



# Effect of Rural-Urban Construction Labour Supply on Agriculture in Nsukka Urban Area, Enugun State, Nigeria

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## Authors' contributions

This work was carried out in collaboration between all authors. Author JMC designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author NCE managed the literature searches, and collected data. Author ANA performed analysis of the data and author EMI corrected the first draft. All authors read and approved the final manuscript.

## Article Information

DOI: 10.9734/JSRR/2015/16262

### Editor(s):

(1) Lesław Juszczak, University of Agriculture in Krakow, Poland.

### Reviewers:

(1) Anonymous, Federal University of Agriculture, Nigeria.

(2) Anwaar Mohyuddin, Department of Anthropology, Quaid I Azam University, Pakistan.

Complete Peer review History: <http://www.sciencedomain.org/review-history.php?iid=1131&id=22&aid=9574>

Original Research Article

Received 20<sup>th</sup> January 2015  
Accepted 9<sup>th</sup> May 2015  
Published 4<sup>th</sup> June 2015

## ABSTRACT

**Aim:** The study assessed the effect of urban construction labour supply on agriculture in Nsukka urban, Enugu State, Nigeria.

**Study Design:** Simple random sampling technique was employed to select respondents for the study.

**Methodology:** The population of the study included all rural labourers, (male and female) in construction industries in Nsukka urban area. Two major labour assembly points were visited at different parts of the city to collect data. Using simple random sampling technique, 60 labourers were selected randomly from each point given a total sample size of 120 respondents used for the study. Structured interview schedule was employed to collect data. Data was analysed using descriptive statistics.

**Results:** Majority (79.2%) of the respondents were males. Only 5.8% had no formal education. The mean job experience of the workers was 14 years. Effect on agriculture included loss of family labour (M=2.15), decrease in farm practices (M=2.31), increase in standard of living (M=2.21), loss of farm lands (M=1.92) and reduction on agricultural production (M=2.37). Land area cultivated (< 1

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hectare) after joining the construction industry by majority (64.0%) of the respondent had reduced drastically as compared to 1.1-2 hectares cultivated by 85% of the respondents 10 years ago (before migrating to construction industry). The study shows that lack of job security, industrial accidents, delayed payment/low wages, absence of written contract agreement accounted for some of the risk being faced by the construction industry workers. It further encapsulate some benefits enjoyed by the respondents to include earning extra income, payment of children school fees, owning new residential building, improved family nutrition among others. It is therefore recommended that soft loan should be provided to rural dwellers to enable them engage fully in agricultural activities, also, provision of job opportunities as well as social amenities should be provided in the rural areas to curtail migration to urban areas.

*Keywords: Urban construction; labour; farmers; agriculture.*

## 1. INTRODUCTION

In the late 1950s and early 1960s agricultural production and export crops were the main source of household income and foreign exchange earning in Nigeria [1; <http://www.iss.co.za/af/profiles/Nigeria/Economy.html>]. However, the performance of the agricultural sector in Nigeria had been relatively poor in the past decades [2]. Agricultural production per caput declined in 2000, such that the present food availability of about 2000 calories per person per day is now 10% below the minimum recommended daily requirement according to FAO-WHO standards [3]. The World Bank [4] estimates that by the year 2020, Africa will have a food shortage of 250 million tons. Consequent to this agricultural workers are among the poorest and most food insecure groups in many countries including Nigeria, more than 60% of them live in poverty [5]. In Nigeria, despite her enviable human and material resources, the country and its people are still classified among the very poor [6] with no fewer than 54% of Nigerians living below poverty level [7]. Rural workers suffer high rates of poverty, food insecurity, death, injury and illness [8]. According to Khan et al. [9] hunger in the rural areas is nothing new; since out of 800 million people estimated to be living in hunger in the world, the vast majority are small farmers who live in rural areas.

It is indeed a cruel irony that small farmers who feed the world often have the least resources to feed themselves and their families. As a result, small farmers may not be able to survive on the income from their land and will look for paid work in urban areas. Non-farm activities can provide supplementary employment to rural labour force especially during the lean agricultural season. Out-migration into cities in search of non-farm

activities is a necessary approach to overcoming poverty [10].

