



ASSESSMENT OF FOREST OFFENCES IN KURMI LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA



S.S. Zaku* and A.E. Danladi

Department of Forestry & Wild Life Management, Federal University Wukari, Taraba State, Nigeria

*Corresponding author: sszaku@yahoo.com

Received: June 12, 2017 Accepted: September 15, 2017

Abstract: Forest resources are lost every year in Kurmi Local Government Area (LGA) of Taraba State. This loss has been attributed to various forms of forest offences. However, these various forms of forest offences are not documented. Therefore, an assessment of forest offences in Kurmi L.G.A of Taraba state was investigated. Seven forest offences were identified: illegal felling of trees (18.9%), illegal farming (17.1%), setting of fire in the forest (16.6%), illegal collection of NTFPs (16%) and hunting in a forest reserve (11.4%), felling of undersized trees (10.3%) and unlawful installation of saw mills and other wood processing machines (9.7%). Similarly, factors such as weak penalties, poverty, shortage of manpower, lack of motivation of forestry staff and insufficient supply of forest resources to meet people's demand with odds ratio 19.53, 3523.51, 5359.12, 245.67 and 253.69 were found to promote forest offences in the study area. Percentages of the various methods for checking forest offences were: frequent patrol (16%), imprisonment (14.3%), strict legal actions (14.3%), educating the rural people on the importance of forestry to the environment (12.6%) and mounting of check points (11.4%), joint forest management (11.4%), compounding of forest resources (10.3%) and payment of fines (9.7%). The study recommended government intervention in terms of transportation, equipment, communication and financial support for the forestry staff in the study area.

Keywords: Constituency, forest offences, Kurmi LGA, poverty

Introduction

Forest offence has been legally defined as unauthorized activities, especially within constituted forests. They include: timber harvest that deliberately exceed harvesting limits, using corrupt means to gain access to forests, disobeying protected areas and forest laws or capitalizing on gaps in legislation (FAO, 2007). According to Adejumo *et al.* (2014) in a study in Ondo State, illegal felling of trees is one of the major forest offences in Ondo State. He also listed: illegal collection of NTFPs, unlawful installation of sawmills and other wood processing machines, felling of undersize trees, setting of fire in a forest reserve and illegal hunting in a forest reserve as major forest offences committed in Ondo State. Similarly, Eke and Osakwe, (1986) in a study in Kainji lake national park reported poaching as a major forest offence committed in the park while Bisong, (2001) in a study in Calabar opined that, illegal farming in forest reserves is a major forest offence in Calabar. Nevertheless, some factors promote forest offences.

According to Deeks (1996); Bland and Altman (2000), weak penalties, lack of motivation and staff shortage are factors that promote forest offences in Nigeria. In another study in south-west Nigeria, poverty has been a major factor responsible for forest offences (Adejumo *et al.*, 2014). According to Banjo and Abu, (2014), staff welfare is a factor that promotes forest offences in Nigeria.

Similarly, forest offences must be checked or controlled if sustained yield is to be attained. According to FAO (2007) in a study in Rome on methods of checking forest offences advocated, strict legal actions. Similarly, Ekeke and Osakwe (1986) in a study in Kainji Lake National Park recommended frequent patrols as a solution to checking poaching in Kainji National Park while Ajayi, (1991) in a study in Ogun, Ondo and Oyo States, opined that, mounting of check points by forestry staff will help to check forest offences in the three States mentioned above. Adejumo *et al.* (2014) in a study on illegal logging in Ondo State, recommended compounding of forest resources, payment of fines and imprisonment of forest offenders to serve as deterrent to others. Headly (2003) in a study in Jamaica recommended participatory forest management and educating the local people on the importance

of forestry to the environment as a solution to forest offences committed in the area.

Assessing the various forest offences, the factors that promote their occurrence as well as the way by which these forest offences can be controlled is therefore necessary in Kurmi LGA of Taraba State if her highly endowed forest resources are to be maintained.

Materials and Methods

Description and location of the study area

Kurmi Local Government Area (LGA) is one of the sixteen Local Government Areas of Taraba State. It is named Kurmi because the area is forested. Kurmi's capital is Baissa. Kurmi is located between latitude $6^{\circ} 30'1$ & $9^{\circ} 36'1$ N and longitude $9^{\circ} 10'1$ & $11^{\circ} 50'1$ E (Fig. 1). Kurmi is bounded in the West by Donga and Takum LGA and on the East by Gashaka LGA. It is bounded by Bali LGA on the Northern part, Ussa LGA on the Western part and Sardauna LGA on the Southern part (Fig. 1).

