MULTIDIMENSIONAL WELLBEING ANALYSIS OF WOMEN FARMERS IN AKWA IBOM STATE, NIGERIA

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ABSTRACT
Women farmers remain a vital segment of the rural population and create critical links between the present generation of farmers and the future. The rationale for more studies on the issues of their wellbeing is anchored on the sustained development of approaches that give a better understanding of the phenomenon. This study examined the multidimensional wellbeing of women farmers in Akwa Ibom State using a functioning approach. The study specifically assessed the socio-economic characteristics of the farmers and analysed the wellbeing of the farmers using six functioning dimensions including information access, employment, education, nutrition and health, autonomy, housing, and sanitation. Primary data were obtained from 300 respondents selected from the agricultural zones in the state through a multi-stage sampling procedure. Data analysis was done using descriptive statistics and fuzzy set analysis. The mean age of women farmers in the zones was 46 years and their mean household size was six. Majority (76%) of the respondents from Eket agricultural zone fell within 0.401-0.50 wellbeing index spread across four of the six dimensions considered, 67% of the respondents in Uyo agricultural zone fell within 0.301-0.40 wellbeing index while 56% of the respondents from Abak agricultural zone fell within 0.20 – 0.30 wellbeing index across the dimensions. Although the wellbeing status of women farmers from Eket agricultural zone was relatively better, the results showed that the wellbeing of the women farmers across the agricultural zones was generally low. Interventions in employment, education, and information access are needed for the women farmers, especially, in Abak agricultural zone.
Keywords: Multidimensional, Wellbeing, Women farmers, Agricultural zones, Akwa Ibom state

INTRODUCTION

Undoubtedly, rural women and men play complementary roles in guaranteeing food security in society, but women tend to play a greater role in natural resource management and ensuring adequate nutrition (FAO, 2013). Women often grow, process, manage and market food and other natural resources, raise small livestock, manage vegetable gardens, and collect fuel and water (FAO, 2013). For example, in Southeast Asia, women provide up to 90 per cent of labour for rice cultivation and in sub-Saharan Africa, they are responsible for 80 per cent of food production. Dennison (2013) in an interdisciplinary research discourse organized by the postgraduate school of the University of Ibadan on "the burden of our women" commented that everyone has a mother, sister, or daughter and therefore is bound to experience their importance in their lives. Women are regarded as agents of change whose activities affect almost all facets of a society's life. To take good care of their family needs, women carry a lot of burdens both physically and emotionally to make sure that every member of the household is comfortable. Many women have to deal with the stress of having two jobs; one as an executive in the office and the other as an unpaid job at home doing childcare and housework. Many indigenous communities are characterized by an economy in which women are active and bear the primary responsibility of feeding members of their homesteads (Christidou, and Koulaidis, 2016). Also, a study by Bapna, McGray, Mock, and Withey (2009) showed that rural women spend between 10 to 16 hours a day doing housework, fetching water and firewood, caring for their children, and providing food for their families. To corroborate the contribution of women a World Bank study (2010) found that women's burden of work is significantly larger than men's. For example, African women perform about 90% of the agricultural production work ranging from work of hoeing, weeding, processing food, and providing water and firewood. Eighty per cent of food storage and transport and 60% of harvesting and marketing are also performed by them. There is a need therefore for policies and programmes that address the welfare and wellbeing of rural women. Policies and programmes that empower women farmers will lead to a faster reduction in poverty and promote their wellbeing and availability for more sustained agricultural production activities.

Wellbeing can be referred to as good quality of life, (Narayan *et al*, 2000). It encompasses dimensions such as material wellbeing, often expressed as having enough bodily wellbeing which includes being strong, being in the right frame of mind, and looking good; social wellbeing which includes caring for people and settling children, having self-respect, peace, and good relations in family and community; having security, which includes civil peace, safe and secure environment, personal and physical security and confidence in the future; having freedom of choice and action which includes being able to help others in the community.

This implies that there is more to wellbeing than income and/or asset dimensions, even though they are important wellbeing determinants, (Frey and Stutzer, 2002; Stevensons and Wolfers, 2008; Easterlin, 2003; Ijaiya *et al*, 2009).

