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Progress Out of Poverty through Participation in Self-Help Groups in Some Rural Areas of Delta State, Nigeria.

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ABSTRACT

The study examined the Poverty Probability Index (PPI) of members of Self-help Groups and non-members in Ughelli North and Ughelli South Local Government Areas of Delta State, Nigeria. Data were obtained through structured questionnaire administered to 152 and 144 self-group members and non-members respectively. Descriptive and Inferential Statistics were used in analyzing the data. Using the Poverty Probability Index, we estimate 27.4 % of the households are under the $1.90 PPP (2011) poverty line. The PPI analysis shows that self-help member households do not suffer from a higher incidence of poverty than non-self-help members. There was no statistically significant difference in poverty rates between the two groups, suggesting that poverty is more a "rural dweller phenomenon", than a non-self-help group membership's issue. Furthermore, the PPI analysis shows that female-headed households do suffer from slightly higher poverty incidence than male-headed households, but the difference was not statistically significant in all poverty lines, except for National Poverty (150%) and National Poverty (200%) lines at 10% significance level. Overall, self-help members are, like other rural households, fairly poor. However, we find that poverty levels among self-help members are less severe than projected by other researchers. We suggest that development agencies seeking to use self-help groups as platform to target rural dwellers towards poverty alleviation should carry out baseline surveys to obtain data on their poverty status and carry out surveys after a given period of intervention to assess progress out of poverty over time. In this way, the poor living below certain poverty lines could be identified and reached specially to make particular interventions more effective, since lifting people out of poverty requires knowing who is actually poor.

1. INTRODUCTION

The proportion of poor people, that is those living on less than US$1.25 per day, in Nigeria increased to 62.6% in 2010 from 47.2% in 1981 (NBS, 2012). Rural households in Delta State are equally poor. The poverty report of NBS (2018) indicated that the poverty rate in rural areas of Delta State was 42.8% in terms of food poverty and 63.6% based on dollar per day. Moreover, the absolute poverty rate was 63.3%.

A number of programmes have been established to address poverty situation in Nigeria. However, much impact has not been made towards poverty alleviation, especially in rural areas. One approach proved to be improving the wellbeing of rural dwellers is participation in self-help groups such as cooperative societies and locally organized financial institutions (Akinola, 2008; Abegunde, 2009). In rural communities lacking access to capital, education, and skills, self-help groups allow people to pool resources together to solve personal and group problems. These groups also identify common goals in order to target the cause and symptoms of poverty related problems. Some researchers observed that with the adoption of cooperative societies, rural people can manage to generate employment, boost food production, empower the marginalized especially women, promote social cohesion and interaction thereby improving their livelihoods and reducing poverty.

A number of empirical studies (Ejenavi, 2017; Akinola, 2008) have examined the impact of self-help groups like cooperative societies on poverty reduction and established that poverty rates of members decreased in comparison with the period before joining. These studies used income and expenditure approaches in the estimation of the poverty indices of the respondents. Some also used the Demographic and Health Survey (DHS) approach to create wealth indices or asset-based wellbeing as a proxy for poverty status.

However, Wanyama, Develtere, and Pollet (2008) observed that the contribution of self-help groups like cooperatives to poverty reduction in Africa has quite often been based on their potential role rather than the actual impact, partly due to the dearth of empirical studies since the early 1900s. Moreover, available literature shows little or no use of the poverty probability index (formerly called Progress out of Poverty Index) in the determination of poverty status of members of cooperative societies or any other self-help groups. Progress out of Poverty tool builds on the logic of such indices as the DHS. It is a simple, yet statistically, sound poverty measurement tool. It has ten questions about a household's characteristics and asset ownership, and the answers are assigned scores. It has two components: the scorecard and the look up table for the likelihood of being poor. The scores are usually added up and converted to percent likelihood that individuals of a given household are under certain poverty lines, from which the group's average likelihood is calculated (Peachey & Kshirsagar,2017). The latest version of the Probability index for Nigeria was developed in 2014 based on the 2012/2013 General Household Survey conducted by the Nigerian Bureau of Statistics and microenterprises are expected to use it in estimating the poverty probability index of participants in their projects (Schreiner, 2015). The PPI has become a global standard for development. Eduardo and Wells (2018) indicated that 600 organisations working at the Bottom of the Pyramid (BOP) usually adopt the PPI for measuring poverty.

