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Socio-Economic Profiling of Spices Actors in Oyo State, Nigeria

Adewale, O. M*., Elum, B. M., Adebisi, M. O., Effi, M. O., Ajibade, L. A., Oseni, A. B., Alabi, O. O. and Odeyinka, B. E.
National Horticultural Research Institute, Ibadan, Oyo State, Nigeria.

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Abstract

The study assessed the socio-economic profile of rural households engaged in spices enterprises in Oyo state, Nigeria. Different spices actors were discovered in the state - spices producers (PDRs) gatherers (GRRs) and producer-gatherers (PGRs). The study consisted of 108 actors who were purposively selected and sampled. Data were collected by use of structured questionnaires and were analyzed using descriptive statistics. The result revealed the mean age of spices PDRs, GRRs and PGRs as 47.34±12.3, 49.03±9.27 and 48.75±8.38 respectively. Most (90.0%) of PDRs, 51.4% of PGRs were male while 90.0% of GRRs were female. Most (71.7%) of PDRs, 88.6% of PGRs had no formal education while most (50.0%) of GRRs had vocational education. The mean household size and annual income were 10.86±6.58, 7.03±1.60 and 6.3±2.05 and ₦146,627.48±122,926.3, ₦44,115.3±26,719.7 and ₦56,812.5±39,287.5 by PDRs, GRRs and PGRs respectively. The secondary occupation of most (84.9%) of PDRs and 82.9% of PGRs was other crops farming while that of 40.0% of GRRs was trading. Hot pepper and turmeric were cultivated by 97.6% and 62.8% of PDRs, African black pepper and Ethiopian pepper were gathered by 100.0% and 98.3% of GRRs while hot pepper was cultivated by 100% and African Black pepper was gathered by 85.8% of PGRs. Most (86.0%) and 83.0% of PDRs belonged to farmers group and cooperative societies, 100.0% and 95.0% of GRRs belonged to cooperative societies and religious groups while 97.1% and 91.7% of PGRs belonged to cooperative societies and work exchange groups. The study therefore recommends that participation in social groups could promote the activities of spices actors in the state and across the country and consequently enhance the benefits of spices among households.

Introduction

Spices are horticultural crops used in enhancing taste, colour and appeal of food and beverage (Akinpelu *et al*., 2013); both indigenous and exotic spices abound and are cultivated in Nigeria due to diverse agro-ecologies that avail them amiable habitats. While their primary role is adding flavour for enhancement of appeal, acceptability and palatability of food and beverage; they however have diverse untapped potentials to support smallholder farmers and rural communities by improving their incomes, food security and nutrition (Adewale and Oladeji, 2022). Their inclusion in meals contribute to lowering sodium, fat, sugar which would reduce or eliminate the need to use harmful flavor enhancers such as Monosodium glutamate (MSG) that pose enormous hazard to human health (Yang *et al*., 2023).

Spices contain impressive amounts of minerals and vitamins that are able to supply the required intake of essential micronutrients such as vitamin A, iron and zinc in spite of the insignificant quantities added to meals (Adewale and Oyesola, 2013). Further, spices are higher-value crops that provide greater economic returns than basic food crops. The increasing need to add value to raw spices has also catalyzed the

Corresponding author: Tel: +2347054057515
Email address: yms_olb@yahoo.com
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development of additional off-farm employment opportunities for households which provides opportunities to generate additional, alternative or future income that could be used in meeting subsistence needs of households. However, these spices are not regularly cultivated like most food crops, only a few are deliberately cultivated. A large proportion exists in the wild where they are harvested by people who have protected them over the years or by opportunistic and habitual gatherers who harvest them for various reasons (Adewale *et al*., 2020).

They are more resilient than major crops as they are acclimatized to grow in local growing conditions which are often marginalized, harsh with little need for inputs such as fertilizers, pesticides and irrigation. They are adapted to unfavorable environmental conditions such as drought stress and have higher tolerance to weather changes than conventional staple crops (Ojelel and Kakudidi, 2015). From ancient times, rural populations have gathered spices and herbs for flavoring, medicinal and cosmetic uses along with plant and animal resources such as edible nuts, mushroom, fruits, game, fibre for construction of shelter and housing (Schippman *et al*., 2002). Consequently, they face the threat of becoming extinct as their potential value is under-estimated, without appreciation of their diverse potentials and deliberate production is not popular in farmers' cropping systems.