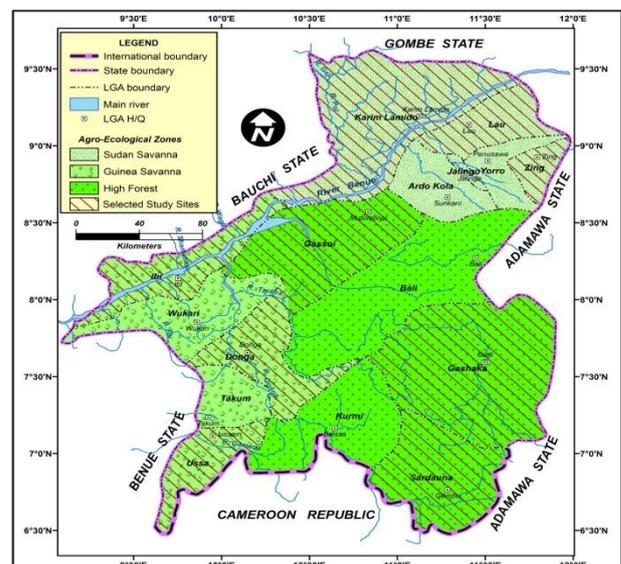


Fig. 1: Map of Taraba State showing the study area

Source: Department of Geography, University of Ibadan

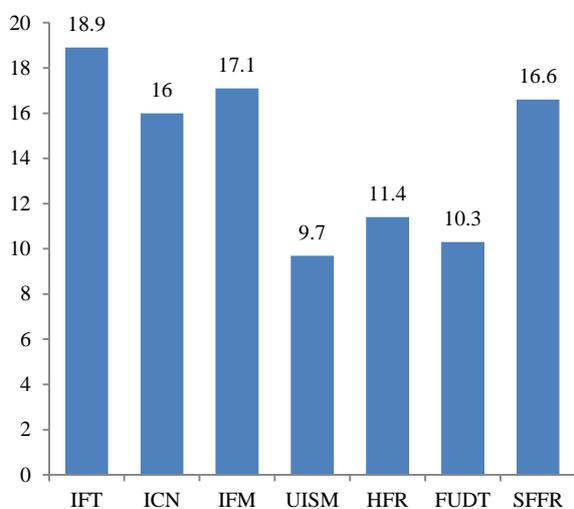
Sampling procedure and data analysis

A three stage sampling technique was adopted using semi-structured questionnaires. 185 semi-structured questionnaires were administered using 30% sampling intensity (proportion to size) to Harvesters of NTFPs, Marketers of forest products, Hunters, Fuel-wood collectors and charcoal producers; Saw millers and Timber contractors, Farmers and Forestry staff to generate data for this study with only 175 retrieved. Forest offences committed, factors that promote them as well as the various ways by which they can be checked or controlled were evaluated as indices for the assessment of forest offences in the study area (Diaw *et al.*, 2002). Data generated were analyzed using descriptive statistics and logistic regression at $\alpha_{0.05}$ (Deeks, 1996; Bland and Altman, 2000).

Result and Discussion

Forest offenses committed in KurmiLGA of Taraba State

The result on forest offenses committed in KurmiL.G.A. of Taraba State indicated that, 33 (18.9%) of the respondents reported illegal felling of trees; 28 (16%) reported illegal collection of Non-Timber forest products (NTFPs); 30 (17.1%) reported illegal farming; 17 (9.7%) reported unlawful installation of saw-mills and other wood processing machines; 20 (11.4%) reported hunting in a forest reserve. Similarly, 18 (10.3%) reported felling of undersized trees while 29 (16.6%) reported setting of fire in a forest reserve as the offences committed in the study area (Fig. 2).



IFT = Illegal felling of trees, ICN = Illegal collection of Non-Timber Forest Products, IFM = Illegal farming in a protected area, UISM = Unlawful installation of sawmills and other wood processing machines, HFR = Hunting in a forest reserve, FUDT = Felling of undersize trees, SFFR = Setting fire in a forest reserve

Fig.2: Forest offences committed in KurmiLGA

Factors that promote forest offences in KurmiLGA of Taraba State

The result of logistic regression on factors that promote forest offences in KurmiLGA of Taraba State gave significant fit to the data judging from χ^2 value that was significant at $p < 0.05$. Shortage of manpower (SMP), Poverty (PV), Insufficient supply of forest resources to meet people’s demand (ISFR), Lack of motivation of forestry staff (LMFS) and Weak penalties (WP) had the highest odds-ratios of 5359.12, 3523.51, 253.69, 245.67 and 19.53, respectively while sex (SEX), Educational status (EDS), corruption (CT), marital status (MS) and age (AGE) had the lowest odds-ratios of 0.00, respectively. The factors that may promote forest offences in KurmiLGA indicated that, shortage of manpower (SMP) mentioned by the respondents was the most significant factor

that promote forest offences in KurmiLGA with odds – ratio 5359.12 followed by poverty (PV) (3523.51), insufficient supply of forest resources to meet people’s demand (ISFR) (253.69), lack of motivation of forestry staff (LMFS) (245.67) and weak penalties (WP) (19.53).

