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SOCIAL IMPACT OF AGRO-ALLIED INDUSTRIES ON THE RURAL DWELLERS IN BENUE STATE, NIGERIA

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Abstract. The study examined the impact of agro-allied industries on rural dwellers in Benue state, Nigeria. Stratified random sampling technique was used to select the respondents for the study. Primary data were collected through the use of structured questionnaires administered on 366 respondents from the selected communities; the data were analyzed using both descriptive and inferential statistics. The result of Mann-Whitney (U) statistics showed that water availability (14 350) and good road network (15 082.00) were the only social impact derived from the industries by the rural dwellers. The study recommended that government should ensure that infrastructural facilities such as schools, electricity, hospitals, good roads and portable water are provided for the rural dwellers who are residing where the agro-allied industries are situated.

Keywords: agriculture, agro-allied industry, Benue state, rural dwellers

INTRODUCTION

Agro-allied industries are industries which depend on agriculture for their raw materials so as to operate successfully in the production of finished goods that are useful to livestock and humans. Industries produce machineries and equipment for agricultural uses. Agriculture and industry compete for labour. Industries provide a large range of products that the rural dwellers (mostly famers) want to buy. Industries produce agro-chemicals for agricultural uses e.g. pesticides, fertilizers, vaccines, and herbicides. Agriculture is a source of food for consumption by man, feed for animals, and raw materials for agro-allied industries (Edoumiekumo and Audu, 2009; Oji-Okoro, 2011).

Central Bank of Nigeria (2016) noted that agricultural sector's contribution to the gross domestic product in Nigeria is 24.18 percent. Over 70 percent of the informal sector jobs created in the Nigerian economy were related to rural agriculture. Ibrahim (1997) was also of the view that most economic sectors will not stand without the practice of agriculture. This is due to the fact that it is the major provider of raw materials for the functioning of those sectors.

The agro-allied industry is regarded as an extended arm of agriculture. Its development could help to stabilize and make agriculture more lucrative, thereby creating employment opportunities both at the production and marketing stages (NPCS, 2000). The importance of agriculture extends beyond the provision of food for man and animals, but also the provision of basic raw materials for industrial purpose, such that other products which are not directly utilized could be transformed into usable materials. Ajila (2014) further explained that the agro-allied industries bring about diversification and commercialization of agriculture and also enhance the income of farmers and create food surpluses. It is in this sense that the agro-industry is an important and vital part of the manufacturing sector in developing countries (NPCS, 2000).

In the same line, Chengappa (2004) reported that agro-processing offers great scope for conversion of

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farm produce to consumer commodity and in the process, reduce wastage, increase shelf-life resulting in value addition and higher income transfer to the farmers from different classes of consumers as the processed commodities have wider market outlets.

Developing agriculture is one of the means of developing the rural communities as it is the primary occupation of most people in the rural areas and a major source of national income for most African countries (Mahmood, 2011). Agro-allied industries have been viewed as a safety valve that needs to be built within rural areas to absorb surplus labour and provide relief to the problem of large scale unemployment. Thus, inadequate attention paid to the agro-processing sector in the past, puts both producer and the consumer at a disadvantage and this hurts the economy of the country (Kachru, 2008). Rural dwellers stand to enjoy some benefits with the existence of agro-allied industries in the rural areas. The populace in the rural areas where the industries are sited begin to enjoy benefits such as availability of market for the rural farmers, this further increases their production level and thus generates more income with which the living conditions of the people can be improved. Besides the above benefits, they enjoy infrastructural amenities like good roads, water supply, electricity, schools, and hospitals. All of these benefits describe some of the impact of agro-allied industries on the rural dwellers.

An impact analysis, according to Iheanacho and Iheanacho (2012), can be carried out from three different approaches; the before and after approach, with and without approach, and the benchmark or set target approach. The focus of this study, however, is on the with and without approach which shows the comparison between areas where agro-allied industries are sited and areas that do not have agro-allied industries. There is, therefore, a link between agriculture, agro-allied industries, and rural dwellers in that without agriculture, the agro-allied industry will not have the availability of resources to carry out its performance. The rural communities which constitute a greater percentage of the labour force in the agricultural sector also have an opportunity to increase their production because of the availability of a good market outlet brought about by the agro-industrial sector.

In spite of the establishment of agro-allied industries in the rural areas so as to enhance the life of the rural populace, the condition of living of the generality of the people in the areas where agro-allied industries are established does not appear to be different from those living in the areas that do not have agro-allied industries. It is against this background that this research work was carried out to examine the impact of the agro-allied industries on the rural dwellers.

