

**RURAL HOUSEHOLD LIVELIHOOD DIVERSIFICATION,
SUSTAINABLE POVERTY REDUCTION AND AGENCY: A
STUDY OF SELECTED COMMUNITIES IN THE
AGRICULTURAL ZONES OF IMO STATE, NIGERIA**

Iwundu Anthony Onyekwere^{1*} & Winifred Nwabuaku Kanu²

Department of Sociology, Imo State University, Owerri, Nigeria

*iwu4toni@gmail.com

ABSTRACT: Diversification in rural livelihood activities has been the key to grassroot development in rural communities of Nigeria. The gains in outcome seem not to last long, either due to lack of sustainability or poor democratic agency. This study investigated these issues by a structured survey study. The study was based on 540 households. The Rural Livelihood Adoption Framework formed the framework of the study. The objectives include: to identify the diverse livelihood activities in the rural communities; determine the movers of rural livelihood activities; associate the often reversed gains of livelihood measures to poor sustainability; associate the reversed gains of livelihood measures to weak democratic agency. Hypotheses were tested with correlation techniques. The findings include: the presence of diverse livelihood portfolios in the area surveyed; women were more pronounced than men in diversification of activities; the diversified portfolio impacted positively on poverty reduction but households quickly return to poverty; households have not been embracing sustainable strategies and they lacked agency for the sake of security, voice and protection. It is recommended that; households would bring more portfolio options and pursuit into their existing list; men should be motivated to embrace opportunities and strengthen the women; agency should be encouraged in the rural areas to check government arbitrary economic conduct; households would have to embrace proper sustainability agenda in order to avoid slip back to poverty.

Keywords: Rural Households, Livelihood Diversification, Sustainable Development, Poverty Reduction and Agency

Background to the Study

Rural economies in developing countries tend to be very diversified, as people engage in multiple farm and non-farm activities, all at same time, just to enhance returns and thus improve on economic and social wellbeing. In the opinion of Mehta (2009), “there is the tendency for the pursuance of diverse economic activities by people in a geographic domain; the diversity of production and economic activities resulting into income flows from diverse sources. Such diversification is triggered by the use of resources for production of goods and services”.

The motive behind multiple livelihood activities is to beat back poverty and improve on livelihood wellbeing through supplementary income. This is, however, not realized all the time. Experience shows that rural people benefit from diversification but do not usually have a strong grip over the gains. It may be argued that this is where personal and collective agency can be effective in helping to maintain the gains of diversification. Agency is that

active and creative ability to act on behalf of one's aspirations; advance the wellbeing of self and of immediate collectivity or political community (Alkire & Deneuline, 2009). Agency is therefore needed to secure opportunities, intervene for self or for the group. It is on this scenario that this study was carried out to examine the extent of livelihood diversification among rural households, its impact on poverty reduction as well as the role of personal agency in retaining diversification gains and opportunities. The locale is selected communities in the agricultural zones of Imo State.

Statement of the Problem

The aim of livelihood diversification is income diversification which is proxy to enhancing the food system, poverty reduction, coping with stress and shock. An African household constitutes a highly diverse farm and non-farm organization. Men and women generate income by supplementary activities. It is often argued that livelihood diversification is the backbone of many households in rural areas and a strategy for coping with the growing population and rapidly increasing poverty rate and that families with diversified livelihood have been found to do better than those without diversification, in terms of poverty (Maja & Oluwatayo, 2018; Abebe, Tamiru & Adugna, 2021). Many households seem to start well in the diversification rung but revert to earlier poverty levels. In the same vein, actions that are taken by government and intervention agencies to prevent rural livelihood failure often come to naught and many do return to living on the edge. Apparently too, much of sustainability measures are often initiated from outside the household. Brons (2005) argues that household activity diversification is widespread in rural sub Saharan Africa but has not been generating the expected economic growth of local economy. The gap may come from absence or weak personal and collective agency as well as the absence of sustainable efforts within the households. This study therefore examines the nature of livelihood diversification; its impact on poverty reduction, how and why income diversification gets reversed and the role of personal or group agency can play in preventing diversification failure. The questions posed include: what is the extent of livelihood activities in Imo State? Has diversification been of assistance in poverty reduction? Why are livelihood gains often reversed? Of what relevance is personal agency in mitigating livelihood revision and failure?

Objectives of the Study

The study examines the relationship between livelihood diversification and sustainable poverty reduction and how they are mitigated by personal agency of household heads. Specifically, the study identifies the occupational types in the rural communities studied, the livelihood diversifications from these occupations; ascertain the movers of rural livelihood activities; determine the influence of livelihood diversification on sustainable poverty reduction; determine the influence of livelihood diversification on household wellbeing; compare the gains of livelihood diversification measures and weak sustainability; compare reversed gains of livelihood diversification measures and weak agency.

Hypotheses

- A. There is no significant relationship between livelihood diversification among rural farm households and sustainable poverty reduction.
- B. There is no significant relationship between livelihood diversification among rural public-service households and sustainable poverty reduction.

- C. There is no significant relationship between levels of livelihood diversification among rural farm households and agency.
- D. There is no significant relationship between levels of livelihood diversification among rural public service households and agency.

REVIEW OF LITERATURE

In this section we review literature on evidence of livelihood diversification in rural areas; patterns of diversification; meaning and role of sustainability and the association between livelihood diversification and poverty reduction. Literature is also reviewed on the notion that women are the key movers of rural livelihood diversification. The emerging role of agency in retaining livelihood gains is also reviewed.

Livelihood Diversification, Sustainability and Poverty Reduction

Rural livelihood diversification is defined as ‘the process by which households construct a diverse portfolio of activities and social support capabilities of survival in order to improve their standard of living (Ellis, 1999). On their part, Jon and Andrew (2006) approach the meaning of diversification structurally, thus: ‘people engage in part time farming and other multiple activities and enterprises which are predominantly in small and often in the informal economy’. Mehta (2009) recognizes the rural household as a multi-activity unit which houses the individuals and activities by them, and in these livelihoods, we have both employment and income diversification’.