It is against this backdrop that this study sought to use the PPI approach and provide answers to the following research questions: What are the social economic characteristics of the self-help groups and non-members in the study area? What are the income sources (in percentages) from all household members? What are the household assets of the respondents? What is the poverty likelihood (in %) of the respondents in the study area? This study is likely to provide information on the poverty state of the respondents which could be used by policy makers in addressing the welfare challenges of rural dwellers, especially self-help group members and potential members.

2. METHODOLOGY

The study was carried out in the rural areas of Ughelli North and Ughelli South Local Government Areas of Delta State, Nigeria. These areas were purposively chosen because many of the rural dwellers have formed self-help groups to better their livelihoods. There are various farming and non-farming groups – Cassava producers, oil palm growers, rubber tappers, groundnut sellers, fishermen and fish sellers association, thrift savings and loan associations, just to mention a few. Previous studies have not focused on these groups, especially as it pertains to their likelihood of being poor.

The data were sourced from the members of self-help groups and non-members in the chosen communities in 2019. First, a list of registered cooperative societies and other self-help groups was obtained from the Ministry of Commerce and Industry. This list was updated at the village level with the assistance of the clan head to add other unions and self-help groups not registered with the government. Eighteen functional groups were identified with average membership of 10. This gave a total of 180 members. Scheduled interview was arranged for them, but only 152 members were available, representing a response rate of 84 percent. Equal number of non-members of self-help groups in the chosen communities was also reached. The number of persons that presented themselves for the scheduled interview was 144, giving a response rate of 80 percent.

The survey instrument has two sections: Section A solicited information from the respondents on their demographic and socio-economic characteristics. Section B has ten questions based on the Nigerian

Generalised survey indicators of PPI as used by Schreiner (2015) for the Nigerian 2013 Poverty Probability Indices. The questions in the PPI indicators are as shown in Table 1. The answers to the questions are assigned scores. All points in the scorecard are non-negative integers and total scores range from 0 (zero, most likely below a poverty line) to 100 (least likely below a poverty line). The scores are then added up and converted to percent likelihood that individuals of a given household are under certain poverty lines (Table 2). The percent likelihoods of being poor for all household respondents are averaged to get the group's percent likelihood of being poor under certain poverty lines. The justification of this tool for this study is based on the views of USAID (2014) which gives approval for the use of PPI tool by microenterprise partners, of which cooperative societies is one. The poverty lines - the Nigerian PPI uses 2011 purchasing power parity (PPP) and references the World Bank $1.90 PPP and PPP poverty lines as also applicable to Ghana (Bymolt, Laven, Tyszler, 2018).

Table 1: Indicators of Progress Out of Poverty

Indicator	Responses	Score
1. How many members does the household have?	A. Ten or more	0
	B. Eight or nine	5
	C. Seven	10
	D. Six	11
	E. Five	17
	F. Four	19
	G. Three	25
	H. One or two	32
2. How many separate rooms do the members of the household occupy (excluding bathrooms, toilets, storerooms, or garage?	A. One	0
	B. Two	4
	C. Three	5
	D. Four	6
	E. Five or more	7
3. The roof of the main dwelling is predominantly made of what material?	A. Grass, clay tiles, plastic sheets, or others	0
	B. Concrete, Zinc or iron sheet	4
4. What type of toilet facility does the household use?	A. None, bush, pail/bucket	0
	B. Uncovered pit latrine or VIP Latrine	3
	C. Covered pit latrine, or toilet on water	6
	D. Flush to septic or sewage	15
5. Ownership of gas cooker or stove	A. No	0
	B. Yes	3
6. Number of Mattresses owned	A. None	0
	B. One	6
	C. Two	8
7. Does the household own a TV set?	A. No	0
	B. Yes	8
8. How many mobile phones does the household own?	A. None	0
	B. One	2
	C. Two	5
9. Does the household own a motorbike or a car or other vehicle?	A. No	0
	B. Only motorbike	3
	C. Car(regardless of bike)	11
10. Does the household practice any agricultural activity?	A. Farms or has uncultivated land but no farming tools	0
	B. Farms, or has uncultivated land and tools	3
	C. Does not farm nor has uncultivated land	3

Source: Simple-Poverty-Scorecard.com

The study uses different poverty lines obtained from the Nigeria Single Scorecard converted to poverty likelihood as presented in Table 2 to allow for robustness of the results of the data analysis. They include Food, 100% national, 150 % National, and 200 % National lines as well as the $1.90 per day and $3.10 per day 2011 PPP. The lines for 150 % and 200 % of national are multiples of the national lines which is defined as the median aggregate household per capita consumption of people (not households) below 100 % of the national line(World Bank, 2014).

