EFFECTS OF VARIOUS PLANT EXTRACTS ON THE ABUNDANCE OF EUPROCTIS SPP. ON WHITE MAIZE CROP IN DALWA VILLAGE, COMMERCIAL FARM

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Abstract

The work on Euproctis producta infestation on maize crop was carried out in Dalwa village, Maiduguri commercial farm, where white maize and yellow maize were planted on alternate ridges one meter apart. This investigation was carried out on the two varieties of maize to compare their susceptibility level to this pest which devastate the maize crop during the cropping seasons. Effects of four botanical extracts (Neem seed solution, Hot pepper seed solution, Garlic bulb solution and Mahogany seed solution) were used. These extracts are not poisonous to humans and livestock, thus it was easy to formulate and used. Each of the four botanicals were designated nine plots and control plots of 5mx5m in size and replicated three times to give 45 plots for each extract. Fertilizer (N.P.K.-20:20:20) was applied at 4 weeks and 8 weeks after
planting (WAP) as the maize began tassel and at the cob establishment stage. Atrazine herbicide was applied at 2.5 kg a.i./ha as pre-emergence to control weeds at and later supplemented the weeding with hand pulling of the remaining weeds at 6 WAP. Data collection was done every three days from 6am-10am on only five selected and tagged stands per plot because of the size of the experimental plots.

The results showed that the mean Euproctis producta population on the maize showed no significant difference during two seasons in the controls (8.38 in 2011 and 7.34 in 2012), but only with varieties and among treated plots. Similar trends were observed with the infested and un-infested cobs. Mean yield were significant with treatments, where Neem gave the highest yield (2680.30 kg/ha for yellow maize. Hot pepper (2565.30 kg/ha yellow), Mahogany (2550.30 kg/ha yellow) and Garlic (2455.33 kg/ha yellow). The Control had (1950.33 kg/ha yellow ). Cost-benefit ratio in the Neem was (1:6699.75 yellow), Mahogany (1:6374.75 yellow), Hot pepper (1:3205.63 yellow) and Garlic (1:2045.11 yellow). Neem seed solution and Mahogany had better prospects than the rest of the botanicals and the control, while Garlic and Hot pepper cannot be recommended to farmers.

**Keywords:** Euproctis producta, Yellow maize, Botanical extracts, Comparison, Cost-benefit ratio, Proceeds.
Introduction

The use of plant extracts (Haque et al., 2000; Islam, 2006; 2008) against insect pests of maize, particularly, the *Euproctis producta*, in 2011 and 2012 was a new research, because *E. producta* has not been reported as pest of maize by earlier researchers (Apeji 1988). *E. producta* is known as Casta plant leaf feeder and defoliator, but could attack Amaranthus leaf, Moringa. leaf, Kenaf sleaf and broad leaf crops to defoliate them. Maize (yellow) are grown this zone as food crop for human and livestock consumption (Ogundari and Ojo, 2005).

Several pests (Stem borers like *Sesamia calamistis, Buseola fusca, Heliothis zea, Spodoptera spp. Acigona ignafusalis, Eldana saccharina*) cause lodging, stalk breaking, dead hearts and chaffy heads by the boring larvae (Teetes et al., 1983; Salako, 1987; Nyukuri et al., 2014). Plant suckers include *Lacris melcula* and *Poophilus aductus* (Apeji, 1988). The occasional but serious pests include the Village weavers, *Ploceus cucullatus, Aphis sacahari, Rhopalosiphum maidis, Acridis spp., Pachnoda spp. Mylabris spp.* and *Rattus rattus* (*Thryonomys swinderianus*). They do cause heavy losses during attack, particularly at the tassel stage and at cob setting, causing loss of stands and cobs. Maize being third only to sorghum and millet in 1980s, has now occupied the first position in recent years, replacing long season ripening white and red
sorghum varieties. In addition, it is a major food stuff in humans and livestock diets in Nigeria today, where the Northern States produce more than half of Nigeria’s requirements (Salako, 1987; Iken and Amusa, 2004; 2014). Research on maize started in 1952 by West African Research Unit (WAMRU) and later was taken over by the Federal Government of Nigeria in 1957 and IAR Samaru, Zaria and is one of Research Institutes to serve the then ten Northern States. Apart from production, research work was done in protecting the crop from field and stored products pests (Nwasu, 1980; Zettler and Arthur, 2000; Rajendran and Sriranjani, 2008; Grunwald, 2013).