$$FOC_{(KM)} = WP + PV + CT + SMP + LMFS + ISFR + EDS + AGE + MS + SEX \text{ ----- Equ. 1}$$

$$FOC_{(KM)} = 1.79 + 2.97 WP + 8.17 PV + -10.20 CT + 8.59 SMP + 5.50 LMFS + 5.54 ISFR + -10.83 EDS + -6.87 AGE + -9.35 MS + -50.15 SEX \text{ ----- Equ. 2}$$

N = 175, Final loss = 28.71, Chi- Square (df,10) = 167.60, P = 0.00

Odds ratio (unitchange): constant (6.00); WP (19.53); PV (3523.51); CT (0.00); SMP (5359.12); LMFS (245.67); ISFR (253.69); EDS (0.00); AGE (0.00); MS (0.00); SEX (0.00), (Deeks, 1996; Bland and Altman, 2000). The findings of this study corroborated Deeks, (1996); Bland and Altman (2000) that, the logistic model provides information on the consequence of one variable on the other.

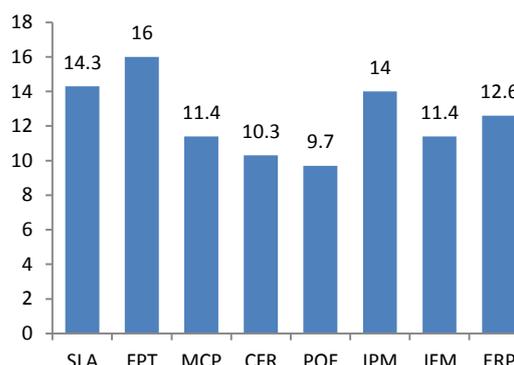
Table 1: Logistic binary nature of factors that promote forest offences in the study area

| Dependent variable(FOC):Factor that promote forest offences committed (Presence=1; Absence = 0) | | |
|---|-------------|------------|
| Independent variables | Coefficient | Odds-ratio |
| Whether WP promote forest offences in KLGA | 2.97 | 19.52* |
| Whether PV promote forest offences in KLGA | 8.17 | 3523.51* |
| Whether CT promote forest offences in KLGA | -10.20 | 0.00ns |
| Whether SMP promote forest offences in KLGA | 8.59 | 5359.12* |
| Whether LMFS promotes forest offences in KLGA | 5.50 | 245.67* |
| Whether ISFR promote forest offences in KLGA | 5.53 | 253.69* |
| Whether EDS promote forest offences in KLGA | -10.83 | 0.00ns |
| Whether AGE promote forest offences in KLGA | -6.87 | 0.00ns |
| Whether MS promote forest offences in KLGA | -9.35 | 0.00ns |
| Whether SEX promote forest offences in KLGA | -50.15 | 0.00 ns |
| Model χ^2 (df = 10) = 167.60 | p=0.0000* | |

Note $p < 0.05$; ns = Not significant; * = Signifi; KLGA = Kurmi local government area

Methods of checking forest offenses in KurmiLGA of Taraba State

The result on methods for checking forest offences in KurmiLGA of Taraba State showed that, 25 (14.3%) indicated strict legal actions; 28 (16%) indicated frequent patrol while 20 (11.4%) indicated mounting of check points as a way of checking forest offences. Similarly, 18 (10.3%) indicated compounding as a method to check forest offence; 17 (9.7%) reported payments of fines and 25 (14.3%) reported imprisonment as a method to check forest offences. Also, 20 (11.4%) reported participating in forest management by communities as a way of checking forest offence and 22 (12.6%) reported that educating the rural people on the importance of forestry to their environment will help in checking forest offenses (Fig. 3).



SLA = Strict legal action, FPT = Frequent patrols, MCP = Mounting of check points, CFR = Compounding of forest resources from forest offenders, POF = Payment of fines by forest offenders, IPM = Imprisonment of forest offenders, JFM = Joint forest management; ERP = Educating rural people on the importance forestry to the environment

Fig.3: Methods of checking forest offences in KurmiLGA

The findings of this study support Ekeke and Osakwe (1986), Omorodion and Ebana (1994), Headly (2003), FAO (2007), Lyimo and Kangelawe (2010), Banjo and Abu (2014) and Adejumo *et al.* (2014).

