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**POTENTIAL SOCIO-ECONOMIC IMPACT OF REPLACING TRADITIONAL  
WOVEN BASKETS WITH REUSABLE PLASTIC CRATES ON  
LIVELIHOODS OF BASKET MAKERS IN SOUTHEAST NIGERIA**

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## ABSTRACT

In Nigeria, packaging of fresh fruits and vegetables especially tomatoes is mostly done using traditional woven baskets from palm fronds. There is a belief that the introduction of reusable plastic crates (RPC) may take away the source of livelihood of basket makers and sellers who are majorly domiciled in the southeastern zone of Nigeria. The study assessed the potential socio-economic impact of replacing baskets with plastic crates for fresh tomato transportation on the livelihoods of basket makers in southeast Nigeria. Primary data were collected using structured questionnaires. Overall, 430 basket makers were drawn from 16 basket production villages in Anambra, Imo, Ebonyi and Enugu states of the southeast. The primary source of income for the majority of the respondents (90.6%) was basket making, with other sources of income being mostly trading (21.3%) and farming (18.6%). About 28.9% of the respondents' income was between N11,000 and N20,000, while 34.7% were earning less than N10,00 and 36.4% earning above N20,000. As many as 76.7% were willing to diversify into other businesses, particularly trading (37.3%), provision selling (16%) and skilled work (10.6%). The major challenges identified in diversifying were shortage of capital (96.3%) and a lack of prerequisite skills (3.7%). These challenges could be resolved by government intervention (47.8%), provision of financial aid, (39.2%); new jobs (2.2%) and loans (3.2%). Alternative income-generating activities include opening a provision store, food selling, rearing of animals/animal husbandry, trading in automobile spare parts, fruit selling, meat selling, bakery and confectionary. The perceived impacts of replacing baskets with RPCs were joblessness, increased poverty, crime and prostitution, rural urban drift and a dwindling economy. It is thus recommended that plastic crate introduction should be gradual and systematic and basket makers should be properly sensitized and informed. Government and non-governmental organizations should assist basket makers in mitigating the potential impact of replacing baskets with RPCs.

**Key words:** Socio-economic impact, socio-economic characteristics, basket makers, livelihood activities, southeast Nigeria

## INTRODUCTION

Fresh fruits and vegetables (FFVs) such as tomatoes (*Lycopersicon esculentum* Mill.) are widely cultivated and consumed in Nigeria. There is an active local trade in these commodities, largely between the cities in the north and those in the south. Nearly all the harvested tomatoes are bulk packaged in traditional woven baskets (produced from fronds of the palms (*Arecaceae* family)) for transportation by road, over a long distance, such as from Kano to Lagos, which is about 998km [1]. Transit studies, simulated [2] and field [1,3], undertaken by various authors, have noted that the traditional woven baskets, being poor quality packages, cause produce to be bruised, squashed and receive abrasions during handling and transport to the market. These baskets are, thus, a major source of postharvest losses for the highly perishable FFVs.

Reusable plastic crates (RPCs) that are stackable and nestable are an alternative to traditional baskets and the standard packaging for FFVs globally, particularly for long distance travel and marketing (Fig 1). It has been noted that these plastic crates offer valuable benefits in preventing postharvest losses resulting from damage of fresh tomatoes transported across Nigeria. These have particularly been shown to help reduce in-transit damage from 41.12% in baskets to 4% in crates in packaged tomatoes in Nigeria [2, 3], thereby leading to higher income for the farmers and dealers of fresh tomatoes. Consequently, the use of RPCs as a replacement for baskets is being widely propagated for packaged FFVs, particularly tomatoes, for transportation and handling in Nigeria [3].