Therefore, as parts of efforts to promote spices enterprise, encourage farmers to include them in their cropping systems, enhance biodiversity, promote rural economies and household well-being, this study was conducted to profile socio-economic characteristics of spices actors in the state to identify the socio-economic characteristics of spices actors and ascertain the variety, types and sources of spices available in the state.

Materials and Methods

Multistage sampling was used to select respondents for this study. The first stage involved a purposive selection of Oyo state in the rainforest zone for its vast range of spices that are naturally occurring in the wild and the large number of farmers who deliberately cultivate spice crops. The second stage also involved a purposive selection of ten percent (10%) of the 33 Local Government Areas (LGAs) in the state noted for abundance of spices. Three LGAs - Lagelu, Oluyole and Egbeda were selected. The third stage involved a random selection of two (2) communities from each LGA. The fourth stage involved identification of spices actors using proportionate to size sampling technique to select twenty percent (20%), fifty percent (50%) and thirty percent (30%) of spices producers, gatherers and producer-gatherers respectively. A spice producer is an individual who cultivates at least one indigenous or exotic spice. A spice gatherer is an individual who harvest spices from the wild or from protected areas while a spice producer-gatherer is an individual who in addition to gathering spice from the wild, deliberately cultivates indigenous or exotic spice. In total, 108 respondents were selected for the study. Data were collected using structured questionnaire and analyzed with descriptive statistics.

Results and Discussion

Socio-Economic Characteristics of Farmers

The socio-economic characteristics of the categories of spices actors are shown in Table 1. It revealed a gender disparity in the categories. Majority (71.7%) of spices producers (PDRs) and 51.4% of spices producer-gatherers (PGRs) were male resonating male dominance in agricultural production. On the other hand, majority (90.0%) of spices gatherers (GRRs) were female which lends credence to the findings of Silverman *et al*. (2007) that natural resource gathering is predominantly a female enterprise. The actors are in their active phase of life as a large proportion of each category 45.3%, 48.8% and 48.6% of PDRs, GRRs and PGRs respectively belonged to the 41–50 age groups with a mean age of 47.34±12.3, 49.03±9.27 and 48.75±8.38 respectively. It shows that they are still young and innovative thereby revealing a promising outlook for spices. Most (98.2%, 85.0% and 94.3% for PDRs, GRRs and PGRs, respectively) among the actors were married. This indicates that the marriage institution is highly valued among spices actors confirming the findings of Oladoja *et al*. (2008) that marriage bestows some levels of responsibility and commitment on individuals. Also, Table 1 revealed that almost equal proportion (45.3% and 45.7%) of PDRs

and (54.7% and 54.3%) of PGRs were of the Christian and Islam faith respectively; while equal proportion (50.0 %) of GRRs practiced Christianity and Islam respectively revealing that Christianity and Islam were predominantly practiced in the state.

The result of this study confirms the findings of Olojede *et al*. (2013) that rural dwellers usually have no formal education. This is revealed in Table 1, majority (71.7% and 88.6%) of PDRs and PGRs respectively had no formal education. Also, almost half (45.0 %) of GRRs had no formal education. Further, 24.5%, 5.0% and 8.6% of PDRs, GRRs and PGRs had basic education while only 1.9% of PDRs and 2.8% of PGRs had vocational education; while 50.0% of GRRs had vocational education. Large household size was revealed among actors in Oyo state which is representative of agrarian communities as majority (96.2%, 95.0% and 94.3%) of PDRs, GRRs and PGRs, respectively had between 6 and 10 persons in their households. This is above the national average of 5.9 persons per household; however, it resonates with the position of Babalola and Olayemi (2013) that large household size is maintained among Nigerian rural households for higher labour availability to enhance farm productivity. Table 1 further showed that respondents belonged to diverse social groups such as cooperative societies, religious groups, farmer groups, work exchange groups, women and age grade groups. This confirms that rural dwellers belong to different social groups as membership in such associations promote collective action, affords them access to common resources as well as financial support, credit opportunities that can enhance their daily living and wellbeing. Also, the result showed that majority (56.6%) of PDRs earned between ₦100,000 and ₦499,999 annually. This indicates that if producers adhere to good agricultural practices, spices production could become a promising venture. As posited by Adebayo *et al*., (2009), spices are high value crops with the potentiality of enhancing household income and improving livelihoods. Also, Table 1 shows that only 41.5% of PDRs earned less than ₦100,000 annually while majority of 92.3% of GRRs and 74.3% of PGRs earned less than ₦100,000 annually respectively. This low income from spices gathering resonate the view of Shackelton and Shackleton (2006) that gatherers of natural resources often earn low incomes that is insufficient to propel them above the poverty line.

