CHAPTER 3

Assessment of Conflicts between Government Gazetted Forest Reserves and Agricultural Land Uses in Southwest Nigeria

B. O. Agbeja

Department of Social and Environmental Forestry, Faculty of Renewable Natural Resources, University of Ibadan, Ibadan, Nigeria. email: olasinagbeja@yahoo.com; olasinaa@yahoo.com

Abstract

The study assessed conflicts between Government Gazetted Forest Reserves and Agricultural Land Uses in Southwest Nigeria with a view to harmonising land uses and promoting peaceful co-existence. The specific objectives were to examine the status of Gazetted Forest Reserves and identify conflicting areas with Agricultural Land Uses in the study area; verify land scarcity in the landowning communities; identify prevailing causes and effects of the conflicts; and investigate factors that would harmonize gazetted forest reserves and agricultural land uses. Data collection methods used were landsat satellite imageries and structured questionnaire. Results indicated that the original sizes of gazetted forest reserves in Ilaro, Omo, Akure, Oluwa, Ago-owu, Shasha, Ijaiye and Gambari were 44.42, 1305, 73.53, 859.87, 342.01, 319.68, 284.91 and 114km^2, respectively. However, from 1990 to 2017 (27 Years), the forest cover had been reduced to 37.84, 699.80, 38.45, 686.74, 240.70, 218.33, 135.36 and 56.57 km^2. The percentage changes in forest cover from 1990 to 2017 were -9.41, -35.79, -33.18, -11.02, -17.89, -13.69, -19.00 and -47.64. Land use rights were contradictory in the policies enunciated in Agricultural and Forestry sectors. The respondents affirmed the scarcity of land for farming as very high (86.32%). The causes and effects of land use conflicts were categorised under three main dimensions as land use decree/policy; institutional and management; and stakeholders.The extent to which the policies recognize and integrate Landowning Communities has remained a challenge characterised by feeble implemantation. Harmonization of Government Gazetted Forest Reserve and Agricultural Land Uses (HGGFRALU) was best predicted by Intensive Management of Agricultural Land in the study Area (IMALA) with odds ratio 615.52. There were a lot of conflicts between Gazetted Forest Reserves and Agricultural Land Uses in Ogun, Ondo, Osun and Oyo States, Nigeria. There is the need to integrate conflict management strategies in national policy frameworks.

Keywords: Gazetted forest reserve, land hunger, agricultural land use, conflicts, forest cover

Introduction

The world is beset with conflicts on limited natural resources such as land, forest, agriculture, water and minerals (Anderson *et al.* ,1996; Ayling and Kelly, 1997). Societies everywhere have competed for natural resources to enhance their livelihoods. Therefore, Marfo (2006) asserted that it is not surprising that natural resources management has been associated with conflicts due to the multiple actors or stakeholders with diverse interests, perceptions, values and claims

involved in the use and management of these resources. Schmid (1998) refers to conflict as the situation where two or more parties perceive their interests as incompatible and express hostile attitudes or pursue their interest through actions that damage other parties.

Land use has been a source of conflict between Agricultural and forestry sectors in many nations of the world. There are overwhelming evidences of conflicts among Forestry, Agriculture and Land Use Policies in the world (Edmunds and Wollenberg, 2001; ITTO, 2000; ITTO, 2006). Stakeholders of land use according to ITTO (2002) have litany of demands-for remuneration, employment, equity, improved infrastructure, secure tenure, etc. Agricultural production and forest conservation are two vital natural resources in the rural land use development and closely integrated to each other in a long history of human civilization. However, the promotion of one often leads to destruction of the other. Higher agricultural production improves farmers' well being as well as higher economic growth (Angelsen and Kaimowityz, 2001). On the other hand, there is an international concern about the adverse consequences on tropical deforestation resulting from forest clearing which in one way or the other, contributes to climate change, biodiversity loss, reduced timber supply, flooding and soil degradation that in turn affects economic activity as well as people's livelihoods.

In Nigeria, Land is a common denominator for Agricultural and Forestry sectors. Agriculture and the forest resources land supports are principal livelihood assets. However, various State Governments in Nigeria have failed to consult adequately on land use and have imposed policies which lack popular support and understanding as a result of an obsolete land use decree of 1978 that vested all lands comprised in the territory of each state of the Federal Republic of Nigeria in the Governor of that State (Land Use Decree, 1978). This has been creating problems between Agricultural and forestry sectors. After colonial administration in the early 60s, there were no apparent synergies between National Agricultural and Forestry policies that recognise that in a nation, 20 to 25 percent of the land mass should be under forest reserve. In the constitution, the Federal Government allows each state to manage its forest resources/reserves as it deems fit (Agbeja, 2004). Therefore, 10 percent forest reserves bequeathed to Nigeria by Colonial administration instead of increasing has since been rapidly reducing as a result unregulated agricultural land uses (Adeyoju, 1995). This has resulted into serious impediments that negatively impact sustainable forest management in gazetted forest reserves in Nigeria. This had resulted into a massive encroachment in most forest reserves in Nigeria. A large area of the productive and protective forest reserves had been turned into illegal cocoa and food crop plantations. This is because farmers assign no value to the forest reserves.

