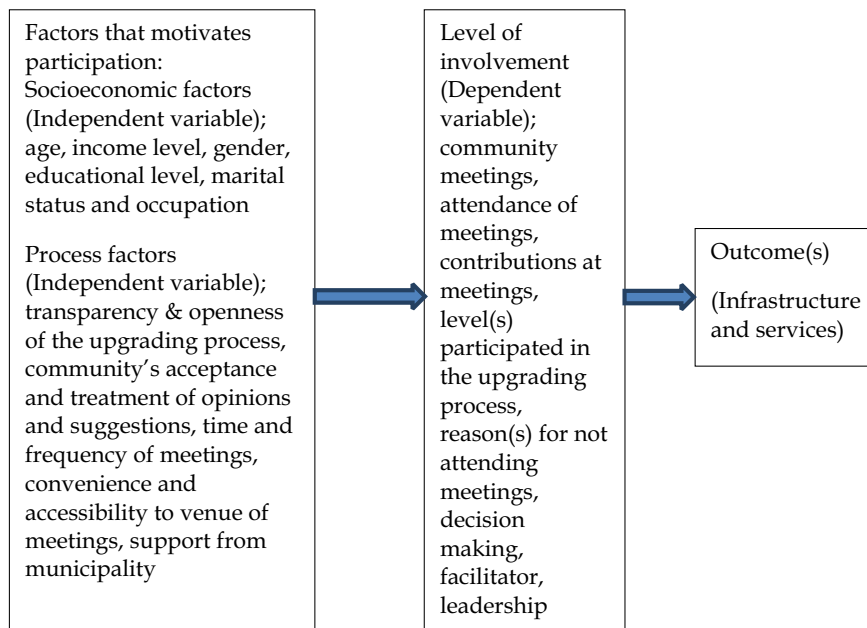
Cornwall, (2008) stated the following reasons as to why people may choose not to participate in community activities; Lack of self-confidence as a result of either or both of the following make inhabitants to bar themselves from participation; the feeling that the powerful people will silenced them or they are afraid of reprisals, the feeling of inferiority complex which make them feel they do not have anything to offer or contribute, feeling that their knowledge and ideas are more probable to be laughed than to been taken seriously, some have the feeling that there is no need for them to participate without any reason, when people feel they do not belong in the community it may also affect their level of participation and for some if what they will get in return for participating is less than the cost of them participating.

Due to the inability of government at all levels across the world to provide good governance to the people especially at the grassroots, participation has been made a pre-requisite to help in filling the gap created as a result of the failure of government to provide adequate infrastructure and services. Community participation to development has the following benefits efficiency, effectiveness, self-reliance, coverage and sustainability of the projects(Oakley, 1995).

Gender is an important factor that influences participation as asserted by (Plummer, 1999); he stated that men and women may frequently have different views and discernments on infrastructural problems and requirements. He further stated that in developing countries the women who are mostly involved in the fetching of water are not often consulted before water stand-pipes are located. While (Waweru, 2015) revealed that the following factors, as listed in descending order encourages community participation; development needs (to address development gaps and skills), projects meeting needs, development interest, wanting to belong, material benefits, to serve community, previous bad experience with other approaches and financial benefits.

### **Conceptual Framework**

The factors that influenced community participation in upgrading infrastructure and services are linked conceptually to socioeconomic and process factors. These factors are further broken as shown in the figure below:



**Fig. 1: Authors, 2017**

### Description of the Study Area

Jos is the administrative capital and the commercial nerve centre of Plateau State, Nigeria. It is located within latitudes  $9^{\circ}45'00''$  and  $09^{\circ}57'00''$ N and longitudes  $8^{\circ}48'00''$  and  $8^{\circ}58'00''$ E. Jos metropolis covers two local governments; Jos North and South. The metropolis covers a landmass of about  $249.7\text{km}^2$ . Because of its location it enjoys a more temperate climate than most parts of Nigeria. Its mean annual temperature is about  $22^{\circ}\text{C}$  but mean monthly values vary between  $19^{\circ}\text{C}$  in the coolest period in December and  $25^{\circ}\text{C}$  in its hottest period in April. The city owes its origin and growth to the prologue of tin mining on the Jos plateau and railway lines connecting it to significant cities in Nigeria, thus bringing the area into the trajectory of world economy then. The tin mining led to the influx of migrants from within and outside Nigeria, thereby making it a cosmopolitan area Adzandeh, Akintunde, and Akintunde, (2015). Ishong Agwom is a community located in Jos Jarawa District of Jos North L.G.A in Plateau State. It is located in the eastern part of Jos North L.G.A. Rwangjeh community is located in Gyel District of Jos South L.G.A. in Plateau State. It is located in the northern part of Jos South L.G.A.

### Sample size and Selection

In this study, the researchers adopted housing units as the research units in the two communities because there was no any standard means of establishing the authentic population of the areas, from which sample size can be determined. In Ishong Agwom community 125 questionnaires were distributed among the residents of the community but 102 questionnaires were retrieved representing 30% of housing units in the community and also 125 questionnaires were distributed among the residents of Rwangjeh community but 98 questionnaires were retrieved representing 30% of the housing units in the community. Probability sampling (stratified and systematic

sampling techniques) was used to administer the questionnaires on the members of households. The two neighbourhoods were stratified into 4 zones each and then systematic sampling technique of 1:3 was used to administer the questionnaires.