Babatunde and Quim (2009) study of rural Nigeria shows that majority of households are income diversified with 50% of total income coming from off farm sources. To Ellis (1999), evidence of livelihood diversification abounds in sub-saharan Africa where 30-50% reliance on non-farm income sources has been recorded. Authors do recognize certain stimulating factors in diversification. To Brons (2005), risk aversion is the factor that stimulates diversification of economic activities; in that diversification brings about risk reduction and that the poor are considered risk averse because their scarce endowments do not allow them to generate sufficient income. In his study of rural non-farm enterprises in Ghana, Assan (2014) recognizes that income insecurity made people to diversify; income accumulation and assets are forms of insurance against financial hardships; diversification not only ensured survival but served as security against financial pitfalls associated with farming and rural life where incomes are irregular. Diversification in rural Africa, according to Babatunde and Quim (2009), is dominated by persons with mean age of 59.1.

Certain patterns in diversification have been identified. To Ellis (1999), the pattern is for ‘the very poor and comparatively well-off to have the most diverse livelihood while the middle ranges of income display less diversity’. Assan (2014) recognizes gender patterning in the activities affected by diversification. Abeje *et al.* (2019) identify crop and livestock production as the main choice of majority of rural households; that the better off families preferred to stay on-farm while poorer ones opted for non-farm.

For diversification to be sustainable, scholars are of the opinion that outcomes must cover all spheres. In this direction, Alkaire and Denueline (2009) see sustainability as the advancing of human development in such a way that outcomes progress in all spheres- environmental, social, political and financial and would endure over time. To Alkaire and Deneuline

‘environmental sustainability implies achieving development results without jeopardizing the natural resource base of biodiversity of the area and without affecting the resource base for future generations. Financial sustainability refers to the way in which development is financed without penalizing future generations or economic stability; social sustainability requires that groups and institutions support development initiatives overtime and avoid disrupting important values’. Dobriansky (2002) recognizes that sustainability revolves around three pillars, mainly environmental protection, economic development and social development, and that each of these must be integrally linked to the others. This integrating nature appears captured in the Upper Blue Nile Basin study finding of Abeje *et al* (2019) that holds thus: ‘livelihood diversification at the household level was significantly associated with the dependency ratio, market distance, credit access, extension services, membership of community organizations, level of income, livestock ownership. And that livelihood initiates that focus on increasing shock resilience, access to financial support mechanisms, improving livestock production and providing quality extension services, while considering that agro-ecological differences are needed’

In apparent application to poverty reduction, Ellis (1999) recognizes that diversification has a complex interaction with poverty, income distribution, farm productivity and environment of the poor and that poverty reduction policies are better informed on the nature of these interactions. Gabretsadik, Teklemariam and Nigusie (2020) link household poverty reduction to diversification of livelihood beyond agricultural income source. Also, Oyinbo and Olaleye (2016) report that increases in livelihood activities do increase the income of farmers, their purchasing power and welfare. On the other hand, Abeje *et al.* (2019) has it that availability of different livelihood activities do not necessarily contribute to overall income of households in their Upper Blue Nile Basin study.

Movers of Livelihood Diversification Economy

Many scholars tend to agree that women are the movers of livelihood diversification. In the opinion of Molnar, White and Khare (2008), “women, more often than men, search for fuel wood; manage the gardens around home; collect, process and trade non timber forest produce (NTFPS) and search for clean sources of water”. In a Kenyan report comparable to our study area, Francis and Amuyunzu-Nyamongo (2008) inform that women have found themselves filling the gap in household provisioning and are obliged to support themselves and their children by multiple means which involve a combination of intensification and cooperation. The women are into a wide set of pursuits such as collecting and selling firewood, khat, milk, eggs, honey, gathering wild fruits, herbal medicines and incense, weaving baskets and making bread. All these, according to Francis and Amuyunzu-Nyamongo (2008), amount to a portfolio on which households survive. In addition, community responsibilities of women have been on the increase with the women becoming more ubiquitous, active and effective than men. In a study of the Indian Bengal Delta, by Haynes (2018), it was reported that women had a wide variety of livelihood activities in relation to family needs and in the midst of hazards, they showed resilience to the environment and to the social pressure they faced. Public servants who reside in rural areas are beginning to participate in livelihood diversification. In their study of determinants of income diversification of public servants in Kwara State, Nigeria, Oladimeji *et al.* (2019) report that: (1) emoluments from government income is 70.5% while the rest of income came from poultry production, fish farming and crop production, among others; (2) socio-economic status (SES) influenced how well they

(public servants) diversify including education and income; access to credit and regular access to wages.

Personal and Collective Agency for Sustaining Diversification Gains

Personal agency is a psychological factor that is tied to overcoming obstacles; visible in terms of sense of power and rights, self-confidence, control over everyday decisions as well as the aspirations for oneself and one's children (Kapoor, Narayan, Paul & Badgaiyan, 2007). To Bevan and Pankhurst (2007), embodied agency is composed of habitus, competences, psychological resources which are as a result of past interaction between opportunities and constraint structures, encompassing family values, norms and pursuit of choices. Petesh, Smulovtz and Waston (2005) opine that agency is that pursuit by individuals of purposeful courses of action that further goals that relate to wellbeing as well as to other range of objectives which the individual or his group may deem desirable and that an actor acts as an agency when he /she is able to envision alternative paths of action, decide among them and take action to advance the chosen path, either as an individual or in collectivity with others. Petesh, Smulovtz and Waston (2005) further reason that agency appears in terms of possession of economic resources, skills and health, the capacity to aspire and the possession of organizational capacity.

Agency is a factor for persons who want to sustain levels of achievement and advance wellbeing. Rural household heads may not always be having it. To Pain and Levine (2012), agency is even more needed when the state is weak and in periods of uncertainty, thus agency becomes an informal security that provides individuals and communities with opportunities to promote, secure and reward self-interest as well as consolidate positions. Mehta (2009) acknowledges the vulnerability of livelihood in rural agrarian segments of developing countries and that livelihood security is a central theme needing attention. In apparent response, Bevan and Pankhurst (2007) suggest that people with strong personal agency are able to make decisions and take actions which allow, promote, deflect, inhibit or rule out the goals of intervention while people with weak personal agency may not take advantage of new opportunities which interventions created.