METHODOLOGY

Study Area

Benue state is blessed with an abundance of raw materials which can be used by agro-allied industries. These include: yam, potato, sugar cane, millet, ginger, sesame, and soya beans. They are produced in huge volumes by the farmers who are mostly rural dwellers. With a little spur from investors (industrial owners), the rural dwellers will be able to expand their output like their counterparts in developed nations. The agricultural sector which is mostly (70 percent) dominated by rural dwellers, has vast opportunity for employment generation, trade, and industrialization. There is a need to have a long term sustainable policy which will attract more investment and increase private sector participation in remote rural areas. Benue state government has a liberal policy of encouraging investors through incentives and industrial layouts in the state's capital and local government headquarters.

According to the 2006 population census figures, the State has a population of 4.219 million (National…, 2006). There are two prominent tribes in the State, namely the Tivs and the Idomas. Approximately 30 percent of the population is employed by the agro-allied industries in the state (Omale, 2006).

Agro-allied industries in Benue state have the potentials to thrive well. This is mainly due to the fact that as an agrarian state, small scale farmers' produce could serve as raw materials for agro-allied industries. There are several agro-allied industries in the state, but for the purpose of this study, a few will be mentioned: Miva rice Ltd, Ashi rice, Tito yoghurt company, Teragro Plc, Tomato processing plant, Taraku mills, Hule and sons Ltd, Ochai poultry farm and Benue brewery Ltd.

Population and sampling technique

The population for this study comprised those who dwell in Local Government Areas where modern and functional agro-allied industries are present and where agro-allied industries are absent. For the purpose of

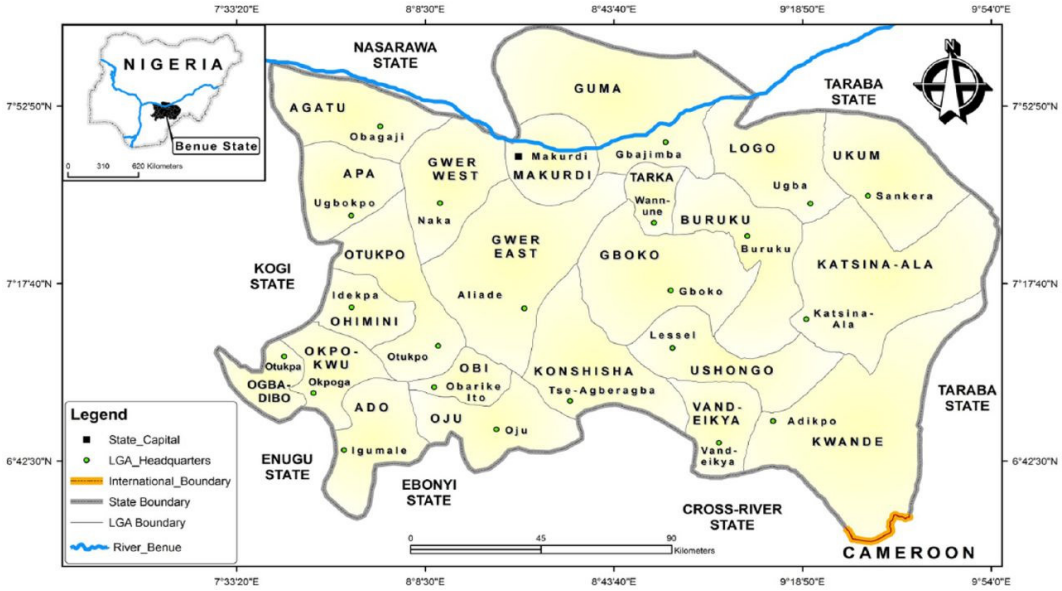

Fig. 1. Map of Benue state, Nigeria showing the 23 local government areas
Source: sgo.sagepub.com
Rys. 1. Mapa nigeryjskiego stanu Benue, na której zaznaczono 23 obszary zarządzane przez samorządy
Źródło: sgo.sagepub.com

this study, examples of areas where agro-allied industries are present were Logo (Ashi rice company), and Tarka (Hule and sons Ltd – Soybean processing) while examples of where agro-allied are absent were Ogbadigbo and Apa Local Government Areas. As documented by NPC (2006), the population of this Local Government Areas is 169 063, 79 494, 128 707 and 96 765 respectively. Thus, the population for this study was 474,029.