**Figure 1: Tomatoes in reusable plastic crates and traditional woven baskets**

However, replacing traditional woven baskets with RPCs for packaging FFVs would take away the source of income and affect the livelihood of the various actors and stakeholders in the basket value chain. The most vulnerable would be the basket makers, whose main source of income generation and livelihood is the craft of basket weaving. These basket producers dwell predominantly in the southeast of Nigeria [4]. Basket making is known to be the primary source of income for residents of many villages in the zone. The craft is attractive to most dwellers in the zone as an income-

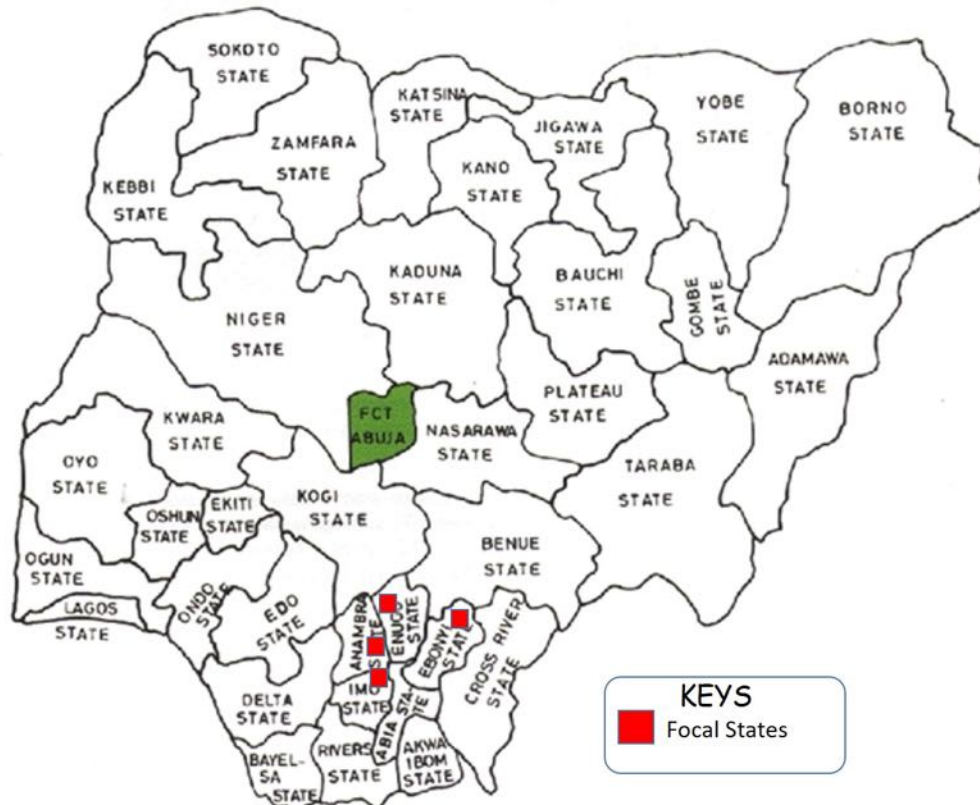
generating venture in preference to other menial jobs. The choice of basket making as their livelihood is due to the abundance of oil palm trees [5]. It is a nature-based activity for which the needed materials are readily available as natural endowment in the area and requires no or minimal capital. The rudimentary weaving skills needed for making baskets have been acquired and perfected through generational linkages [5]. It is, therefore, important to properly investigate the potential socio-economic impact of replacing woven baskets with RPCs on the livelihoods of basket makers in this zone.

A livelihood can be precisely said to comprise the capabilities, assets and activities required for a means of living and is sustainable when it can cope with and recover from stresses and shocks [6]. Livelihood activities are the activities, assets, and access that jointly determine the living conditions of rural households [7]. The envisioned impact on livelihood to be prompted by the replacement of baskets in the basket production southeast zone is not well understood. This assessment is geared towards understanding the socio-economic characteristics of basket makers, their willingness to diversify and identifying potential economic activities of basket makers so as to have a livelihood mitigation plan when baskets are replaced with RPCs in Nigeria. Hence, this study was undertaken to assess the potential socio-economic impact of replacing baskets with RPCs on the livelihoods of basket makers dwelling in the southeastern zone of Nigeria.