Conclusion

Combating forest offenses is a complex process that requires the commitment by all levels and all sectors of government and civil society. Preventing, deterring and detecting forest offenses require determination, time and consistency, as well as a comprehensive understanding of the underlying causes and drivers of such criminal behaviour.

Based on the findings of this study, the followings are recommended:

- ❖ Government should provide the forestry department patrol team with the needed support such as finances, vehicles and equipment.
- ❖ The possession of permits and license are therefore advocated
- ❖ Communities should be engaged in the management of the forest. They should also be involved in the sharing of the forest benefits.
- ❖ Local people living in the communities should be educated on the importance of the forest to their environment.
- ❖ Saw millers should register their wood processing plants with the department of forestry and should be given permit or license and this should be renewed yearly with the Chief conservator or Director of forestry before they can be engaged in saw milling. Transporters of logs should also register their timber lorries with the forestry department.

References

Adejumo AA, Olawuyi EB & Kolade RI 2014. Nature of illegal logging Activities and its economic implication in Ondo state, Nigeria. Sudaanu-Sahelian landscapes and Renewable Natural Resources in Nigeria. (Eds, Ogunsawo OY, Akinwale AO, Azeez O, Adekunle VAJ & Adewole WA). In: the *Proceedings of the 37th Annual Conference of Forestry Association of Nigeria* held in Minna, Niger state, 9th-14th Nov. 2014, pp. 780-789.

Ajayi ST 1991. The control of forest offences in Ogun, Ondo and Oyo States of Nigeria. *Nigerian Journal of Forestry*, 21(1&2): 25-28.

Banjo AA & Abu JE 2014. Community involvement in forest management. *Proceedings of the 37th Annual Conference*

of *Forestry Association of Nigeria* held in Minna-Niger State, Nigeria. 9th -14th November, 2014, pp. 250-251.

Bisong FE 2001. Farming systems and forest biodiversity conservation towards a theory and model for sustainable natural resource management. In: Bisong FE (ed) *Natural resource use and conservation systems for sustainable rural development*. Baaj International Company, Calabar, Spp., pp. 162-176.

Bland JM & Altman DG 2000. The odds ratio. *British Medical Journal*, 230: 1468.

Casper HU 2001. Regional dynamics of hunting and bushmeat trade and utilization in the rain forest. Perspective towards a blue-print for Action (eds) Bakar MI, da Fonseca GAB, Mittermeier CG Rylands AB & Painemilla KW *Conservation International*, Washington DC, USA, pp. 11-16.

Daiw K, Blay D & Adu-Anning C 2002. Socio-economic survey of forest fringe communities. Krokosua Hills Forest Reserve. *A Report Submitted to the Forestry Commission of Ghana*.

Deeks J 1996. Swots corner: What is an odds ratio? *Bandolier Books*, 3(25): 6-7.

Ekeke BA & Osakwe ME 1986. Bush burning and poaching: impact on large mammal distribution at Kainji lake national park. In: Oguntala AB (editor). *The Challenge of Deforestation in Nigeria. F.A.N Ibadan*, pp. 697-705.

FAO 2007. State of the world's forests. *FAO, Rome*.

FAO 2010. Forest Law Enforcement (Forest Law Compliance and Governance). Rome- Italy. (<http://www.fao.org/forestry/law/en/>). Accessed 6th September, 2015.

Headley M 2003. Participatory forest management. *The Jamaica Forestry Department Experience, UNASLYVA*, 54: 214-215.

Lyimo JG & Kangelawe RY 2010. Population dynamics, rural livelihoods and environmental degradation: Some experience from Tanzania. *Environment Development and Sustainability*, 12(6): 985-997.

Omorodion FI & Ebana R 1994. The impact of deforestation in Cross-River State of Nigeria. *Report prepared for Cross-River State Forestry Project*.

Osembo GJ 1990. Poaching in wildlife conservation: The experience in Nigeria. *Nigerian Journal of Forestry*, 20(1&2): 35-39.

Ondo state. Paper presented at a one day induction course for the newly recruited forestry officers in Ondo state on 5th June 2001, p. 14.

Zaku SS 2013a. Harvesting and utilization of non-timber forest products by forest communities in Gashaka-Gumti National Park. *J. Vocational & Technical Educ, ABU, Zaria*, 8(1): 15-22.

Zaku SS 2013b. The prevalence of non-timber forest products in Gashaka-Gumti National Park. *J. Vocational & Technical Educ, ABU, Zaria*, 8(1): 62-80.