A government gazetted forest reserve is an area constituted under law that aims at ensuring and securing the availability of forest goods, services and their contribution to long term development in forestry sector of a nation. In other words, it is an area of land especially dedicated to the protection and maintenance of biological diversity; and of natural and associated cultural resources, and managed through legal or other effective means" (IUCN, 1994). Gazetted Forest Reserves are established to conserve habitats in their natural state, conserve areas for scientific research and education and to protect vulnerable or endangered species or landscapes. There are 445 gazetted forest reserves located in different parts of Nigeria but only about 137 of these reserves are located in the forest region harbouring the bulk of the natural forest wealth of the country (UNEP, 1992). At the inception of forest reservation in Nigeria, a reserve settlement

court was instituted to go round to take evidence from claimants of areas of land available for forest reservation. Claims and counter-claims were made; in the final analysis, the reserve settlement courts made specific recommendations whether or not an area was available for reservation. It delineated the area and also described general vegetation. The recommendations of the reserve settlement courts were later documented or transformed into a legal document called ***gazette notice on reservation***. Therefore, each forest reserve has a legal gazette notice which constitutes the major umbrella for the protection of forest reserve in the geographical area so described (Adeyoju, 1995). However, the creation of forest reserves shortly after the commencement of colonial administration was guided by one single objective of producing timber for consumption in metropolitan countries (Adeyoju, 1995). The difficulties encountered in arriving at the appropriate forest policy pertain to the rapidly changing socio-economic environment. Hence, most policies are either obsolete, ad hoc, or completely abandoned until supply crises loom large and because of the combined effects of population growth and pressures for land.

In view of the above and in order to achieve sustainable land management through harmonization of Land Uses, Conflicts between Gazeted Forest Reseves and Agricultural Land Uses in the Southwest Nigeria was assessed.

Methodology

Study Area

In the Southwest Nigeria, Ogun, Ondo, Osun and Oyo States were used for the study (Figure 1) . Two forest reserves were selected in each state. These states were selected because of frequently reported cases of conflicts between farmers and forest managers in the gazetted forest reserves as a result of illegal conversion of forest land for agriculture and destruction of economic tree species on one hand; farmers and timber contractors due to destruction of their food crops on the other hand. The study was socio-economic and observational in nature.

Data Collection Procedure and Analysis

For forest cover status, Landsat satellite imageries (Landsat 5-TM, Landsat 7-ETM and Landsat 8- OLI of 1990, 2000, 2010 and 2017, respectively) of the selected eight forest reserves in Southwest Nigeria were obtained from US Geological Survey (USGS). The imageries were classified using Maximum likelihood algorithm in the ArcGIS into forest and non-forest. The shape files of the selected forest reserves were clipped on the classified satellite imageries. The pixels were used to calculate the area covered by forest and non-forest. Forest cover change was determined for all the 27 years under investigation. Field survey using structured questionnaire which entails detailed appraisal of the other aspects of the objectives were carried out. Key informants, interviews using semi-structured interviews (check list) and direct observation were used in addition to the above. The selected forest reserves are presented in Table 1. The communities for the field survey were selected from within and around the forest reserves based on their involvement in plantation establishment or other forest activities as well as their active involvement in farming and other land use practices. The selection of 150, 200, 250 and 300

respondents, respectively from the communities in each state was systematically sampled using purposive random sampling and interview and also adopting the sampling technique proposed by Diaw *et. al* (2002) . A total of 2,084 (81.41%) stakeholders responded to questionnaire while 476 (18.59%) questionnaire booklets were not retrievied. Data were analysed using artificial intelligent algorithm, descriptive (Percentage) and infrential statistics (Logistic Model Regression).