People move from poorer areas to wealthier areas for economic gain. Differences in average income or wage levels between rural and urban areas significantly affect migration between two locations. According to Clark [11], the urban-rural wage gap is huge in developing countries. An urban construction worker earns 8.8 times the rural wage rate. However, heavy reliance on non-agricultural jobs have caused shortage of agricultural products, food and cash crops as well as food insecurity [12]. Observations show that the rural population in Nigeria especially those in close proximity (peri or sub urban) to urban cities leave agricultural activities and make daily transitions via commuter buses, motorcycles, bicycles and sometimes on foot to construction sites to seek wage employment. Over 90% of the labour force in the construction sector is rural migrants [13]. This group of people seek employment in urban cities in order to enhance their livelihood. The shift of the rural people to non-agricultural sector in urban cities has caused shortage of rural labour supply and lack of money to hire labour to increase food production [14,15]. In Enugu State, as well as other state in southern Nigeria, people from the rural villages drift to the urban areas seeking for jobs of various types in the construction sector, manufacturing and production sector as well as the service sector [2,16]. Nsukka urban is one of the urban towns in Enugu State that is rapidly growing in both physical infrastructure and in social and economic dimensions. The situation has given rise to daily migration of rural labour to urban areas in search of job opportunities in the construction industry. The study therefore sought to determine the effect of labour migration on agriculture; ascertain the benefits accruing to rural-urban construction workers and assess the occupational risk faced by the workers.

## 2. METHODOLOGY

The study was carried out in Nsukka Urban in Nsukka Local Government Area of Enugu State, Nigeria. The population of the study included all rural labourers, (male and female) in construction industries in Nsukka urban area. Two major labour assembly points where visited at different parts of the city to collect data. Using simple random sampling technique, 60 labourers were selected randomly from each point given a total sample size of 120 respondents used for the study. Structured interview schedule was employed to collect data.

To determine the effect of migration of urban construction workers on agricultural production, a list of possible effects were presented to the respondents. They were requested to rate the effects on a 4- point Likert type scale of, to a very great effect-3, to a great effect-2, to a little effect-1 and to no effect-0 was equally used. The values were added to obtain 6 which was divided by 4 to get a mean score of 1.5. Any effect with mean score of 1.5 and above was regarded as having a significant impact on agriculture while a mean of less than 1.5 was regarded as having no significant impact on agriculture. Also respondents were requested to indicate land area cultivated, livestock and food crop produced 10 years ago and 2011 when the study was conducted.

To identify the occupation risks faced by rural-urban construction workers. A list of work related risk was provided for the respondents to answer by rating them on their perceived seriousness: not serious-1, serious-2 and very serious-3. The response categories were summed up to 6 and divided by 3 to give 2. Any risk with mean score of 2.0 or above was regarded as serious while any with a mean score below 2.0 was regard not serious.

To ascertain the benefits accruing to rural-urban construction, a list of perceived benefits were presented to the respondents. They were requested to rate the perceived benefits on a 4-point Likert type scale of not beneficial=0, beneficial-1; more beneficial-2 and most beneficial -3 The values were added up (0+1+2+3+4) and the sum divided by 4 to give a mean score of 1.5 as the cutoff point. Any response with mean score of 1.5 or above was

regarded as beneficial while any with a mean score below 1.5 was regarded as not beneficial. Data was analysed using descriptive statistics.

## 3. RESULTS AND DISCUSSION

### 3.1 Socioeconomic Characteristics of Respondents

Majority (79.2%) of the respondents were males (Table 1). Less than half (43%) of the workers were young people, an observation that is contrary to Ekong (2) who indicated that majority (85%) of the youths were diversifying their occupation into non-agricultural activities. Only 5.8% of the respondents had no formal education. The mean job experience of the workers was 14 years. About 32% and 26% of the respondents belonged to town unions and revolving thrift savings respectively. The mean earned income (per annum) of the workers was ₦374, 000 (US\$2337.5), (1 US dollar = 160 Naira).