## MATERIALS AND METHODS

The research design was descriptive, through a survey of 430 basket makers selected using a multi-stage and purposeful sampling technique. The choice of purposive sampling technique was to select states that are more into basket making. Four states of Anambra, Imo, Ebonyi and Enugu were purposively selected from the five states of Southeast, Nigeria (Fig. 2). These states have several people involved in the active production of new baskets moved from the southeast to the north for packaging and transportation of tomatoes. However, some of them have other income-generating activities which are used to augment the income obtained from basket making. Furthermore, four (4) villages in each state (basket making zone) were purposefully selected to give a total of sixteen (16) basket producing villages. From the villages, at least twenty-five (25) basket makers were randomly selected proportionately to the size of basket makers. Table 1 shows the villages visited for interviews.





**Figure 2: Map of Nigeria showing focal states**

### Statistical analysis

Quantitative data was collected with the aid of structured questionnaires (comprising both closed and open-ended questions). Descriptive statistical analysis of data (percentages) was done using SPSS version 17 [8].

## RESULTS AND DISCUSSION

### Socio-Economic Characteristics of Respondents

#### Gender

Basket making is done by both males (45.2% and 29.7%) and females (54.8% and 70.3%) in Anambra and Imo States, respectively (Table 2). This is because basketry is the major source of income in these areas. Basket making has been reported to be dominated by females [9], but because of joblessness, males have joined in the work, though women are still more prominent. In Ebonyi villages, the work is predominately done by females (96.7%), while on the contrary, the enterprise is dominated by males (100%) in Enugu State. This is because the type of basket made in Enugu State villages is more laborious in making compared to the other types produced in other locations.

#### Age

It was observed that the age of respondents ranged between 14 and 73 years (Table 2), with a mean of 31-40 years. The wide age range agrees with the statement of Hummel [10] that “basket weaving skill knows no age bounds.” Respondents with an age

bracket of 14 to 50 years constituted about 81.9%. The implication of this is that basket makers in these areas were still young and energetic' hence, they could withstand the drudgery and risks of the enterprise.

### Religions practiced

The majority (99.1%) of respondents were Christians, while only 0.9% were traditional worshipers (Table 2). This is a reflection of the religious affiliation of the southeastern region. According to Nwoye [11], this region is inhabited predominantly by *Christians* with traces of traditional *African* religion.

### Family status and marital status

The respondents were mostly married (60.5%), with most (86.9%) living with their nuclear families and only 13.1% living with extended families (Table 2). Among the respondents, only 33.8% were household heads, with others such as wives (63%), children (24%), parents (4.8%) and siblings (8.2%) to the household heads (Table 2). Most of the women (wives) contributed jointly with their husbands for the household upkeep [12].

### Number of dependents

The most common response to the number of the basket makers' dependents was between 6 and 10, corresponding to 58.2% of the overall sample (Table 2). This shows that the basket makers had dependents to cater for. They did not usually have paid employees, but their grown-up children of working age constituted the work force, with 80.2% of them having 1-5 children helping them with the job (Table 2).

### Level of education

The majority (87.5%) of the basket makers had one form of formal education or the other (Table 2). Those with primary education were 28%, while 52% had secondary school level education. Only 6.4% had tertiary education, while about 12.5% of the basket makers were illiterates. Basket weaving is a skill that usually does not require education [10]. Hence, it is an advantage for the unemployed, especially in places where people may not have received much education.

## Basket Makers Source of Income in Southeast Nigeria

### Respondents' occupation

Basket making served as the main occupation for 85.2% of the respondents (Table 3) while 14.8% of them took other jobs as a part-time or secondary occupation (Table 3). This confirms that basket making is a way of life for most of these people. The choice of basket making as their livelihood was due to the abundance of oil palm trees. It requires no or minimal capital, the needed materials are readily available and the rudimentary weaving skills needed have been acquired and perfected through generational linkages. There were large ready markets for baskets in the areas and sustained access to local and national fruit and vegetable (mostly tomato) markets.