Wellbeing has also been construed as activities of human that portrays a state of life condition one has attained and experienced (Adeoti and Akinwande, 2013). It refers to an examination of a person's life situation or 'being', hence, a description of an individuals' life situation. It is a means to an end and an end as well as a basic right of every human being (Oladokun *et al*, 2017). Wellbeing is also a key factor that contributes to the economic growth and productivity of every nation (Oladokun *et al*, 2017). Poverty is an unacceptable human condition and an outstanding social problem in the twenty-first century. It is a global problem characterized by not having enough resources and abilities to meet human basic needs both as individuals and as social beings due to its dynamic and multidimensional nature. Poverty and wellbeing are interrelated because, with an increase in income, a great number of needs are satisfied, and a higher standard of wellbeing is achieved. It is a common inference therefore that a poor person is one whose wellbeing is low.

The Nigerian core welfare indices survey presents a list of indicators to achieve the purpose of a multidimensional assessment of wellbeing for this study (National Bureau of Statistics, 2006). Such indicators as health, housing, and education are basic indicators in use in many kinds of literature (Alkire, 2007). The recent functioning/capability wellbeing approach has been used to analyse multidimensional wellbeing, (Chiappero, 2000; Majumder, 2006, 2009). The functioning/capability approach which emerged as a means of finding an encompassing definition for wellbeing recognizes wellbeing as the 'ability to be'. Theoretically, functioning is defined as the 'being' or the 'achievement' of the individual/household being considered, (Chiappero, 2000; Clark, 2005a, 2005b). While it may be difficult to access dimensions and indicators of capabilities from the national data, it is useful to use the sets of functioning achieved by the rural households in the study, (Chiappero, 2000; Majumder, 2006, 2009).

As observed by Azeez and Abang (2015), remarkable progress has been made in some parts of the World to increase the wellbeing of rural families. The greatest progress has been made in East Asia and the Pacific, where the share of the poor fell from 30% in the 1990 to 9% in 2004. In contrast, the share of the poor in sub-Saharan Africa (Nigeria inclusive) has decreased by a little more than 5% and remains above 40% (Ravallion *et al*., 2007). This scenario of low wellbeing among rural people is against the backdrop that rural people are not only isolated from economic opportunities but that they also tend to have less access to social services such as health, sanitation, education, and economic services like electricity and good water supplies. As posited by Ajakaiye and Adeyeye (2001), a deep insight into the nature of wellbeing remains essential to appropriately design successful poverty alleviation programmes. An insight into the rural households' situation as it concerns their wellbeing is, therefore, a precondition for effective pro-poor development strategies. A clear understanding of how many are not living well or what groups are vulnerable to poverty is imperative for the meaningful articulation of remedial intervention. This study was, therefore, conducted to examine the multidimensional wellbeing of women farmers in agricultural zones of Akwa Ibom State. Specifically, the study;

i. examined the socioeconomic characteristics of the respondents.
ii. estimated the multidimensional wellbeing status of the women Farmers.
iii. decomposed the multidimensional wellbeing by dimensions and indicators of wellbeing.

METHODOLOGY

Akwa Ibom State, with a total landmass of 8,412km2 (AKS, 1989) is Nigeria's 21st State in the Niger Delta region with 31 Local Government Areas (LGAs). It is situated between latitudes $4^o\ 32^I$ and $5^o\ 53^I$ North and longitudes $7^o\ 30^I$ and $8^o\ 25^I$ East, and lies in between Cross River, Rivers, and the Abia States in south-eastern Nigeria (AKS, 1989). According to FRN (2004), Akwa Ibom State has a population of about 3.92 million people. The area is characterized by the undulated landscape and four main relief regions- the lowlands, the uplands, the highlands, and the high plateau and mountains (AKS, 1989). Ninety percent of its population live in rural areas (AK-BASES, 2005) and are engaged mainly in agriculture, trading, and gathering Non-Timber Forest Products (NTFP). The study area is in the rainforest zone and has two distinct seasons viz: The rainy and the dry season (Inyang, Unung, and Ekanem, 2013). For effective integrated agricultural development, Akwa Ibom has six Agricultural Zones, Abak, Etinan, Eket, Ikot Ekpene, Oron and Uyo (Ekong, 2015).