### 3.2 Occupational Risks Faced by Rural-Urban Construction Workers

The serious risks faced by the workers in the building construction industry (Table 2) include: lack of job security (M=2.55), industrial accidents (M=2.32), delayed payment/low wages (M=2.40), falling from roof tops (M=2.08), no insurance agreement (M=2.07). This indicates that workers experience a high incidence of work place risk. Although workers were aware that their work is risky, however, the pressing need for employment finds them returning to this market to search for work. Mehta and Theodore [17] opined that urban construction labour workers are hired to undertake some of the most dangerous jobs and high risk works at the construction site and there is little, meaningful enforcement of health and safety laws. Labourers in the construction industry continue to endure unsafe working conditions mainly because they fear that if they speak up, complain, or otherwise challenge these conditions, they may either be expelled or not paid for their work [17]. This implies that construction workers are denied fundamental human rights, the right to freedom of speech and to bargain with employers.

**Table 1. Distribution of respondents according to socio-economic characteristics**

Variable	Frequency	Percentage	Mean
<b>Sex</b>			
Male	95	79.2	
Female	25	20.8	
<b>Age</b>			
<25	8	6.7	
26-35	20	16.7	
36-45	35	29.2	
46-55	37	30.8	43.8
56-65	19	15.8	
>65	1	0.8	
<b>Marital status</b>			
Married	89	74.2	
Single	21	17.5	
Widowed	10	8.3	
<b>Household size</b>			
>5	38	31.7	
5-7	77	64.2	5
8-10	5	4.1	
<b>Level of education</b>			
No formal education	7	5.8	
Primary education	71	59.2	
Secondary education	37	30.8	
Tertiary education	5	4.2	
<b>Job experience (Years)</b>			
>15	74	61.7	
16-25	29	24.2	
26-35	16	13.3	
>36	1	0.8	
<b>Estimated income (per/annum)</b>			
<200,000	69	57.5	
200,001-400,000	15	12.5	
400,001-600,000	10	8.3	
600,001-800,000	12	10.0	374,000
800,001-1,000,000	6	5.0	
>1,000,000	8	6.7	

1 US dollar = 160 Naira

### 3.3 Perceived Benefits Accruing to Rural-Urban Construction Workers

Workers benefit enormously from the activities they performed (Table 3) such as earning extra income (M=2.26), payment of children's school fees (M=2.05), owning new residential building (M=2.37), improved family nutrition (M=2.55), involvement in marriages (M=1.57), purchase of water tank (M=2.15) purchase of electric generator (M=1.57) and mobile phone (2.15). However, respondents did not benefit in the following areas: increase farm size (M=0.98), owning more livestock (M=1.02). This shows that farmers did not use their wages to increase their agricultural productivity and this corroborates with OECD [18] who opined that migration of

labour has failed to generate sufficient supply responses to enable agriculture to play a central role as a main driver of growth and poverty reduction. Instead food availability per capita has declined by 63% in sub-Saharan Africa since 1990 in sharp contrast with increases of more than 30% in Asia and 20% in Latin America. Respondents did not also benefit from sick leave and annual leave (M=1.72) and free medical and health care delivery (M=0.89). This indicates that the working conditions of rural urban construction workers are poor, since it attracts less welfare services of workers. This means that they lack social security. ILO [19] indicates that, one of the key global problems facing social security in the construction industry is the fact that more than half of the world's population, workers and their

dependents are excluded from any type of social security protection. The problem is particularly acted in urban construction industry, including agriculture and mining as high level of poverty, and income fluctuations are characteristics of waged workers especially vulnerable economically when loss of death, injury, ill health, invalidity, or natural disaster occur [20,21].