Livelihood Framework

This study is anchored on the Rural Livelihood Adoption Framework constructed by Dinh, Cameron and Ngyue (2015), thus:

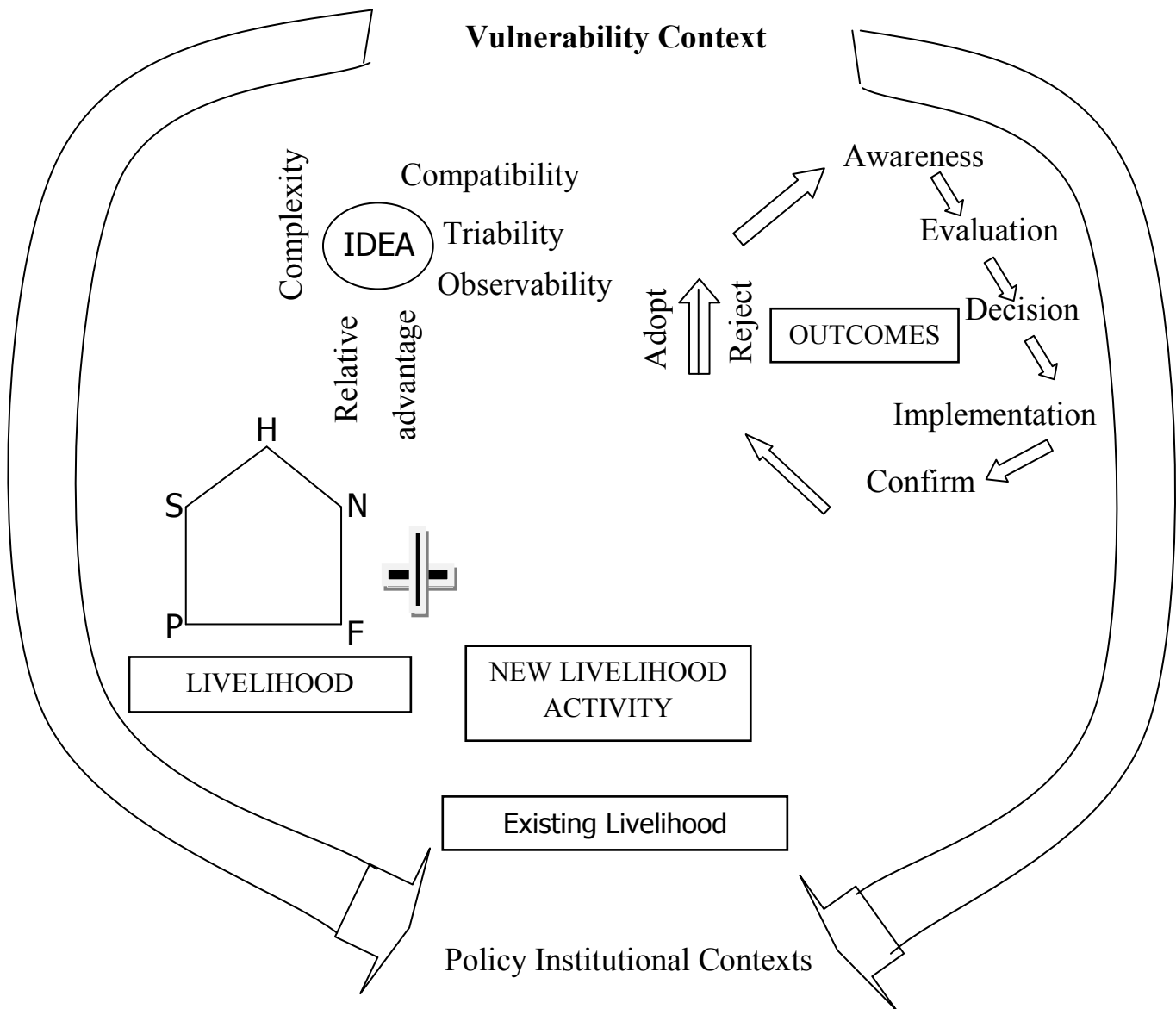


Fig. 1 Rural Livelihood Adoption Framework

The framework shows the presence of livelihood assets in terms of Human (H), Natural (N), Financial (F), Physical (P), and Social (S) capital that appear in a pentagon drawing. There is an existing livelihood system and new livelihood activities, diversification, which households come about through a central idea and realized by trials, observations and the weighing of relative advantage, complexity and compatibility with existing systems. Adoption of new livelihood is a dynamic process. Outcomes are confirmed, evaluated, decisions taken and implemented. Outcomes may appear in terms of wealth creation, improved wellbeing, improved food security, assets expansion and coping with stress and shock. There is a continuous feedback system between the vulnerability context and public policy institutional context which households are expected to benefit from.

METHODOLOGY

This study is limited to household livelihood diversification and the role of personal agency in retaining livelihood diversification gains. It is restricted to rural communities of Imo State. Cross sectional survey design was used in the study in which the researchers embarked on a one-time observation of the many variables using a mix of descriptive, exploratory and explanatory approaches. Two household groups emerged in this rural study- those whose major occupation is farming and are now diversifying and those whose occupation is government public service and are now diversifying. They were isolated through disaggregation and used to run the tests.

The study communities include Mbieri, Arondizogu and Ugiri in Owerri, Orlu and Okigwe agricultural zones respectively. The people of Arondizogu are spread in some other local governments but these researchers made use of those in Ideato North Local Government Area. The economic activities of the study communities include food crops and vegetable production; palm produce handling; poultry and domestic animals keeping on commercial scale; fruits and cereals growing. They are also into trading, artisanship and food processing. Many households are in public service wage labour. A baseline town by town household population is not available, hence the researchers made use of a target size of 5400, out of which 10% was chosen by their location and noticeable activity diversification. That is a sample size of 540 households. The communities were purposively chosen through the multistage sampling method. Six autonomous towns were chosen from the selected communities of the agricultural zones on equal representation. Thirty households were selected from each of the six autonomous towns amounting to one hundred and eighty (180) households from each of Mbieri, Arondizogu and Ugiri, totalling 540 households.