### Sources of income

The primary source of income for the majority (90.6%) of the respondents was basket making (Table 4). They did this to supplement income (43.5%) and tackle joblessness



(44.4%), while the younger ones did it because it was their family occupation (12.1%). The other sources of income of the basket makers (Table 4) included trading (21.3%), farming (18.6%), skilled work (12%), teaching (1.3%) and other jobs (23.7%), while some others (23.3%) had no other forms of income. A few (21.5%) of the respondents did not make other products, they are exclusively into basket making. This corroborates findings by Oyesola [13] and the World Bank [14] that rural dwellers usually involve themselves with several economic activities as a means of poverty reduction. Of those respondents who made other products (Table 4), 71.5%, 0.9%, 4.2% and 1.9% of them made brooms, mats, palm oil, and both brooms and mats, respectively. It was observed that the income of 28.9% of the respondents was between ₦11,000 and ₦20,000, followed closely by 24.1%, who fell between ₦6,000 and ₦10,000. This is in line with findings by Nyiatagher [15] who reported that 28.3% of rural household earnings in Benue, Cross River and Kaduna states are between N 10, 001 and N 20, 000. Up to 36.4% earned above ₦20,000, which was slightly above the minimum monthly wage (₦18,000) of a Nigerian worker. This shows that the basket makers are poor and hence output vis-à-vis income needs to be improved.

### Livelihood Diversification

Overall, 76.7% of the respondents were willing to diversify into other businesses (Table 5). The potential businesses mentioned (Table 5) included trading (37.3%), provision selling (16%), food stuff business (5.3%), skilled work (10.6%), operating a medicine store (2.8%), bakery and confectionary businesses (0.6%), keeping poultry (2.2%), clothing business (1.7%) and other businesses (18.5%). This is in agreement with other findings that people want to diversify into non-agricultural ventures [16, 15]. They gave different reasons why they wished to diversify into other businesses. Top among these reasons were: (i) low income from the job and (ii) the stress and negative health implications of the job. This is quite understandable because basket weaving is a 100% handmade product, it cannot be done effectively by machine [10]. The weaving process was considered a strenuous, sometimes injury-inflicting activity and was associated with different health hazards like back pain and musculoskeletal disorders. Even though it yielded a low return and did not guarantee high income generation, the craft was attractive as the commonest form of income-generating venture in preference to other menial jobs.

Majority of respondents (76.7%) were willing to diversify into other jobs, particularly trading and farming. This agrees with finding by Ifeanyi-obi and Njoku [17], Adesope *et al.* [18], and Nzeh and Eboh [19], which state that farming and trading are the major livelihood activities done by rural dwellers in Nigeria. The major challenges identified (Table 5) in diversifying were the shortage of capital (96.3%) and the lack of prerequisite skills (3.7%) needed in starting a new business. Capital has been found to be the major constraint in livelihood diversification [17]. The respondents believe that this challenge could be resolved by the intervention of the government (47.8%), provision of financial aid (39.2%), creation of new jobs (2.2%) and award of loans (3.2%). Only 4.3% had no idea of any job but believed that the availability of capital would make them think of what to use the money for.



## **Perceived Impact of Replacing Baskets with RPCs**

### **Joblessness**

Over 60% of the inhabitants of the villages visited in this study made a living directly from basket making. The replacement of baskets will translate into a decrease in demand for baskets, causing the villagers to lose their jobs. Even those who had other jobs still wove baskets very early in the morning or in the evening.

### **Increase in Poverty Level**

Considering the livelihood opportunities of the inhabitants, farming and basket making were the main available jobs for most of them. Although they considered basket making a problem inflicting job, they did not want to leave it for the fact that it gave them quick and immediate money.

### **Rural urban drift**

According to the respondents, there would be a rapid migration of people out of the village. Most people remained in the village just because they could make ends meet through basket making. If this stops, people would move out of the village in search of other jobs in other towns. That is why Ifeanyi-obi and Njoku [17] stated that rural areas in Nigeria are known to be occupied by old people, as youths mostly migrate to the urban areas in search of white-collar jobs.

### **Dwindling economy of the town**

The economy of the villages was thriving because money was circulated through basket making. Blocking this major source of income for people in a locality would adversely affect the economy of that locality as majority were into basket making. Consequently, rural workers contribute to the community's development through their products [12]. Hence, this would not only affect the basket makers but also other people indirectly benefiting from the enterprise.

