

Contributions of Baissa Timber Corporation to Community Livelihoods in Kurmi, Taraba State

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Baissa Timber Corporation (BTC) was one of the major sources of community livelihoods in Kurmi. It was the main pivot of the Gongola State economy. BTC ranks highest in terms of revenue and employment generating sectors during the defunct Gongola State and in Taraba State as well (Zaku, 2013a). There were no artificial forest plantations as such the natural forests were the main source of all raw materials used by the BTC. Despite the fact that, BTC was the mainstay of the Gongola State economy, information on the role of BTC to community livelihoods is not documented in the study area. Therefore, contributions of BTC to community livelihoods were investigated. A simple random sampling technique was adopted in this study using the method of Diaw et al., (2002). A total of 624 respondents were identified during the baseline survey in the order of; BTC workers, 46; Saw millers, 50; Timber contractors, 55; Hunters, 64; Fishermen, 50; Farmers, 350 and 9 Forestry staff. At 30% sampling intensity, a total of 188 semi-structured questionnaire were administered as follows; BTC workers, 14; Saw millers, 15; Timber contractors, 17; Hunters, 19; Fishermen, 15; Farmers, 105 and 3 Forestry staff with only 175 questionnaires were retrieved. Data generated were analyzed using descriptive statistics and logistic regression at $\alpha 0.05$. The result of the contributions of BTC to community livelihoods in the study area indicated that, 40 (22.9%) of the respondents reported employment generation; 35 (20%) reported revenue generation; 30 (17.1%) reported provision of public health facilities; 28 (16%) reported supplies of building and energy materials; 22 (12.6%) reported provision of transport and communication facilities. Similarly, 20 (11.4%) reported tourism, recreation and research. The result indicated that, the most significant reason for the collapse of BTC in Kurmi LGA was General Manager not a Forester (GMNF) with the highest odds – ratio of 5352.43 followed by Selling of sawn timber to staff (SSTS) 4359.12, General Manager's redeployment(GMRDM) 3323.51, Lack of machine spare parts (LMSP) 3023.51, Irregular and ceased subvention (ICS) 225.67, Leasing factory to Lebanese (LL) 223.69 and corruption (CRT) 17.52. Based on the major findings of this study, the followings are recommended; Taraba State Government should establish Artificial Forest plantations to reduce the pressure on the three reserves. Taraba State Government should lift the ban on the operation of BTC to allow room for re-opening of the closed down BTC in order to resume full operation. Here, House of Assembly should pass a bill to that effect and which should be implemented. Taraba State Government should check out all forms of encroachment on Baissa, Bisaula and Amboi forest reserves and Afforested where necessary. Taraba State Government should revamp BTC and

should bring back all the BTC workers that are still alive and active to resume work. Taraba State Government should fund BTC and should empower them to raise and spend their fund. BTC, if revamped, should not be leased to any foreign investors again for any form of test-run. Only qualified Forester or a Mechanical Engineer should be allowed to head BTC as enshrined in the edict establishing the BTC. There should be public enlightenment campaign to educate Kurmi communities on the value and importance of BTC and the need for its protection in order to sustain operation of BTC in the study area. Machine spare parts should always be available when BTC is fully revamped.

Key words: Baissa Timber Corporation, Contributions, Collapse.

INTRODUCTION

The term “Community livelihoods” as defined by Loubser (1995) is the totality of the means by which people in a community secure a living, have or acquire in one way or another, the requirements for survival and satisfaction of needs, as defined by the people themselves in aspects of their lives. From the forgoing, livelihoods are the activities people undertake to meet basic needs and to generate income. The concept embraces not only the present availability of the means for making a living but also the security against unexpected shocks and crises that threaten livelihoods. BTC provided such activities for livelihood sustenance.