Over fifty varieties of the has been developed by National Cereals Research Institute (NCRI), IAR, and IITA over the years. Out of the Seven varieties found in Borno State, only yellow (TZE) and white (TZB) and the red sweet varieties are popular, while other varieties (TZR, NCA, NCB, S123, Bulk 3 are grown in small scale (Salako 1987). According to Warman (2003), maize cobs covered with leaf husk is to prevent accidental dispersal and reduce pest infestation. Development and release of several varieties from the Research Institutes in Nigeria, are therefore meant to advance the Warman reasons of having husk on the cobs.

**Materials and Methods**
The research was conducted on a large scale farm in Dalwa village, 15 km along Maiduguri-Damboa Road in 2011 and 2012, using the white and yellow varieties as comparative study. The work was done to investigate the effects of various botanical extracts in reducing number of this potentially dangerous *E. producta* in the two varieties. Four botanical extracts (Neem seed oil, Hot pepper seed solution, garlic bulb solution, mahogany seed solution) were obtained from Maiduguri markets). One kilogram of each were bought, sun dried and ground into fine powder using wooden mortar and pestle. Fifty gram of each were measured out and dissolved in a litre of water per plot and left over night prior to the day of spraying. The contents were sieved using one mm wire mesh before spraying on each plot. This process was done each time spray operation was to be carried out. To each of the solutions was added canoe soap solution to increase adhesiveness of the extracts to the leaves. Spraying was done at a time when the solution could stay on the leaves i.e. when the weather is fare and no rain is expected so that the sprayed leaves would not have the sprayed extracts washed away due to rains, to adhere to the leaved for long hours.

Apron-plus dressed yellow maize seeds were obtained from Borno State Agricultural Development Program (BOSADP). Two yellow maize seeds per stand were planted on ridged and Randomised Complete Block Design (RCBD) plots and replicated three times to give a total of 45 plots including control plots. It took four to five days for the seeds to germinate and seeds which did not germinate were replaced to have
uniform stands and stands with more than three seedlings were thinned to two at ten days after sowing.

Data collection on number of *E. producta* was done on five selected stands per plot a day after spraying as from 6am-10am, because most insects appear in the mourning hours but go into hiding by the heat of the day after they have fed. Means of the *E. producta* collected were determined each week. For the infested and un-infested cobs, the pests could easily be observed and detected from the loss silk, which were observed to fall off the cob tips. Number of pest per cob was counted and recorded and means determined at the end of each week.

For cob length in centimetre and grain yield per cob, ten whole cobs, undamaged, of equal length and weight were selected per plot and treatment. Their seeds removed, counted and means determined and recorded. This data were later used in determining yield per hectare. The data collected were subjected to analysis of variance and mean separation by standard error and least significant difference test at 5% level of significance.

**Results**

Table 1 is the mean population of *E. producta* per plant in the plots observed in 2013 and 2014.
cropping seasons. There was no significant (0.05) difference in the population of *E. producta* per plant among the yellow maize corn the treatments, except in the control plots (8.38 in 2013 and 7.34 in 2014, which were significantly (0.05) different by season. Most of the attacks were found in the control plots, where botanicals were not sprayed. Observations made on the sheaths after spray showed that most the botanical deposited were in the leaf sheaths preferred by the adult insects for hiding to lay eggs and hatching for larvae to come up later to attack cobs from the silk. The deposited botanicals have made this part of the plant no more conducive for occupation and propagation of their off-springs through egg deposition. This therefore, resulted in reduced pest population among the treated plots than in the control plots.
Table 1: Mean number of *Euproctis producta* observed per yellow corn cob in 2013