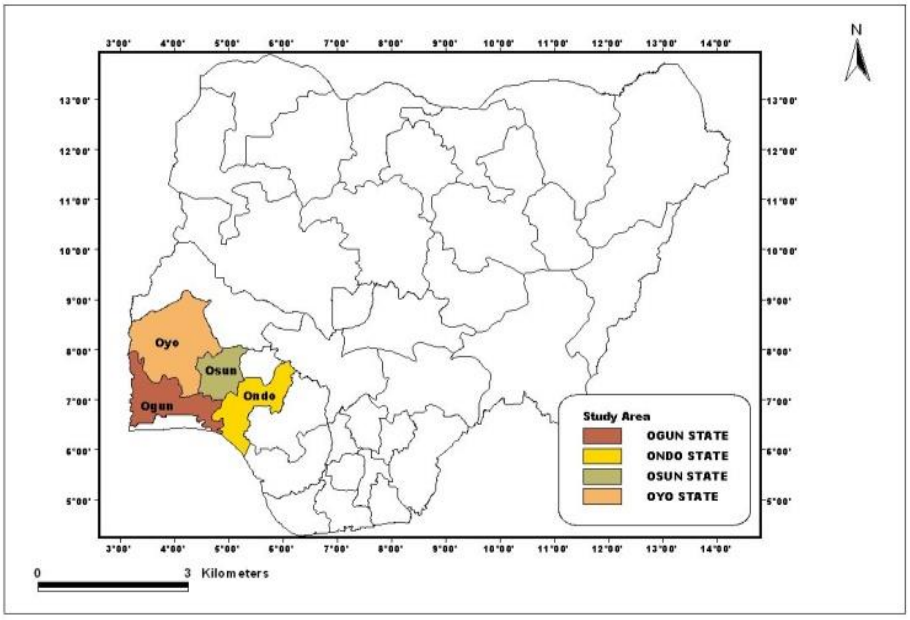

Figure 1: Map of Nigeria showing Study Areas

Table 1: Eight Selected Forest Reserves in Four States of Southwest Nigeria

States	**Forest Reserves**
Ogun	i. Ilaro ii. Omo (J1,J3,J4 and J6)
Ondo	i. Akure ii. Oluwa
Osun	i. Ago-Owu ii. Shasha
Oyo	i. Ijaiye ii. Gambari

Results and Discussion

Status of Gazetted Eight Forest Reserves in Ogun, Ondo, Osun and Oyo States

Table 2 indicates that original sizes of gazetted forest reserves in Ilaro, Omo, Akure, Oluwa, Ago-Owu, Shasha, Ijaiye and Gambari were 44.42, 1305, 73.53, 859.87, 342.01, 319.68, 284.91 and 114km^2 . However, from 1990 to 2017 (27 Years), the forest cover had been drastically

reduced to 37.84, 699.80, 38.45, 686.74, 240.70, 218.33, 135.36 and 56.57 in Ilaro, Omo, Akure, Oluwa, Ago-Owu, Shasha, Ijaiye and Gambari, respectively. The percentage changes in forest cover from 1990 to 2017 were -9.41, -35.79, -33.18, -11.02, -17.89, -13.69, -19.00 and -47.64. All these decreases in forest cover indicated unprecedented deforestation in all these eight gazetted forest reserves (Figures 1 to 8). The recommendations of the reserve settlement courts when forests were reserved and documented or transformed into a legal document called gazette notice on reservation had been jettisoned. Therefore, each forest reserve had a legal gazetted notice which constituted the major umbrella for the protection of forest reserve in the geographical area so described. Meanwhile, it was also recommended that 20 to 25 percent of land in every country should be under forest reserve. These findings were corroborated by FAO (2001) which asserted that forest resources in most West African countries had dwindled. Example was the area change of the total forest cover in West Africa between 1990 and 2000 was -1, 351,000ha/year. In Nigeria, the total area change between 1990 and 2000 was -398,000ha/year (-2.6%). The findings were also corroborated by Alo (2015), Alo and Akindele (2016) and Ilelakinwa and Alo (2018) in the studies carried out on deforestation in lowland rain forest zone of Nigeria; deforestation assessment of Ikere Forest Reserve, Nigeria; and deforestation of Faculty of Agriculture and Forestry Demonstration Site, Ileogbo, Osun State.

Identification of Conflicting Areas of Land Uses between Agriculture and Forestry

Observations from the review of forestry and agricultural policies in Nigeria identified the conflicting areas of forestry and agricultural land uses in the study areas as follows: (i) Subsisting Land Use Decree of 1978, Agricultural policies of 1988 and 2001, Forest Policies of 1988 and 2006 recognized the rights of all Nigerians to the land use. However, the provision for land disputes, statutory rights of occupancy and gazette notices were not effectively implemented; (ii) Land use rights in the Land Use Decree of Nigeria are contradictory in the policies enunciated in Agricultural and Forestry sectors; (iii) Approved National Forest Policy of 2006 recognized various land sectors with conflict management strategies but not yet backed with National Forest Act. Nigeria has no National Forest Act to enforce the approved National Forest Policy of 2006; (iv) In Nigeria,forestry sector has gazetted forest reserves, however, the Land Use Decree allows State and Local Government in rural area to grant customary rights of occupancy to any person or organization for the use of forest land for agricultural and other purposes which always lead to de-reservation of forest reserves despite the forest gazette and (v) No amendments have been made to the old Land Use Decree to correct various anomalies in land use sectors in Nigeria

Land Scarcity in the Landowning Communities and Evidence of Encroachment in the Forest Reserves

In all the communities around the forest reserves in the study areas, it was ascertained that communities living at the fringes of the forest reserves have rich knowledge of the importance of the forest resources, farming under the Taungya systems and existing indigenous Knowledge (IK) of plants, land tenure and non-forestry activities. Some communities were aware of the forest reservation procedures and gazetted notices. Virtually all the communities revealed that land especially for farming was scarce. However, the extent of scarcity differed in some communities in the study locations. Some respondents percieved the extent of land hunger as high, some moderate and a few low. From the socio-economic survey, a total of 2084 (100%) respondents in all the study locations affirmed land scarcity for farming (Table 3).