Baissa Timber Corporation (BTC) is a forest industry established in 1978 and located in Baissa. Baissa was initially in the defunct Gongola State but the creation of Taraba State now put Baissa in Kurmi Local Government Area of Taraba State. BTC has two Departments as follows; (i) Administration (ii) Production. The General Manager is the Chief Executive officer with the Secretary of BTC as the Head of Administration and Production and all other Managers were attached to these two Departments. BTC had 46 staff comprises of Management staff, supervisory staff, craftsmen and general labour workers. BTC was established for the conversion of timber into semi finished or finished products. It is a wood processing factory with band sawing machines capable of breaking down logs into desirable sizes of timber and re-sawing machine for processing flitches into specified and marketable dimensions. The base of operation is located eleven kilometers before Baissa town. BTC was established in 1978 to process all trees about 180 cm girth (diameter) cut down along demarcation lines to establish boundaries of forest reserves in Kurmi. The natural forest was the source of its raw materials. Three forest reserves were gazetted for this purpose as follows; Baissa forest reserve, Bisaula forest reserve and Amboi river

forest reserve respectively. The initiation to erect BTC was to process wood from the three reserves aimed at protecting the reserves from the risk of anticipated seasonal fire that would be fueled by the spontaneous volatility of the decayed woods that may extend into the reserves. Also, the processing of the bulk of the fell woods into usable timber was necessary to avoid huge waste of logs and to provide a motor able track for accessibility into the reserve to ease inspection and management (Lange, 2015). These three reserves occupy a total land area of 633km² and are all located in Kurmi Local Government Area with its administrative headquarters in Baissa. The overall management of the three reserves was with the Gongola State Ministry of Natural Resources before the split in 1991 during which Adamawa and Taraba State were created. As soon as Taraba State was created, the responsibility of the management of the three reserves was transferred to the Taraba State Ministry of Natural Resources which later became the Taraba State Ministry of Agriculture and was put under the Ecological Department. Before the end of the year 1986, Baissa Timber Corporation was incorporated as a limited liability company and was called Baissa Timber Company Limited. They took over the functions of the corporation and as such all the assets, liabilities and obligations of the corporation were formally transferred to the company with effect from 1st January, 1987 (Lange, 2015). To boost and expand the scope of BTC operations, the government in 1981 commissioned a competent consulting firm called Skoup and Co Ltd with head office at Enugu to survey completely all the three reserves in Baissa, Bisaula and Amboi (Lange, 2015). Their primary job was to enumerate every species of trees, their quantities and to make recommendations on the best ways on how to utilize the three forest reserves most economically and on

sustainable management basis in order to continually support the BTC operations. The job was successfully done with a written report submitted thereafter. The report occupies four (4) big volumes of information. The first volume was devoted to details of methodology, funding and recommendations while the other three (3) volumes consist of the details of samplings, biodiversity concentrations and general data print out (Lange, 2015).

BTC was contracted out to a Lebanese firm for a trial operation. This was an encouraging experiment with an un-expected excellent result of success. The products obtained from the trial operation were proportionately very much for any immediate internal utilization and these were the propelling and motivating prospects that led to the resolutions for further investigation and verification survey on available types and quantities of demandable wood within the forest reserves with the view to commercialized the activities of BTC (Lange, 2015). The management of BTC was sanctioned by edict to be headed by a professional forester or a mechanical engineer (Lange, 2015). However, at the first take-up, the forestry department of the Ministry of Natural Resources was appointed as the supervising ministry of the corporation and was responsible for allocating felling compartments of the natural forest to the sawmills and for selection and posting of key management staff (Lange, 2015).

The first indigenous General Manager of the corporation was a graduate of Forest Economics and was before his posting, occupying the office of a chief conservator of Forestry in the ministry. By the leadership quality of his administration, the performance of BTC was credible and realistic that about the last quarter of 1979, the corporation was optimally producing 20 cubic meters of lumber daily based on the rated capacity of the installed equipment. Hopes were raised because of this performance for casting bright and successful future. However, problems started erupting when the General Manager was affected by redeployment to Adamawa State with the creation of Taraba State and a new General Manager from Taraba State who was a graduate of Social Science took over. The new General Manager could not pay the salaries of workers leading to its closure in May, 1984. BTC was re-opened in 1985 but its management was transferred to the State Ministry of Commerce and industry for supervision and was later shut down completely till date. The closure of BTC had disrupted

the livelihoods sustenance of the inhabitants of Kurmi leading to the death of many of them. In the light of the above, this study intends to bring to the limelight, the contributions of BTC to community livelihoods, reasons for its collapse and the need to revamp it (Lange, 2015).

