

Benefits of Yankari Game Reserve to its Host Communities

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Abstract: *This study determines the benefits of Yankari Game Reserve (YGR) to its host communities. Applying a systematic random sampling approach, 320 respondents were identified around the host communities and administered with semi-structured questionnaire to elicit data that were analyzed using descriptive statistics. Male and female respondents were 76.3% and 23.7% respectively indicating male dominance over female. The greater proportion (63.1%) of the respondents had no western education, while 36.9% had. A higher proportion (81.6%) of the respondents was married while 18.4% was single. By aggregate 51.2% of the respondents comprised 10 household members and above, while 48.8% were below 10 members. The benefits of YGR to host communities were collection of eight categories of non-timber forest products with fuel-wood (56.3%) and bushmeat (16.9%) dominating. Other benefits were power supply (40.6%), health facilities (21.8%), water supply (18.8%), and Good roads and Education facilities (18.8%). Host communities should be involved in the management of YGR, and management should ensure a more equitable and sustainable provision of basic infrastructural facilities and social amenities to the host communities. This will engender a more sustainable management and conservation of YGR.*

Keywords: *Benefits, host communities, infrastructural facilities, non-timber forest products, social amenities, Yankari game reserve.*

I. Introduction

Yankari Game Reserve (YGR) is a protected area. Protected areas (PAs) are recognized as critical instruments in achieving in-situ conservation of nature, maintaining ecosystem resilience and provision of ecosystem services; water supply, food production, public health and reduction of the impacts of natural disasters among others. YGR, which is one of the oldest PAs in Nigeria, was first designated as a game reserve by the British colonialists in 1956 [1]. The establishment of this reserve marked the beginning of organized approach at Wildlife conservation in Nigeria [1, 2]. Following the adoption of National Resource Conservation Strategy in 1985 and the subsequent promulgation of Decree No.36 of 1991, YGR was upgraded to a National Park [4]. This was reverted to its initial status of a Game Reserve and handed over to the Bauchi State Government in 2006 [1].

The World conservation union (IUCN) defined PA as ‘an area of land or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective measures’ [5]. Thus, conventionally, protected areas are set aside from human exploitation. When this happens, host communities are substantially denied of the numerous benefits they hitherto derive from the resources being protected. However, research has shown that with good governance, PAs can still play significant roles in sustaining their host communities [6, 7].

Various projects linking conservation and development have been implemented around protected areas with a trust to generating benefits for local communities hitherto deprived of such benefits by protection policies [8]. The Nigeria Park Service in 1981 initiated Support Zone Community Programme, as an interventionist’s measure, to dissuade host communities from tempering with conservation efforts in protected areas [9, 10]. This was to be articulated by empowering the host communities economically and also providing them with other benefits like basic infrastructures and social amenities. These benefits are expected incentives for people to perceive resource and environmental conservation positively [11] and thus support it.

Correlation between conservation benefits and positive attitudes towards conservation has been confirmed by many studies [12, 13]. Thus, providing infrastructures and welfare needs of host communities to PAs will boost community development and simultaneously reduce pressure on the PA. Corroborating this claim, Salafsky [14] asserts that the financial, economic and social benefits accruing to communities close to forests, reefs, and other natural habitats can stimulate such communities to actively conserve and spearhead the sustainable utilization of those habitats. The successful conservation of natural resources under the protected area management approach therefore depends largely on the extent to which the different interests of the stakeholders are harmonized

Thus, from the foregoing discussion, enhancing the wellbeing of host communities to protected areas is sine-qua-non to the efficient management and conservation of resources in such PAs. Yes, host community members may not have economic needs to engage in poaching and other encroachments on PAs. Rather, they will be more proactive at protecting the area; knowing that they stand to derive more benefits with its presence. In view of the above, providing information on the current status of host community benefits from Yankari Game Reserve (YGR) would be very useful for managerial decisions about the reserve. It would also be useful in enlightening host communities towards supporting sustainable management of the reserve. This study is therefore set to determine the benefits of YGR to the host communities.

II. Methodology

2.1 Study Area

The study was carried out at Yankari Game Reserve (YGR), which spans along 9° 50` N and 10° 30` E within the area of Bauchi State, Nigeria. It is surrounded by 15 host communities within the range of 1-5km [15]. The Gaji and Yashi rivers dissect the Reserve giving succor and security to both fauna and flora within the Reserve. The Reserve also contain four natural warm springs, Wikki, Gwana, Dimiland and Mawulgo of which only Wikki is developed for tourists' recreation. Tourist attractions include the Marshall Caves, Dukkey wells, Shaushau and Ampara ancient iron smelting sites. 'Dogonruwa' rock paintings among others. The host communities are predominantly subsistent farmers and hunters with few engaged in petty trading businesses.