Table 2: Status of Forest Cover in Eight Forest Reserves in Ogun, Ondo, Osun and Oyo States from 1990, 2000, 2010 and 2017

State	Gazetted Forest Reserve	Land Use/ Land Cover	Area (Km^2) of Gazette Forest Reserve	Area (Km^2) in 1990	% Composition in 1990	Area (Km^2) in 2000	% Composition in 2000	Change (1990-2000) (Km^2)	Area (Km^2) in 2010	% Composition in 2010	Change (1990-2010) (Km^2	Area (Km^2) in 2017	% Composition in 2017	Change (1990-2017)	% Change (1990-2017)	Rate of Change (RoC) (1990-2017)	Remark
Ogun	Ilaro	Non-Forest	44.42	2.40	5.40	3.73	8.40	1.33	5.57	12.54	3.17	6.58	14.81	4.18	9.41	0.15	increase
		Forest		42.02	94.60	40.69	91.60	-1.33	38.85	87.46	-3.17	37.84	85.19	-4.18	-9.41	-0.15	decrease
	Omo	Non-Forest	1305.00	138.14	10.59	175.35	13.44	37.21	288.62	22.12	150.48	605.20	46.38	467.06	35.79	17.30	increase
		Forest		1166.86	89.41	1129.65	86.56	-37.21	1016.38	77.88	-150.48	699.80	53.62	-467.06	-35.79	-17.30	decrease
Ondo	Akure	Non-Forest	73.53	10.68	14.53	11.58	15.75	0.90	19.77	26.89	9.09	35.08	47.71	24.40	33.18	0.90	increase
		Forest		62.85	85.47	61.95	84.25	-0.90	53.76	73.11	-9.09	38.45	52.29	-24.40	-33.18	-0.90	decrease
	Oluwa	Non-Forest	859.87	78.33	9.11	139.54	16.23	61.21	163.44	19.01	85.11	173.13	20.13	94.80	11.02	3.51	increase
		Forest		781.54	90.90	720.33	83.77	-61.21	696.43	80.99	-85.11	686.74	79.87	-94.80	-11.02	-3.51	decrease
Osun	Ago-owu	Non-Forest	342.01	40.13	11.73	73.63	21.53	33.50	75.19	21.98	35.06	101.31	29.62	61.18	17.89	2.27	increase
		Forest		301.88	88.27	268.38	78.47	-33.50	266.82	78.02	-35.06	240.70	70.38	-61.18	-17.89	-2.27	decrease
	Shasha	Non-Forest	319.68	57.59	18.02	66.35	20.76	8.76	70.03	21.91	12.44	101.35	31.70	43.76	13.69	1.62	increase
		Forest		262.09	81.98	253.33	79.24	-8.76	249.65	78.09	-12.44	218.33	68.30	-43.76	-13.69	-1.62	decrease
Oyo	Ijaiye	Non-Forest	284.91	95.42	33.49	145.20	50.96	49.78	147.35	51.72	51.93	149.55	52.49	54.13	19.00	2.00	increase
		Forest		189.49	66.51	139.71	49.04	-49.78	137.56	48.28	-51.93	135.36	47.51	-54.13	-19.00	-2.00	decrease
	Gambari	Non-Forest	114.31	3.28	2.87	20.73	18.13	17.45	42.46	37.14	39.18	57.74	50.51	54.46	47.64	2.02	increase
		Forest		111.03	97.13	93.58	81.87	-17.45	71.85	62.86	-39.18	56.57	49.49	-54.46	-47.64	-2.02	decrease