MATERIALS AND METHODS

Description and Location of the Study Area

Kurmi is one of the sixteen Local Government Areas of Taraba State. The soil is generally sandy-loam. Soil color ranges from grayish-brown to brown and it is well drained. It is a high forest region with plenty grasses and many tall trees. The rainfall of about 4000 mm has been recorded in Kurmi (Zaku, 2013a, 2013b). This study was conducted between October, 2016 to October, 2017 in Kurmi, Kurmi Local Government Area (LGA) of Taraba State. Kurmi is located between latitude $6^{\circ} 30^1$ and $9^{\circ} 36^1$ N and longitude $9^{\circ} 10^1$ and $11^{\circ} 50^1$ E. 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 (Figure1).

Sample size and sampling procedure

A simple random sampling technique was adopted in this study using the method of Diaw et al., (2002). A total of 624 respondents were identified during the baseline survey in the order of; BTC workers, 46; Saw millers, 50; Timber contractors, 55; Hunters, 64; Fishermen, 50; Farmers, 350 and 9 Forestry staff. At 30% sampling intensity, a total of 188 semi-structured questionnaire were administered as follows; BTC workers, 14; Saw millers, 15; Timber contractors, 17; Hunters, 19; Fishermen, 15; Farmers, 105 and 3 Forestry staff. However only 175 questionnaires were retrieved (Table 1).

The contributions of Baissa Timber Corporation to Community Livelihoods and the reasons for its collapse were evaluated as indices for this study. Data generated were analyzed using descriptive statistics and logistic regression at $\alpha_{0.05}$ (Deeks, 1996; Bland and Altman, 2000). The detail of the Logistic model is as follows;

The logistic model of a response P between 0 and 1 is given as:

$$\text{Logit (P)} = \text{Log (P/I-P)} = \text{Log (P)} - \text{Log (I - P)} \text{ -----}$$

