

LIVELIHOOD ASSESSMENT AND CHARACTERIZATION OF CHARCOAL PRODUCERS IN BAUCHI AND TORO LOCAL GOVERNMENT AREAS OF BAUCHI STATE, NIGERIA.

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INTRODUCTION

Livelihoods are ‘means of making a living’ are the various activities and resources that allow people to live. Different people have different lifestyles and ways of meeting their needs. Similarly, households perform various activities to gain and maintain their livelihoods. The nature of these livelihood activities depends on the availability of assets, resources, labour, skills, education, social capital, seasonality, agro-climate/agro-ecology, and gender (Pasteur, 2002; Alli, 2005; Okali, 2006; Porter *et al.*, 2007; Akinwale, 2010). According to Baro (2002) livelihood systems encompass means, relations, and processes of production, as well as household management strategies. The resources and values of specific physical and social environments determine the character of livelihood system components.

Charcoal has the potential to provide accessible, affordable and reliable energy to millions of households, in addition to supporting millions of rural and urban livelihoods through income generation, supporting children education, providing urban–rural financial flows and contributing to the national economy. Charcoal is an alternative energy source which has been produced in Nigeria for a number of decades, charcoal was a significant local industry that also supplied source of income to our teeming populations. Charcoal production methods in Bauchi and Toro Local Government Areas have traditionally utilised simple technologies methods includes heaps and the pit methods of production are still the most prevalent. Therefore, assessing their present livelihood and characterisation could serve as a reference medium for improvement contribution of charcoal activities to livelihoods and economies in the area are available. The main objective of this paper is to analyse the livelihood and characterization of charcoal producers in Bauchi and Toro Local Government Area of Bauchi State, Nigeria while specific objectives are to:

- i. Describe the socio economic characteristics of charcoal producers
- ii. Identify housing amenities and living conditions of respondents
- iii. Identify factors that motivate individual to be involved in charcoal production

Identify positive and negative impact of charcoal on livelihood of charcoal producers. However, very little precise information about the real

- iv. production on livelihood status of producers
- v. Describe constraints faced by charcoal producers in the area
- vi. Make policy recommendation based on findings of this study.

MATERIAL AND METHODS

Study area

The area is Bauchi State .It is located between Latitude 9^o 3’ and 12^o 3’ North and 11^o east (Wikipedia, 2018). According to the Nigeria’s Bureau of statistic (NBS) 2018..The State has a total land area of 49,119km² representing about 5.3% of Nigeria total land mass with population of 6,997,309 people in 2018 and is projected to have 7,239,308 people in 2019.The

state is bordered by seven States including Kano and Jigawa to the North, Taraba and Plateau to the South, Kaduna to the west with Gombe and Yobe to the East (Wikipedia, 2018 Multi stage sampling technique was used, at the first stage two (2) Local Government Areas Toro and Bauchi Local Government Areas were purposively selected. Four villages were selected from each Local Government Area namely; Yuga, Takanda, Lame, Panshanu, Runde, Rambaya, Buzaye, and Kundun for the study as a result of large number of charcoal producers and convenience for the researcher. At the final stage 15% of charcoal producers were randomly selected from each village making a total of 160 charcoal producers from the study area. The study made use of primary data using structured questionnaire; processed and analysed using descriptive statistics such as frequency and percentages.

RESULTS AND DISCUSSION

Socio economic characteristics of charcoal producers in Bauchi State

The socio-economic characteristics of charcoal producers considered in this study includes gender, age of the respondents, household size, years of production experience in the occupation, access to credit, marital status, source of capital and educational level of the respondents. Result in Table 1 shows that male (100.00%) involved in charcoal production. Charcoal production process was male-dominated with no record of any women participating in the production in the study area. Females are normally occupied with domestic activities such that they do not have enough time to participate. Gendered participation in the charcoal production process remains the same in all the case study villages. This finding is in contrast with the work of (Jones *et al.*, 2016) which revealed that participation of women in charcoal production has also been observed in Mozambique and in Tanzania, where women specifically engaged in the activity in order to obtain some financial independence from their husbands. However, (Butz, 2013) also affirmed that both men and women participated in trade in their study area. Table 1 further revealed the age distribution of charcoal producers. About 57.51 %, of the respondents were within the age bracket of 26-31 years .While those within the age group of 46-51years represent 1.25 % of the respondents. The finding signifies that charcoal producers are in their active age group in terms of devoting their man-day labour hours. Younger household heads are more dynamic with regards to adoption of innovations than older household head (Enete and Igbokwe, 2009).

Household size serves as a form of family labour and complements the effort of the household heads on charcoal production. The availability of family labour provides the household head the opportunity to share responsibility and save time for other development activities. Result from Table 1 shows that 43.13% of the respondents had household size of 1-5 persons, followed by 35.00 % had 6-10 persons. However, only 8.12% had about 16-20 persons. Experience plays very important role in every human endeavour. It is the basis of success and progress in business (Mafimisebi *et al.*, 2006). In the presence of a lack of experience, the likely outcomes have been shown to be low production and income for farmers (Mafimisebi *et al.*, 2012). Result from Table 1 shows that about 49.38 % had production experience of 1-5 years in the charcoal production industry, only 16.25 % had production experience of 6-10 years. This implies that most charcoal producers had the necessary experience to engage in meaningful charcoal production especially when added with soft agricultural credit.

Access to credit was relatively high among the charcoal producers. Overall, 68.12 % of the charcoal producers had access to credit. Access to credit enables producers to overcome their financial constraints associated with production and adoption of innovations. It also encourages group formation and learning. The result also indicates that 31.88 % of the overall respondents had no access to credit. Similarly, about 70.62 % of the respondents claimed to secure their credit from friends and relatives while 29.38 % from local money lenders.