Abak zone covers activities in Abak, Ukanafun, Etim Ekpo, Oruk Anam, and Ika Local Government Areas; Etinan zone covers activities in Etinan, Nsit Ibom, Nsit Ubium, and Nsit Atai Local Government Areas; Eket zone covers activities in Eket, Esit Eket, Onna, Ikot Abasi, Mkpat Enin, Ibeno, and Eastern Obolo Local Government Areas; Ikot Ekpene zone covers agricultural extension activities in Ikot Ekpene, Ikono, Ini, Obot Akara, and Essien Udim Local Government Areas; Uyo zone covers extension activities in Uyo, Ibesikpo Asutan, Itu Ibiono Ibom, and Uruan Local Government Areas; Oron zone covers activities in

Oron, Mbo, Okobo, Udung Uko and Uruefong Oruko Local Government Areas (Ekong, 2015). It should be noted that each of the local governments mentioned above represents a bloc, eight to ten villages make up a cell in each bloc. Each of these blocs is manned by Bloc Extension Supervisors and Extension Agents. The Extension Agents are also saddled with the Gender Specific activities of Women in Agriculture in the blocs under their supervision (Ekong, 2015).

The population of the study comprised registered women farmers in the six agricultural zones in Akwa Ibom State which sums up to 30,135 in number. The Taro Yamane (1967) formula was used to determine the sample size. Hence, 300 registered farmers were sampled across the State. A multistage sampling procedure was used in the selection of the respondents. A simple random sampling procedure was used to select three (3) out of the six (6) agricultural zones. Proportional random sampling was used to select 20% of the blocs from each of the three agricultural zones giving a total of six blocs. Purposive sampling procedure was adopted to sample five cells from each of the selected bloc based on the concentration of the registered women farmers from the list. This gave a total of 30 cells. Simple random sampling was then adopted in the selection of ten (10) women farmers from each of the selected cells. This summed up to 50 respondents (women farmers) from each of the selected bloc which represented each zone as units of observation.

The variables of this study included socio-economic characteristics of the respondents, and multi-dimensions as well as the indicators of the various dimensions of the wellbeing of the respondents. Socio-economic characteristics such as age, marital status, household size, level of education, primary and secondary occupation as well as monthly income were measured using a nominal scale. The multi-dimensions of wellbeing adopted for this study included education, housing and sanitation, autonomy, health and nutrition, employment, and access to information level of the respondents. Indicators were generated for each of the dimensions and were measured using a nominal scale of 1 and0. For example, indicators of educational wellbeing of the respondents included ‘Household members(s) withdrew from school to work for family’s income’, ‘Household head had the ability to read and write in English’, etc. These indicators were answered by either ‘Yes’ or ‘No’, being states of wellbeing or deprivation respectively represented by either 1or 0.

The multi-dimensional wellbeing status analysed in objective ii was estimated as the degree of wellbeing composed by the placement of the individual on the 0 or 1 value or other values in between for the various dimensions of wellbeing. Values closer to 1 for each dimension connotes wellbeing while values closer to 0 connote deprivation. The values were grouped into ten (10) categories viz 0.0000-0.1000 to 0.9001 – 1.000. frequencies and percentages of respondents that fell into the various categories were analysed and presented first for the respondents as a whole as shown in table 2 and then for the respondents according to agricultural zones as shown in table 3.

Primary data were collected with the use of a well-designed questionnaire and analysed using descriptive statistics and fuzzy set theory. The descriptive statistics used include percentages, and the mean, while Fuzzy set Analysis was used to estimate the wellbeing status of the women farmers. The fuzzy set substitutes the characteristic function of a crisp set that assigns a value of 1 or 0. Large values denote a high degree of membership. The degree of wellbeing is shown by the placement of the individual on the 0 or 1 value or other values in-between.

The model is considered as follows: Assume a population A of n individuals, A = (a1, a2, a3 …an). A fuzzy subset B includes all individuals with aiεB. The degree of the wellbeing of the ith individual (i=1,…., n) with respect to a particular attribute j given that (j = 1,……, m) is defined. The variables that define indicators of welfare are either dichotomous or categorical.