## **CONCLUSION**

This study reveals that the craft of basket making is the sustainable livelihood of the dwellers of the visited villages in southeast Nigeria. The basket makers, being vulnerable actors, can diversify into any of the alternative trades identified in the study. The part-time weavers who currently engage in other ventures can take up their other activities on a full-time basis. Proper awareness and sensitization on the introduction of RPC should be done and all stakeholders/actors in the South East should be involved. The introduction of plastic crates should be gradual and systematic. Every actor should be well informed so as to be prepared. There is, therefore, a need for interventions by the government, non-governmental organizations, and other developmental partners in helping basket makers mitigate the impact of replacing baskets with RPCs.

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### Competing Interests Statement

The authors declare no conflict of interest.

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**Table 1: List of villages visited**

State	Villages visited
<b>Anambra</b>	Isseke, Orsumoghu, Ukulu and Umudi
<b>Imo</b>	Awo-Idemilli, Ubulu, Amdim, and Ihietukwu
<b>Ebonyi</b>	Loukei, Bledeba, Idegbueke and Ulepa
<b>Enugu</b>	Amalla-egazi, Ihaakpu, Ogege, Amutenyi and Umundi

**Table 2: Socio-economic characteristics of respondents**

	Average (%)	Anambra (%)	Imo (%)	Ebonyi (%)	Enugu (%)
<b>Gender</b>					
Male	42.1	45.2	29.7	3.3	100.0
Female	57.9	54.8	70.3	96.7	---
<b>Age (Years)</b>					
14-20	13.3	11.3	12.2	16.7	14.0
21-30	29.3	34.0	27.0	20.0	37.2
31-40	24.9	15.1	20.3	36.7	30.2
41-50	14.4	9.4	12.2	23.3	14.0
>50	18.1	30.2	28.4	3.3	4.7
<b>Religion</b>					
Christian	99.1	96.2	100.0	100.0	100
Traditional	0.9	3.8	---	---	---
<b>Marital Status</b>					
Single	34.2	37.7	29.1	16.7	58.1
Married	60.5	52.8	65.5	80.0	39.5
Widowed	4.9	7.5	5.4	3.3	2.3
Divorced	0.5	1.9	---	---	---
<b>Family Status</b>					
Nuclear	86.9	75.0	83.6	100	93.0
Extended	13.1	25.0	16.4	---	7.0
<b>Household head</b>					
Yes	33.8	38.5	26.0	6.9	68.6
No	66.2	61.5	74.0	93.1	31.4
<b>Relationship with Household head</b>					
Wife	63.0	46.3	66.7	85.2	33.3
Child	24.0	24.4	27.5	7.4	59.3
Parent	4.8	12.2	3.9	---	---
Sibling	8.2	17.1	2.0	7.4	7.4

**Number of Dependants**

1-5	32.3	29.5	31.6	28.0	41.4
6-10	58.2	56.8	56.1	68.0	52.9
11-20	8.9	11.4	12.3	4.0	5.7
None	0.6	2.3	---	---	---

**Number of Employee**

1-5	80.2	83.3	81.1	90.5	63.3
6-10	16.9	11.9	17.0	4.8	36.7
11-20	2.9	4.8	1.9	4.8	---

**Highest Level of Education**

Non	12.5	11.8	14.9	6.7	15.5
Primary	28.8	21.6	24.3	50.0	22.6
Secondary	52.4	49.0	56.8	40.0	61.9
Tertiary	6.4	17.6	4.1	3.3	100.0

Source: Field Survey, 2019

**Table 3: Respondents' occupation**

	Total (%)	Anambra (%)	Imo (%)	Ebonyi (%)	Enugu (%)
<b>Main Occupation</b>					
Basket	85.2	80.8	82.2	90.0	90.7
Trader	2.6	3.8	2.7	3.3	---
Skilled worker	5.2	1.9	6.8	6.7	4.7
Civil worker	0.9	1.9	1.4	---	---
Student	3.8	7.7	4.1	---	2.3
Traditionalist	0.5	1.9	---	---	---
Transporter	0.9	---	1.4	---	2.3
Farming	0.5	---	1.4	---	---
Others	0.5	1.9	---	---	---
<b>Secondary Occupation</b>					
None	57.7	61.3	53.4	43.3	75.6
Basket	12.8	17.9	16.9	10.0	2.3
Trader	8.6	7.5	8.1	10.0	9.3
Skilled Worker	4.4	5.7	6.8		3.5
Civil Worker	.7			3.3	
Student	2.1	1.9	1.4	3.3	2.3
Transporter	.5		1.4		
Farming	5.8	1.9	9.5	10.0	
Food Seller	1.2		1.4	3.3	
Others	6.3	3.8	1.4	16.7	7.0