Source: US Geological Survey (USGS), 2017

OGUN STATE

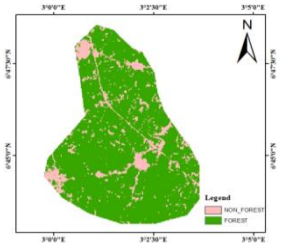

Figure 1: Ilaro Forest Reserve in 2017

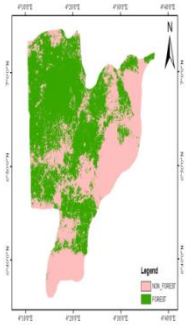

Figure 2: Omo Forest Reserve in 2017

ONDO STATE

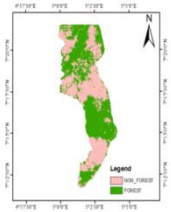

Figure 3: Akure Forest Reserve in 2017

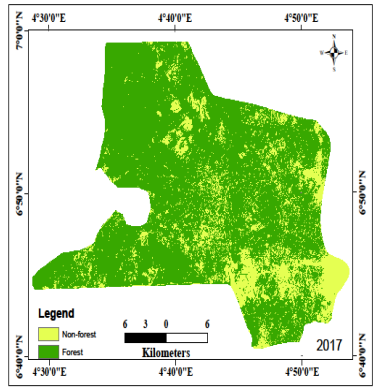

Figure 4: Oluwa Forest Reserve in 2017

OSUN STATE

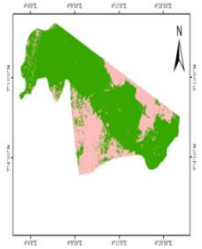

Figure 5: Ago-Owu Forest Reserve in 2017

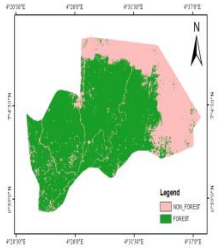

Figure 6: Shasha Forest Reserve in 2017

OYO STATE

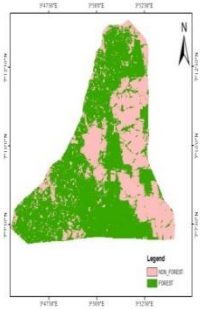

Figure 7: Gambari Forest Reserve in 2017

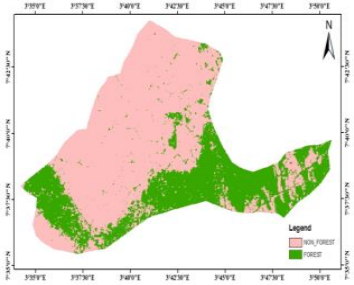

Figure 8: Ijaiye Forest Reserve in 2017

The respondents affirmed the scarcity of land for farming with high scarcity 1,799 (86.32%), moderate 218 (10,47%) and low 67 (3.21%). An appreciable total of 1,741 (83.54%) respondents (Table 4) affirmed encroachment of forest reserves as a result of high population, good fertility of forest soils, Illegal farming, illegal logging, illegal hunting, tresspasses, wanton destruction of forest trees, expansion of farm lands, invasion of farms by Fulani herdsmen, poaching of games, wild fire outbreaks and de-reservation by both farmers and state governments. The existence of land scarcity and encroachment into forest reserves seriously contribute to land use conflict cases.The implication is that Nigeria is not yet evolved with holistic National Forest Act. This is in agreement with some of the causes of land conflicts specified at an Integrated Planning and Management of Land Resources workshop in Swaziland in 1998; and by several authors like Pendzich *et al.* (1994), Castro and Ettenger (1997), Chevalier and Buckles (1999), Buckles and Rusnak (1999), Matiru (2000), Fisher *et al*. (2000), Warner (2001), FAO (2002) and Marfo (2006). Much more importantly, land hunger/scarcity will soar in the future with unprecedented gowth rate of population, more competition for scarce land for farming, decline in soil fertility and low food productivity. Without the clarion call for national forest act, land hunger and encroachment of forest reserves will continue to prevail in the four states.

Table 3: Land Scarcity in the Eight Forest Reserves in Ogun, Ondo, Osun and Oyo States

State	Frequency	Scarcity of Land/ Land Hunger			Total
		High	Moderate	Low	
Ogun	Number	369	37	10	416
	%	88.70	8.90	2.40	100
Ondo	Number	436	41	23	500
	%	87.20	8.20	4.60	100
Osun	Number	564	87	19	670
	%	84.18	12.99	2.83	100
Oyo	Number	430	53	15	498
	%	86.35	10.64	3.01	100
Total	**1,799 (86.32)**	**218 (10.47)**	**67 (3.21)**		**2,084 (100)**

Source: Field Survey 2017/2018

Table 4: Encroachment of Gazeted Eight Forest Reserves in Ogun, Ondo, Osun and Oyo States.

State	Frequency	Encroachment of Forest Reserves		Total
		Agree	*Disagree*	
Ogun	Number	389	27	416
	%	93.51	6.49	100
Ondo	Number	436	64	500
	%	87.20	12.80	100
Osun	Number	524	146	670
	%	78.21	21.79	100
Oyo	Number	392	106	498
	%	78.71	21.29	100
Total		**1,741 (83.54)**	**343 (16.46)**	**2,084 (100)**

Source: Field Survey 2017/2018

Identification of Prevailing Causes and Effects of the Conflicts in the Study Area

The causes and effects of land use conflicts between agriculture and forestry were categorised under three main dimensions namely: land use decree/policy; institutional and management; and stakeholders.

Land Use Decree/Policy Dimension

The existing land use decree of 1978 is obsolete. Executive fiat by the Governors and the Head of the Federal Government whether Military or Civillian is counterproductive to integration of land uses. The issues identified as causes of conflicts include non-compliance by farmers that had de-reserved forest of more than 500 hectares for farming without the consent of the Governor and revocation of certificate of occupancy. There are absence of agricultural land use plan; obsolete forest land use plan; lack of conflict resolution mechanism; and lack of alternative or multiple use concept of forest reserves.

