Socio-Economic Factors, Occupation and Family Size as Predictors of Public Perception of Water Resources Planning in Oyo State, Nigeria.

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Abstract: The study investigated the effects of five socio-demographic variables (age, gender, occupation, family size, and socio-economic background) on public assessment of water resources planning in Oyo State. It employed a sample size of 210 respondents (101 males and 109 females) spread over six local government areas in Oyo State. It used a questionnaire in obtaining information from the respondents. The data obtained was analysed using frequency counts and multiple regression. The result showed that the five variables when taken together had a low positive relationship with public assessment of water resources planning (R=0.182). The observed F ratio is significant at 0.05 alpha level which signifies that the R2 value of 0.033 is not due to chance. In essence, 3.3% of the variance in public assessment of water resources planning in Oyo State is accounted for by a linear combination of the give demographic variables. However, occupation stood out as the best predictor of public assessment of water resources planning while the rest never contributed positively to the whole prediction. The result poses critical issues that need to be fully considered if the planning of water resources in Oyo State is to be effective and meaningful.

1. Introduction

Resources whether natural, material or human ought to be planned in view of the fact that they are limited in scope, quality and quantity. This assertion is much true with water, a resource that is widely acknowledged to be essential yet limited and prone to exhaustion, due to the increasing demand for it in relation to the fixed supply. For this reason, the issue of water resources planning continues to command a lot of attention and debates. This is so because it constitutes a tool for ensuring the adequate allocation of available water resources among several uses. From this, it is clear that the issue of water resources planning belongs to the public realm which is the domain of government activities in most countries of the world. Planning generally is an activity that ought to be corporate, future-orientated, non-routinised, non-utopian and not based on a trial and error exercise (Alexander 1986). Hence, water resources planning should as a matter of urgency aim to be people-centred, innovative, efficient and result-oriented directed towards having a positive impact on the social well-being of the society as a whole (Sewell 1985). On this account, it is expected that it is an activity that ought to be accorded the necessary resources and given a high priority if it is to achieve its objective of enhancing the effective allocation of water resources.

The task of executing activities relating to water resources planning appears to be a successful venture in developed countries where enormous resources are being committed to it in terms of funds, material and human effort. The result has been a well coordinated and efficient system whereby water resources are identified, uses its noted and both are now related to each other such that the society is made to have adequate and unhindered access to potable water for each use for which it is needed. This scenario is however not the same in developing countries where water resources planning is yet to be effective and efficient due to non-commitment on the part of the government and inadequate resources with which to prosecute the exercise. Hence, the result has been poor allocation of water resources, poor service delivery by public water agencies and increasing incidents of water scarcity. This situation is equally prevalent in Nigeria as most public water agencies are bedeviled with several problems that has seriously affected their ability to plan for existing water resources.

In Nigeria, water resources planning is a responsibility of the government as enshrined in the 1999 constitution. In spite of this arrangement however, it is an exercise that remains uncoordinated, inefficient and poorly executed. Faniran (1972, 1977, 1983, 1986, 1987 and 1991) Gbadegesi & Olorunfemi 2007, Amori (2009) Oyebande (1977) and Ayoade (1975 a & b). It becomes urgent and compelling to examine and evaluate the extent to which the public assess water resources planning in

Nigeria using Oyo State as a case study, (Oyo State is one of the thirty-six states of Nigeria and is located in the south western part). Specifically, the paper determined the extent to which some demographic variables predict public assessment or perception of water resources planning in Oyo State.

Research Problem

The study determined the extent to which some demographic factors (age, gender, marital status, socio-economic background, family size and occupation) predict public perception of water resources planning in Oyo State.

Specifically, it provided answers to the following questions:

(i) To what extent would the above-listed demographic variables when taken together predict public assessment of water resources planning?

(ii) What is the relative contribution of the variables to the prediction of public assessment of water resources planning?

2. Materials and Methods
Sampling and Sampling Procedure

The study involved a sample of 210 respondents consisting of 101 males and 109 females spread over six local government areas in Oyo State. The respondents were selected using stratified random sampling on the basis of local government and wards.

Instrument

The major instrument used in the study for collecting data from respondents was a questionnaire titled "Public Perception and Evaluation of Water Resources Planning in Oyo State. "It consists of three sections. Section A covered issues on personal background information of respondents such as age, sex, occupation, marital status, educational background and family size. Section B covers the evaluation of government efforts and activities in the area of water resources planning while Section C covers the respondents' perception of the state of water resources planning in Oyo State. Before administration on respondents, the instrument was tested for reliability and it yielded a cronbach alpha value of 0.721.

Procedure
Date collection

The data collection exercise was undertaken by the researcher with the assistance of three trained research assistants. Questionnaires were administered on the respondents and were retrieved immediately after they had been filled. The exercise lasted two months.

Date Analysis

Analysis of the collected data involved the use of frequency counts and multiple regressions (backward solution procedure) which examined the relationship between a dependent variable and a set of independent variables. The independent variables in this case are the aforementioned six demographic variables while the dependent variable is public assessment of water resources planning. Multiple regression was also used in determining the joint and relative contributions of each independent variable to the prediction of the dependent variable. Analyses were computed with the aid of statistical packages for the Social Sciences (SPSS) software version 15.0 for windows.

