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## **Access and Use of Resources by Women Agro-Processors in Central Agricultural Zone of Nasarawa State, Nigeria**

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### **Abstract**

*This study was carried out in the central agricultural zone of Nasarawa state to examine the level of access and use of productive resources by women agro-processors in the zone. A sample of 100 women agro-processors from 3 LGAs that make up the zone was selected using proportionate random sampling technique. Data collection was done with the aid of an interview schedule during the 2012 cropping season. Data analysis involved the use of frequency, percentage, mean scores and ranking. The results show that the mean age of the respondents was 38 years. Majority (76%) were married and most (42%) of them were without any formal education. The mean year of experience in agro-processing was 7 years. Most (74%) of the respondents never obtained any loan in the past 3 years. The mean monthly income of the respondents was N18, 540. Most (40%) of the processors got their raw materials directly from farmers' fields while majority (76%) of them sold their outputs to consumers in the open markets. Most (56%) of them used manual method of processing, most (54%) of them never attended any training workshop on agro-processing. Most (42%) of them received an average of 7 extension visits per year. Respondents had high level ( $M > 3$ ) of access to raw materials, extension service, water supply, storage facilities and market for products. However, they faced the problems of inadequate capital, access to land, credit facility and price fluctuation. It was therefore recommended that reforms in the Land Use Act and agricultural credit scheme under the transformation agenda should be hastened up to enhance easy access to these resources by women. Cooperative societies should also be strengthened to fill the gap.*

### **Introduction**

Agriculture is the mainstay of most developing countries' livelihood especially in Nigeria. However, agriculture on its own is no longer able to provide a reliable livelihood for the growing populations in these countries (Mhazo *et al*, 2003). Small-scale farming in Nigeria rarely provides sufficient means of survival in many rural areas. It is therefore imperative to explore alternative income generating opportunities to support poor families who cannot fend for themselves from land-based activities alone. Alternative or additional income generating opportunities are needed to support the millions of poor families who can no longer support their livelihoods from the land alone.

Small-scale food processing activities represent a potential source of livelihood for many of such poor people in sub-Saharan Africa (Simalenga, 1996).

The vision of the agricultural transformation initiative of the present government in Nigeria is to achieve a hunger free Nigeria through an agricultural sector that will drive income growth, accelerate achievement of food and nutritional security, generate employment and transform the country into a leading player in global food markets to grow wealth for millions of farmers. The agricultural transformation agenda is designed to make the agricultural sector a business project as against development project to promote private investment in agriculture, to execute integrated projects via value chain processes, generate employment, and transform Nigeria into a net exporter of agricultural commodities. It has high potentials for employment generation, food security, poverty reduction and industrialization. According to Babatunde (2012), the transformation action plan is focused on key aspects of value chains including the provision and availability of improved inputs (seeds, agrochemicals and fertilizer), increased productivity and production, as well as the establishment of staple crop processing zones. It is expected to address reduction in post-harvest losses, improving linkages with industries as well as access to financial services and markets. Mhazo *et al.* (2012) enumerated the overall potential of agro-processing to include the following: It can increase the value of crops of poor farmers and thus yielding higher returns; expand marketing opportunities; improve livelihoods of people; extend shelf-life of commodities; improve palatability of commodities; increase diversity of products; enhance food security by reducing food losses, increasing availability and improving access to food; overcome seasonality and perishability constraints; and empower women who are often more involved in agro-processing than men.

However, it is observed that although rural women are actively involved in agro-processing and marketing in Nasarawa state, social and economic constraints have placed barriers around their access to production resources such as land, labour, capital, infrastructural facilities as well as extension services. Women's productivity in agriculture is highly dependent on their ability to access and use productive resources such as land, credit, improved seeds, fertilizer and other technologies. Lack of empirical data on the specific constraints and needs of women farmers and processors is responsible for the generalised recommendations that are often made by researchers leading to design of technologies that are not gender specific and inappropriate. The agricultural transformation agenda (ATA) targets rural communities particularly women, youth and farmers' associations, as well as improving rural institutions and infrastructure. In order to achieve its goals frantic efforts must be made by the government to liberalise access to production and processing resources by small scale farmers, especially women.

The purpose of this study was to assess the level of access and use of production resources by women agro-processors in Central Agricultural zone of Nasarawa state. The specific objectives were to: (i) identify the sources of information on agro-processing mostly used by the respondents; (ii) determine the level of access and use of production resources by the respondents; (iii) ascertain their training needs, and; (iv) identify the constraints facing women agro-processors in the area.