2014 cropping season

<table>
<thead>
<tr>
<th>Treatment</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neem seed solution</td>
<td>0.42b</td>
<td>0.57b</td>
</tr>
<tr>
<td>Hot pepper seed solution</td>
<td>0.40b</td>
<td>0.58b</td>
</tr>
<tr>
<td>Garlic bulb solution</td>
<td>0.40b</td>
<td>0.64b</td>
</tr>
<tr>
<td>Mahogany seed solution</td>
<td>0.43b</td>
<td>0.45b</td>
</tr>
<tr>
<td>Control-check</td>
<td>8.38a</td>
<td>7.34a</td>
</tr>
<tr>
<td>SE+</td>
<td>0.35</td>
<td>0.39</td>
</tr>
<tr>
<td>LSD(0.05)</td>
<td>0.77</td>
<td>0.87</td>
</tr>
</tbody>
</table>

Table 2 shows the number of cobs infested, which was high in the control (55.95) and was significantly (P<0.05) different from the treated plots. The rest of the treated plots were not significant (P>0.05) different from each other. Similar trends were observed with the cobs in which only the control (214.05) was significantly (P<0.05) different from all
the treated plots, but none of the treated plots were significantly (P>0.05) different from one another

Table 2: Mean number of infested red maize cobs per plant by *E. producta* in 2013 and 2014 cropping seasons

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Infested cobs/plot</th>
<th>Un-infested cobs/plot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neem seed solution</td>
<td>15.35b</td>
<td>254.65a</td>
</tr>
</tbody>
</table>
Table 3 shows the mean cob length and mean number of grain per cob, where neem seed solution (10.50cm) and Hot pepper (9.50cm) showed no significant (P>0.05) from each other. Similar observations were made in garlic (8.55cm) and Mahogany (8.25cm). However, control plots (6.25cm), was significantly (P<0.05) different from all the rest. The number per cob, significant (P<0.05) difference were observed among in all the treatments-Neem (375), Hot pepper (297), Mahogany (295) and Garlic (290). As the length of cobs differed, therefore the grain number per cob also differed. The grain weight (g) per cob and the mean total grain yield in kg/ha, showed that grain weight per cob differed significantly (P<0.05) in all the treatments and reduced by 53.3% in the control plots from the highest weight of 93.75g to 43.75g per cob. This similar trend was observed in the mean grain yield,
Neem (2680.33 kg/ha), Hot pepper (2565.30 kg/ha), Mahogany (2255.30 kg/ha) and Garlic (2455.33 kg/ha), while Control lots showed the least figure (1950.33 kg/ha). This is a reduction of 27.7% from the highest grain yield obtained from neem seed solution treated plots.

Table 3: Mean grain per cob and dry gain yield of yellow maize in 2013 and 2014

Cropping season using various plant extracts

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean cob Length (cm)</th>
<th>Mean no. dry grain/cob</th>
<th>Mean grain wt./cob</th>
<th>Mean grain yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neem Seed Solution</td>
<td>10.50a</td>
<td>375.00a</td>
<td>93.75a</td>
<td>2680.30</td>
</tr>
<tr>
<td>Hot pepper Seed solution</td>
<td>9.50a</td>
<td>297.00b</td>
<td>74.25b</td>
<td>2565.30a</td>
</tr>
<tr>
<td>Garlic bulb Solution</td>
<td>8.55b</td>
<td>290.00b</td>
<td>72.50d</td>
<td>2455.33d</td>
</tr>
<tr>
<td>Mahogany Seed solution</td>
<td>8.25b</td>
<td>295.00c</td>
<td>73.75c</td>
<td>2550.30c</td>
</tr>
<tr>
<td>Control-check</td>
<td>6.25c</td>
<td>175.00e</td>
<td>43.75e</td>
<td>1950.33e</td>
</tr>
</tbody>
</table>
Table 4 is the cost-benefit analysis and ratio, where Neem seed solution gave the ratio of 1:6699.75, Mahogany 1:6374.75, Hot pepper 1:3205.63 and Garlic 1:2045.11. Similar trends were observed in the profit margin, Neem N 669,975-00, Hot pepper 641125.00, Mahogany 637475.00 and Garlic 613,532.00. Neem seed extract provided better control and protection of the yellow maize cobs from *E. producta* infestation in 2012 and 2014 seasons and also gave better profit margins and cost-benefit ratio.