Stratified random sampling technique was used to select respondents for the study. Two strata were used for the purpose. The demarcation between the two strata was presence or otherwise of agro-allied industries. The stratum where agro-allied industries are present included Logo and Tarka Local Government Areas, while the stratum where agro-allied industries are absent included Ogbadigbo and Apa Local Government Areas. The total number of units drawn from Logo, Tarka, Ogbadigbo and Apa LGAs were 143, 67, 109 and 81 respectively.

Data analysis and model specification

Data for this study were obtained from a primary source. The data were collected with the aid of a structured questionnaire. The instrument was designed to elicit responses that were used to achieve the objective of the study. Specifically Mann-Whitney (U) statistics was used to analyze the objective of this study. It was specified as follows:

$$U = n_1 n_2 + \frac{n_2(n_1 + 1)}{2} - \Sigma_{i=n_1+1}^{n_2} R_i$$

Where:

U = Mann-Whitney statistics
n_1 = number of respondents who live in areas where agro-allied industries were present;
n_2 = number of respondents who live in areas where agro-allied industries were absent;
R_i = means of selected relative social impact variables such as good roads, good food, availability of water, electricity, health services, good education, reduced migration, wage employment, reduced poverty, increased annual income, self-employment, increased food security, increase in productivity, and value addition.

RESULT AND DISCUSSION

The analysis of the social impact of agro-allied industries on rural dwellers is presented in Table 1. Based on the concept of impact adopted in the study, Mann-Whitney (U) statistics was used to test the difference in social indicators between respondents in areas where there were agro-allied industries and areas where there were none. The mean for water availability for those who have agro-allied industry was 196.88 and 170.83 for those who have no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic

Table 1. Relative measures of the social impact of agro-allied industries on rural dwellers
Tabela 1. Względne miary społecznego oddziaływania branż powiązanych z rolnictwem na mieszkańców wsi

S/No Lp.	Variables Zmienne	Mean rank – Have agro-allied industries Średnia ranga – Występowanie podmiotów z branż powiązanych z rolnictwem	Have no agro-allied industry Brak podmiotów z branż powiązanych z rolnictwem	Mann-Whitney statistics (U) Statystyka Manna-Whitneya (U)	p-value Wartość p
1	Good house Dobre budownictwo mieszkalne	189.88	177.46	15 597.00	0.130
2	Good road – Dobre drogi	192.77	174.72	15 082.00**	0.041
3	Good food – Dobra żywność	188.16	179.09	15 903.00	0.305
4	Water availability – Dostępność wody	196.88	170.83	14 350.00*	0.003
5	Electricity – Energia elektryczna	183.68	183.33	1.670E4	0.966
6	Health service – Służba zdrowia	186.02	181.12	16 284.00	0.573
7	Good education – Dobra oświata	183.76	183.25	16 685.00	0.951
8	Reduced migration Ograniczenie migracji	190.07	177.28	15 562.00	0.136
9	Wage employment Zatrudnienie na etat	176.51	190.12	15 488.00***	0.097
10	Reduced poverty Ograniczenie ubóstwa	170.49	195.82	14 416.00*	0.006
11	Increased annual income Wzrost rocznych dochodów	168.60	197.61	14 079.00*	0.001
12	Self-employment Samozatrudnienie	161.90	203.95	12 887.00*	0.000
13	Increased food security Poprawa bezpieczeństwa żywnościowego	174.37	192.14	15 107.00**	0.026
14	Increased in productivity Wzrost produktywności	178.49	188.24	15 840.00	0.277
15	Market avenue for produce Otwarcie rynków zbytu dla produktów	182.04	184.88	16 473.00	0.751
16	Produce value addition Wartość dodana do produktów	181.30	185.59	16 340.00	0.640

*,** and *** significant at 1%, 5%, and 10% levels of probability.
Source: field survey, 2015.
Symbole *,** i *** oznaczają zmienne istotne odpowiednio na poziomach prawdopodobieństwa 1%, 5% i 10%.
Źródło: badanie w terenie, 2015.

(14,350.00) was statistically significance ($p < 0.01$). This showed that respondents in the areas where there were agro-allied industries accessed water more easily than those in the areas where there were none. This could be ascribed to the presence of the industries in the study areas.

The mean for poverty reduction for those who had agro-allied industry was 170.49 and 195.82 for those who had no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic (14,416.00) was statistically significant ($p < 0.01$). This indicated that the rural dwellers in areas where there were no agro-allied industries had a lower poverty rate than those in areas where there were agro-allied industries. This was inconsistent with Wilkinson and Rocha (2009) and Fajimi and Omonona (2012), that agro-industrial development had the potential to contribute substantially to poverty reduction.