Table 1: Distribution of Study Communities

NUMBER	MBIERI	SAMPLE	ARONDIZOGU(of Ideato LGA)	SAMPLE	UGIRI MBANO	SAMPLE
1	Obi Mbieri	30	Ndiakaeme	30	Umuebie	30
2	IhitteMbieri	30	Ndiejezie	30	Ugirinna	30
3	AmaikeMbieri	30	Ndianiche	30	Umuneke	30
4	EziMbieri	30	Ndiogbuonyeoma	30	Obollo	30
5	Awo Mbieri	30	Ndiuche	30	Ogbo	30
6	ObazuMbieri	30	Ndiakunwata	30	Ibeme	30
Total	6	180	6	180	6	180

A Livelihood Diversification, Sustainability and Agency (LDSA) questionnaire was constructed. The authors relied on constructions provided by UNDP (2020) on sustainable development goals, United Nations (2015) agenda for sustainable development as well as insights from Peters(2002) on “achieving development”. Measurement of wellbeing was taken from the works of Allister, Sarah and Laura (2015) concerning ‘what matters in wellbeing’ and Nimpagarise and Culver (2010) concerning ‘measuring wellbeing of rural farm and non-farm households’. Copies of questionnaire were administered to household heads, spouses and perceived economically active persons. A reliability test earlier conducted with eighteen households gave a coefficient of 0.78. The test instruments for the objectives were descriptive statistics and Spearman-rho correlation while the hypotheses were tested with the t-test for correlation.

DATA ANALYSIS

The following tables are constructed for the test of objectives and hypotheses

Table 2: Composite of Socio-demographic Distribution

Age Group	Frequency	%
Below 20	17	3.1
21-30	52	9.6
31-40	89	16.5
41-50	226	41.9
51-60	139	25.7
61-70	17	3.1
71+	-	00
Sum	540	100

Sex of household heads		
Group	Frequency	%
Male	160	29.63
Female	380	70.37
Sum	540	100
Sex ratio	42.10 males to 100 females	

Age distribution reveals that persons between 41-50 years occupy the highest segment, 41.9% of sampled households for diversification. This is followed by 51-60(25.7%); 31-40(16.5%); 21-30(9.6%); 61-70(3.1%). Those 71 years and above have nil income diversification.

Sex distribution of household heads reveals that males occupy 29.63% while females occupy 70.37%. The sex ratio is 42.10:100. More women are into income diversification than men.

Table 3: Under 15 persons in the 540 households

Group in years	Frequency	%
1-2	720	22.2
3-4	720	22.2
5-6	1680	51.9
7-8	-	00
9+	120	3.7
None	-	-
Sum	3240	100

Table of under 15 persons shows that households with 5-6 persons are more, occupying 51.9%, followed by 3-4 and 1-2 dependents occupying 22.2% respectively. Households with 9 persons plus is the least (3.7%).

Table 4: Major employment of households

Activity	Frequency	%
Farming	231	42.8
Public service	192	35.6
Artisanship	19	3.5
Christian ministry	19	3.5
Small scale trading	60	11.1
Transport service	19	3.5
Total	540	100

Table of major employment of households' shows that farming occupies 42.8%; public service 35.6%; small scale businesses 11.1%; artisanship 3.5%; Christian ministry 3.5% and transport service 3.5%. On the average, households' main occupations are farming and public service. It is on this basis that farming households and public service counterparts were further selected for determination on how they diversify.

Table 5: Range of monthly income (in Naira) from additional activities

Group	Frequency	%
Below 4,999	-	--
5000-9,999	36	6.7
10,000-14,999	18	3.3
15000-19,999	72	13.3
20,000-24,999	270	50.0
25000-29,000	36	6.7
30,000+	108	20.0
Total	540	100

Monthly income due to diversification shows that 50% of the households involved earn as much as N20,000 to N24,999. The distribution further shows that N20%of households earn N30,000 and above; 13.3% earn N15,000 to N19,999. The least income level earned are N5,000 to N9,999 and N25,000 to N29,000.

Table 6: Activity diversification among farm households and duration

No.	Activity	Fr	Fr%	Duration in years					
				1-2	3-4	5-6	7-8	9+	% tot
a.	Small trading	66	28.57	4%	6%	10%	6%	74%	100
b.	Artisanship	28	12.12	15%	65%	8%	4%	8%	100
c.	Hair dressing	10	4.33	16%	68%	5%	7%	4%	100
d.	Clothe making	14	6.06	20%	20%	57%	-	3%	100
e.	Food processing	46	19.91	2%	18%	5%	3%	72%	100
f.	Food vending	30	12.99	72%	8%	10%	4%	6%	100
g.	Poultry keeping	20	8.66	68%	20%	2%	8%	2%	100
h.	Vegetable business	12	5.20	56%	24%	5%	5%	10%	100
i.	Any other	05	2.16	56%	6%	77%	2%	2%	100
	Total	231	100						
	Mean duration			34.33	26.1	19.88	4.33	20.11	

Activity diversification among farm households in the study area shows that small trading occupies (28.57%), followed by food processing (19.91%); food vending (12.99%); artisanship (12.12%) and poultry keeping (8.66%). On the average duration, 34.33% of sampled households have stayed 1-2 years in their chosen activity; 26.1% have stayed 3-4 years; 19.88% have stayed 5-6 years; 4.33% have stayed 7-8 years while 20.11% have stayed 9 years, all at the time of this study.