## **Methodology**

The study was conducted in Central Agricultural Zone of Nasarawa State, which consists of four local government areas, namely Akwanga, Wamba, Kokona and Nasarawa-Eggon with the zonal office at Akwanga. Three (3) out of the four LGAs in the zone were purposively selected. These were Akwanga, Nasarawa-Eggon and Wamba LGAs. A list of women agro-processors in each of the selected LGAs was obtained from the Fadama III office in the LGA. Fifty percent (50%) of the number of women groups in each of the 3 LGAs was randomly selected. This gave a total of 10 women agro-processing groups. Also, 10 members were randomly selected from each group to give a total of 100 respondents. Data collection was done with the aid of an interview schedule during the 2012 cropping season.

Data analysis was done using the Statistical Package for Social Sciences (SPSS) 15 version. Data were presented using frequency, percentage and mean scores.

## **Results and discussion**

### **Respondents' socioeconomic characteristics**

Entries in Table 1 show that majority (66%) of the respondents were aged between 21 and 40 years. The mean age of the respondents was 38 years. Most (76%) of the women agro-processors were married. A greater proportion (42%) of the respondents did not acquire any formal education. It is generally believed that education creates a favourable mental attitude for the acceptance of new ideas and practices. Formal education enables a farmer to seek for and utilize useful information from both print and electronic media. Education accelerates the rate of adoption of technologies (Ozor and Madukwe , 2005 and Agbamu, 2006). Most (46%) of the women processors had between 1 – 5 years experience in agro processing, while the mean years of experience was 7 years. This implies that the respondents were relatively new in the business and may lack relevant skills in management of agro processing enterprise. Experience is important for effective day-to-day running of farm enterprise and could influence positively the adoption of innovations (Adebiyi, 2008). Majority (74%) of the respondents did not use credit facility while 26% collected loans with an average of ₦14, 220. 00 per individual. This is probably due to the barriers to formal credit sources and the high interest rates of the informal credit sources. On their monthly income, majority (84%) of the respondents received between ₦ 1, 000-20, 000 per month with a mean of ₦18, 540. 00 per month, which is equivalent to the present national minimum wage in Nigeria. This implies that agro processing is really a worthwhile enterprise for both rural and urban dwellers.

**Table1: Socioeconomic characteristics of respondents (N=100).**

<b>Variable</b>	<b>Percentage (%) n=100</b>	<b>Mean</b>
<b>Age in years.</b>		<b>38 Years</b>
21-40	66.0	
41-60	30.0	
Above 60	4.0	
<b>Marital status</b>		
Single	6.0	
Married	76.0	
Widowed	18.0	
<b>Level of education</b>		
Non formal education	42.0	
Primary school	28.0	
Secondary school	20.0	
Tertiary education	10.0	
<b>Years of experience in agro-processing</b>		<b>7 Years</b>
1-5	46.0	
6-10	34.0	
11-15	18.0	
16-20	2.0	
<b>Amount of loan received (N)</b>		<b>₦14, 220. 00</b>
Never used credit	74.0	
1000-50000	14.0	
51000-100000	10.0	
101000-150000	2.0	
<b>Monthly income level (N )</b>		<b>₦18, 540. 00</b>
1,000-20,000	84.0	
21,000-40,000	8.0	
41,000-60,000	4.0	
61,000-80,000	2.0	
above 80,000	2.0	

### **Sources of information used by respondents**

Table 2 shows that majority (54%) of the respondents obtained relevant information from their processing associations, followed by 40% who relied on government extension agents, 31% used cooperative society while 28% used friends and neighbours as their information sources. It was observed that the respondents had very little or no patronage of modern mass extension methods such as radio (13%), television (4%), print media (2%) and the Internet (0%). This implies that the respondents relied on the traditional sources of information that are usually ineffective and inadequate. This is probably due to the high cost of the modern electronic sources such radio, television and Internet. This finding is similar to that of Umeta et al (2011) who reported that women farmers in the Mid Rift valley of Ethiopia did not patronise radio, television and printed materials for agricultural information.

