

Research Article

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Comparative assessment on quality of life of spices producers and gatherers in Oyo state, Nigeria

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Quality of Life (QoL) represents individual's overall satisfaction with life and is assessed in relation to their concerns, goals, standards and expectations. The study compared the quality of life of spices producers (PDRs) and gatherers (GRRs) in Oyo State, Nigeria. Respondents were selected using multistage sampling procedure. A total of 73 respondents were selected from three local government areas (LGAs) in the state. Quantitative data was collected using interview schedule, the WHOQoL 2011 was used to assess respondents QoL and qualitative data was collected during focus group discussion (FGD). Descriptive and inferential statistics were used to analyze the resulting data. The study revealed that majority (71.7%) of PDRs was male while majority (90.0%) of GRRs was female. Large household size characterized both categories of respondents. While majority (71.7%) of PDRs had no formal education, 50.0% of GRRs had vocational education. The study revealed that while majority (72.8%) of PDRs had high QoL index, majority (88.0%) of GRRs had low QoL index. A significant relationship was revealed between PDRs marital status, educational attainment ($\chi^2=1.090$, $p=0.004$; $\chi^2=8.292$, $p=0.040$) and QoL; and between GRRs sex ($\chi^2=6.951$, $p=0.001$), household size ($r = 0.090$, $p = 0.03$) and QoL. A significant difference was revealed between PDRs and GRRs QoL ($t=2.410$, $p=0.002$). Efforts to improve Quality of Life of rural dwellers focusing on improving the capabilities entailed in spices production and gathering for households to flourish is recommended.

Keywords: WHOQoL, spices, producers, gatherers, flourishing

INTRODUCTION

Spices are horticultural crops with the primary function of enhancing taste, flavor and appeal of food and beverage (FAO, 2011). In addition to these, they are able to significantly enhance the Quality of life of households considering their diverse potentials other than enhancement of organoleptic properties of food and beverage. Adding color, flavor, appeal and palatability to meals are the prime functions of spices, however, they are high-value crops that can provide significantly higher income than from other horticultural crops and staples, thereby helping producing households strengthen their livelihoods via income generation (FAO, 2011). They contain sufficient quantities of vitamins, minerals and trace elements and are therefore able to counteract diseases caused by vitamin shortages or meet the need for additional quantities of particular vitamins and minerals (Adewale & Oyesola, 2013). Also, enhancing biodiversity through cultivation of crops considered as minor such as spices holds the promise of diversifying the ecosystem and improving adaptability to extreme climatic conditions (Padulosi, 2011). Spices such as *Aframomum melegueta* are integral to traditions, myths and religious rituals where they feature in traditional ceremonies such as marriages, initiations, funerals, installation of chieftaincy and birth celebrations. Without these spices, the importance of the occasions is not acknowledged (Nnamdi-Eruchalu, 2015). Quality of Life (QoL) can be described as a multidimensional concept which describes the circumstances of people's life; it has economic dimensions, includes social networks, people's health and sense of worth as well as the sustainability of the environment on which their existence and livelihoods depend (Calgiero et al., 2011). It refers to the capability of people to flourish based on their ability to pursue the goals they find valuable (Stiglitz et al., 2009). It is a multifaceted phenomenon determined by the cumulative and interactive impacts of numerous and varied factors of daily living which includes work, family, health, leisure, skills and education, governance and civic engagement as well as social connections (Organization for Economic Cooperation and Development OECD, 2013). QoL plays an important role in an individual or household's experience of quality life as it is representative of the needs and aspirations that are important to individuals or households which they seek to fulfill. The satisfaction derived from an individual's QoL is essential to his overall experience of a good life which could enable him pursue a higher existential level of life (Ruzevicius, 2014). It is influenced by individual's health status- both physical and mental; work-life balance, education and skills and other factors such as the degree of social relationship and interdependence with others and the environment, governance and civic engagement. In Nigeria, rural households generally have lower wellbeing levels than households in urban areas (Adebo, 2010), which in part can be ascribed to agrarian livelihoods. Wellbeing is described as people's state of life situation, which simply relates to how satisfied these individuals are with their own lives (McGillivray, 2007). It is a complex, multi-faceted construct that entails meeting various essential human needs such as being in good health, having the ability to pursue one's goals, thrive and feel satisfied with life. Wellbeing is a multidimensional construct with material and non-material components. The material component of wellbeing referred to as material wellbeing or material living conditions is defined as an individual's satisfaction with a range of vital economic concerns such as wealth and income, employment and jobs; and housing conditions (Sirgy, 2018). The non-material component i.e., Quality of Life is an indication of how an individual evaluates the goodness of the multiple aspects of his life; these includes his emotional reactions, dispositions to life's occurrences, sense of fulfillment, satisfaction with work and strength of his personal relationships (Theofilou, 2013). The non-material aspect of living i.e., Quality of Life is the focus of this research. (Stiglitz et al., 2009) posited that Quality of life of individuals and households can be maintained if their resource set is sustainably used; the resource set in this study is spices enterprise. The overarching concern of this study is