Table 1 revealed the experience of spices actors in years, spices producers had a mean of 22.27 years in spices production. The findings of the study further revealed that spices gatherers had a mean of 37.33 years of experience in gathering spices while spices producer-gatherers on the other hand showed an average experience of 25.6 years. The study revealed that spices gatherers had the longest experience and had long been involved in spices gathering and collection which could be linked to the fact that pre-historic people were hunter-gatherers who habitually gathered natural resources such as spices and herbs for household subsistence as opined by Silverman *et al*., (2007).

Characteristics of Spices Enterprise in the State

The variety and type of spices produced and gathered is shown in Table 2. It showed that majority 97.6% and 100.0% of PDRs and PGRs respectively produced hot pepper. This confirms the finding of FAO (2011) that hot pepper is a bulwark spice crop in Nigeria. Ginger (*Zingiber officinale*) and Turmeric (*Curcuma longa*) were not gathered by GRRs in the state but were produced by 53.1% and 62.8% of PDRs and 71.2% and 60.9% of PGRs respectively. Ethiopian pepper was common to all the entrepreneurs; it was cultivated by 41.5% and 32.2% of PGRs and PGRs respectively, and gathered by 98.3% and 82.3% of GRRS and PGRs respectively. Also Alligator pepper was cultivated by 33.9% and 29.3% of PDRs and PGRs respectively; and gathered by 22.5% and 43.2% of GRRS and PGRs respectively. Only 18.0% of PDRs cultivated *Tetrapleura tetraptera* and gathered by 38.9% of GRRs and 38.2% of PGRs respectively.

Locust bean and Black pepper were not cultivated in the state but were gathered by 30.4% and 100.0% of GRRs and 68.9% and 85.8% of PGRs respectively. Spices that are indigenous to Africa are native to the state and are mostly gathered by GRRs and PGRs. This corroborate the findings of Egunyomi (2011) that spices that are indigenous to humid, tropical conditions of the country are mostly obtained from the wild. These crops according to FAO, 2011 have found novel

Table 1: Socio-Economic Distribution of Entrepreneurs

Variables	Producers (n=35)	Gatherers (n=20)	Producer-gatherers (n=53)
Sex			
Male	71.7	10.0	51.4
Female	28.3	90.0	48.6
Age			
30 & below	1.8	0.0	0.0
31 – 40	7.6	11.4	11.4
41 – 50	45.3	48.8	48.6
51 – 60	32.1	31.2	40.0
61 – 70	9.4	8.6	0.0
Above 70	3.8	0.0	0.0
Mean ($\bar{x}$)	**47.34±12.3**	**49.03±9.27**	**48.75±8.38**
Marital status			
Married	98.2	85.0	94.3
Widowed	0.0	15.0	5.7
Divorced	1.8	0.0	0.0
Religion			
Christianity	45.3	50.0	45.7
Islam	54.7	50.0	54.3
Educational Attainment			
Non formal	71.7	45.0	88.6
Primary	22.6	5.0	8.6
Secondary	1.9	0.0	0.0
Post-Secondary	1.9	0.0	0.0
Vocational	1.9	50.0	2.8
Household size			
1 – 5	3.8	5.0	5.7
6 – 10	96.2	95.0	94.3
Mean ($\bar{x}$)	***10.86±6.58***	***7.03±1.60***	***6.3±2.05***
Social Network*			
Religious group	75.5	95.0	91.4
Age grade	67.9	86.0	54.3
Coop. society	83.0	100	97.1
Women group	14.3	90.0	48.6
Work exchange group	79.0	75.0	91.7
Traders union	15.0	75.0	74.3
Farmers group	86.8	4.0	82.9
Annual Income from spices enterprise			
< 100,000	41.5	92.3	74.3
100,000 – 499,000	56.6	7.7	25.7
500,000 – 999,000	1.9	0.0	0.0
Mean ($\bar{x}$)	**146.48±122,93.3**	**44,12.3±26,719.7**	**56,812.5±39,287.5**
Years of enterprise			
< 10	3.8	10.0	5.8
11 – 20	20.8	10.0	5.8
21 – 30	45.3	25.0	42.8
31 – 40	13.2	45.0	31.4
41 – 50	9.4	5.0	11.4
Above 50	7.5	5.0	2.8
Mean ($\bar{x}$)	**22.27±13.8**	**37.33±12.45**	**25.6±10.45**

Source: Field survey * Multiple response

application considering the renewed appreciation for natural products that has warranted their cultivation in addition to quantities obtained from wild collections.