Table 7: Activity diversification among public-service households and duration in years

No.	Activity	Frequency	Duration in Years					
			1-2	3-4	5-6	7-8	9+	%
a.	Grocery	46(24%)	5%	8%	12%	72%	3%	100
b.	Bakery	12(6.3%)	4%	6%	4%	10%	76%	100
c.	Hair dressing	10(5.2%)	12%	68%	6%	10%	4%	100
d.	Food processing	40(20.8%)	5%	3%	4%	18%	70%	100
e.	Fashion designing	22(11.5%)	7%	9%	56%	16%	12%	100
f.	Poultry keeping	32(16.7%)	2%	3%	7%	14%	74%	100
g.	Vegetable gardening	16(8.3%)	10%	20%	48%	10%	12%	100
h.	Water packaging	8(4.2%)	7%	7%	6%	65%	15%	100
i.	Any other	6(3.1%)	20%	42%	18%	12%	8%	100
	Total	192(100%)						
	Mean		8.1	18.4%	17.8%	25.2%	30.4%	

Activity diversification of households in public service shows that grocery, food processing and poultry keeping dominate with 24%, 20.8% and 16% respectively. This is followed by fashion designing, (11.5%); vegetable gardening, (8.3%); bakery, (6.2%); hair dressing, (5.2%); water packaging, (4.2%). On the average duration, 8.1% of sampled households have stayed 1-2 years in their chosen activity; 18.4% have stayed 3-4 years; 17.8% have stayed 5-6 years; 25.2% have stayed 7-8 years while 30.4% have stayed 9 years and above.

Table 8: Rural households experiences of wellbeing following diversification

No	Experience	Frequency	%
a.	Reward of income	94	40.7
b.	Learning and knowledge	42	18.2
c.	Decent housing	8	3.5
d.	Rewarding family life	16	6.9
e.	Substantial social participation	44	19.0
f.	Enough leisure	7	3.0
g.	Assured health	8	3.5
h.	Security/less harm	7	3.0
i	Maintains environment	5	2.2
	Total	231	100

The experience of wellbeing table shows that reward of income at 40.7% is most expressed. Others are, substantial social participation, 19.0%; learning and knowledge, 18.2%; a rewarding family life, 6.9%. The indicators that took the least positions are: assured health, 3.5%; decent housing, 3.5%; enough leisure, 3.0%; security/less harm 3.0% and environment maintenance 2.2%.

Table 9: Sustainable poverty reduction indicators due to diversification among farm households

No	Sustainable outcome item	Frequency	%
a.	Evidence of some wealth accumulation	80	34.6
b.	Enhanced survival of peripheral living conditions	60	26.0
c.	Guaranteed assets expansion	6	2.6
d.	Social services now sourced	8	3.5
e.	Empowered to participate in community life	42	18.2
f.	Now copes with daily shock and stress	18	7.8
g.	Enhanced living and knowledge functioning	10	4.3
h.	Initiates environmental improvement.	4	1.7
i.	Health bills now handled.	3	1.3
	Total	231	100

Table of sustainable poverty reduction due to diversification among farm households shows three dominant indicators, viz. wealth accumulation, 34.6%; enhanced survival of peripheral living conditions, 26% and empowered to participate in community life, 18.2%. The least reported are: coping with daily stress and shock, 7.8%; enhanced learning and knowledge functioning, 4.3%; sourcing social services, 3.5%; guaranteed assets expansion, 2.6%; initiating environmental improvement that touch on other livelihoods, 1.7% and settling of health of bills, 1.3%.

Table 10: Sustainable poverty reduction performance indicators due to diversification among the public service households

No	Sustainable outcome items	Frequency	%
a.	Evidence of some wealth creation	40	20.8
b.	Enhanced survival of peripheral living conditions.	46	24.0
c.	Guaranteed assets expansion.	8	4.2
d.	Social services now sourced.	5	2.6
e.	Empowered to participate in community.	34	17.7
f.	Copes with daily stress and shock	18	9.4
g.	Enhanced learning and knowledge functioning.	25	13.0
	Initiates environmental improvement.	6	3.1
h.	Health bills now handled.	10	5.2
i.	Total	192	100

Table of poverty reduction performance indicators among rural farm households that chose to diversify shows five dominant outcome indicators, viz. Enhanced survival of peripheral living conditions, 24%; evidence of some wealth creation, 20.8%; empowered to participate in community life, 17.7%’ enhanced learning and knowledge functioning, 13.2% and coping with daily stress and shock, 9.4%. The least expressed are handling of health bills, 5.2%; guaranteed assets expansion, 4.2%; social services being sourced, 2.6% and initiating environmental improvement that touch on others livelihood, 3.1%.

Table 11: Farm households’ successful agency due to diversification

No	Agency acts	Frequency	%
a.	Take up opportunities.	92	39.8
b.	Promote rights.	40	17.3
c.	Challenge acts.	16	6.9
d.	Make good choices	40	17.3
e.	Disseminate ideas.	5	2.2
f.	Allowed access to government agencies	10	4.3
g.	Advances group wellbeing.	10	4.3
h.	Generates knowledge	8	3.5
i	Mobilize the weak	10	4.3
	Sum	231	100

Table of farm households’ successful agency due to diversification reveals thus: taking up of opportunities, 39.8%; rights promotion, 17.3%; making good choices, 17.3% and challenging unjust acts, 6.9%. The least expressed acts include access to government agencies, 4.3%; advancing group wellbeing, 4.3%; generating knowledge, 4.3% and mobilizing the weak, 4.3%. Other least expressed acts are the generation of knowledge 3.5% and dissemination of ideas, 2.2%.

Table 12: Public service households’ successful agency acts due to diversification

No.	Agency acts	Frequency	%
a.	Take up opportunities	48	25.0
b.	Promote rights	10	5.2
c.	Challenge unjust acts	14	7.3
d.	Make good choices	24	12.5
e.	Disseminate ideas	5	2.6
f.	Allowed access to government agencies	50	26.0
g.	Advance group wellbeing	8	4.2
h.	Generate knowledge	30	15.6
i.	Mobilize the weak	3	1.6
	Total	192	100

Table of rural public service households’ agency acts shows that the dominating acts are: access to government agencies, 26%; ability to take up opportunities, 25%; generating knowledge, 15.6% and making good choices, 12.5%. The least expressed include challenging unjust regulations, 7.3%, advancing group wellbeing, 4.2%; dissemination of ideas, 2.6% and mobilizing the weak, 1.6%.