**Table 2: Distribution of respondents based on sources of information used (n=100).**

<b>Information source</b>	<b>Percentage (n=100)</b>
Extension Agents	40.00
Cooperative Society	31.00
Processing Association	54.00
Neighbours/Friends	28.00
Radio	13.00
Television	4.00
Print media	2.00
Internet	0.00

### **Access to production resources by respondents**

Table 3 shows that the women agro-processors had easy access ( $M > 3$ ) to six out of 13 (46.2%) production resources presented. These were raw materials ( $M = 4.3$ ); extension services ( $M = 3.86$ ); water supply ( $M = 3.72$ ); labour ( $M = 3.62$ ); storage facilities ( $M = 3.44$ ) and marketing facilities ( $M = 3.34$ ). These resources are considered very critical for the success of any agro-processing enterprise. Having easy access to them will therefore enhance production at a reduced cost. The result however shows that the respondents had difficulty accessing resources such as credit facility, training programmes, land for expansion, machineries, information on modern processing method, transportation and electricity supply. Ogunlela and Mukhtar (2009) observed that lack of access to land remains a major constraint for women farmers in Africa and land reform programmes have led almost exclusively to the transfer of land rights to male heads of households. Even in countries where ownership and inheritance laws have been reformed in favour of women, in practice women do not necessarily have more rights to land, as local customs and lack of information act as barriers.

**Table 3: Distribution of respondents based on level of access to production resources**

<b>Variable</b>	<b>Mean score</b>	<b>Ranking</b>
Extension services	3.86*	2 <sup>nd</sup>
Credit facility	2.2	13 <sup>th</sup>
Training programs	2.9	7 <sup>th</sup>
Land for business site	2.54	9 <sup>th</sup>
Machinery/equipment for processing	2.54	9 <sup>th</sup>
Raw materials	4.3*	1 <sup>st</sup>
Labour supply	3.62*	4 <sup>th</sup>
Good market for products	3.34*	6 <sup>th</sup>
Storage facilities	3.44*	5 <sup>th</sup>
Information on processing	2.4	11 <sup>th</sup>
Transport facilities	2.9	7 <sup>th</sup>
Electricity	2.34	12 <sup>th</sup>
Water supply	3.72*	3 <sup>rd</sup>

\*= Highly accessible

### **Sources of production resources used by respondents**

Table 4 shows the distribution of respondents according to their sources of production resources. A greater proportion (40%) of the respondents obtained their raw materials directly from other farmers, 32% of them got them from their personal farms while 28% bought their raw materials from local markets. This implies that the women processors had dependable sources of raw materials either from their fellow farmers or their personal farms.

Availability of a regular source of raw materials is a key ingredient in agro-processing enterprise.

Table 4 also shows that majority (76%) of the respondents sold their output in the local markets, 22% sold to middlemen/wholesalers while 2% of the processors sold to companies/institutions. This implies that the respondents had ready markets for their products. This will enhance quick turn over and maximise profit. Results in Table 4 further show that majority (56%) of the respondents used manual methods of processing while 44% used mechanised. This signifies that most agro-processing activities of women in the study area were manually done. This might result to small scale production with low quality of output.

Data in Table 4 also show that majority (72%) of the respondent used hired equipment for their processing with only 28% having their personal equipment. This might add to cost of production and thereby reduce profit. Lack of personal equipment may also delay their operations since they would have to wait for some other persons to hire. Most (37%) of the respondents sourced their loans from cooperative societies, 36% got their loans from friends/relations, 24% used the Bank of Agriculture while only 3% used commercial banks. This shows that most of the respondents utilised informal sources of credit rather than the formal sources. This might be as a result of the bureaucratic processes involved in accessing the formal credit sources which most rural farmers cannot cope with. Even though the informal credit sources might charge higher interest rate, they are easier to access.

**Table 4: Distribution of respondents according to sources of production resources used**

<b>Variable</b>	<b>Percentage (%) (n=100)</b>
<b>Sources of raw materials used</b>	
From personal farm	32.0
Direct from other farmers	40.0
From open market	28.0
<b>Source of market for output</b>	
Consumers in open market	76.0
Companies/institutions	2.0
Middlemen/ wholesalers	22.0
<b>Method of processing used</b>	
Manual method	56.0
Mechanized method	44.0
<b>Source of processing machine/equipment</b>	
Personal property	28.0
Hired/rented	72.0
<b>Sources of credit used</b>	
Relation/friends	36.0
Cooperative/thrift society	37.0
Commercial bank	3.0
Agricultural bank	24.0

**Socioeconomic benefits of agro-processing to the respondents**

Table 5 shows that majority (68%) of the respondents used agro-processing as a source of gainful employment, followed by 52% who used the proceeds to train their children in school, 42% used proceeds of the business to feed their families while 32% used it to build new houses. This implies that agro-processing is really a source of livelihood in the study area which can serve as a source of gainful employment to women and youth thereby reducing poverty. This finding is in agreement with the submission of Ekong (2003) that agro-processing can play a deliberate role in pro-poor growth strategies in the rural economy because earnings from it account for 30 - 45% of rural household income.