to identify and describe spices enterprise in the study area, ascertain and compare Quality of Life of spices producers (rural dwellers who cultivate spices on their farms) and gatherers (rural dwellers who gather spices from the wild). Specifically, the study was conducted to: describe socio-economic characteristics of spices producers and gatherers; ascertain their spices enterprise characteristics; ascertain and compare Quality of Life status of spices producers and gatherers. The Hypothesis of the study are (i). H₀₁: There is no significant relationship between respondent's personal characteristics and quality of life & (ii). H₀₂: There is no significant difference in the quality of life of spices producers and gatherers.

MATERIALS AND METHODS

Respondents were selected using a multistage sampling technique. The first stage involved a purposive selection of Oyo state for its array of spices that occur naturally in the wild and the large population of farmers who deliberately cultivate and utilize spices. The second stage involved a random selection of ten percent (10%) of the Local Government Areas (LGAs) in the state. The selected LGAs were - Oluyole, Egbeda and Lagelu. The third stage involved a purposive selection of 2 communities with intensity of spices enterprises from each LGA. The fourth stage used a proportionate sampling technique to select twenty percent (20%) and fifty percent (50%) of households whose livelihoods are premised on spices production and gathering respectively to give 53 spices producing households and 20 spices gathering households respectively for the study. Structured questionnaires and interview schedules were used to collect data which were analyzed using descriptive and inferential statistics. The World Health Organization Quality of Life scale ([WHOQOL](#)) 2011 was adapted to assess respondents' Quality of Life on the basis of satisfaction with their health status, work-life balance, education and skills, civic engagement and governance; and social connections in line with [OECD, 2013](#).

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Sex: The study consisted of 71.7% male and 28.3% female in spices producers as well as 10.0% male and 90.0% female in spices gatherers (Table 1). This implies that both male and female household members are involved in spices enterprises as with most agricultural activities. The study however revealed that more females than males are involved in spices gathering. As noted by [Silverman et al., 2007](#); gathering of natural resource such as spices is predominantly a female enterprise

Age- Table 1 shows that the mean age of respondents was 47.9 years across response categories. The result further revealed the mean age of spices producers as 44 years while the mean age of spices gatherers is 46 years. This implies that there is predominance of mature and productive households engaged in spices enterprise. The result is consistent with the findings of ([Akinpelu et al., 2011](#); [Adewale et al., 2021](#)).

Marital status- Majority of producers (98.2%) and gatherers (85.0%) were married indicating the marriage institution as highly regarded by respondents in the communities (Table 1) as reported by [Oladeji & Oyesola \(2011\)](#).