Test of Hypotheses

The major employments of households in the study are farming, public service, artisanship, Christian ministry, small scale trading and transport. Farm households with sample size 231 and public service households with sample size 192 were disaggregated and tested on how their activity diversification relate to sustainable poverty reduction, agency and wellbeing.

Hypothesis 1(Generated from tables 6 and 9): There is no significant relationship between farm households’ livelihood diversification and sustainable poverty reduction.

Table 13: Spearman rho table of farm households’ activity diversification and sustainable poverty reduction

D ²	0	4	1	0	1	1	0	0	0	Σ7	$1 - \left\{ \frac{6 \sum D^2}{N(N^2 - 1)} \right\}$
Y	80	60	6	8	42	18	10	4	3	231	
X	66	28	10	14	46	30	20	12	5	231	
N	A	B	C	D	E	F	G	H	I		P _s =0.94

The X row represents farm households’ activity diversification and number of households involved. The Y row represents experiences in sustainable poverty reduction and number of households involved. Spear-man rho correlation technique suggests that scores in X are ranked and same with scores in Y. Differences in their ranks are squared and then summed. The correlation coefficient value of 0.94 is subjected to t-test for correlation, where r is 0.94 and farm households’ sample size is 231. The formula is given as:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The derived t-test value is 41.09. The alpha value from df n-2 that is 231-2 at 0.05 significant level is 1.65. A comparison of calculated and alpha values reveals that the calculated is more. The null hypothesis is rejected. Therefore livelihood diversification of farm households is significantly related to experiences of sustainability poverty reduction.

Hypothesis 2: There is no significant relationship between livelihood diversification among rural public servants and sustainable poverty reduction.

Table 14: Spearman rho table of rural public service households' activity diversification and sustainable poverty reduction (Generated from tables 7 and 10)

D ²	1	25	0	49	1	4	1	0	9	Σ90	$1 - \left\{ \frac{6 \sum D^2}{N(N^2 - 1)} \right\}$
Y	40	46	8	5	34	18	25	6	10	192	
X	46	12	10	40	22	32	16	8	1	192	
N o	A	B	C	D	E	F	G	H	I		
											P _s =0.25 (very low)

The X row represents rural public service households' activity diversification and number of households involved. The Y row represents experiences in sustainable poverty reduction and number of households involved. Spearman rho correlation technique suggests that scores in X are ranked and same with scores in Y. Differences in their ranks are squared and then summed. The correlation coefficient value of 0.25 is subjected to t-test for correlation, where r is 0.25 and public service households' sample size is 192. The formula is given as:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The derived t-test value is 54.84. The alpha value from df n-2 that is 192-2 at 0.05 significant level is 1.64. A comparison of calculated and alpha values reveals that the calculated is more. The null hypothesis is rejected. Therefore livelihood diversification of public service households is significantly related to sustainability poverty reduction.

Hypothesis3: There is no significant relationship between farm households' diversification and successful agency acts

Table 15: Spearman rho table of farm households' activity diversification and successful agency (Generated from tables 6 and 11)

D ²	1	25	0	49	1	4	1	0	9	Σ111.5	$1 - \left\{ \frac{6 \sum D^2}{N(N^2 - 1)} \right\}$
Y	92	40	16	40	5	10	10	8	10	231	
X	66	28	10	14	46	30	20	12	5	231	
N o	A	B	C	D	E	F	G	H	I		
											P _s =0.08 (very low)

The X row represents farm households' activity diversification and number of households involved. The Y row represents experiences in successful agency and number of households

involved. Spearman rho correlation technique suggests that scores in X are ranked and same with scores in Y. Differences in their ranks are squared and then summed. The correlation coefficient value of 0.08 is subjected to t-test for correlation, where r is 0.08 and farm households' sample size is 231. The formula is given as:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The derived t-test value is 1.22. The alpha value from df n-2 that is 231-2 at 0.05 significant level is 1.65. A comparison of calculated and alpha values reveals that the calculated value at 1-22 is less than alpha value of 1.65. The null hypothesis is not rejected. Therefore farm households' livelihood diversification is not significantly related to successful agency.

Hypothesis 4: There is no significant relationship between rural public service households' diversification and successful agency.

Table 16: Spearman rho table of rural public service households' activity diversification and sustainable poverty reduction (Generated from tables 7 and 12)

D ²	1	0	4	4	16	4	4	25	0	Σ58	$1 - \left\{ \frac{6 \sum D^2}{N(N^2 - 1)} \right\}$
Y	48	10	14	24	5	50	8	30	3	192	
X	46	12	10	40	22	32	16	8	6	192	
N	A	B	C	D	E	F	G	H	I		
o											P _s = 0.52 (medium r)

The X row represents rural public service households' activity diversification and number of households involved. The Y row represents experiences in successful agency and number of households involved. Spearman rho correlation technique suggests that scores in X are ranked and same with scores in Y. Differences in their ranks are squared and then summed. The correlation coefficient value of 0.52 is subjected to t-test for correlation, where r is 0.52 and public service households' sample size is 192. The formula is given as:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The derived t-test value is 8.43. The alpha value from df n-2 that is 192-2 at 0.05 significant level is 1.64. A comparison of calculated and alpha values reveals that the calculated is more. The null hypothesis is rejected. Therefore livelihood diversification of public service households is significantly associated with their agency.

RESULTS AND DISCUSSIONS

Activity diversification is visible among households in the study area. They tend to diversify into small trading, artisanship, hair dressing; clothe making, food processing, food vending, poultry keeping, vegetable gardening and packaging. Other activities include fashion

designing, water packaging, bakery and grocery. This trend is confirmed by Bros (2005) report that household diversification was common in rural sub-saharan Africa.