$\mu\beta| x_j (a_i)| = x_{ij}, 0 \leq x_{ij} \leq 1$

Where: x_{ij} =1; condition of full possession of wellbeing attribute

X_{ij} =0; condition of total lack of wellbeing attribute and

$0 \leq x_{ij} \leq 1$; conditions within the range of full possession and lack.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Item 1 in Table 1 presents the age distribution of the respondents. It shows that the majority (40% and58%) of the respondents from Uyo agricultural zone and Abak agricultural zone respectively were within 31 – 40 years of age, while the majority (60%) of the women farmers sampled from Eket agricultural zone were between 31 – 50 years of age. The combined mean age was found to be 46. Since most of the respondents fell within the middle age, it is an indication that they are within the active working age of the communities. This result implies the level of maturity and readiness of respondents to bear risks and cater for their households’ wellbeing. The result is consistent with the findings of Etuk and Odebode, (2016) and Chinweze and Abiola-Oloke, (2009) who observed that farmers are in the active age range of 30-50 years.

Table 1: Socioeconomic Characteristics of the Women Farmers

S/n	Variables	Uyo Agricultural Zone		Abak Agricultural Zone		Eket Agricultural Zone	
		Frequency	%	Frequency	%	Frequency	%
1	**Age**						
	10–20	0	0.0	5	5.0	12	12.0
	21–30	36	36.0	14	14.0	22	22.0
	31–40	40	40.0	58	58.0	30	30.0
	41–50	20	20.0	21	21.0	30	30.0
	51-60	3	3.0	2	2.0	6	6.0
	60andabove	1	1.0	0	0.0	0	0.0
2	**Marital Status**						
	Single	20	20.0	40	40.0	51	51.0
	Married	50	50.0	42	42.0	30	30.0
	Widow/widower	5	5.0	10	10.0	9	9.0
	Separated/divorced	25	25.0	8	8.0	10	10.0
3	**Household Size**						
	1- 5	45	45.0	48	48.0	52	52.0
	6-10	50	50.0	39	39.0	40	40.0
	11-15	5	5.0	13	13.0	8	8.0
4	**Highest Level of Educational**						
	FSLC	43	43.0	40	40.0	30	30.0
	SSC	38	38.0	32	32.0	40	40.0
	OND	6	6.0	12	12.0	10	10.0
	HND	8	8.0	6	6.0	10	10.0
	BSc	5	5.0	10	10.0	10	10.0
	MSc	0	0.0	0	0.0	0	0.0
	PhD	0	0.0	0	0.0	0	0.0
5	**Primary Occupation**						
	Crop farming	34	34.0	40	40.0	28	28.0
	Livestock farming	38	38.0	30	30.0	32	32.0
	Fishing	5	5.0	5	5.0	15	15.0
	Fishing and Livestock farming	6	6.0	2	2.0	12	12.0
	Fishing and Crop farming	12	12.0	7	7.0	6	6.0
	Fishing, Crop farming and Livestock farming	5	5.0	16	16.0	7	7.0
6	**Years in Primary Occupation**						
	Less than 10years	35	35.0	45	45.0	38	38.0
	10 – 40 years	45	45.0	20	20.0	32	32.0
	41 – 60 years	15	15.0	10	10.0	20	20.0
	above 60 years	5	5.0	25	25.0	10	10.0
7	**Secondary occupation**						
	Farming	14	14.0	15	15.0	10	10.0
	Trading	62	62.0	72	72.0	56	56.0
	Artisan	11	11.0	10	10.0	20	20.0
	Civil Service	13	13.0	3	3.0	14	14.0
8	**Average monthly income**						
	Less than N20, 000	12	12.0	14	14.0	10	10.0
	N20, 000-N40, 000	26	26.0	20	20.0	22	22.0
	N41, 000-N60, 000	41	41.0	39	39.0	35	35.0
	N61, 000-N80, 000	11	11.0	20	20.0	23	23.0
	N81, 000 and above	10	10.0	7	7.0	20	20.0
	Mean	**N54,000**		**N52,000**		**N51,000**	
	Combined Mean	**N52,000**					

Source: Field Survey, 2019

Table 1 shows more married women farmers (50% and 42%) from Uyo agricultural zone and Abak agricultural zone respectively whereas the majority (51%) of the respondents from Eket agricultural zone were single farmers. However, a couple of them (30.0%) were married. The incidence of divorce (25%, 8% and 10%) as well as widowhood (5%, 10% and 9%) were very low across the agricultural zones. This indicates a high level of homogeneity in the distribution of marital status of households across the communities due to similarities in cultural practices. The fact that the majority of the respondents across the agricultural blocs in the three zones were married is an indication that they are responsible and mature adults who are ready to contribute to their household wellbeing. Also, it was recorded from the field interaction that most of the marriages were monogamous in the 3 zones.