Source: Field Survey, 2019



**Table 4: Respondents' sources of income**

	Total (%)	Anambra (%)	Imo (%)	Ebonyi (%)	Enugu (%)
<b>Why do you do the business?</b>					
Supplement income	43.5	30.2	37.8	56.7	55.8
Family occupation	12.1	17.0	21.6	---	2.3
Joblessness	44.4	52.8	40.5	43.3	41.9
<b>Primary source of income</b>					
Basket	90.6	88.7	89.2	93.1	92.9
Farming	1.4	1.9	1.4	6.9	2.4
Others	7.5	7.5	9.5	---	4.8
Skilled work	0.5	1.9	---	---	---
<b>Other source of income</b>					
Trading	21.3	19.6	19.6	33.3	14.0
Farming	18.6	23.9	23.2	11.1	4.7
Nothing	23.3	39.1	21.4	11.1	9.3
Skilled worker	12.0	6.5	16.1	16.7	7.0
Teaching	1.3	2.2	1.8	---	---
Transporter	0.7	---	1.8	---	---
Broom making	1.3	---	3.6	---	---
Health worker	2.0	---	5.4	---	---
Others	19.6	8.7	7.1	27.8	65.1
<b>Average monthly income</b>					
1,000-5,000	10.5	16.0	9.2	4.5	10.8
6,000-10,000	24.2	10.0	18.5	63.7	17.6
11,000-20,000	28.9	22.0	29.2	31.8	35.1
21,000-30,000	12.4	10.0	15.4	---	21.6
31,000-50,000	8.6	8.0	12.3	---	10.8
>50,000	15.4	34.0	15.4	---	4.1
<b>Other products made from palm fronds</b>					
Broom	71.5	45.7	91.5	85.7	100
Mat	0.9	2.2	---	---	---
Nothing	21.5	45.7	4.3	---	---
Palm oil	4.2	4.3	2.1	---	---
Broom and mat	1.9	2.2	2.1	14.3	---

Source: Field Survey, 2019

**Table 5: Willingness to diversify livelihood among respondents**

	Total (%)	Anambra (%)	Imo (%)	Ebonyi (%)	Enugu (%)
<b>Are you willing to diversify into another business?</b>					
Yes	76.7	77.4	76.4	62.1	91.6
No	23.3	22.6	23.6	37.9	8.4
<b>What business can you diversify to?</b>					
Trading	37.3	30.2	52.9	22.7	29.0
Provision Selling	16.0	27.9	11.8	13.6	11.6
Food Stuff	5.3	4.7	2.9	9.1	7.2
skilled worker	10.6	11.6	10.3	13.6	7.2
Nothing	5.0	9.3	7.4	---	---
Medicine seller	2.8	4.7	4.4	---	---
Bakery	0.6	7.0	1.5	---	---
Poultry	2.2	4.7	1.5	---	---
Others	18.5	---	4.4	40.3	42.0
Clothing	1.7	---	2.9	---	2.9
<b>Challenge</b>					
Capital	96.3	97.6	98.2	95.2	92.3
Skill	3.7	2.4	1.8	4.8	7.7
<b>How the challenge can be resolved?</b>					
Government Aid	47.8	51.6	55.6	62.5	7.1
Financial Aid	39.2	32.3	38.9	37.5	57.1
No idea	4.3	3.2	2.8	---	14.3
No interference	3.2	9.7	---	---	14.3
Job opportunity	2.2	---	---	---	---
Loan	3.2	3.2	2.8	---	---

Source: Field Survey, 2019

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