3. Results

The result of the study is presented in tables 1 and 2. Table 1 shows the joint (composite) contribution of the five variables to public perception of water resources planning. It yielded a multiple regression coefficient of 0.182 and a co-efficient of determination of 0.033. The table also showed that analysis of variance for the multiple regression data yielded an F ratio of 7.437 which is significant at 0.05 level. From the table, it is evident that the independent variables have a multiple correlation of 0.182 with the perception of water resources planning. This implies that the independent variables effectively predicted public perception of water resources planning. Similarly, a coefficient of determination of 0.033 was obtained. The implication of this result is that the combination of the independent variables explained or accounted for 3.3% of the variance in public perception of water resources planning leaving 96.3% of the variance to error and other factors not investigated in the study.

In order to determine the statistical significance of the joint (composite) contributions of these variables to the prediction, analysis of variance was computed as revealed in the ANOVA table. It showed that the correlation value obtained was significant at 0.05 level. The implication of this result is that public perception of water resources planning was significantly influenced by a combined contribution of the independent variables. In other words, the independent variables effectively predicted public perception of water resources planning.

Table 1.   Regression Analysis on Independent Variables 'Joint Prediction of Public Perception
                of Water Resources Planning

Multiple R	=	0.182
R Square	=	0.033
Adjusted R Square	=	0.007
Standard Error of the Estimate = 5.654		

Analysis of Variance

Source of variation	Sum of squares	Degrees of freedom	Mean square	F-ratio	Sig
Due to Regression	204.334	5	40.867	1.278	0.275
Due to Residual	5945.583	186	31.967		
Total	6149.917	191			

Table 2: Relative contribution of the Independent Variable to the prediction

S/N	Variable	Unstandardised Coefficients	Standard Error	Standardized coefficients	T-ratio	Sig T	Rmks
	Constant	21.332	2.888		7.388		
1	Age	0.897	0.431	-0.186	-2.083	0.039	S*
2	Gender	-0.819	0.820	-0.072	-0.999	0.319	NS
3	Occupation	0.088	1.014	0.184	2.059	0.041	S*
4	Family size	0.149	0.629	-0.018	0.237	0.813	NS
5	Socio – Economic Background	0.249	0.982	0.019	0.254	0.800	NS

The contribution of each of the variables to the prediction of perception of water resources planning are reflected in the values of the regression coefficients which ranged from − 0.819 to 2.088, standard errors (ranged from 0.431 to 1.014 and t-values from − 2.083 to 2.059. In its real sense, the relative or individual contributions of the independent variables are determined by computing the standardized regression coefficients (beta), the standardized weights (b) and the standard error. The estimates above were later tested for significances as to ascertain whether the independent variables associated, with each value is contributing significantly to the variance in the dependent variable. The information is reflected in the columns on t-ratios and the significant T. The contributions of each independent variable to the prediction of the dependent variable are largely determined by the standardized regression in coefficients. They show the potency or otherwise of the contributions of the various independent variables to the prediction of the dependent variable. The standardized regression coefficient is itself a partial correlation coefficient which is a measure of the relationship between an independent variable and a dependent variable with the influence of other independent variables being held constant. Table 2 shows the un-standardized regression coefficients, the standardized regression coefficient, the standard error of the estimate (S.B), significant T, t-ratios and remarks.

From table 2, it can be seen that only gender had a negative beta value of -0.819 while other independent variables have positive values. This implies that as the value of gender increase, the dependent variable (perception of water resources planning) decreases.

The column on the standardized regression co-efficients as mentioned earlier on shows the contribution of each of the independent variables to the prediction of perception of water resources planning which is the dependent variable. The columns show that variable 3 (occupation) was the most potent variable with a value 0.039.

As for the extent to which each of the five independent variables contributed significantly to the prediction of perception of water resources planning, the values of t-ratios and significant T as shown in table 2 indicate that variable 1 (age) and variable 3 (occupation) contributed significantly to the prediction of the perception of water resources planning while other variables had no significant contribution.

4. Discussion

The results presented above showed that the independent variables save gender and family size contributed to the prediction of public perception of water resources planning in Oyo State. This shows that the respondents' perception of water resources planning is largely affected by age, occupation and

socio-economic background. On the other hand, gender and family size had no appreciable impact on the prediction of public perception of water resources planning going by the negative value of their beta weights. In other words, perception of water resources planning is not affected by gender. Whether male or female respondents, all perceived water resources planning in the same way.

Furthermore, of all the independent variables, age and occupation had significant values going by the significant T-ratios. This implies that all other variables never had a significant contribution to the prediction except age and occupation.

The implication of the result presented above shows that with the level of awareness in Oyo State, coupled with the importance attached to water as a resources, it is not surprising to see that people are not positively disposed to the present state of water resources planning in Oyo State. From the study, it can be inferred that people do not rate the state of water planning in Oyo State high. Gbadegesin and Olorunfemi (2007) further led credence to this fact. It is the contention of most respondents that the poor service delivery of Oyo State Water Corporation can be directly traced to the poor state of water resource planning. The incessant water scarcity coupled with poor access to safe and potable water supply also goes to show that there is no proper planning backed with poor implementation. It becomes urgent and essential that more attention be given to water resources planning by way of funding, commitment and articulation. The result from this study has confirmed the fact that people are not convinced that water resources planning is given its rightful place in the management of existing water resources in Oyo State.

Conclusion

This study sought to determine the effects of socio-economic background, occupation and family size on public perception of water resources planning in Oyo State. The study was able to establish that the three variables (socio-economic background, occupation and family size) contributed to the prediction of public perception of water resources planning on Oyo State. This implies that the three variables had an impact on their perception of water resources planning. It is important to stress that water resources planning ought to be accorded more priority as a way of ensuring better service delivery in the provision of public water in Oyo State.

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