Results on the distribution of the respondents based on household sizes show that the majority of the respondents (48% and 52%) from Abak agricultural zone and Eket agricultural zone had household sizes of 1 – 5 persons while the majority (50%) of the respondents from Uyo agricultural zone had families with 6 – 10 persons. The results showed no difference in the mean household size (6) of respondents in the three zones. While a large household size implies a sufficient supply of household labour for livelihood activities as supported by the findings of Ironkwe, Ekwe, Okoye and Chukwu (2009) who reported that most rural families in Nigeria have large household sizes between 6 to 10 persons, a large household size could also mean over-dependency on household resources resulting in a negative effect on the wellbeing of the household.

Results on educational qualification show no clear difference in the qualification of the respondents as most of the respondents across the state had one form of education or another. This result to some extent is similar to the findings of Bigombe and Whadiagala, (2012) asserting that the majority of the rural workforce had secondary education. Since a larger percentage of the respondents have one form of education or the other, this can expose them to information that will improve their household wellbeing and development. This finding corroborates Babatude, *et al.*, (2008) who reported that the education of a household head had a positive influence on the wellbeing of most rural households in Nigeria.

Also, the average monthly income of the registered women farmers sampled across the zones was between N41,000-N60,000. The low-income level suggests that a greater percentage of the respondents may find it difficult to meet their daily household obligations. As such savings and investments become impossible leading to a cumulative effect of the un-sustainability of households and a low level of wellbeing. This result is consistent with (Etim, 2010) who reported that rural households' income was notoriously subject to seasonal variability, especially in Nigeria.

Multidimensional wellbeing of the women farmers

Table 2 shows the distribution of the sampled women farmers based on their Wellbeing Index (WI). The WI for the respondents ranges from 0.01 to 0.80 with a mean value of 0.41 and a standard deviation of 0.12. Most of the women had their WI between 0.00-0.80 while none had very high between 0.90-1.00. On average, the respondents have a low wellbeing index, this is in line with the findings of Alaye-Ogan, (2008) who used a uni-dimensional and multidimensional approach and found women to have low wellbeing. The decompositions across the agricultural zones as shown in Table 3 reveal that in Abak agricultural zone, the majority (56%) of the respondents fell within 0.2001 - 0.30, in Uyo agricultural zone, the majority (67%) of the women farmers fell within 0.3001-0.400 and in Eket agricultural zone, the majority (76%) fell within 0.40001-0.5000. While the registered women farmers in the three zones of Akwa Ibom State generally have their wellbeing index (WI) between 0.01-0.80, the least woman has a WI of 0.08, 0.01, and 0.02 in Uyo agricultural zone, Abak agricultural zone and Eket agricultural zone respectively. This agrees with the work of Alaye-Ogan, (2008) implying that there are opportunities to improve the wellbeing of women in the State.

Table 2: Distribution of the Respondents by their wellbeing index

Deprivation Index	Frequency	Percentage (%)
0.0000-0.1000	10	3.33
0.1001-0.2000	36	12.0
0.2001-0.3000	73	24.33
0.3001-0.4000	82	27.33
0.4001-0.5000	71	23.67
0.5001-0.6000	16	5.33
0.6001-0.7000	8	2.67
0.7001-0.8000	3	1.0
0.8001-0.9000	1	0.33
Total	**300**	**100.0**
Mean	**0.41**	
Standard deviation	**0.12**	

Source: Computed from field survey

Table 3: Decomposition of Deprivation Index (DI) across Agricultural Zones

Categories	Abak Agricultural Zone		Uyo Agricultural Zone		Eket Agricultural Zone	
	Frequency	%	Frequency	%	Frequency	%
0.0000-0.1000	5	5.0	3	3.0	2	2.0
0.1001-0.2000	16	16.0	12	12.0	8	8.0
0.2001-0.3000	43	43.0	18	18.0	12	12.0
0.3001-0.4000	14	14.0	53	53.0	15	15.0
0.4001-0.5000	12	12.0	8	8.0	51	51.0
0.5001-0.6000	5	5.0	5	5.0	6	6.0
0.6001-0.7000	4	4.0	1	1.0	3	3.0
0.7001-0.8000	1	1.0	0	0.0	2	2.0
0.8001-0.9000	0	0.0	0	0.0	1	1.0
0.9001 – 1.000	0	0.0	0	0.0	0	0.0
Total	**100**	**100.0**	**100**	**100.0**	**100**	**100.0**