The mean for increased annual income for those who have agro-allied industry is 168.60 and 197.61 for those who have no agro-allied industry. The mean difference indicated that by Mann-Whitney (U) statistic (14,079.00) was statistically significant ($p < 0.01$). This revealed that respondents in areas where there were agro-allied industries had higher income than those in areas where there were no agro-allied industries. This also indicated that the respondents in the areas where there were no agro-allied industries worked very hard to earn a living. This result contradicted Ajila (2014) that agro-allied industries enhance the income of farmers.

The mean for wage employment for those who have agro-allied industry was 176.51 and 190.12 for those who have no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic (15,488.00) was statistically significant ($p < 0.1$). This showed that the respondents in the areas where there were no agro-allied industries worked in other sectors to increase their income base. The mean self-employment for those who have agro-allied industry was 161.90 and 203.95 for those who had no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic (12,887.00) was statistically significant ($p < 0.01$). This result showed that the respondents in the areas where there were no agro-allied industries were more gainfully employed than respondents in areas where there was none. This was in disparity with the findings of Wilkinson and Rocha (2009) and Mehta (2012), that in its initial stages of development, agro-industry is relatively labour intensive, thus providing a wide range of opportunities for self and wage employment.

The mean for good road network for those who have agro-allied industry was 192.77 and 174.72 for those who had no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic (15,082.00) was statistically significant ($p < 0.05$). This indicated that areas where there were agro-allied industries had a better road network than areas without agro-allied industries. This can be ascribed to the presence of the industries in those areas so as to ensure that transportation of raw materials from the farms to the farms to the industries and processed products from the industries into the market is not impaired. This result was in line with Mahmood (2011).

The mean for increased food security for those who have agro-allied industry was 174.37 and 192.14 for those who had no agro-allied industry. The mean difference indicated by Mann-Whitney (U) statistic (15,107.00) was statistically significant ($p < 0.05$). This showed that despite the presence of agro-allied industries, food security was not guaranteed in the areas where the industries were situated as much as it was in the areas where there were no agro-allied industries. This was in disparity with Olaoye (2014) who was of the view that agro-industrial development contributes to improved health and food security for the poor, by increasing the overall availability, variety, and nutritional value of food products and enabling food to be stored as a reserve against times of shortages.

CONCLUSION AND RECOMMENDATION

The study examined the impact of agro-allied industries on rural dwellers in Benue state, Nigeria. The result of Mann-Whitney (U) statistics showed that water availability (14350) and good road network (15082.00) were the only social impacts derived from the industries by the rural dwellers. Hence the need for industrial owners to improve in these areas so as to impact positively on rural dwellers in the study area.

The following recommendations have been proposed based on the result of the study. First of all, government should ensure that infrastructural facilities such as schools, electricity, hospitals, good roads, and portable water are provided for the rural dwellers who are residing where the agro-allied industries are situated. Secondly, government should maintain its liberal policy

of encouraging investor and provision of industrial layouts which should include paved roads, water, electricity and telephone.

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SPOŁECZNE ODDZIAŁYWANIE BRANŻ POWIĄZANYCH Z ROLNICTWEM NA MIESZKAŃCÓW WSI W NIGERYJSKIM STANIE BENUE

Streszczenie. Niniejsze badanie dotyczy społecznego oddziaływania branży powiązanych z rolnictwem na mieszkańców wsi w nigeryjskim stanie Benue. W celu wybrania respondentów użyto metody losowania warstwowego. Dane podstawowe zostały zebrane za pomocą ustrukturyzowanych kwestionariuszy wypełnionych przez 366 respondentów z wybranych społeczności. Do analizy danych zastosowano zarówno statystykę opisową, jak i metody wnioskowania statystycznego. Z uzyskanej wartości statystyki Manna-Whitneya (U) wynika, że dostępność wody (14350) i dobrej sieci drogowej (15082,00) to jedyne formy oddziaływania społecznego na mieszkańców wsi ze strony rozpatrywanych branży. W ramach niniejszego badania zaleca się organom administracji państwowej, aby mieszkańcom terenów wiejskich, na których zlokalizowane są przedsiębiorstwa z branż powiązanych z rolnictwem, zostały zapewnione rozwiązania infrastrukturalne, takie jak placówki oświatowe, sieć elektryczna, szpitale, dobre drogi i woda zdatna do picia.

Słowa kluczowe: rolnictwo, branża powiązana z rolnictwem, stan Benue, mieszkańcy wsi

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