### 3.4 Estimated Land Area Cropped 10 Years Ago and Land Area Cropped Now by Labour Workers

All the respondents indicated that they were still involved in crop farming (Table 4). Unlike 10 years ago when only 7.0% of the respondents cropped less than one hectare of land, by 2011

**Table 2. Perceive occupational risks faced by rural-urban construction workers in Nsukka urban area**

Variable	Mean	Standard deviation
Delayed payment/low wages	2.40	7.08
Lack of job security	2.25	0.01
Industrial accidents (machine cuts/sharp objects)	2.32	0.48
No written contract agreements	2.00	0.60
No health policy	1.84	0.99
No retirement benefits	2.36	0.65
Poor weather conditions	2.36	0.65
Embezzlement of workers' wages	1.88	0.56
Exposure to dangerous chemicals	1.58	0.40
Dust and noise	1.77	0.85
Unhealthy work environment	1.65	0.06
injuries from falling objects	1.90	0.71
Slipping from walls/ladder	2.02	0.79
Falling from roof tops	2.08	0.12
Poking by nails	1.89	0.19
No insurance agreement	2.07	0.88
Use of abusive words/intimidation	1.73	0.09

**Table 3. Perceived benefits accruing to rural-urban construction workers**

Variables	Mean scores	Standard deviation
Gain extra income	2.36	1.00
Payment of leave allowance	1.19	1.19
Free medical/health care service delivery	0.89	1.15
Payment of children's school fees	2.05	1.26
Involvement in marriage (s)	1.57	1.13
Own new building (s)	2.57	1.10
Increase farm size	0.98	0.89
Improved feeding/nutrition	2.55	1.09
Establishment of family business	1.50	1.21
Sick leaves/annual leave benefits	1.72	0.84
Benefit from health insurance scheme	1.54	1.05
Own more livestock	0.72	0.89
Purchase of electric generator	1.74	1.03
Purchase radio/TV/refrigerator	1.58	1.01
Easy payment of house rent	1.85	1.03
Timely payment of electric bills	1.79	1.01
Purchase of water tanks	2.15	1.03
Own shallow bore holes/well	0.47	0.85
Own mobile phones	2.15	1.03

Field survey 2011

when the study was conducted the proportion of the respondents cultivating less than one hectare of land had rose to 64.0%. The proportion of construction site workers who were cultivating between one and two hectares of land dropped from 89.0% 10 years ago to 36.0% in 2011. The data therefore indicate a drastic reduction in the total area of land cultivated by the respondents. The preference to work in the construction industries by migrant farmers may be due to the benefits accruing from urban construction work which were better than that accruing from farming. Therefore respondents didn't see any reason to continue putting much in farming activities. It may also be due unavailability of family as well as hired labour as well as inadequacies in government intervention. This may have a negative impact on the quantity and quality of farm produced.

### 3.5 Food Crop Production by Urban Construction Workers

Data in Table 5 show the extent of urban construction workers participating in agricultural production activities 10 years ago and nowadays (2011). Data shows that 10years ago 98.3% of the respondents cultivated yam, 90.0% cultivated cassava, 60.0% cocoyam, 63.3% maize etc. Nowadays (2011), only 45.0% cultivated yam, 84.2% cassava, 33.3% cocoyam, 38.0% maize and 16.0% beans. This means that respondents were actively engaged in agricultural production before joining construction work, but today there is a downward trend in the production of these food crops considered. However, the high percentage of cassava produced nowadays, though still slightly lower than 10 years ago is due to the fact that cassava is the major staple food in the study area and farmers may not survive without it. The implication of this negative attitude towards crop production could result in drastic food shortages and scarcity in the country which could lead to increase in food prices, malnutrition, relative low rate of growth in domestic food production, hunger and poverty and high cost of living in the country and also

increase in importation of food. This finding agrees with Olaitan (16) who reports a downward shift in food crop production in the country which could lead to shortages of food items in the market, high cost of food products, malnutrition, poverty, acute shortage of export goods etc Small holder farmers face serious tremendous challenges in accessing input and output markets and find themselves trapped into a vicious cycle of low income, low inputs, and low productivity resulting from migration of labour force to non-agricultural sector such as construction industry, manufacturing industry, oil and gas exploration sector, including other non-farm occupations [22].