Educational attainment: The result (Table 1) showed a similarity in both categories as 71.7% of producers and 45.0% of gatherers had no formal education. However, while 22.6% of spices producers had primary education, 50.0% of spices gatherers had vocational education. This is consistent with [Oladeji & Oyesola \(2011\)](#) with the position

that rural dwellers have varying forms of educational attainment that can expose them to vital information required for the development of their households.

Household size: The results showed that both categories of respondent had large household size as 96.2% of producers and 95.0% of gatherer had household sizes ranging from 6 - 10 persons (Table 1). The mean household sizes were 11 and 7 persons for producing and gathering households respectively. This indicates the prevalence of large household size among respondents in Oyo state when compared with the national average of 5.9 persons /household (National Bureau of Statistics, 2016). This might however be attributed to the labor-intensive nature of agriculture in rural Nigeria where households are usually very large in order to supply labor required for, on- and off-farm activities as rural households are predominantly agrarian.

Table 1. Spices producer and gatherers socio-economic characteristics

Variable	Category	Producers	Gatherers
Sex	Male	71.7	10.0
	Female	28.3	90.0
Age (years) <i>Mean=47.9</i>	30 & below	1.8	0.0
	31 – 40	7.6	11.4
	41 – 50	45.3	48.8
	51 – 60	32.1	31.2
	61 – 70	9.4	8.6
	Above 70	3.8	0.0
	Marital status	Single	0.0
Married		98.2	85.0
Widowed		0.0	15.0
Divorced		1.8	0.0
Educational attainment	Non formal	71.7	45.0
	Primary	22.6	5.0
	Secondary	1.9	0.0
	Adult Literacy	1.9	0.0
	Vocational	1.9	50.0
Household size	1 – 5 persons	3.8	5.0
	6 – 10 persons	96.2	95.0
Social network*	<i>Mean</i>	<i>10.86</i>	<i>7.03</i>
	Religious group	75.5	95.0
	Coop. society	83.0	100.0
	Age grade	67.9	86.0
	Women group	14.3	90.0
	Town Devt. Union	77.4	0.0
	Informal savings group	62.3	90.0
	Traders union	15.0	75.0
	Farmers group	86.8	4.0

Source: Field survey, 2016 *Multiple response

Social network: The study in Table 1 revealed that majority of producers and gatherers belonged to various social groups- 75.5% v 95.0% (religious groups), 83.0% v 100.0% (cooperative societies), 67.9% v 86.0% (age grade), 14.3% v 90.0% (women societies), 62.3% v 90.0% (informal savings group), 15.0% v 75.0% (traders union), 86.8% v 4.0% (farmers group) and 77.4% of producers were members of town development groups. This revealed that respondents value social networks which give them avenue for marketing,

financial support and provide opportunities for socialization as indicated by [Asante-Addo et al., 2017](#).

Spices enterprise characteristics

Enterprise characteristics of producers and gatherers in Oyo state are shown in Table 2. Hot pepper (*Capsicum annum*), Turmeric (*Curcuma longa*) and Ginger (*Zingiber officinale*) were predominantly cultivated by 97.6%, 62.8% and 53.1% of producers respectively. Black pepper (*Piper guineensis*), Ethiopian pepper (*Xylopia aethiopica*) and Aidan fruit (*Tetrapleura tetraptera*) were gathered by 100.0%, 98.3% and 38.9% of gatherers respectively. This could indicate that the climate in Oyo state provides is ideal for many species of spices to thrive and this support the position of [Adeyonu et al., 2012](#). Higher proportion (40.0 %) of producers engaged themselves as labor, while 25.0% and 35.0% engaged family labor and hired labor respectively for the production of spices. In the same vein, 60.0 percent of gatherers engaged themselves as labor and 40.0% used family labor for spices gathering.