Institutional and Management

The following have contributed to conflicts in forest reserves in the four states poor cross-sectoral integration among land use sector agencies; poor documentation and records of admitted farms /villages in the forest reserves; unsustainable agriculture practices and technologies; lost of perimeter boundary beacons around forest reserves; and decline in soil fertility and low food productivity; lack of training and re-training of professional, technical and forest guard staff; manpower in forestry sector is low; and logistics for monitoring the beats such as vehicles, walkie talkies, and other equipment are inadequate.

Stakeholders' Perspective

The perspectives include land hunger around and within forest reserves; high population in most communities; unsustainable agriculture practices and technologies; poverty among community members; litany of demands from stakeholders; demand of forestland for farming; invasion of non-indigenes in forest reserves; expansion of admitted farms or villages; increased competition on land; and declined soil fertility.Conflicts generally could have positive and negative effects, supported by some authors including Robinson (1972), Buckles (1999) and Marfo (2006) as opposed to the negative effects held unto by Walker and Daniels (1997). However, the negatives outnumbered the positives. A positive effect of conflict was cited as the expansion of some admitted villages which in context means more land for socio-economic activities by communities populace. The implication of causes and effects of land use conflicts between forestry and agricultural sectors is that Gross Domestic Product (GDP) accruable from these two sectors will continue to dwindle if the issues of conflicts are not addressed with a holistic land policy. This in turn would have negative consequences on the entire economy of the four states in the immediate future.

Binary Model (Logit Regression) for Factors that would harmonize Government Gazetted Forest Reserve and Agricultural Land Uses

Two hundred key informants among the stakeholders that have experiences in forestry and agricultural were selected for answering questions on factors would collectively harmonize Government Gazetted Forest Reserves and Agricultural Land Uses in Ogun, Ondo, Osun and Oyo States. The reason was that the four states are contiguous with one another. Binary logistic regression analysis was used to investigate the factors that would collectively harmonize Government Gazetted Forest Reserve and Agricultural Land Uses in Ogun, Ondo, Osun and Oyo States. The factors investigated were the dependent variable i.e. Harmonization of Government Gazetted Forest Reserve and Agricultural Land Uses (HGGFRALU) while independent variables were Improved Agroforestry on Degraded Forest Reserve (IADFR), Community Participation in the Forest Reserve Decision (CPFRD), Intensive Management of Agricultural Land in the study Area (IMALA), Improved Variety of Arable and Cash Crops for Farmers (IVACCF), Adequate Provision of Forest Guards for Monitoring the Forest Beat (APFGMFB), Enactment of Forest Law for Enforcement of Forest Policy (EFLFEFP) and Presence of Conflict Management Strategies in Forestry and Agricultural Policies (PCMSFAP). Backward elimination was done to obtain the best subset model. The model obtained for this study was presented in Model 1. In the pooled data for the four states, the model 1 presented below gave overall significant fit to the data judging from the chi-square value that is significant at $p<0.05$. There was sufficient evidence that the estimated coefficients were not zero for independent variables. This implies that the regression parameters in the model were statistically significant. The results indicated that Harmonization of Government Gazetted Forest Reserve and Agricultural Land Uses (HGGFRALU) were best predicted and mostly by Intensive Management of Agricultural Land in the study Area (IMALA) with odds ratio 615.52. This was followed by Enactment of Forest Law for Enforcement of Forest Policy (EFLFEFP), Presence of Conflict Management Strategies in Forestry and Agricultural Policies (PCMSFAP) and Community Participation in the Forest Reserve Decision (CPFRD) with odds ratio 177.11, 33.78 and 5.11, respectively (Model 1 and Table 5). These entire odds ratio agreed with Deeks (1996). The implication of these factors was

that the frequent conflicts between Gazetted Forest Reserve and Agricultural land uses would have been significantly reduced if all these factors had been taken into consideration by all stakeholders of Forestry and Agriculture in Ogun, Ondo, Osun and Oyo States.

Model 1

$HGGFRALU_{(FOUR\ STATES)} = 21 - 35.75\ IADFR + 1.61CPFR + 6.42IMALA - 4.78IVACCF - 37.63APFGMFB + 5.18\ EFLFEFP + 3.52PCMSFAP$ ……. *Equation 2*

Final loss = 6.18; Chi square (df, 7) = 260.38; P= 0.0000

Odd ratio unit change: Constant (9.56); *IADFR (0.00); CPFR (5.02); IMALA(615.52); IVACCF (0.01); APFGMFB (0.00); EFLFEFP (177.11); PCMSFAP (33.78)*

Table 5: Logistic Binary Model for Harmonization of Government Gazetted Forest Reserve and Agricultural Land Uses