In estimating household poverty likelihood, a given score is associated with poverty likelihood by defining the poverty likelihood as the share of households in the calibration subsample who have score and who have per capita consumption below a given poverty line (Schreiner, et al., 2014).

Table 2: Look-up Table to convert scores to poverty likelihoods

Score	National Food	National 100%	National 150%	National 200%	poorest ½ < 100 % Nat.	2011 $1.90	PPP $3.10
0 - 4	92.7	100.0	100.0	100.0	96.3	96.3	100.0
5 - 9	92.7	100.0	100.0	100.0	96.3	96.3	100.0
10 - 14	55.5	87.5	98.5	100.0	67.0	75.7	95.4
15 - 19	51.9	82.1	98.5	100.0	60.1	71.4	95.3
20 - 24	44.2	75.9	95.8	97.7	50.4	62.5	92.0
25 - 29	28.8	69.6	92.8	96.8	37.6	48.0	87.5
30 - 34	19.2	53.4	84.1	93.8	27.1	36.8	76.4
35 - 39	12.7	40.1	75.1	90.9	18.5	25.9	65.8
40 - 44	6.0	30.6	61.2	81.2	10.2	15.4	50.7
45 - 49	4.4	20.9	55.6	78.8	8.3	10.6	42.5
50 - 54	1.9	13.4	43.1	66.4	5.2	7.9	32.0
55 - 59	1.1	5.0	32.0	54.4	2.0	2.9	20.4
60 - 64	0.2	3.8	25.9	49.4	0.3	0.5	15.4
65 - 69	0.2	2.7	14.2	35.4	0.3	0.5	7.8
70 - 74	0.2	2.6	9.3	22.4	0.3	0.5	4.8
75 - 79	0.0	0.0	2.7	7.9	0.0	0.0	1.8
80 - 84	0.0	0.0	0.0	4.5	0.0	0.0	0.0
85 - 89	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90 - 94	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95 - 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: SimplePovertyScorecard.com

The annual household income was estimated from the information given by the respondents about their average income for three months prior to the survey. The household income was divided by each of the OECD adult equivalence scale coefficient, and then by 365 days. This gives a daily per person income estimate. Using a market exchange rate of ₦350 to US1$, we estimated a per person income in dollars.

The data were analyzed using a number of statistical tools. Descriptive statistics such as mean standard deviation, frequency tables were used to describe the demographic and socioeconomic characteristics of the respondents. Inferential statistics was used to test for the statistical significant difference between the PPI of Self-help group members and non-members. The Statistical Package for the Social Sciences (SPSS) 26 was used for the data analysis.

3. RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

Table 3 presents the descriptive statistics of the respondents. Overall, majority of the respondents were male (64.5%) and majority had attained at least secondary school education (70.6%). The household heads were mostly married (58.8 %) and had had access to loan in the past. The average age was 51.8 years. The average household size was 6.67 and adult equivalent size of 3.91. The mean annual per capita income was ₦ 476,207.77 ($1,360.59), with the cooperators having 1.6 times higher income than non-members.

Table 3: Descriptive Statistics of respondents

Variable	Cooperative Members (N = 152)	Non-Members (N = 144)	All (N = 296)
Sex: Male	99 (65.13%)	92 (63.89%)	191(64.53%)
Female	53 (34.87%)	52 (36.11%)	105(35.47%)
Education up to Primary	45 (29.61%)	45(31.25%)	90(30.4%)
Secondary	46 (30.26%)	43(29.86%)	89(31.1%)
Tertiary	61 (40.13%)	56(38.89%)	117(39.5%)
Marital Status: Single	29 (19.08%)	26(18.06%)	55(18.6%)
Married	87 (57.24%)	87(60.42%)	174(58.8%)
Divorced/widowed	36 (23.68%)	31(21.53%)	67(22.6%)
Access to loan: Yes	140(92.11%)	11(7.64%)	151(51.01%)
No	12(7.89%)	133(92.36%)	145(48.99%)
Age (in years)	50.15)	53.15	51.8
Household size(Adult equivalence)	3.97	3.89	3.91
Per Capita Income per annum (₦)	585,993.42	360,322.92	476,207.77
Per Capita Income per day(₦)	1,605.46($4.65)	987.19($2.82)	1304.68($3.73)