Table 2. Enterprise characteristics of spices producers and gatherers

Variable	Category	Producers	Gatherers
Spices*	Hot pepper	97.6	0.0
	Black pepper	0.0	100.0
	Ethiopian pepper	41.5	98.3
	Ginger	53.1	0.0
	Alligator pepper	33.9	22.5
	Aidan fruit	18.0	38.9
	Turmeric	62.8	0.0
	Locust bean	0.0	30.4
Source of labor	Family	25.0	40.0
	Self	40.0	60.0
	Hired	35.0	0.0
Marketing channels*	Rural market	78.0	68.0
	Farm gate	16.7	55.0
	Family/Friends	1.5	5.0
	Urban market	9.8	10.0
Annual income	< 100,000	41.5	92.3
	100,000 – 499,999	56.5	7.7
	≥500,000	1.9	0.0
	Mean	146,627.48	44,115.30

Source: Field survey, 2016

The predominant channel of marketing spices was rural market by both producers (78.0%) and gatherers (68.0%). This is consistent with the findings of [Magesa et al. \(2014\)](#) who positioned that farmers economic opportunities are limited by trading in rural markets as these markets are not competitive, offers low prices with limited variety of available produce. The result further shows that while 16.7% of producers and 55.0% of gatherers sold spices at the farm gate, 41.5% of producers and 92.3% of gatherers earned less than ₦100,000; while 56.5% of producers and only 7.7% of gatherers earned between ₦100,000 and ₦499,999 per annum. The mean annual incomes were ₦146,627.48 and ₦44,115.30 from spices production and gathering enterprises respectively. This could mean that gathering households in Oyo state have not benefited fully from the economic opportunities offered by spices enterprises.

Quality of life

Health status: This domain provided self-reported health and nutrition indices of spices producing and gathering households. While only 20.8% of producers attested to having one form of chronic or lasting health problem, only 34.6% of gatherers attested to same. Majority (52.8%) of producers and majority (76.9%) of gatherers attested to being able to get good quality food in the survey sample. Only 7.5% of producers indicated that there were good health centers in the community, none of spices gatherers (0.0%) indicated good health centers in the community. Also, only (7.5% v 0.0%) of producers and gatherers indicated that there were competent health personnel in their communities. Majority (73.6% v 69.2%) of producers and gatherers respectively worry about the health status of their families, also majority (62.3% v 65.4%) of producers and gatherers worry about the future because of their present state of health. The implications of these findings are that irrespective of enterprise, health is an essential resource for households as it a precursor to long life and wealth ([WHO, 2012](#)).

Work-life balance

Table 3 provided work-life balance indices of spices producing and gathering households. It showed that majority (67.9% v 88.5%) of producers and gatherers work under pressure, while this is detrimental to the quality of life; majority of both categories however indicated they get enough time for leisure (92.5% v 96.2%). This corroborates [Edwards & Matarrita-Casante \(2011\)](#) that living in rural areas have many benefits that dwellers often make time to enjoy. Work-life balance which is the state of equilibrium between an individual's personal and his work life' ([OECD, 2013](#)). Achieving work-life balance is pivotal to human wellbeing as doing little work could prevent people from earning sufficient income that could enable them enjoy desired standards of living as well as reduce their sense of purpose in life. Doing too much work on the other hand could have negative impact on people's wellbeing as their personal lives and health could suffer as a consequence. Majority (75.5% v 76.9%) of producers and gatherers indicated that their standard of living was higher about 5 years ago. While only 39.6% of producer attested to not having a say in the affairs of their households, 42.3% of gatherers indicated that nothing they do or say makes a difference in their households.