Source: Computed from field survey

Multidimensional Wellbeing Decomposition across Dimensions and Indicators

The contribution of each welfare dimension and indicator to women's wellbeing is presented in Table 4. Among the six dimensions considered, health and nutrition had the highest absolute and relative contributions of 0.13 and 43.46% and thus contribute more to the women farmers' wellbeing. This is followed by housing and sanitation with 0.10 and 31.48%. This means that women are better off in these dimensions than others. A high relative contribution of housing is expected since most of them live in the same house with their spouses. These houses are provided by the joint effort of the household. It is also worthy of note that health and nutrition has a high relative contribution. The high relative contribution of health and nutrition underscores the point that power relations within the household are crucial and the ability to participate in decision making, particularly concerning health issues is important for women's wellbeing. The lowest absolute and relative contributions of 0.012 and 15.08% respectively are recorded in employment and 0.067 and 20.16% in access to information. These dimensions contribute less to wellbeing. It implies that women's access to information and employment is poor presently and improving this dimension will improve their wellbeing. In ascending order of contribution, the six dimensions considered are arranged as follows: employment, education, information access, autonomy, housing and sanitation, and nutrition and health. Given the low wellbeing index of women in general, these dimensions need to be improved on, particularly employment, education, and information access whose contributions to wellbeing are very low. These findings corroborate Olowe, Okunmadewa, Yusuf and Oni, (2014) that the housing dimension recorded the highest score of wellbeing functioning index among rural households in South West Nigeria, while the lowest scores are in the dimensions of wealth, security, and political participation and contradict the findings of Oni and Adepoju, (2013) who found a low level of wellbeing achievement among rural dwellers in areas of nutrition, health, and security.

Table 4: Multidimensional Wellbeing Decomposition across Dimensions and Indicators

Dimensions	Indicators		Absolute Contribution	Relative Contribution
Education	Anyone dropped school and work	μ_{11}	0.0185	5.5237
	Funds for schooling	μ_{12}	0.0199	5.9588
	Grown children schooling	μ_{13}	0.0142	4.2383
	Literacy	μ_{14}	0.0148	4.4357
			0.0674	**20.1565**
Housing and sanitation				
	Type of house walls	μ_{21}	0.008	2.4072
	Type of roofing materials	μ_{22}	0.0181	5.4126
	Type of house	μ_{23}	0.0184	5.4959
	Ownership of the house	μ_{24}	0.0194	5.8198
	Floor of the house	μ_{25}	0.0186	5.5745
	Appearance of the house	μ_{26}	0.0149	4.4885
	Toilet facility	μ_{27}	0.0076	2.2828
			0.105	**31.4813**
Autonomy				
	Final decision on who goes to the market and what to buy	μ_{31}	0.0128	3.8285
	Final decision on who visit and who to visit	μ_{32}	0.0171	5.1103
	Final decision on what medical attention to get in the house	μ_{33}	0.0197	5.9023
	Final says on how he spends his money	μ_{34}	0.0150	4.4899
	Final decisions on livelihood and income generating activities in the house	μ_{35}	0.0038	1.1240
			0.0684	**20.455**
Health and nutrition				
	Frequency of adequate food	μ_{41}	0.0194	5.8076
	Affordability of food	μ_{42}	0.0172	5.1397
	Frequency of availability of food	μ_{43}	0.0181	5.4123
	Frequency of Balance diet	μ_{44}	0.0188	5.6403
	Frequency of Visit to the clinic	μ_{45}	0.0197	5.9072
	Child delivery at the hospital/clinic	μ_{46}	0.0122	5.2410
	Place of antenatal care	μ_{47}	0.0128	5.1110
	Body mass index	μ_{48}	0.0131	5.2100
			0.1313	**43.4691**
Employment				
	Gainfully employed	μ_{51}	0.0123	5.0348
	Place of employment	μ_{52}	0.0067	5.0270
	Remuneration	μ_{53}	0.0119	5.0265
			0.0138	**15.0883**
Information Access				
	Listening to radio	μ_{61}	0.0013	5.0881
	Listening to television	μ_{62}	0.0042	4.0217
	Reading from newspapers	μ_{63}	0.0095	2.0356
	Contacts with extension agents	μ_{64}	0.0057	4.6297
	Communication with GSM phone	μ_{65}	0.0129	5.2440
	Membership of co-operative societies	μ_{66}	0.0156	5.2700
			0.0492	**26.2891**