Projects upgraded at Ishong Agwom community were: 2 local bridges, electricity transformer and poles, 5 boreholes, feeder road, drainages and box culverts. Projects upgraded at Rwangjeh community were: feeder roads and electricity transformer and poles.

### Data Presentation and Analysis

**Table 1: Number of respondents per motivating factors in the upgrading process in the two communities**

		Community		Total	
		Ishong Agwom	Rwangjeh		
What motivates you to participate in the upgrading process in this community	projects meeting community interests	Count	11	10	21
		% within Community	10.8%	10.2%	10.5%
	lack of infrastructure and services	Count	16	11	27
		% within Community	15.7%	11.2%	13.5%
	trust between community members and leaders	Count	17	6	23
		% within Community	16.7%	6.1%	11.5%
	leadership accountability	Count	4	3	7
		% within Community	3.9%	3.1%	3.5%
	good sensitization	Count	4	2	6
		% within Community	3.9%	2.0%	3.0%
	good leadership/coordination	Count	6	2	8
		% within Community	5.9%	2.0%	4.0%
	desire to improve community's living condition	Count	16	17	33
		% within Community	15.7%	17.3%	16.5%
	transparency of the upgrading process	Count	6	9	15
		% within Community	5.9%	9.2%	7.5%
	support from L.G.A.	Count	5	3	8
		% within Community	4.9%	3.1%	4.0%
benefits that comes with the upgrading process	Count	11	10	21	
	% within Community	10.8%	10.2%	10.5%	
I do not participate	Count	6	25	31	
	% within Community	5.9%	25.5%	15.5%	
Total	Count	102	98	200	
	% within Community	100.0%	100.0%	100.0%	

**Source:** Authors, 2017

The table above shows the number of respondents per motivating factors in the upgrading process in the two communities.

### Independent t-test

**Table 2: Independent Samples Test for the factors that motivate community participation**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
What motivates you to participate in the upgrading process in this community	Equal variances assumed	.459	.499	-3.170	198	.002	-1.545	.487	-2.507	-.584
	Equal variances not assumed			-3.163	193.814	.002	-1.545	.489	-2.509	-.582

**Source:** Authors, 2017

Independent t-test was used by the researchers to investigate if there is statistical significant difference on factors that motivate community participation in Ishong Agwom and Rwangjeh communities.

From the independent t-test conducted, the level of significance was  $p < .002$  meaning that there was a statistical significant difference in the factors that motivate the respondents to participate in the upgrading process between Ishong Agwom and Rwangjeh communities ( $t(193.814) = -3.163, p < .002, d = -0.44928$ ). This means that the percentage of what motivates community participation among respondents in Ishong Agwom is not exactly the same with what motivates community participation among respondents in Rwangjeh.

### Correlations

**Table 3: Correlation between involvement level and socioeconomic factors**

		Involvement	Socioeconomic
Involvement	Pearson Correlation	1	.779**
	Sig. (2-tailed)		.000
	N	200	200
Socioeconomic	Pearson Correlation	.779**	1
	Sig. (2-tailed)	.000	
	N	200	200

**Source:** Authors, 2017

\*\* . Correlation is significant at the 0.01 level (2-tailed).

There was a positive strong correlation between involvement level and socioeconomic factors [ $r=.779^{**}$ ,  $n=200$ ,  $p < .000$ ].” The higher the socioeconomic level the higher the involvement level.

### Correlations

**Table 4: Correlation between involvement level and process factors.**

		Involvement	Process factors
Involvement	Pearson Correlation	1	.731**
	Sig. (2-tailed)		.000
	N	200	200
Process factors	Pearson Correlation	.731**	1
	Sig. (2-tailed)	.000	
	N	200	200

Source: Authors, 2017

\*\* . Correlation is significant at the 0.01 level (2-tailed).

There was a positive strong correlation between involvement level and satisfaction level with process factors [ $r=.731^{**}$ ,  $n=200$ ,  $p < .000$ ].” The higher the satisfactions level with the process factors the higher the involvement level.

### Multiple Regressions

The researchers conducted an independent samples t-test to compare the mean of responses from Ishong Agwom and Rwangjeh communities. The result shows that the responses from the two different communities were statistically significant. Based on that, the researchers went further to conduct a multiple regressions to determine the magnitude of the effects of independent variables on dependent variable on each community separately.

**Table 5: Multiple regressions for socioeconomic and process factors in Ishong Agwom**

Coefficients<sup>a,b</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	1.574	.164		9.589	.000
Socioeconomic	.249	.035	.589	7.090	.000
Processfac	.144	.050	.239	2.880	.005

Source: Authors, 2017

a. Dependent Variable: Involvement

b. Selecting only cases for which Community = Ishong Agwom

The table above shows that socioeconomic and process factors are statistically significant in Ishong Agwom community. Both factors are positively related to involvement level, meaning that an increase in socioeconomic and process factors will result in an increase in



involvement level. Socioeconomic factors have a positive impact of 24.9% on involvement level and process factors have a positive impact of 14.4% on involvement level in Ishong Agwom community.