Education and skills

Education and skills are crucial for people to live better lives and for the prosperity of nations ([OECD, 2013](#)). According to the organization, education and skills enable people have wider opportunities and range of benefits such as improved productivity and economic growth, less crime, stronger social cohesion as well as higher political stability. Education and skills have strong positive influence on material living conditions of people as higher education provides higher employability and earnings ([OECD, 2013](#)). Furthermore, people with higher educational attainment generally have better health status as they have healthier life-styles. [Oladeji & Oyesola \(2011\)](#) also reiterated that education plays a significant role in shaping people's lives as it avails them diverse information sources by which knowledge and capabilities can be built for improved quality of life. Lower proportions of producers (45.3%) and gatherers (23.1%) indicated that they were happy with the quality of education available for their children in their communities. Higher proportions of producers (62.3%) and gatherers (42.3%) used their skills every day. Significant proportions of producers (60.4%) and (73.1%) of gatherers indicated that their children have left school for lack of funds. This implies that though the respondents

and their children had no access to quality education, they enjoyed using their skills in spices cultivation and gathering.

Civic engagement and governance

Civic engagement allows people express their voice and contribute to functioning of their communities and societies. [Sen \(2009\)](#) opined that civic engagement is one of the basic freedom rights worthy to humans and they have reasons to value. The findings of the study on civic engagement and governance showed that few (39.6% v 46.2%) of producers and gatherers do not see roles of engagement for themselves within their communities. However, majority (83.0% v 88.5%) of producers and gatherers indicated that they trust the social institutions in the community. Large proportion of producers and gatherers (73.6% v 53.8%) attended and participated in communal events. Furthermore, while (62.3%) of producers were involved in political activities in the community, only 42.3% of gatherers were involved in same. This shows that gatherers have less political voice in the communities. This might be attributed to the fact that majority of the gatherers were women because political participation in Nigeria is fueled by patriarchy. This assertion is in consonance with that of [Dim & Asomah \(2019\)](#) who stated that participation in politics is driven by patriarchy with women having lower political participation than men.

Social connections

Social connections are crucial to people’s overall wellbeing as humans are social beings with basic need for belonging, the frequency of contact and quality of personal relationships with others are important in enhancing their quality of life. People derive fulfillment when they spend quality time with friends, colleagues and family members and their activities are usually more satisfying when shared with others [Kahneman & Deaton \(2010\)](#). Social networks do not only provide material and emotional support in times of need, they also provide people with access to jobs and other promising opportunities. On social connections, majority of producers and gatherers indicated that they had people to discuss intimate and personal matters with (79.2% v 84.6%), belonged to spices association (73.6% v 80.8%), participated in the activities of their association (73.6% v 80.8%), got help from their associations when in need (71.7% v 69.2%) and had people they can rely on in time of need (88.7% v 76.9%) respectively.

Table 3. Quality of life of spices producers and gatherers

Indicators	Producers %	Gatherers %
Health status		
I have one form of chronic or lasting health problem	20.8	34.6
I get sufficient good quality food	52.8	76.9
The health centers here are good	7.5	0.0
The personnel (Doctors, Nurses, Midwives, Attendants) are competent	7.5	0.0
I worry about my family’s health	73.6	69.2
My state of health makes me worry about the future	62.3	65.4
In general, my state of health is bad	26.4	42.3
Work-life balance		
I work under pressure	67.9	88.5
I get enough time for leisure & personal care	92.5	96.2
Nothing I do/say makes a difference in my household	39.6	42.3
My standard of living was higher 5 years ago	75.5	76.9

Edu. & skills	45.3	23.1
I am happy with the quality of my children's education		
I use my skills in my everyday life	62.3	42.3
I enjoy what I do everyday	60.4	73.1
Some of my children have been no longer in school due to lack of funds	60.4	73.1
Civic engagement & governance	39.6	46.2
I don't see roles for myself in the community		
I trust the social institutions available in my community	83.0	88.5
I attend & participate in communal events	73.6	53.8
I am involved in political activities such as public meetings	62.3	42.3
Social connections	79.2	84.6
I have people I can discuss intimate & personal matters with		
I belong to a spice's association	73.6	80.8
I participate in the activities of the association	73.6	80.8
I get help from the association when I am in need	71.7	69.2
I have people I can rely on when I am in need	88.7	76.9