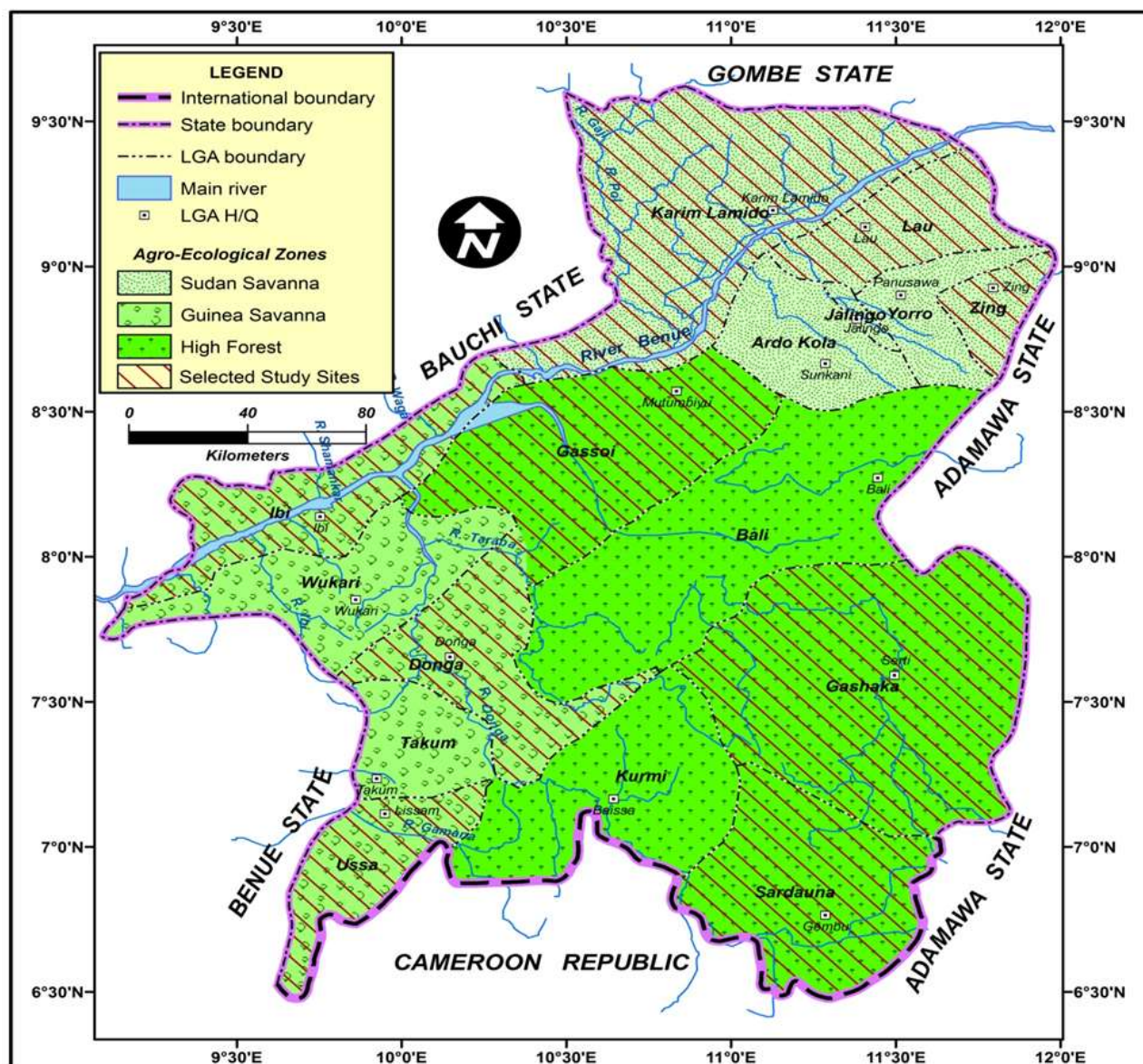


Figure 1. Map of Taraba State showing Kurmi, the administrative headquarter of the study area (Baissa). Source: Field survey 2016.

equation 1

The simplest form of logistic model is expressed as:

$$\text{Logit}(\pi) = a + b x_1 \dots \dots \dots \text{equation 2}$$

π = probability for the collapse of BTC in the study area.

X_i = Vector of predictor or independent variables (Reasons for the collapse of BTC in the study area).

a and b = regression parameters.

In this study, respondents that said “Yes” to a reason that led to the collapse of BTC were assigned a value “1” and respondents that said “No” were

assigned a value of “0”.

The reasons for the collapse of BTC investigated were; Corruption (CRT), General Manager's Redeployment (GMRDM), Poverty (PVT), Selling of sawn timber to staff at 50% invoice price of cash and carry (SSTS), Irregular and ceased subvention (ICS), Leasing to Lebanese (LL), General Manager not a Forester (GMNF), Poor roads (PR), Weak penalties (WP) and lack of machine spare parts (LMSP). The binary regression models obtained on the reasons for the collapse of BTC are presented as follows;

Table 1. Questionnaires administered and retrieved.

S/N	VARIABLES	B	N (30%)	X
1	BTC staff	46	14	14
2	Saw millers	50	15	15
3	Timber contractors	55	17	17
4	Hunters	64	19	19
5	Fishermen	50	15	12
6	Farmers	350	105	95
7	Forestry staff	9	3	3
Total		624	188	175

Source: Field Survey, 2016

B=Baseline population

N=Number of questionnaire administered

X=Number of questionnaire retrieved

Logit

$$\left(\frac{p}{1-p} \right) = Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n -$$

Equation----- 3

Where;

B₀, B₁, B₂ B_n = Regression coefficient or model Parameters

Where,

X₁ = Corruption (CRT)X₂ = General Manager's Redeployment (GMRDM)X₃ =Poverty (PVT)X₄ = Selling of sawn timber to staff (SSTS) at 50%X₅ = Irregular and ceased subvention (ICS)X₆ = Leasing to Lebanese (LL)X₇ =General Manager not a Forester (GMNF)X₈ = Poor roads (PR)X₉ = Weak penalties (WP)X₁₀ = Lack of machine spare parts (LMSP)

Y = Reasons for the collapse of BTC (Binary variable)

Logistic Regression Equations;

$$RCBTC_{(KM)} = CRT + GMRDM + PVT + SSTS + ICS + LL + GMNF + PR + WP + LMSP \text{-----Equation 4}$$

Where,

CRT = Corruption

GMRDM =General Manager's Redeployment

PVT = Poverty

SSTS = Selling of Sawn timber to Staff of BTC at 50%

ICS= Irregular and Ceased of Subvention

LL =Leasing to Lebanese

GMNF = General Manager Not Forester

PR = Poor roads

WP = Weak penalties

LMSP= Lack of machine spare parts

RCBTC_(KM) = Reasons for the collapse of Baissa Timber Corporation in Kurmi LGA.**RESULTS AND DISCUSSION****Contributions of BTC to community livelihoods in the study area**