Source: Computed from field survey

Multidimensional wellbeing decomposition across dimensions

Health and nutrition

Health and nutrition were assessed by considering the frequency of adequate food, frequency of availability of food, frequency of Balanced diet, frequency of visit to the clinic, place of antenatal care, place of delivery, and body mass index of respondents. The result shows that women in the Eket agricultural zone had the highest wellbeing index 0.0541 (26.97%) while women from the Uyo agricultural zone were worse off at 0.0444 (13.83%) (See table 5).

Housing and Sanitation

With regards to housing and sanitation, the result agrees with Olowe, Okunmadewa, Yusuf and Oni, (2014) as women in the Eket agricultural zone are better off in this dimension by 0.1063 (34. 88%) than women in other zones (See table 5).

Information Access

The absolute and relative contributions of this dimension to wellbeing revealed that the women in Eket agricultural zone have the highest contribution while those in the Uyo agricultural zone have the least (See table 5).

Autonomy

Women farmers in Uyo agricultural zone enjoyed the highest level of autonomy with absolute and relative contributions of 0.0572 and 17.85%. On the contrary, the results revealed that women farmers in Eket agricultural zone are worse off in this dimension 0.0496 (11.17%). These results indicate that conditions of the Eket agricultural zone women are worse off with regards to how to spend money, the final say on large household purchases. The implication of this is that women farmers of Eket agricultural zone are likely to depend on their husbands' decisions or take decisions jointly with them or other relatives because they possess the lowest WI in relation to two of the indicators examined to determine their level of autonomy. This indicates that these women seek the approval of their husbands or other people on decisions about their health and before they embark on a visit to friends and family members.

Education

Uyo agricultural zone women farmers emerged with the highest index in this dimension 0.0449 (12.76%). The agricultural zones arranged in the descending order concerning educational attainment are Uyo agricultural zone, Abak agricultural zone, and Eket agricultural zone (See table 5).

Employment

The Uyo agricultural zone women had the highest level of wellbeing in this dimension. This result is not unexpected as people from this area are widely known for their business prowess. However, Eket agricultural zone women farmers were worse off in this dimension of well-being. In all, women farmers in Eket agricultural zone rank highest in three of the six dimensions considered. These dimensions are health and nutrition, housing and sanitation, and information access. The condition of Uyo agricultural zone women is best in two dimensions, autonomy and education. The women of Abak agricultural zone are worse off than their counterparts in other zones in all the dimensions.

Table 5: Multidimensional Wellbeing Decomposition across Dimensions and Agricultural Zones

Dimensions	Uyo Agricultural Zone	Abak Agricultural Zone	Eket Agricultural Zone	Combined
Health and Nutrition	0.0444 (13.83)	0.0531 (16.02)	0.0541 (26.97)	0.1313 (43.46)
Housing and Sanitation	0.0975 (30.43)	0.0125 (28.62)	0.1063 (34. 88)	0.105 (31.48)
Information Access	0.0762 (20.78)	0.0681 (21.32)	0.0707 (25.19)	0.0492 (26.29)
Autonomy	0.0572 (17.85)	0.0543 (16.38)	0.0496 (11.17)	0.0684 (20.45)
Education	0.0449 (12.76)	0.0341 (9.57)	0.0141 (4.57)	0.0674 (20.16)
Employment	0.0203 (6.32)	0.0197 (5.92)	0.0168 (5.465)	0.0138 15.0883

Source: Computed from field survey.

Values in the parenthesis are the relative contributions while values outside the parenthesis are the absolute contributions.

CONCLUSION AND RECOMMENDATIONS

Women farmers in Eket agricultural zone were better off than their counterparts in other zones. Interventions in employment, education, and information access are needed for the women farmers, especially women in Abak agricultural zone. Governments and Non-Governmental organizations should put in place interventions in these dimensions so that the Sustainable

Development Goals put in place by the United Nations can be achieved by 2030.

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