**Table 6: Multiple regressions for socioeconomic and process factors in Rwangjeh**

Coefficients<sup>a,b</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.395	.163		8.533	.000
	Socioeconomic	.177	.029	.459	6.049	.000
	Processfac	.277	.046	.459	6.048	.000

a. Dependent Variable: Involvement

b. Selecting only cases for which Community = Rwangjeh

**Source:** Authors, 2017

The table above shows that socioeconomic and process factors are also statistically significant in Rwangjeh. Both factors are positively related to involvement level, meaning that an increase in socioeconomic and process factors will result in an increase in involvement level. Socioeconomic factors have a positive impact of 17.7% on involvement level and process factors have a positive impact of 27.7% on involvement level in Rwangjeh community.

### Discussion of Results

In this research, probability sampling technique was used to collect data. Two hundred and fifty questionnaires were systematically shared among residents in the study areas. Two hundred of the questionnaires were retrieved i.e. 102 from Ishong Agwom and 98 from Rwangjeh. These constitute the main data used in this analysis. Lack of infrastructure and services motivated 15.7% respondents in Ishong Agwom and 11.2% in Rwangjeh communities to participate in the upgrading processes. Trusts between community members and leaders motivated 16.7% respondents in Ishong Agwom and 6.1% in Rwangjeh communities to participate in the upgrading processes amongst others. 5.9% respondents in Ishong Agwom and 25.5% Rwangjeh communities were not motivated by any factor to participate in the upgrading process. The rate at which respondents do not participate in the upgrading process is higher in Rwangjeh than in Ishong Agwom this was because women and youths were not invited or allowed to participate in the decision making and planning stages of the upgrading processes.

The result shows that socioeconomic factors in Ishong Agwom community have higher effects on involvement level by 24.9% and socioeconomic factors in Rwangjeh have significant impact slightly lower than Ishong Agwom by 17.7%. Process factors in Rwangjeh community have higher effects on involvement level by 27.7% and process factors in Ishong Agwom have significant impact slightly lower than Rwangjeh by 14.4%.

## **Conclusion**

Looking at the importance of infrastructure and services to communities, the researchers considered it important to investigate into what motivates community participation. The objectives of the research were to investigate the factors that motivate community participation in upgrading infrastructure and services and to also determine the influence of socioeconomic and process factors on the level of involvement on the upgrading processes in the two communities. Community initiated projects identified in Ishong Agwom Community were; local bridges, electricity project, boreholes, road project, drainage and box culverts projects and in Rwangjeh Community; road projects and electricity project.

The independent t-test conducted, showed that the level of significance was  $p < .002$  meaning that there was statistical significant difference between the factors that motivate the respondents to participate in the upgrading processes between Ishong Agwom and Rwangjeh communities ( $t(193.814) = -3.163, p < .002, d = -0.44928$ ). What motivates community participation among respondents in Ishong Agwom is not exactly the same with what motivates community participation among respondents in Rwangjeh. The higher the socioeconomic level the higher the involvement level in the communities. Also the higher the satisfaction level with the process factors the higher the involvement level in the communities.

The socioeconomic and process factors are statistically significant in Ishong Agwom community. Both factors are positively related to involvement level, meaning that an increase in socioeconomic and process factors will result in an increase in involvement level. Socioeconomic factors have a positive impact of 24.9% on involvement level and process factors have a positive impact of 14.4% on involvement level in Ishong Agwom community. The socioeconomic and process factors are also statistically significant in Rwangjeh. Both factors are positively related to involvement level, meaning that an increase in socioeconomic and process factors will result in an increase in involvement level. Socioeconomic factors have a positive impact of 17.7% on involvement level and process factors have a positive impact of 27.7% on involvement level in Rwangjeh community.

For this study the following levels of involvement were formulated based on the diversities of the people involved in the upgrading processes: attendance to meetings, contributions at meetings, levels participated in the upgrading process, decision making, facilitation and leadership amongst others. The combination of these factors formed the dependent variable.

## **Recommendations**

- i. The residents should be empowered economically to be able to participate effectively in the upgrading of urban infrastructure and services. This is because provision of infrastructure and services is capital intensive and only an economically and socially active population would be able to participate in the provision of infrastructure.

- ii. The penalty for not attending meetings and for not actively participating in the upgrading processes should be implemented to the latter, irrespective of whoever is the culprit to serve as a deterrent for other members of the communities. For example people who do not participate should be excluded from benefitting from the infrastructure and services provided in the communities.
- iii. Mediums such as the use of loud speakers, announcement in places of worships, cultural meetings, house to house visitations by the zones leaders, community face book page in addition to the text messages sent to the household heads should be used to create awareness among community members on community upgrading processes.
- iv. There is need for government at all levels to introduce reward for communities that perform well in the area of improving infrastructure and services in their neighbourhoods, so as to serve as encouragement for other communities to participate in the upgrading of their own communities.

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