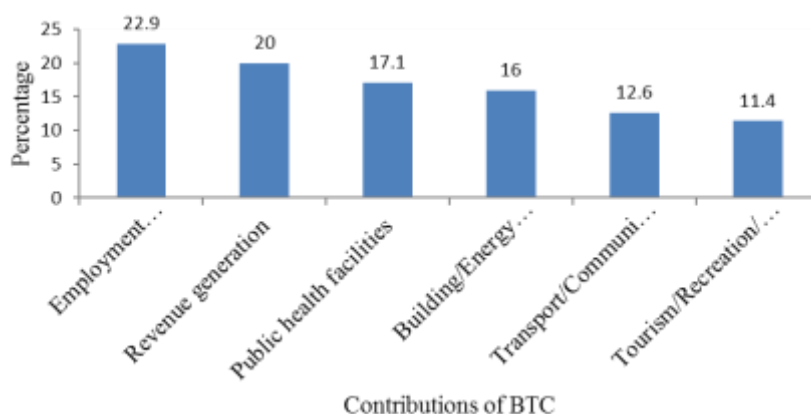
The result of the contributions of BTC to community livelihoods in the study area indicated that, 40 (22.9%) of the respondents reported employment generation; 35 (20%) reported revenue generation; 30 (17.1%) reported provision of public health facilities; 28 (16%) reported supplies of building and energy materials; 22 (12.6%) reported provision of transport and communication facilities. Similarly, 20 (11.4%) reported tourism, recreation and research (Table 2).

Figure 2 indicated that, the highest contribution of BTC to community livelihoods in the study area was employment generation. This is true because, BTC hired labour, most of who were already engaged as farmers, hunters, fishermen, food vendors or even school children before the establishment of BTC in the study area. This had implications for the community, as children, farmers, hunters, food vendors and fishermen abandoned school, farming, hunting, food selling and fishing to working in the factory. The money generated from the factory activities empowers the community members and this was seen in their ability to sponsor their children,

Table 2. Logistic binary nature of reasons for the collapse of BTC in the study area.

Dependent variable(RCBTC):Reasons for the collapse of BTC (Presence=1;Absence = 0)		
Independent variables	Coefficient	Odds-ratio
Whether CRT lead to BTC collapse	2.57	17.52*
Whether GMRDM lead to BTC collapse	6.17	3323.51*
Whether PVT lead to BTC collapse	-10.20	0.00ns
Whether SSTS lead to BTC collapse	8.39	4359.12*
Whether ICS lead to BTC collapse	3.50	225.67*
Whether LL lead to BTC collapse	4.53	223.69*
Whether GMNF lead to BTC collapse	10.83	5352.43*
Whether PR lead to BTC collapse	-6.87	0.00ns
Whether WP lead to BTC collapse	-9.35	0.00ns
Whether LMSP lead to BTC collapse	4.17	3023.51*
Model χ^2 (df = 10) = 167.60 p=0.0000*		

Note p<0.05 ; ns = Not significant; * = Significant

**Figure 2.** Contributions of BTC to community livelihoods in the study area.

feed them and also cater for the needs of the orphans, hospital clinics and maternity bills. The finding of this study corroborates the submission by FAO (1985) in which small scale forest based industries were found to contribute to employment in Rome.

The results of the study also indicated that, the sitting of BTC in the study area also generated revenue to both the Kurmi Local Government Area and the Taraba State government. This was seen in payments made by individuals who felled trees as well as timber contractors and saw millers. Lorries that carry planks also register to obtain permit and all these payments are renewable after one year to

remain in the service. The implication is that, money gotten from the revenue does not reach the government of the day as thugs saw it as compensation for having worked for the Government of the day. This was an abuse of the revenue policy of the State.

The result also indicated that, the sitting of BTC provided public health facilities in the study area through the provision of hospitals, clinics and maternity to cushion the menace caused by the factory as well as other sickness that may affect the communities as a result of the sitting of BTC in the study area (Figure 2). The findings of this study agreed with the findings of Sangodoyin (1995) where

forest based industries are located; hospitals are built to cushion health challenges of the workers and the communities. Also, the result of the study showed that, the siting of BTC provides building and energy materials for different purposes such as farming tools, building/roofing materials which are used in the construction of houses, barns, fences, bridges, furniture items and musical instruments, fuel wood, weapons of hunting (traps). This is similar to the submission by Fuwape (2000) that forest based industries provide building and energy materials for different purposes. The result on the contributions of BTC also indicated that, BTC provided good transportation and communication network in Baissa. This is true because, road network has been constructed to convey forestry product to the factory. Also, communication network services such as telephone system were installed in Baissa to enhance and ease communication and to remove trade barriers in the study area. This finding corroborates Fuwape, (2001) that forest based industries brings good roads and good communication network to rural communities.