Table 4: Cost-benefit analysis of yellow maize grain production using plant extracts against the silk eater and cob borer, *Euproctis producta* larvae in 2013 and 2014 cropping seasons

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cost of Yield kg/ha spray N</th>
<th>Sales rate</th>
<th>Proceeds N/kg</th>
<th>Cost-benefit N</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE+</td>
<td>0.49</td>
<td>0.47</td>
<td>0.02</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td>LSD(0.05)</td>
<td>1.09</td>
<td>1.05</td>
<td>0.45</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>Neem seed Solution</td>
<td>1000</td>
<td>2680.30</td>
<td>250</td>
<td>669,975</td>
<td>1:6699.75</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>Hot pepper Seed solution</td>
<td>2000</td>
<td>2565.30</td>
<td>250</td>
<td>641,125</td>
<td>1:3205.63</td>
</tr>
<tr>
<td>Garlic bulb Solution</td>
<td>3000</td>
<td>2455.33</td>
<td>250</td>
<td>613,532.50</td>
<td>1:2045.11</td>
</tr>
<tr>
<td>Mahogany Seed solution</td>
<td>1000</td>
<td>2550.30</td>
<td>250</td>
<td>637,485</td>
<td>1:6374.75</td>
</tr>
<tr>
<td>Control-check</td>
<td>0.00</td>
<td>1950.33</td>
<td>250</td>
<td>156,000</td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

*Euproctis producta* is not a common pest of maize cobs in this geo-political zone and the arid environment, which infest both the cobs and tassels. There was good protection rendered by the seed and bulb extracts as shown by the results of the experiment by the number of insects per plant and the infested and un-infested cobs which were
harvested. The effects of the pest manifested more in the cob length, mean grain number per cob, mean grain weight per cob and the total grain yield in kg/ha, which differed significantly among treatments. This indicates that continuous infestation of the *E. producta* with no control measures applied at the right time can reduce yellow maize grain yield by more than 30%. The weight loss in grains can reach over 50% due to reduced photosynthetic processes in the aftermath of the *E. producta* infestation. This pest known as Caster oil leaf pest, but can also attack kenaf, amaranthus leaves and stems, moringa leaves and other broad-leaf vegetables causing heavy leaf defoliation and consequently loss of ability of the plant to carry out photosynthetic processes. The infested cobs were observed to loose all their tassels as the tassels were eaten up, leaving the cobs with no tassels which resulted in poor grain development. Fifty percent of the infested cobs had their grains eaten up to more than a third of the normal cobs showing the seriousness of the *E. producta* infestation.
Although, many pests of maize were studied by many authors, the results released in Institute of Agricultural Research (IAR) extension bulletins, did not mention the Caster oil leaf defoliator as maize pest. It was observed in the 2011 and this experiment was conducted in 2013 and 2014, due to the heavy infestation by this singular pest. Apeji (1988), worked on maize pests, like the stem borers (Sesamia spp., Buseola spp., Acigona ig nefusalis and Eldana saccharina), Ear worms (Heliothis armigera), the village weaver bird (Pluceus cuculatus), Plant suckers (Cotton stain ers, maize aphids-Rhopalasiphum maidis) and Spittle bugs, Lacris malcula. This study has also revealed that maize pest complex vary in abundance with season. It also revealed that maize production can be done successfully using the botanicals-Neem seed solution, Hot pepper seed solution, Mahogany aqueous seed solution and garlic bulb solution and the stalks can still be fed to livestock as fodder without hazards.
It is safe therefore, to conclude that application of these extracts should be every fortnight i.e. two weeks, six weeks, eight weeks and ten weeks after planting (WAP). In particular, the Neem, Mahogany and the Hot pepper seeds solutions are recommended without doubt, but not Garlic bulb due to low performance. This is to prevent the adult butterfly from laying eggs in the leaf sheaths during vegetative growth, from where the larvae would defoliate tassels and penetrate the cobs retarding seed development.