Independent Variables	Coefficients	Odds ratio
Whether to have Improved Agroforestry on Degraded Forest Reserve (IADFR)	-35.75	0.00
Whether to have Community Participation in the Forest Reserve Decision (CPFRD)	1.61	5.02*
Whether to have Intensive Management of Agricultural Land in the study Area (IMALA)	6.42	615.52*
Whether to have Improved Variety of Arable and Cash Crops for Farmers (IVACCF)	-4.78	0.01
Whether to have Adequate Provision of Forest Guards for Monitoring the Forest Beat (APFGMFB)	-37.63	0.00
Whether to have Enactment of Forest Law for Enforcement of Forest Policy (EFLFEFP)	5.18	177.11*
Whether to have Presence of Conflict Management Strategies in Forestry and Agricultural Policies (PCMSFAP)	3.52	33.78*
Model, Chi square (df, 7) = 260.38 P<0.05*		

Source: Field Survey 2017/2018

Conclusion

There were a lot of conflicts between Gazetted Forest Reserves and Agricultural Land Uses in Ogun, Ondo, Osun and Oyo States, Nigeria. Virtually, all the eight gazetted forest reserves investigated in Ogun, Ondo, Osun and Oyo States Nigeria for status of forest cover had been seriously encroached and deforested. Deforestation in these four states poses a danger in immediate future for environmental disaster, inadequate supply of timber and other forest ecosystem services. A nation without a comprehensive national land use policy will surely face a lot of land use problems likewise one that inadequately implement its land use policy effectively with the involvement of the relevant stakeholders.

Recommendations

For sustainable land use, minimal conflicts, coupled with high productivity of food and forest resources, there is a clarion call for the formulation of a comprehensive national policy on land use as well as Agriculture and Forestland use plans with the relevant stakeholders in a participatory manner. Such policies or plans need to zone the various land use areas and specify the roles and responsibilities of the stakeholders involved. Formulating and implementing such policy or plan through participatory, integrated and iterative processes, there is the likelihood for the policy /plan to achieve its aims or objectives. There is the need to integrate conflict management strategies in national policy frameworks. From the review of the policies of Forestry and Agricultural Land Uses in Nigeria, ensuring sustainable land use management must include the following recommendations:

- Federal Government must enact Forest Law which would enable Ogun, Ondo, Osun and Oyo State governments to conserve and preserve the forest reserves for present and on-coming generation.
- Individual sectors must have a well-formulated land use plan to facilitate effective implementation of activities. Such plans must be reviewed constantly to meet the challenges and dynamics of the day.
- There is need to improve the capacities of land users and managers to take informed decisions of the challenges, concerns and dynamics in their activities.
- Intensive Management of Agricultural Land in the study Area (IMALA), Enactment of Forest Law for Enforcement of Forest Policy (EFLFEFP), Presence of Conflict Management Strategies in Forestry and Agricultural Policies (PCMSFAP) and Community Participation in the Forest Reserve Decision (CPFRD) must be given priority in Ogun, Ondo, Osun and Oyo States.

Acknowledgement

I hereby express my gratitude to TETFUND for the provision of grant for the implementation of this project.

References

Adeyoju, S.K. (1995). A Review of Forest Policy and Law in Anglophone West Africa, UNEP/CIFOR. Project on Sustainable Forest Management. 10pp.

Agbeja, B.O. (2004).The Need to Link State and Federal Forest Policies and Institutions in Nigeria.In: 'Rebuilding Africa's Capacity for Agricultural Development' *African Network for Agroforestry Education* (ANAFE), World Agroforestry Centre (2). pp.96-105.

Alo, A.A. (2015). Deforestation Assessment in Lowland Rain Forest Zone of Nigeria. A Case Study of Ekiti State's Forest Reserves. In Sivaram, V., Khong, H.Y. and Shiang-Fan, C (Eds.). *Book of Abstract of International Symposium on Conservation and Utilization of Forest Resources for Sustainable Livelihoods.* 26-29 October, 2015. Marriott Resort and Spa, Mulu, Malaysia. p.7.

Alo A.A and Akindele, S.O. (2016). Deforestation assessment in Ikere Forest Reserve, Nigeria using Geographic Information System Technology. In Adekunle, V.A.J., Oke, D.O. and Emehri, E.A. (Eds.). *Proceedings of 5th National Biennial Conference of the Forest and Forest products Society* on Forest Management and the challenges of environmental sustainability. 25-29 April 2016. Delta State University, Abraka, Asaba, Nigeria. pp. 45-49.

Anderson, J., Gauthier, M, Thomas, G., Wondolleck, J. (1996). Setting the stage. Presented at the Globale-conference on Addressing Natural Resource Conflict through Community Forestry, Jan - April, 1996. Foests, trees and people programme of the Food and Agriculture Organisation of the United Nation, Rome, Italy.

Angelsen, A. and Kaimowitz, D. (2001). The role of agricultural technologies in tropical deforestation. Publ. in Agricultural Technologies anf Tropical Deforestation, CABI, (eds) Angelsen, A. And Kaimowitz, D., 1-18pp. (4).

Ayling, D. and Kelly, T. (1997). Dealing with conflict: natural resources and dispute resolution. Commonwealth Forests Review, 76(3), 182-185.