Similarly, the results of the contributions of BTC indicated that, BTC performs the functions of tourism, recreation and research. This is true because people came from far and near to watch and note what happens at the factory. Also, students, lecturers and staff of forestry use the factory for research. People who visited Baissa timber corporation affirms that while in the factory, one forgets his problems particularly the routine operations that are been done there. This corroborates the findings of Lange, (2015). Most student visit Baissa Timber Corporation for experiment, excursion or field trip to help transfer their bookish theory into a practical one. The findings of the study corroborate Olorunisola and Lucas (2006) on the contributions of Ebute-Metta sawmills of Lagos State which has been abandon. Looking at these enormous contributions, it is crystal-clear that the inhabitants of Kurmi needs BTC back and hence the need for the Taraba State Government to revamp it.

Reasons for the Collapse of Baissa Timber Corporation in the Study Area

The result of logistic regression on reasons for the collapse of Baissa timber corporation gave significant fit to the data judging from χ^2 value that was significant at $p < 0.05$. The reasons for the collapse of BTC showed Corruption, General Manager's

Redeployment, selling of sawn timber to Staff, Irregular and ceased subvention, Leasing to Lebanese, General Manager not a Forester and lack of machine spare parts with odds ratios of 17.52, 3323.51, 4359.12, 225.67, 223.69, 5352.43 and 3023.51. The estimated co-efficient for the mentioned variables above were not zero, negative values or below two but were above two. This implied that, the regression parameters in the model were statistically significant (Table 3). The result showed that, Corruption (CRT), General Manager's redeployment (GMRDM), Selling sawn timber to staff (SSTS), Irregular and ceased subvention (ICS), Leasing BTC to Lebanese (LL), General Manager not a Forester (GMNF) and Lack of machine spare parts (LMSP) had odds ratios of 17.52, 3323.51, 4359.12, 225.67, 223.69, 5352.43 and 3023.51 respectively while poverty (PVT), poor roads (PR) and weak penalties (WP) had the lowest odds-ratios of 0.00 respectively.

The result indicated that, the most significant reason for the collapse of BTC in Kurmi LGA was General Manager not a Forester (GMNF) with the highest odds – ratio of 5352.43 followed by Selling of sawn timber to staff (SSTS) 4359.12, General Manager's redeployment (GMRDM) 3323.51, Lack of machine spare parts (LMSP) 3023.51, Irregular and ceased subvention (ICS) 225.67, Leasing factory to Lebanese (LL) 223.69 and corruption (CRT) 17.52.

$RCBTC_{(KM)} = CRT + GMRDM + PVT + SSTS + ICS + LL + GMNF + PR + WP + LMSP$ -----Equation 5
 $RCBTC_{(KM)} = 1.79 + 2.57CRT + 6.17GMRDM + 10.20PVT + 8.39SSTS + 3.50ICS + 4.53LL + 10.83GMNF + 6.87PR + 9.35WP + 4.17LMSP$ -----Equation 6
 N = 175, Final loss = 22.71, Chi- Square (df,10) = 147.60, P = 0.00

Odds ratio (unit change): constant (6.00); CRT (17.52); GMRDM (3323.51); PVT (0.00); SSTS (4359.12); ICS (225.67); LL (223.69); GMNF (5352.43); PR (0.00); WP (0.00); LMSP (3023.51) (Table 2).

The creation of Taraba State brought in the redeployment of the initial General Manager who was a graduate of Forest Economics back to his home State in Adamawa while a new General Manager from Taraba State who was a graduate of Social Science and knew nothing about forestry was appointed to Head BTC. Since he was not a Forester, management of the forest based industries became a problem and furthermore, he could not account for both the revenue generated and the subvention for

BTC. In response to the above, the subvention became irregular and was later stop completely because BTC was operating at a loss.