Table 2 also shows the labour dynamics of spices entrepreneurs in Oyo state. For spices PDR, self (40.0%), family (25.0%) and hired labour (35.0%) were engaged in the enterprise. For spices GRR, self (60.0%) and family (40.0%) are utilised, hired labour is seldom used in gathering spices as posited by Murniah *et al*. (2001). Self (52.0%), family (31.0%) and hired labour (17.0%) were engaged in spices PGR enterprise. Table 2 shows similarity in marketing channels of spices entrepreneurs. Local markets are the predominant channels for selling spices for majority of PDRs (78.0%), GRRs (68.0%) and PGRs (85.0%). This resonate the position of Ugoh, 2018 who reported that due to lack of funds, farmers usually limit trading their produce at local markets rather than transporting them to distant urban markets where they can sell them at higher prices. Farm gates are channels of selling spices across the three categories of spices entrepreneurs as shown by 16.7% of PDRs, 55.0% of GRRs and 10.0% of PGRs. Only very few entrepreneurs – 9.8%, 10.0% and 5.0% of PDRs, GRRs and PGRs respectively were able to get their produce to urban markets where they command higher prices.

Table 2: Spices Enterprise Characteristics

Variables	Producers (n=35)	Gatherers (n=20)	Producer-gatherers (n=53)
Spices			
Hot pepper	97.6	N.G	100.0^{P}
Ethiopian pepper	41.5	98.3	32.2^{P}, 82.3^{G}
Ginger	53.1	N.G	71.2^{P}
Alligator pepper	33.9	22.5	29.3^{P}, 43.2^{G}
Tetrapleura	18.0	38.9	38.2^{G}
Turmeric	62.8	N.G	60.9^{P}
Locust bean	N.P	30.4	68.9^{G}
Black pepper	N.P	100.0	85.8^{G}
Source of labor			
Self	40.0	60.0	52.0
Family	25.0	40.0	31.0
Hired	35.0	0.0	17.0
Marketing channels			
Farm gate	16.7	55.0	10.0
Local market	78.0	68.0	85.0
Family / Friends	1.5	5.0	0.0
Urban market	9.8	10.0	5.0

N.P - Not Produced; N.G – Not Gathered; G – Gathered; P - Produced

Conclusion and Recommendation

The study profiled the socio-economic characteristics of spices actors in Oyo State, Nigeria. The results indicated that three categories of actors were identified in the state- spices producers (PDRs), spices gatherers (GRRs) and spices producer-gatherers (PGRs). While spices PDRs and PGRs were predominantly male, spices GRRs were female signaling gathering of spices like other natural resources as a female-oriented enterprise. PDRs are smallholder farmers who depend on marketing opportunities available in local markets. GRRs have high dependency on communal lands and are limited to what abound in the forest. They have low formal education and limited access to markets. PGRs have highly diversified livelihoods as they cultivate and

gather spices; they have better knowledge of both cultivated and wild spices. Very few actors were able to get their spices to urban markets in spite of the high market value of these spices. Spices PDRs and PGRs engaged hired labour in addition to self and family labour in their enterprises; spices GRRs however utilized only self and family labor. Hired labor is not used in gathering of spices in the state. Financial support was the major reason of belonging to social groups as spices PDRs predominantly belonged to cooperative societies and farmers group, GRRs largely belonged to cooperative societies and women groups while PGRs were members of cooperatives and work exchange groups.

Based on these findings, the following recommendations are made:

Social networks should be extensively used to promote benefits and potentialities in spices, expand areas under cultivation to prevent spices from going into extinction and to access formal urban markets where their produce would command higher incomes and profits. Women and youth should not be limited to gathering of spices but should be supported and encouraged across all actor categories. Communal rules on sustainable harvesting and replanting of wild spices should be encouraged, this would enhance biodiversity and promote deliberate cultivation of spices.

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