Buckles, D. (1999). Cultivating Peace: conflict and collaboration in natural resources management. International Development Research Centre, Ottawa, Ontario, Canada.

Buckles, D. and Rusnak, G. (1999). Introduction: Conflict and collaboration in natural resource management. In D. Buckles, ed. Cultivating peace: conflict and collaboration in natural resource management. Ottawa, Canada, International Development Research Centre/World Bank. pp 1-10.

Castro, A.P. and Ettenger, K. (1997). Indigenous knowledge and conflict management: exploring Local perspectives and mechanisms for dealing with community forestry disputes. In: FAO. Compilation of discussion papers made to the Electronic Conference on Addressing Natural Resource Conflicts through Community Forestry, January to May 1996: Community Forestry Unit/FTPP Conflict Management series. Rome, FAO.

Chevalier, J.M. and Buckles, D. (1999). Concept paper: managing conflicts over natural resources: a heterocultural perspective In D. Buckles ed. Cultivating peace: Conflict and collaboration in natural resource management, P.13-41. Ottawa, Canada, International Development Research Centre/World Bank.

Deeks, J. (1996): 'Swot Corner. What is an Odds ratio? *Bandolier*3(3). Issue 25, 6-7.

Diaw, K, Blay, D. and Adu-Anning, C. (2002). 'Socio-economic survey of forest fringe communities. Krokosua Hills Forest Reserve' A report submitted to the Forestry Commission of Ghana. 86pp.

Edmunds, D. and Wollenberg, E. (2001). A Strategic Approach to Multistakeholder Negotiations. Development an Change 32/2: 231-253.

FAO (2000). Forests, Food Security and Sustainable Livelihoods. Unasylva 202. 2000/3. Vol.51. FAO, Rome, 71pp.

FAO (2001). Global Forest Assessment 2000. Rome, 479 pp.

FAO (2002). Technical Cooperation Programme-establishing Land –use planning procedures for sustainable land Resource Management –Ghana –submitted to the FAO of the United Nations, Rome,2002, pp.1-6.

Fisher, S., Abdi, D.I., Ludin, J., Smith, R. and Williams, S. (2000). Working with conflict: skills and strategies for actions. London, Responding to conflict. Zed Books.

Ilelakinwa G. A. and Alo A. A**.**(2018). Land Use Land Cover Dynamics of Faculty of Agriculture and Forestry Practical Demonstration Site, Ileogbo. In Isah, A.D., Shamaki,

S.B. Adekunle, V. A. J and Bello, A.G. (Eds.). *Proceedings of 6th Biennial National Conference of Forests and Forest Products Society*. 23- 27 April, 2018. Usman Danfodiyo University, Sokoto, Nigeria. pp.242-250.

ITTO (2000). Taking the policies to the forest. *Tropical Forest Update.* Vo.10.No.3. Yokohama, Japan 2000/3 pp.1-2.

ITTO (2002). Difficult People. *Tropical Forest Update.* Vo.12.No.2 Yokohama, Japan pp.1-32.

ITTO (2006). Status of Tropical Forest Management, 2005. A special edition of the *Tropical Forest Update.2006/1*Vo.12.No.2 Yokohama, Japan pp.17-22.

IUCN, International Union for the Conservation of Nature: Caring for the Earth (1994). A Strategy for Sustainable Living. Gland, Switzerland. 1994

Land Use Decree (1978). Land Use Decree of the Federal Republic of Nigeria. Published by Authority of the Federal Military Government of Nigeria and Printed by The Ministry of Information, Printing Division, Lagos. pp. A48-A67.

Marfo, E. (2006). Powerful Relations: The Role of Actor-Empowerment in the Management of Natural Resource Conflicts. A Case of Forest Conflicts in Ghana. Ph.D. Thesis Wageningen University.

Matiru, V. (2000). Conflict and Natural resource management. Rome, FAO.

Pendzich, C., Thomas, G. and Wohlgenant, T. (1994). The role of alternative conflict management in community forestry. Community Forestry/FTPP working paper No.1. Rome, FAO.

Robinson, J.W. Jr. (1972). 'The Management of Conflicts'. Journal of the Community Development Society, Vol.3, No.2. pp.100-105.

Schmid, A (1998). Thesaurus and glossary of early warning and conflict prevention terms(abridged version) London. www.womenwarpeace.org/issues/prevention/docs/thes.pdf.

UNEP (United Nations Environment Programme) (1992). Biological Diversity in Nigeria- A country study.1992; 53pp.

Walker, G.B. and Daniels, S.E. (1997). Foundations of Natural Resource Conflict: Conflict Theory and Public Policy in: B. Solberg and S. Miina (Eds.) Conflict management and public participation in land management. European Forest Institute. pp.13-36.

Warner, M. (2001). 'Complex problems and negotiated solutions: tools to reduce Conflicts in Community Development''. London ITDG Publishing pp.1-10