Source: Authors, 2019

Income Sources from all household members

Table 4 presents the income sources expressed as percentage from all household members in the study area. Cooperative households derive on average 40% of their income from ownership of small businesses or trading. This is followed by salary employment (35.5%) in government jobs. The least source of income was derived from remittances. The sources of income of non-members also followed the same pattern.

Table 4: Income sources (%) from all household members

Income Source	Cooperative Members	Non-members	All
Crop farming	10.0	20.5	15.3
Own small business or trading	40.0	30.8	34.4
Remittances	2.0	1.0	1.5
Salary employment in govt. job	35.5	30.7	32.1
Salary employment with a company	10.5	5.5	8.0
Working for others in their farms	4.0	12.5	8.7

Source: Authors' computation from survey data, 2019.

Distribution of respondents according to PPI Indicators

The results of the analysis of the PPI indicators are presented in Table 5. Majority of the households (58.4%) have 7 or more members. while the least (3.0%) have one or two members. About 86% have one or two rooms while only 1.4% has four rooms, excluding bathrooms, toilets, storerooms or garage. Majority of the households (65.7%) have roof types consisting of zinc or iron sheets. Others (34%) have roof made up of thatches or plastic sheets. The toilet type varied from the use of open defecation in bush or streams/rivers to covered latrines and flush to septic tank or sewage. Majority of the respondents (53%) still defecate openly in bush or into streams. About 59% use kerosene stove and gas table stove to cook while others use only firewood or a combination of firewood and kerosene stove. On ownership of mattress, about 66% have at least two while others have one. About 65% own television while about 66 have at least one mobile phone. Majority of the households (76.4%) do not have motorbikes or cars. However, those with motorbikes and cars constitute 21 % and 13.2% respectively. The respondents practice farming, with majority (73.6%) having farms and farm tools or having uncultivated land.

Table 5: **Distribution of respondents according to PPI Indicators**

Indicator	Number	Percentage
Number of members		
7 and above	173	58.4
3-6	114	38.6
1 or 2	9	3.0
Separate rooms in building		
1-2	255	86.1
3	37	12.5
4 and above	4	1.4
Roof Type		
Thatches or plastic sheets	101	34.3
Zinc or iron sheet	195	65.3
Toilet type		
None, bush or rivers/streams	157	53.0
Covered pit latrines	55	18.6
Flush to septic tank or sewage	84	28.4
Ownership of gas cooker		
Yes	168	56.8
No	128	43.2
Ownership of mattresses		
One	102	34.5
Two or more	194	65.5
Ownership of TV		
Yes	191	64.5
No	105	35.5
No of mobile phones owned		
None	62	20.9
One	195	65.9
Two or more	39	13.2
Motorbike or car or other vehicle		
None	206	69.6
Only motorbike	64	21.6
Car, regardless of motorbike	26	8.8
Practice of farming		
Farmland, but not farming	78	26.4
Farmland and farming	218	73.6

Source: Authors' computation from survey data, 2019.

Likelihood (%) of being poor based on highest educational level

The likelihood of individuals being poor based on highest educational level is presented in Table 6. The results indicate that the likelihood of being poor is lowest among household heads with post-secondary education and highest among those with education up to primary school across all poverty lines. For instance, the PP food for household heads with primary school level is 16.41% compared with 15.45 % for those with post-secondary education.

Table 6: Likelihood (%) of being poor based highest educational level

Poverty Line	Primary Level N=90	Secondary Level N=89	Tertiary Level N = 117	All N = 296
PP Food	16.41(15.23)	15.69(13.76)	15.45(15.85)	15.83(14.82)
National Poverty(100%)	41.00(28.0)	40.84(26.24)	37.24(27.9)	39.81(26.2)
PPP 2011 $1.90	28.17(21.45)	27.68(19.86)	26.27(22.69)	27.40(21.17)
PPP 2011 $3.10	60.17(26.32)	59.32(28.05)	54.76(31.18)	58.27(28.38)

Source: Authors' computation from survey data; figures in parenthesis are standard deviations.