Source: Field survey, 2016

Categorization of producers and gatherers quality of life

The categorization of spices producers and gatherers Quality of life is shown in Table 4. Using the mean of 16.05 ± 5.45 as benchmark, majority (72.8%) of producers had high quality of life while 27.2% possessed low quality of life. On the other hand, majority (88.0%) of gatherers had low quality of life while 22.0% had high quality of life index. These findings resonate the opinion of [Arbuckle & Kast \(2007\)](#) that rural farming households have higher Quality of life than non-farming households. This higher index could be ascribed to the nature of farm occupation and the satisfaction producing households derive from farm lifestyles.

Table 4: Categorization of Spices Producers and Gatherers Quality of Life

Variable	Producers	Gatherers	Mean	SD	Min	Max
Low (0.0 – 16.04)	27.2	88.0	16.05	5.45	0.0	24.0
High (16.05 – 24.0)	72.8	22.0				

Source: Field survey, 2016

Hypotheses testing

Hypothesis 1: There is no significant relationship between selected personal characteristics (age, sex, marital status, educational attainment, religion, household size, social network) and Quality of Life of spices producers and gatherers.

The test of relationships between socio-economic characteristics of respondents and Quality of life on (Table 5) showed that sex had no role in the QoL of producing households as there was no significant relationship between sex and quality of life ($\chi^2 = 2.052$, $p > 0.05$). This finding implies that the quality of life of spices producers is not a function of sex revealing that quality of life of spices producers was not influenced by their sex. For gatherers however, there was significant relationship between sex and QoL ($\chi^2 = 6.951$, $p < 0.05$). This indicates that sex is a function of gatherers quality of life. This could be attributed to the fact that spices' gathering as well as gathering of other natural resources

is predominantly a female-oriented enterprise. This is in consonance with [Silvermann et al. \(2007\)](#) who posited that pre-historic gatherers of natural resource were predominantly women who had superior object location memory and were habitual gatherers. Table 5 further shows that while there was significant relationship between marital status of producers and QoL ($\chi^2 = 1.090$, $p > 0.05$); there was no significant relationship between marital status of gatherers and QoL ($\chi^2 = 2.052$, $p > 0.05$). This suggests that being married enhanced the quality of life of spices producers while being married had no influence on quality of life of spices gatherers. The study suggests that marital status enhances the capability of producers to produce spices that enhance the quality of life; this resonates the position of [Eurostat \(2013\)](#) that marital status enhances enterprise capability. Table 5 further shows a significant relationship between producer and gatherers educational attainment and quality of life ($\chi^2 = 8.292$, $p < 0.05$, $\chi^2 = 2.205$, $p < 0.05$). Education is a strong predictor of life outcomes as higher educational attainment results in better quality of life of producers and gatherers. Correlation analysis on Table 5 shows significant relationship between household size of producers and gatherers and their quality of life ($r = 0.111$, $p < 0.05$; $r = 0.090$, $p < 0.05$). This revealed that the quality of life of both producing and gathering households was influenced by their household size. This could be attributed to the characteristically large household size which culminated in higher labor force for both spices production and gathering. Higher labor force would result in more production and more gathering for market and home utilization which would enhance the quality of life of the households.

Table 5. Result of chi-square and PPMC analyses between selected personal characteristics and quality of life of spices producers and gatherers

Variables	Spices Producers			Spices Gatherers		
	χ^2	df	p-value	χ^2	df	p-value
Sex	2.052	1	0.526	6.951	1	0.001*
Marital status	1.090	3	0.004*	0.671	3	0.416
Education	8.292	6	0.040*	2.205	6	0.010*
Religion	1.044	2	0.307	0.864	2	0.426
Variables	r- value		p-value	r- value		p-value
Age	0.041		0.764	0.019		0.625
Household size	0.111		0.024*	0.090		0.031*
Social Network	0.027		0.703	0.089		0.648