In the study area, persons aged 41-50 years dominate in livelihood diversification. An earlier report of household head mean age of 59.1 by Babatunde and Quim(2009) is a slight departure from this.

More women are into livelihood diversification than men. Study results show that women occupy 70.37% while men take up 29.63% and with a sex ratio of 42.10:100. This is in line with Francis and Amunyunzu-Nyamungo (2008) report that women find themselves filling the gap in household provisioning and do support their families with multiple means of livelihood. Hayne's (2018) Indian Bengal study also reported that women had a wide variety of activities than men.

Households which are into livelihood diversification keep up to 9 dependents and some cases 5-6 dependents. This might be part of the reason why expected impact on poverty reduction and improvement on wellbeing is in most cases not forthcoming. In this direction, Abeje (2019) reasoned that livelihood diversification at the household level was significantly associated with the dependency ratio. Ellis (1999) also recognized that diversification has a complex interaction with poverty and income distribution.

Major employments in the study area, in the order of patronage, are farming, public service and small scale trading. Others are artisanship, Christian ministry and transport. Households do have major employments before going into diversification. Mehta (2019) informs that among rural households, there are both employment and income diversification.

Average monthly income range from diversification is N20,000-N29,000. Babatunde and Quim (2009) rather have a mean annual income of N30, 005.7 from diversification in their study area of rural Nigeria.

Rural farm households, by their activities, showed that small trading and food processing dominate. Households also diversify along food vending, artisanship, cloth making and hair dressing. Studies from Molnar, White and Khare (2008) as well as Francis and Amunyunzu-Nyamungo (2008) indicate multi-activities including gardening, processing non-timber forest produce, herbal medicine, collecting wide fruits and trading on fire woods among others.

The public service households in the study area are more into grocery, food processing, poultry, vegetable gardening and bakery. Olademeji *et al* (2019) reported that public servants have been diversifying into poultry production, fish farming, and crop production among others.

Rural farm households have recorded wellbeing in areas of income, learning and knowledge as well as social participation. Low wellbeing is in areas of decent housing, leisure, health, security and environmental maintenance. Oyinbo and Olaleye (2016) recognized that increases in livelihood activities brought increases in income of farmers, their purchasing power and welfare.

Farm households' livelihood diversification is significantly related to poverty reduction. There is evidence of some wealth accumulation, enhanced survival of peripheral living

conditions and some empowerment to participate in community life. This was confirmed by the hypothesis that tested the relation between diversification among rural households and poverty reduction. In confirmation, Gabretsadik, Teklemariam and Nigusie (2020) linked household poverty reduction to the diversification of livelihood.

The public service households, through diversification, do better in poverty reduction performance than the farm households' counterparts. They experience some wealth accumulation, an enhanced survival, empowered to participate in community life, enhanced learning and knowledge functioning and coping with daily stress and shocks. Definitely public servants are expected to do well in view of their exposure, education and some income to leverage on. This trend can still be explained from the report of Olademejiet *al* that socio-economics influenced how well people diversified.

Farm households' experience of successful agency due to diversification is limited to taking up of opportunities, making good choices, promotion of rights and challenging wrong regulations. The public service counterparts on the other hand experience more access to government agencies, taking up opportunities, generating knowledge and making good choices. In this direction Pain and Levine (2012) reported that agency is an informal security that provides individuals and communities with opportunities to promote, secure and reward self-interest and consolidate position.

Farm households, who are into diversification, do not record successful agency acts. This is so in spite of evidence of wealth creation recorded in this study. On the other hand Public service households do experience successful agency due to diversification. This trend could be attributed to better exposure due to public service background and previous education, an advantage which they have more than their farm counterparts which in turn facilitate access to government agencies where voice can be heard.

Conclusion and Recommendations

This study concludes that livelihood diversification is visible among major employment groups of rural households in the agricultural zones of Imo State, Nigeria. Two prominent groups are rural farm households and rural public-service households. Supplementary activities have been helping in risk aversion, mitigation of stress and shock that come from unstable incomes and vulnerability to poverty. Experiences of wellbeing after diversification, wealth creation as well as poverty reduction have been noted in this study. However, these improvements tend to get reversed due to large number of dependents in the household, poor attention to sustainability as well as low or weak agency among rural household heads. It is expected that as households add more activities to their income portfolios, embrace sustainability, reduce household dependents and acquire agency, livelihood diversification gains will be retained. It is the opinion of these researchers that further studies be conducted on the role of agency and voice in rural livelihood expansion in particular and rural development in general.

Based on the results of this study, the following recommendations are made to improve on rural livelihood diversification.

Households in the rural environment should be encouraged by government to go into more supplementary livelihood activities since such already occupy a space in the monthly income

of households and do serve as risk aversion. The encouragement could be in form of opportunities for Short and Medium Enterprises (SMEs), subsidized farm inputs, sponsored workshops and trainings in poultry production, food processing, bakery, vegetable gardening, water packaging and artisanship.

Public servants living in the rural areas should be made by government to serve as change agents and catalysts in poverty reduction since they have proved to do better in poverty reduction, wealth creation, enhanced learning and knowledge functioning than their non-public service counterparts.

Government assistance towards income diversification should be targeted at persons on age range 41-50, since this age dominates in the livelihood diversification in the study areas.

Women, more than men, should be encouraged in supplementary activities since this study shows that they occupy a higher percentage in livelihood diversification.

Social extension workers and other experts should reach out to rural farm and non- farm households and create awareness on the disadvantages of large households since high number of dependents have proved to reduce the gains of livelihood diversification and poverty reduction measures.

Rural households should embrace the World Bank sustainability development in order to avoid slip back to poverty after initial escapes. Sustainability development goals, their targets and accompanying strategies may be simplified and served to rural dwellers in their own languages.

Individuals and groups should be encouraged to acquire levels of agency, in terms of knowledge, social collectivities, competence and the like and by so doing secure opportunities and render interventions for self and for communities.