However, none of the charcoal producers claimed to have gained credit from any formal institution. The implication is that majority of the charcoal producers depend heavily on informal institution in obtaining credit with high interest rate.

Table 1: Socio economic characteristics of charcoal producers in Bauchi State

| Variable | frequency | percentages |
|---------------------------------|------------------|--------------------|
| Gender | | |
| Male | 160 | 100.00 |
| Age | | |
| 19-25 | 52 | 32.50 |
| 26-31 | 92 | 57.51 |
| 32-38 | 9 | 5.61 |
| 39-45 | 5 | 3.13 |
| 46-51 | 2 | 1.25 |
| Household size | | |
| 1-5 | 69 | 43.13 |
| 6-10 | 56 | 35.00 |
| 11-15 | 22 | 13.75 |
| 16-20 | 13 | 8.12 |
| Production experience | | |
| 1-5 | 79 | 49.38 |
| 6-10 | 26 | 16.25 |
| 11-15 | 30 | 18.75 |
| 16-20 | 25 | 16.63 |
| Access to credit | | |
| Yes | 109 | 68.12 |
| No | 51 | 31.88 |
| Source of credit | | |
| Local money lenders | 47 | 29.38 |
| Commercial bank | - | - |
| Friends and relatives | 113 | 70.62 |
| Main source of capital | | |
| Farming | 43 | 28.87 |
| Charcoal production and farming | 98 | 61.25 |
| Trading | 19 | 11.87 |
| Total | 160 | 100.00 |

Source; field survey, 2020

Positive and negative impact of charcoal production on Livelihood Status

Impacts of charcoal occur at every stage in the production and consumption chain but here basically we focus on positive and negative impact on the individual producer and the ecosystems. Impact of charcoal production on livelihood status of respondents was found to be positive according to the response given by the respondents, despite the poor resources of charcoal producers. Outcomes recorded as shown in Table 2 revealed that the respondents ability to has saving and investment 36.25 %, followed by ability to purchase farm inputs 26.88 %; Additionally, impact of charcoal production activities as stated by the respondents reflected in ability of charcoal producers to support their family with charcoal proceeds 23.13 %. However, only 1.87 % claimed to gained access to formal health care service as well.

On the other hand, result from Table 2 revealed that 46.25 % of charcoal producers are feeling exhausted after work, followed by 22.50 % that experienced low agricultural yield, because of devoting much of their time to charcoal production during raining season. However, 13.12 % believed that charcoal production causes land degradation. Only 18.12 % are of the opinion that charcoal producers are at the risk of respiratory illness due to exposure to kiln smoking and dust.

Table 2: Positive impact of charcoal production on Livelihood Status of Respondents

| Variable | frequency | percentages |
|--|-----------|-------------|
| Positive impact | | |
| Purchase of farm inputs | 43 | 26.88 |
| Pay for farm labour | 12 | 7.50 |
| Children education | 7 | 4.38 |
| Investment and saving | 58 | 36.25 |
| Support family members with charcoal proceeds | 37 | 23.13 |
| Access to formal health service | 3 | 1.87 |
| Negative impact | | |
| Exhaustion after work | 74 | 46.25 |
| Low agricultural outputs | 36 | 22.50 |
| Causes land degradation | 21 | 13.12 |
| Risk of respiratory illness from kiln smoke and dust | 29 | 18.12 |
| Total | 160 | 100.00 |

Source: Field survey, 2020

Constraints faced by charcoal producers

Constraints limiting charcoal production and handling need to be identified and provide a basis for appropriate intervention. Result from Table 3 shows that 21.68 %, of respondents considered the job as much harder and dangerous work as alternatives to agricultural labour, followed by insufficient funds 14.69 %. Others complained of collecting bribes by forestry officials 12.90 % .On the other hand, some respondents considered seasonality and availability of trees which make producers to relax from production during raining season 12.19 %. However, 12.72 % complained of poor roads network. In addition 12.00 % and 8.06 % complained of in charcoal breakages and confiscation of the charcoal by Government forestry official.

Table 3: Constraints faced by charcoal producers in Bauchi state

| Variable | Frequency | Percentages |
|---------------------------------------|-----------|-------------|
| Much harder and dangerous work | 121 | 21.68 |
| Seasonality and availability of trees | 68 | 12.19 |
| In sufficient fund | 82 | 14.69 |
| Charcoal breakages | 67 | 12.00 |
| Poor road network | 71 | 12.72 |
| Confiscation | 45 | 8.06 |
| In adequate technical knowledge | 32 | 5.73 |
| Collection of bribes | 72 | 12.90 |
| Total | 558* | 100.00 |

*Multiple responses recorded

Source: Field survey data, 2020

CONCLUSIONS AND OUTLOOK

From the findings, it was realised that charcoal production in the study area largely depend on natural forest where by natural regeneration is the source of forest recovery. Deforestation is main source of concern in the area. Based on the outcome the following recommendations were made,

- Government and traditional rulers should monitored and regulate the activities of charcoal production sector by imposing taxes and restriction on the type of trees to be cut in order to curb the menace of deforestation in the area.
- There is need to organise the existing informal structure of charcoal producers and find ways for supporting them financially.
- Based on the findings, charcoal producers are male and young could be detrimental to the development of the sector. As gender segregation are unlikely to incorporate the need for women and aged in the charcoal production policies.
- Artificial plantation should be encouraged in wood fuel deficit area and the State at large.
- Creation of job opportunities to our teeming youth will reduce the rate of young going in to charcoal production industry.
- The study draw data from only two Local Government Areas in the State .There is need for additional empirical research on charcoal base livelihood and characterization of charcoal producers for the entire State.

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