Source: Computation from field survey, 2016 r =correlation coefficient, p =significance level, *Significant @ ≤ 0.05

Hypothesis 2: There is no significant difference in quality of life of spices producers and gatherers in Oyo state

Table 6. Independent sample t-test of difference in quality of life by spices enterprise type in Oyo state

Variable	N	Mean	Sd	t-value	df	p-value
Producer	53	8.0288	2.11	2.410	72	0.002*
Gatherer	20	7.1230	1.26			

Source: Computation from field survey, 2016

Data was analysed for difference in the quality of life of spices producers and gatherers with independent sample t-test. Result (Table 6) revealed significant difference in the quality of life of producers and gatherers ($t = 2.410$, $p = 0.002$). While spices producers had a mean value of 8.0288 ± 2.11 , spices gatherers had a mean value of 7.1230 ± 1.26 . This further lends credence to the position of [Arbuckle & Kast \(2007\)](#) that rural farming households have higher Quality of life than non-farming households.

CONCLUSION

Spices production is a male dominated enterprise while spices' gathering was predominantly a female enterprise. While the mean annual income from spices production was ₦146,627.48, the mean annual income from spices gathering was ₦44,115.30, signaling that production of spices generated higher income than gathering spices. While majority of spices producers had high QoL, majority of spices gatherers had low QoL. For spices producers, Quality of life was influenced by marital status, educational attainment and household size which aided the capability of spices production with a resultant positive effect on QoL. For gatherers on the other hand, QoL was influenced by sex as gathering is a female dominated enterprise; educational attainment and household size. While both spices enterprise should be encouraged, the study clearly shows that spices producers have higher Quality of life than spices gatherers. The study concludes therefore that gathering of spices as an enterprise should be encouraged considering the contributions therein to the quality of life of gathering households; however, depletion of this resource on account of indiscriminate gathering should be discouraged as it will deprive future generations of supplies. Efforts therefore should be geared towards biodiversity measures for continuous supply ensuring availability of these resources for future generations. Furthermore, all avenues should be employed to promote spices production as a development strategy to enhance quality of life of rural households.

AUTHOR CONTRIBUTIONS

Both authors designed the study, final plan of the study and contributed to the manuscript. The principal author carried out the field work, analyzed the result, wrote the drafts and finalized the research article.

COMPETING INTERESTS

The authors declare they have no conflict of interest. The manuscript has not been submitted for publication in other journal.

ETHICS APPROVAL

Not applicable.

REFERENCES

- Adebo, G. M. (2010). Gendered leadership dynamics and rural community development in Nigeria: The case study of Iyalaja and Iyalaje women leaders in Ekiti State. *Academic Leadership*, 8(4), 73.
- Adewale, O. M., & Oyesola, O. B. (2013). Utilisation of spices in nigeria. *American-Eurasian Journal Agricultural and Environmental Science*, 13 (8), 1150 – 1154.
- Adewale, O. M., Fariyike, T. A., Oladunjoye, M. T., Adebisi-Adelani, O., & Oyesola O. B. (2021). Nigerian farmers sources of information on utilization of spices: An exploratory survey. *Continental Journal of Agricultural Science*, 15 (1), 1 – 10.
- Adeyonu, A. G., Oni. A., Okoruwa, V. O., & Omonona, B. T. (2012). Seasonality in poverty level of rural farming households in oyo state. *Journal of Agriculture and Biological Science*, 7 (8), 570 – 575.