**Table 5: Benefits derived from agro-processing by respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%) (n=100)</b>
Major source of employment	68	68.0
Supplement family income	14	14.0
Training children in school	52	52.0
Feeding the family	42	42.0
Building of new house	32	32.0
Capital for other investments	21	21.0

**Perceived training needs of the respondents**

Table 5 shows the distribution of the respondents according to their perceived training needs. Majority (60%) of them desired training on techniques of agro-processing followed by 58% who needed adult education while 22% expressed interest in business management training. This shows that there were training gaps to be filled. The women processors needed training in these three areas to build their capacities.

**Table 6: Training needs of respondents**

<b>Variable</b>	<b>Percentage (%) (n=100)</b>
Adult literacy education	58.0
Business management	22.0
Technical skills in agro-processing	60.0

**Constraints to agro-processing in the area**

Table 7 shows the distribution of respondents according to constraints to agro-processing. Majority (72%) of the respondents were constrained by inadequate capital, followed by 66% who had difficulty accessing loans from banks, 52% had constraint of land for expansion of business, 44% faced the problem of unstable market prices and 34% of the respondents complained of high transportation cost among others. This clearly shows that the respondents were facing numerous problems in agro-processing businesses. This finding agrees with that of Mhazo, et al. (2012) who reported that agro-processors in Zimbabwe faced numerous constraints including poor equipment; shortages and high cost of equipment and spares; limited access to information from extension services; limited access to appropriate packaging material for processed products; lack of marketing skills; inadequate support services from training institutions, private sector consultants, small enterprise advisors, research institutions and engineering workshops; erratic power supply and high cost of processing equipment among others.

**Table 7: Distribution of respondents according to constraints to agro-processing**

<b>Variable</b>	<b>Percentage (%) (n=100)</b>
Inadequate capital	72.00
Inadequate land space for expansion	52.00
Difficulty in getting loan from banks	66.00
High interest rates on loan	26.00
Shortage of labour	10.00
Seasonal supply of raw materials	18.00
Poor power supply	30.00
High cost of transportation	34.00
Lack of personal machineries/equipment	22.00
Poor storage facilities	8.00
Poor marketing structures	30.00
High cost of raw materials	26.00
Poor extension services	14.00
Illiteracy	22.00
Market price fluctuation	44.00
Multiple responses.	



## Conclusion and Recommendation

The study revealed that majority (66%) of the agro-processors were aged between 21 and 40 years with a mean age of 38 years, most (76%) of them were married and a greater proportion (42%) of them had formal education. It also revealed that the mean year of processing experience was 7 years. Majority (74%) of the respondents did not use credit facility while their mean monthly income ₦18, 540. 00 per month. Their major sources of processing information were the processing association (54%) and government extension agents (40%). The women agro-processors had easy access ( $M > 3$ ) to production resources such as raw materials ( $M = 4.3$ ); extension services ( $M = 3.86$ ); water supply ( $M = 3.72$ ); labour ( $M = 3.62$ ); storage facilities ( $M = 3.44$ ) and marketing facilities ( $M = 3.34$ ). Based on the findings it was concluded that agro-processing was really beneficial to the women however they were confronted with several constraints including inadequate capital, poor access to land, unstable market prices and high transportation cost among others. They also desired training on techniques of agro-processing, adult education business management. Based on the findings of the study and in line with the operations of the agricultural transformation agenda which is based on prioritization of commodity value chains along comparative advantage in the six geo political zones of the country and reform in the input supply sector, it was recommended that reforms in the Land use Act and agricultural credit under the transformation agenda should be hastened up to enhance easy access to these resources by women. Cooperative societies should also be strengthened to provide credit to agro-processors at affordable rate. Extension organisations should incorporate agro-processing in their messages and training programmes for rural women to build their capacity.

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