2.2 Sampling Procedure

A sampling intensity of 50% was applied to randomly select eight host communities out of 15 around YGR for the study. In each host community, a systematic random sampling approach was used to identify 40 households from which the most senior male or female household member present was selected as respondent. Thus, a sample of 320 respondents was identified within the adjoining communities for the study.

2.3 Data collection and Analysis

Data were collected using 320 copies of a semi-structured questionnaire. This was administered on 320 respondents sampled from the households of the selected host communities to elicit information on their demographic attributes and benefits derived from YGR. These were analyzed using simple descriptive statistics.

III. Results and Discussion

3.1 Result

3.1.1 Demographic Attributes of Host Community Members to YGR

The result in TABLE 1 presents the demographic attributes of host community members to YGR. Sex distribution of the household heads was 76.3% and 23.7% males and females respectively. This means the household heads of host community members to YGR were male dominated.

Educational qualifications show that 35.6% had no formal education, 27.5% acquired Koranic Education, while 7.5%, 11.9%, 8.1% and 9.4% respectively acquired primary, secondary, Polytechnic and university education. The greater proportion; 63.1% (i.e. 35.6% + 27.5%) of the host community members had no western education. Generally, the host community members to YGR had low level of education. The marital status showed that 81.6% of the host community members were married while 18.4% were single. This means most of the host community members to YGR were married.

The result on household size shows that most households (33.1%) comprise of 15 members and above. The next were households with 5-9 members (28.8%), 0-4 members (20.0%), while 18.1% of the households comprise 10-14 members. By aggregate 51.2% (i.e. 33.1% + 18.1%) of the households in host communities to YGR comprise 10 members and above, which could be adjoined large.

Table 1: Demographic Attributes of Host Community Members to Yankari Game Reserve.

| Demographic attributes | Frequency | percentage |
|----------------------------------|-----------|------------|
| Sex | | |
| Male | 244 | 76.3 |
| Female | 76 | 23.7 |
| Total | 320 | 100.0 |
| Educational qualification | | |
| Non formal Education | 144 | 35.6 |
| Koranic Education | 88 | 27.5 |
| Primary School | 24 | 7.5 |
| Secondary School | 38 | 11.9 |
| NCE/Polytechnic Education | 26 | 8.1 |
| University | 30 | 9.4 |
| Total | 320 | 100.0 |

| | | |
|-----------------------|-----|-------|
| Marital Status | | |
| Married | 261 | 81.6 |
| Single | 59 | 18.4 |
| Total | 320 | 100.0 |
| House size | | |
| 0 – 4 | 64 | 20.0 |
| 5 – 9 | 92 | 28.8 |
| 10 – 14 | 58 | 18.1 |
| 15 and above | 106 | 33.1 |
| Total | 320 | 100.0 |

3.1.2 Infrastructural Benefits provided by YGR to Host Communities

The result on benefits of YGR to its host communities presented in Table 2 revealed that, 71.3% of the respondents agreed that the host communities derived lots of benefit from YGR, while 28.7% of the respondents disagreed.

Responses on the kinds of benefits host communities derived from YGR include power supply (40.6%), health facilities (21.8%) and water supply (18.8%) and Good roads and Education facilities (18.8%). In general, power supply (transformers for stepping down power to the communities) was the most common benefit respondents knew of.

The following host communities were provided with transformers to improve power supply; they include Bogwas, Mainamaji, Garin, Dugudi, and Gaji. Similarly, dispensaries equipped with drugs were constructed in Gale, Mainamaji, and Gwala communities to improve primary health care for the people. Again, boreholes and concrete wells were provided in Dugudi, Bogwas, Kwala, and Mainamaji communities to boost water supply. Improved access roads and class room blocks were provided in Dugudi, Mainamaji, Garin, and Gaji to boost transportation and education.

Mainamaji had more of these infrastructural amenities, while Jada had none of these facilities. The presence of these facilities in Mainamaji may be due to its proximity to the main entrance to YGR. Generally, infrastructures and social amenities were poorly provided to the host communities.