- Akinpelu, C. A., Adebayo, O. S., Adelaja, B. A., Adesegun, E. A., Aminu-Taiwo, B. R., & Adeoye, I. B. (2011). An economic analysis of spices marketing in three selected states of Nigeria. *Research on Crops*, 12 (3), 817 – 821.
- Arbuckle Jr, J. G., & Kast, C. (2007). Quality of life on the agricultural treadmill: Individual and community determinants of farm family well-being. *Journal of Rural Social Sciences*, 27(1), 4.
- Asante-Addo, C., Mockshell, J., Zeller, M., Siddig, K., & Egyir, I. S. (2017). Agricultural credit provision: what really determines farmers' participation and credit rationing? *Agricultural Finance Review*, 77(2), 239-256.
- Calgiero, R., Cristiano, S., Pierangeli, F., & Tarangioli, S. (2011). Evaluating the improvement of quality of life in rural areas. Paper Presented at the 122nd EAAE Seminar: *Evidence-based agricultural and rural policy making*: Ancona, Italy.
- Dim, E. E., & Asomah, J. Y. (2019). Socio-demographic predictors of political participation among women in nigeria: Insights from afrobarometer 2015 Data. *Journal of International Women Studies*, 20 (2), 91 – 105.
- Edwards, M., & Matarrita-Cascante, D. (2011). Rurality in leisure research: A review of four major journals. *Journal of Leisure Research*, 43 (4), 447 - 474.
- Eurostat. (2013). *Quality of life indicators: Statistics explained – Education*. European Commission.
- Food and Agriculture Organization of the United Nations. (2011). *Spices and herbs for home and market* (Diversification booklet No. 20). FAO.
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences*, 107(38), 16489-16493.
- Magesa, M., Michael, K., & Ko, J. (2014). Access to Agricultural Market Information by Rural Farmers in Tanzania. *International Journal of Information and Communication Technology Research*, 4, 264-273.
- McGillivray, M. (2007). Human well-being: Issues, concepts and measures. In M. McGillivray (Ed.), *Human well-being: Concept and measurement* (pp. 1–22). Palgrave Macmillan.
- National Bureau of Statistics. (2016). *General household survey–panel wave 3 (post-planting)*. NBS.
- Nnamdi-Eruchalu, G. I. (2015). A study of the language of kolanut in traditional igbo setting. *Academic Discourse: An International Journal*, 169 – 180.
- Oladeji, J. O., & Oyesola O. B. (2011). Use of information and communication technologies among private agricultural organization workers in Oyo State, Nigeria. *Journal of Agricultural and Food Information*, 12, 258 – 269.

Organisation for Economic Co-operation and Development. (2013). *OECD guidelines on measuring subjective well-being*. OECD Publishing. <http://dx.doi.org/10.1787/9789264191655-en>.

Padulosi, S., Heywood, V., Hunter, D., & Jarvis, A. (2011). Underutilized species and climate change: Current status and outlook. In S. S. Yadav et al. (Eds.), *Crop adaptation to climate change* (pp. 507–521). Wiley-Blackwell.

Ruzevicius, J. (2014). Quality of life and working life: Conceptions and research. In *Proceedings of the 17th Toulon–Verona International Conference on Excellence in Services* (pp. 317–334). Liverpool John Moores University.

Sen, A. (2009). Capability: reach and limits. In *Debating global society: Reach and limits of the capability approach* (pp. 15–28). Palgrave Macmillan.

Silverman, I., Choi, J., & Peters, M. (2007). The hunter-gatherer theory of sex differences in spatial abilities: Data from 40 countries. *Archives of sexual behavior*, 36(2), 261–268.

Sirgy, M.J. (2018). The Psychology of material wellbeing. *Applied Research in Quality of Life*, 13, 273 – 301.

Stiglitz, J. E., Sen, A., & Fitoussi, J. P. (2009, September). *Report by the commission on the measurement of economic performance and social progress*.

Theofilou, P. (2013). Quality of life: Definition and measurement. *Europe's Journal of Psychology*, 9(1), 150–162.

World Health Organization. (2011). *WHOQOL-BREF: Introduction, administration, scoring and generic version of the assessment* (Field trial version). WHO.

World Health Organization. (2012). *Good health adds life to years: Global brief for World Health Day 2012*. WHO. <https://www.who.int/>.