### 3.6 Livestock Production by Urban Construction Workers

Entries in Table 5 show that more than half (65%) of the respondents were engaged in livestock production. 10 years ago, 66% of the respondents raised cattle while 56.3% 77.5% and 48% had sheep goats and poultry respectively. By 2011 only 35% of the respondents were raising cattle while 48%, 53% and 69.3% raised sheep, goats and poultry respectively. The result shows that the number of respondents that kept various animals by 2011 has reduced when compared to 10 years ago. This may be due to respondents migration into the city where there is limited space to keep animals and land area for grazing. It may also be attributed to lack of sufficient time to take adequate care of the animals.

### 3.7 Effects of Urban Migration on Agriculture and Livelihood of the Rural Dwellers

Table 6 shows that all the factors considered as possible effects of migration on livelihood of rural dwellers and agriculture were significant as the mean scores are equal or more than 1.5. Factors such as loss of family labour (M=2.15), reduction on agricultural production (M=2.37), decrease in

**Table 4. Percentage distribution of rural-urban construction workers based on land area cropped in 10 years ago and in 2011**

Estimated land area (ha) cropped	Percentage of respondents who cropped estimated area	
	10 years ago	2011
<1	7.0	64.0
1.1-2	89.0	29.0
2.1-3	3.0	7.0
>3	1.0	0.0

**Table 5. Percentage distribution of crop production by rural-urban construction labour workers**

Corp varieties *	Production status 10 years ago	Production status in 2011
	Percentage	Percentage
Yam	98.3	45.0
Cassava	90.0	84.2
Cocoyam	60.0	33.3
Maize	63.3	38.0
Beans	61.6	16.0
Egg plant	8.3	36.7
Pigeon pea	72.5	26.2
Banana/plantain	37.5	65.5
Cowpea	57.0	8.8

\*Multiple response

**Table 6. Respondents mean scores on the effect of rural-urban construction labour workforce on agriculture/livelihood**

Possible effects	Mean scores
<b>Agriculture</b>	
Loss of family labour	2.15
Reduction in agricultural production	2.37
Decrease in farm practices	2.31
Loss of farm lands	1.92
High cost of farm operations	1.95
Causes food insecurity	1.85
Poor attitude towards indigenous foods	1.81
Increases diversification to non-farm occupation	2.84
Environmental degradation	2.01
Poor attitude of youths towards farming	2.00
Increase in agro-service activity	2.18
Introduction of new foods, crops and livestock	1.25
<b>Livelihood</b>	
Lack of knowledge/skills in food processing, storage/marketing	1.89
Low wage earnings	2.08
Increase in standard of living	2.21
Increase in migrant remittance	1.92
Increase in crime waves	1.78
Overpopulation/overcrowding in cities	1.91
Employment opportunities	1.84
Lack of old age allowance/health care system	1.72
Leads to reduction of export crop earnings	2.02
Increases hunger and poverty level of people	2.02
Increasing cash income	2.06
Children's education become difficult	2.05
Establishment of family business	2.25
Migrants pay land rents to land lords	1.62

farm practices (M=2.31), loss of farm lands (M=1.92). The results indicate that migration of labour has failed to generate sufficient supply responses to enable agriculture to play a central role as a main driver of growth and poverty reduction. World Bank [4] reports that Nigerian farming systems is greatly affected by migration of people from rural areas to oil and gas

exploration, and diversification of other non-agricultural occupations in urban cities such as in construction sectors, service sectors and domestic home services. These results also agree with the findings of Ekong [2] who opined that the effect of migration in agriculture leads to insufficient food, and high market price of food items which contributes in the reduction of

household size and rising average propensity to food consumption.

#### 4. CONCLUSION

The result of this study has shown that rural-urban labour workers in the construction industry are faced with different problems and challenges such as lack of healthcare/medical services, job insecurity and accidents. Workers receive no protection against loss of pay during periods when they are unable to work. However, workers enjoy some benefits such as extra income which enabled them to pay children school fees and to own some properties. Nevertheless, the inherent migration to construction industries has led to decline in agricultural production activities. The government should provide job opportunities and social amenities in the rural areas in order to reduce migration from rural to urban areas. Attention should be focused on finding ways to ensure that workers in the construction industry enjoy the same level of labour rights and social protection as workers in an organized labour force.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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