REFERENCES

- Abebe, T., Tamiru, C and Adugna. (2021). The impact of rural livelihood diversification on household poverty: Evidence from Jima zone, Oroma national regional state, Southern Ethiopia. *The Scientific World Journal*, Vol 2021. <https://www.hindawi.com>tow>.
- Abaje, M.T., Tsunekawa, A., Adgo. E., Haregeweyn, N., Nigussie, Z., Ayalea Z., Elia, A., Molla, D and Berihun, D. (2019). *Exploring drivers of livelihood diversification and its effects on adoption of sustainable land management practices in Upper Blue Nile*.
- Alkaire, S and Denuline, S. (2009). A normative framework for development. In Denuline, S and Shanshani, L. (2009). *Introduction to human development and capability approach*. Pp20-46. Earthscan UK & USA. <http://www.earthscan.co.uk>.
- Andrew, D and Jon, M. (2005). *Socio-economics of rural livelihoods. Unit 1: Rural livelihoods, importance and definitions*. University of London International Programmes. Center for Development Environment and Policy. <https://www.soas.ac.uk>.

- Assan, J.K (2014). Livelihood diversification and sustainability of rural non-farm enterprises in Ghana. *Journal of Management and Sustainability*; vol 4, No.4; 2014.
- Babatunde, R. O and Quim, M. (2009). Patterns of income diversification in rural Nigeria: Determinants and impacts. *Quarterly Journal of International Agriculture*, 48(4): 305-320. <https://www.researchgate.net>
- Bevan, P & Pankhurst, A. (2007, July). *Power structure in rural Ethiopia. Development lessons from four community case studies*. Paper prepared for empowerment team in the World Bank Poverty Reduction Group. World Bank. www.wed.ethiopia.org.
- Brons, J.E. (2005). *Activity diversification in rural livelihoods. The role of farm supplementary income in Burkina Faso*. Mansholt Graduate School of Social Sciences.
- Dinh, T. P., Cameron, D and Nguyen, X. (2015). *Rural livelihood adoption framework: A conceptual and analytical framework for studying adoption of new activities by small farmers*. <https://www.semanticscholar.org>.
- Dobriansky, P.J. (2002, April). World summit on development: beginning a new chapter in sustainable development history. Assembled development papers in achieving sustainable development. Global issues. *An Electronic Journal of US Department of State*, April 2002. Vol 7, No 1.
- Ellis, F. (1999). *Rural livelihood diversity in developing countries; evidence and policy implications*. Overseas Development Institute (ODI) Natural Resource Perspective, Nov 10, April 1999.
- Francis, P and Amuyunzu-Nyamongo, M. (2008). *Bitter harvests: The social costs of state failure in rural Kenya*. In Moser, C and Dani A.A (edited). *Assets, livelihoods and social policy*. 217-235. The World Bank Washington, D.C. www.worldbank.org.
- Gebretsadik, Y., Teklemariam B.T., and Nigusie, H.G. (2020). *Effects of rural livelihood diversification on rural households's poverty reduction in central zones of Tigrey, Ethiopia*. www.researchsquare.com/articles
- Haysnes, M.C. (2018). *The role of livelihood activities and income portfolios in shaping women's perception of wellbeing and adoption choices in Indian Bendal Delta*. University of Southampton. www.press.soton.ac.uk.
- Kapoor, S., Narayan, D., Paul, S., and Badgaiyan, N. (2007). *Caste dynamics and mobility in Utter Pradesh*. In Narayan, D (ed). *Moving out of poverty. The promise of empowerment and democracy in India*. Pp 167-233. Washington, D.C. Pelgrave Macmillan and The World Bank.
- Maja, T and Oluwatayo, I. (2018). *Livelihood diversification and poverty among rural households in the Capricorn District, Limpopo, South Africa*. The 56th Annual Conference of Agricultural Economics. 25th-27th September 2018. Smerset West. <http://ageconsearchumn.edu>.

- Mehta, R. (2009). *Rural livelihood diversification and its measurement issues Focus India*. Proceedings of Second Meeting of FAO 11-12 June 2009: WYE City Group on Statistics on Rural Development and Agriculture Household Income. Rome: FAO Headquarters.
- Molner, A., White, A and Khare, A. (2008). *Forest rights and asset-based livelihoods: Catalyzing rural economies and forest conservation through policy reform and collect action*. In Moser, C and Dani A.A (edited). *Assets, livelihoods and social policy*. 257-274. The World Bank Washington, D.C. www.worldbank.org.
- Nimmpagarise, F. and Culver, D. (2010). *It broader perspective of measuring the wellbeing of rural farm and non-farm households. Agriculture and Agri-food Canada*. <https://www.fao.org/rural/may>.
- Olademeji, Y.U., Abdulsalam, Z., Damisa, M.A and Ajao, A.M. (2019, Sept). *Determinants of income diversification of public servants households to agricultural activities in Kwara State, Nigeria. Somaru Journal of Agricultural Education(SJAE)*.Vol 7: 1. <https://www.researchgate.net/publications/336071177>.
- Oyinbo, O and Olaleye, K. T. (2016). *Farm household livelihood diversification and poverty alleviation in Giwa L G A of Kaduna State. The Journal os Sustainable Development*. Vol 15. Issue 1(2016). 219-232.
- Pain, A and Levines, S. (2012, Nov). *A conceptual analysis of livelihood and resilience: Addressing the insecurity of agency. Humanitarian Policy Group (HPG) Working paper*. Overseas Development Institute. <http://www.odi.org.uk/hpg>
- Peters, W. (2002). *Perspectives on development. Assembled papers on achieving sustainable developmennt. Global issues. An Electronic Journal of US Department of State, April 2002*. Vol 7, No 1.
- Petes, P., Smulovitz, C and Walton, M. (2005). *Evaluating empowerment: A framework with case studies from Latin America*. In Narayan, D. (ed). *Measuring empowerment. Cross-disciplinary perspectives*. pp 39-67. Washington, DC. The World Bank.
- UNDP. (2020). *Sustainable development goals paper, 2020*. www.undp.org
- United Nations. (2015). *Transforming our world. The 2030 Agenda for sustainable development*. Sustainable.development.un.org.