The highest odds ratio recorded on General Manager not a Forester as the most important reason for the collapse of BTC in the study area stems from the fact that, the manager's objective was simply to make money even at the expense of resource base and the factory leading to difficulty in accessing raw materials for the BTC and even its maintenance. There was mis-management of funds and corruption came into BTC where the Manager could not even pay the salaries of BTC staff. The General Manager then begins to sell sawn timber to staff of BTC at 50% invoice price on cash and carry basis. Here sawn timbers are sold first to the BTC staff on 50% discount who in turn sells to other marketers. It was done to complement the non-payment of salaries of workers. Also, the leasing out of BTC to a Lebanese firm for a trial operation called test-run, saw the clearing of the three forest reserves meant for BTC raw materials been cleared completely. To worsen all, machine spare parts were not available. Most times during operation, damages occurred and machine spare parts are not always available. In most cases some machines remained un-used over a long period of time as one would have to travel to Enugu or Onitsha or Abba to purchase machine spare parts. This posed a serious problem on the maintenance of BTC machine and equipment. The findings of the study corroborated Deeks 1996: Bland and Altman (2000), that the logistic model provides information on the consequence of one variable on the other (i.e., reasons for the collapse of BTC in the study area).

CONCLUSION AND RECOMMENDATIONS

Actionable project like BTC that is community driven with opportunity for livelihoods and which will improve rural livelihoods should be revamped. Such project should target establishment of trees that will provide raw materials to BTC.

Based on the major findings of this study, the followings are recommended;

- Taraba State Government should establish Artificial Forest plantations to reduce the pressure on the three reserves.
- Taraba State Government should lift the ban on the operation of BTC to allow room for re-opening of the closed down BTC in order to resume full operation. Here, House of Assembly should pass a

bill to that effect and which should be implemented.

- Taraba State Government should check out all forms of encroachment on Baissa, Bisaula and Amboi forest reserves and Afforested where necessary.
- Taraba State Government should revamp BTC and should bring back all the BTC workers that are still alive and active to resume work.
- Taraba State Government should fund BTC and should empower them to raise and spend their fund.
- BTC, if revamped, should not be leased to any foreign investors again for any form of test-run.
- Only qualified Forester or a Mechanical Engineer should be allowed to head BTC as enshrined in the edict establishing the BTC.
- There should be public enlightenment campaign to educate Kurmi communities on the value and importance of BTC and the need for its protection in order to sustain operation of BTC in the study area.
- Machine spare parts should always be available when BTC is fully revamped.

REFERENCES

- Bland JM and Altman DG (2000). The odds ratio. *British Medical Journal* 230, 1468.
- Deeks J (1996). Swots corner: What is an odds ratio? *Banddoliier books*, 3 (3): 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.
- FAO (1985). The contributions of small scale forest based processing enterprises to rural non-farm employment and income in selected developing countries in Rome.
- Fuwape JA (2001). Forest resources and economic development in Ondo State. Paper presented At Ondo State Economic summit. Pp.1-15.
- Fuwape JA (2000). Wood utilization from cradle to grave. Inaugural Lecture delivered at FUTA, Akure, 1-33pp
- Lange (2015). Background information on the current status of Baissa Timber Cooperation Limited. A compilation by Egnr. Ibrahim Garba Lange. General Manager of Baissa Timber Corporation from 1994-2008. A Published report submitted to the Government of Taraba State on 25th July, 2015.
- Loubser J (1995). Sustainable livelihoods: A

- conceptual explanation. A paper presented at the workshop on Civil Society Sustainable Livelihoods and Women in Development, 6-8 November 1994, Kuala Lumpur, Malaysia.
- Olorunisola and Lucas (2006). The contributions of Ebute-Metta sawmills to the people of Lagos State, Nigeria. A paper submitted to Government of Lagos state.
- Sangodoyin AY (1995). Characteristics and control of industrial effluent generated pollution. Environmental management and health (64):15-18.
- Zaku SS (2013a). Harvesting and Utilization of Non-Timber Forest Products by Forest communities in Gashaka-Gumti National Park. JOVETED, Ahmadu Bello University, Zaria. ISSN 1596-6267, April, 2013. 8(1):15-22.
- Zaku SS (2013b). The Prevalence of Non-Timber Forest Products in Gashaka- Gumti National Park. JOVETED, Ahmadu Bello University, Zaria. ISSN 1596-6267, April, 2013; 8(1): 62-80.