Likelihood (%) of individuals (male and female headed households) being poor under various poverty lines

Table 7 presents the likelihoods of individuals (male and female headed households) being poor under different poverty lines. In all poverty lines, the probability of being poor is lower among male-headed households than female-headed ones. And we find no statistically significant difference in the PPI poverty likelihood between male and female-headed households, except for National Poverty (150%) and National Poverty (200%) poverty lines. For both, the difference is statistically significant at 10% level. The result obtained is in consonance with the Ghana Living Standard Survey Round 6 (GLSS 6) which found that "poverty incidence among female-headed households is higher (25.9%) than male-headed households (19.1%)" as reported by Bymolt, Laven, and Tyszler (2018).

Table 7: **Likelihood (%) of individuals (male and female headed households) being poor under various poverty lines**

Poverty Line	Male (N=105)	Female(N=191)	Significance Level
PP Food	15.12(1.53)	16.22(1.04)	0.541
National Poverty (100%)	37.18(2.75)	41.25(1.81)	0.201
National Poverty (150%)	63.07(2.82)	68.49(1.84)	0.096*
National Poverty (200%)	77.07(2.29)	81.85(1.46)	0.066*
Poorest half less than 100% National	19.86(1.79)	21.56(1.19)	0.417
PPP $1.90 (2011)	25.72(2.21)	28.32(1.47)	0.312
PPP $3.10 (2011)	54.73(2.93)	60.22(1.95)	0.112

Source: Authors' computation from survey data; *Significant at 10 %; figures in parentheses are standard errors of means

Likelihood (%) of individuals (Self-help group members and non-members) being poor under various poverty lines

Table 8 shows the likelihood of self-help group members and non-members being poor under different poverty lines. In the study area, we find that, on average, the likelihood of individuals in self-help households living below the $1.90 and $3.10 poverty lines are 26.46% and 57.03% (2011) respectively, with no statistically significant difference with non-member households. This situation was found to be the same for other poverty lines. This suggests that the poverty situation is common among self-help group members and non-members, implying that poverty that does exist as a rural phenomenon rather than a non-membership phenomenon.

Table 8: Likelihood (%) of individuals (Self-help group members and non-members) being poor under various poverty lines

Poverty Line	Members (N=152)	Non-members (N=144)	Significance Level
PP Food	15.13(1.17)	16.57(1.27)	0.406
National Poverty (100%)	38.67(2.11)	41.01(2.20)	0.444
National Poverty (150%)	65.34(2.22)	67.86(2.19)	0.419
National Poverty (200%)	79.10(1.83)	81.27(1.69)	0.384
Poorest half less than 100% National	20.17(1.36)	21.78(1.45)	0.436
PPP $1.90 (2011)	26.46(1.69)	28.98(1.79)	0.440
PPP $3.10 (2011)	57.03(2.32)	59.58(2.34)	0.421

Source: Authors' computation from survey data; Figures in parentheses are standard errors of means

4. CONCLUSION AND RECOMMENDATIONS

The study examined the Poverty Probability Index (PPI) of members of self-help group members and non-members in Ughelli North and Ughelli South Local Government Areas of Delta State, Nigeria. Using the Poverty Probability Index, we estimate 27.4 % of the study area households are under the $1.90 PPP (2011) poverty line. The PPI analysis shows that self-help group member households do not suffer from a higher incidence of poverty than non-members. We found no statistically significant differences in poverty rates between the two groups. This suggests that poverty is more of a "rural dweller phenomenon", than a non-

membership issue. Furthermore, PPI analysis shows that female-headed households do suffer from slightly higher poverty incidence than male-headed households but the difference was not statistically significant in all poverty lines, except for National Poverty (150%) and National Poverty (200%) lines at 10% significance level. Overall, self-help group members are, like other rural households, fairly poor. However, we find that poverty levels among self-help members are less severe than the average poverty rate in the region projected by other researchers.

We suggest that development agencies seeking to use self-help groups as platform to target rural dwellers towards poverty alleviation should undertake baseline surveys to obtain data on their poverty status and then carry out surveys after a given period of intervention to assess progress out of poverty. In this way, the poor living below certain poverty lines could be identified and reached specially to make particular interventions more effective, since lifting people out of poverty requires knowing who is actually poor.

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