Table 2: Infrastructural Benefits Provided by Yankari Game Reserve to Host Communities

| Benefits Category | Frequency | Percentages | Host communities Benefiting |
|----------------------------------|-----------|-------------|--|
| Awareness of Benefits | | | |
| Yes | 228 | 71.3 | |
| No | 92 | 28.7 | |
| Total | 320 | 100.0 | |
| Benefits Derived | | | |
| Water Supply | 60 | 18.8 | Dugudi, Bogwas, Kwala, Mainamaji |
| Power Supply | 130 | 40.6 | Bogwas, Mainamaji, Garin, Dugudi, Gaji |
| Health facilities | 70 | 21.8 | Gale, Mainamaji, Gwala |
| Good roads/ Education facilities | 60 | 18.8 | Dugudi, Mainamaji, Garin, Gaji |
| Total | 320 | 100.0 | |

3.1.3 Collection of Non-Timber Forest Products from YGR by the Host Communities

The result on non-timber forest products (NTFPs) host communities collect from YGR is presented in Fig. 1. Majority of the respondents (56.3%) collected fuel-wood from YGR. Other NTFPs collected were bush-meat (16.9%), medicinal plants (9.4%), mushroom (5.5%), vegetables (5.0%) and seed (3.8%). Fruits (2.5%) and snails (0.6%) were the least NTFPs host communities collected from YGR. This means, fuel-wood and bush-meat were the key NTFPs most of the host community members collected from YGR.

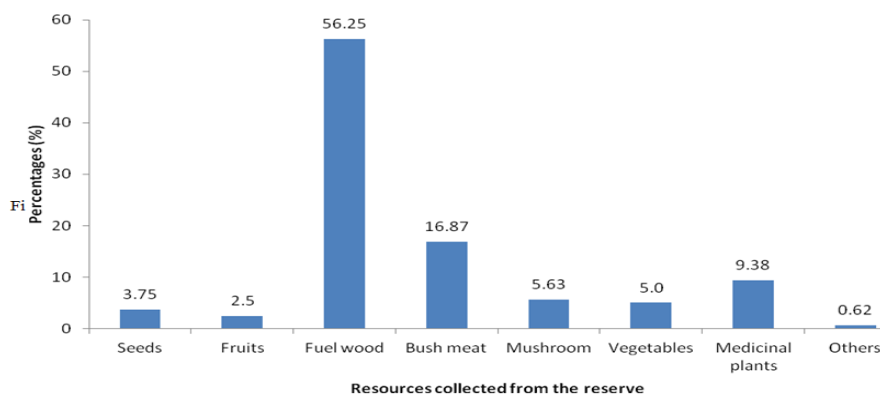


Fig 1: Resources host community members collect from Yankari game reserve

3.2 Discussion

3.2.1 Demographic attributes of Host communities to YGR

The demographic attributes of host community members to YGR does not favor the healthy growth and development of the reserve if external and deliberate intervention is not provided. For instance, the low educational status of host community members, high proportion of married persons coupled with large household sizes portends a high dependence of host community members on the reserve for sustenance. Similarly, the dominance of male respondents as heads of households within the host communities to YGR foreshadows higher risk of encroachment on the reserve, particularly that men are said to be more destructive in harvesting products from the forest. The provision of infrastructural facilities and social amenities as well as empowering the host communities socially and economically would engender sustained management and conservation of YGR.

3.2.2 Infrastructural Benefits provided by YGR to Host Communities

The host communities received direct and indirect benefits from YGR. This formed part of the benefits derivable in locations with such institutions. Corroborating this claim, Lepetu and Oladele, [16] reported that natural forests under conservation in Botswana are surrounded by village communities whose livelihoods, through participatory management, are directly or indirectly bound by exploiting resources of the forests as they are economic buffers and safety nets for poor households. YGR provides bush-meat and other non-timber forest products like fruits, vegetable and firewood to adjoining communities. However, infrastructure and social amenities were ill supplied. Thus, the corporate social responsibility of the Reserve to the community was not fulfilled. Meduna [17] opined that this may cause conflict and protected area management challenges.

The harvesting of bush-meat and other NTFPs inside the reserve in order to satisfy economic and social needs of host community members portends a management threat. The locals should not be expected to still appreciate the significance of animals and other resources when their interests are not being addressed. Due to the carving out of land for the national parks and reserves, local communities lost invaluable herding resources and agricultural lands. In this instance, local people bear the cost of conservation because of foregoing the opportunity to use their land in alternate ways [18].

IV. Conclusion

The demographic attributes of host community members to YGR does not favor the healthy growth and development of the reserve without deliberate external interventions at mitigating the effects of these attributes. Direct benefits of YGR to host community members were harvesting of NTFPs mainly fuel-wood and bush-meat. Indirect benefits like infrastructures and social amenities were poorly provided. Thus, these portend threats to effective park management and a cracked relationship between host communities and the management of YGR. Policy makers and other stakeholders in the management of YGR may use this information to plan for a more equitable and sustainable provision of basic infrastructural facilities and social amenities to the host communities to the Reserve. Furthermore, the host communities should be empowered economically and socially as this may engender a more positive relationship between park management and the host communities.

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