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EXPLANATION: A CORE VALUE IN ARCHAEOLOGICAL RESEARCH

Oyinloye Yinka Olanrewaju

Abstract
Inferring proper meaning from the bulk of material evidence archaeologists come across on the field has been a major challenge over the years in most archaeological research. Bearing in mind that these evidence cannot speak for themselves, archaeologists have to speak for them. This paper presents the need to adopt various ways of knowing for proper explanation of past phases by the archaeologist.

Introduction
To understand the place of explanation in archaeology, it is expedient first of all to discuss and understand what explanation and archaeology are all about. According to Oxford Advanced Learner’s Dictionary, explanation refers to “a statement, fact, or situation that tells you why something happened; a reason given for something”. This can as well be viewed as a process of clarifying or giving meaning to an issue or a point of discourse. Archaeology on the other hand, has been simply defined as the study of human past through the material remains left behind. (Scarre 2005: 25). Archaeology is a field of discipline or enquire that seek to order and describe events of the past and give explanation to those...
events. The primary purpose of archaeology is to help us understand ourselves. To move towards that end, most archaeologists pursued three basic goals which are observation, description and explanation, each building on the other. Just like it is found in all science, archaeology begins with the discovery and description of new information. Like newspaper reporters, archaeologists ask the five basic “W” questions: who, what, when, where, and why. The first four questions are answered by the discovery and description of archaeological materials, and once that task has been completed, archaeologists seek to explain the past by addressing the why question. Archaeologists seek to reconstruct the life ways of past people, their daily lives, where they lived, what they ate, what their tools were, how they interacted, adapted, employ and make used of their environment (Sutton and Yohe II, 2006).

Therefore, the clue to the past that archaeologist seek is majorly to some extent depended on the material culture (remains) of past inhabitant. This is because these material remains are product of human culture and they tell us more about humans’ life ways in the past. Thus materials remains are significant to archaeological investigation.
THE PLACE OF EXPLANATION IN ARCHAEOLOGICAL RESEARCH

Archaeologists examine the past through systematic and careful studies of those things which humans made and used at different places through time. However, not all activities of man can be put into concrete forms, for example, greetings, gesture, movement, language among others. Similarly, it is not everything that human put into a concrete form that survives with time. Thus, the need for explanation becomes a paramount issue in archaeology. “Indeed, archaeologists are generally aware of the limitations of their own evidence. Not only are there the obvious problems of poor or differential preservations of material remains but the sample of human behavior represented by those remains that survive are likewise limited” (Gould 1978: X). Hence, interpretations of the archaeological record depend on how representative the surviving stone implements, pottery, bone, textile, metal or other objects are of the total material culture. “It follows that the reliability of our statement about this culture also depends on how strongly we can believe that the non-material elements of the society and culture are reflected in the incomplete collection of finds that has come down to us” (Fagan 1975:113-114, cfOkpoko 2006).
However, archaeological remains being a representation and carrier of past human culture lacks the capacity to speak for themselves. It therefore becomes necessary on the part of the archaeologists to speak for them, giving room for the place of explanation in archaeology. Archaeologists go beyond reconnaissance, survey and surface collection of cultural materials, but on several occasions adopt what is known as excavation; this is a scientific and systematic way of digging the ground in a stratigraphical order, so as to unearth buried cultural materials and evident of human activities, all geared towards a better explanation of the past. To answer the question who, what, when, where, and why is one of the most difficult task in archaeology. Indeed, it is the most challenging and interesting task in any science or field of knowledge. For with this question the archaeologists go beyond the mere appearance of things, their face or aesthetic value and on to a level of analysis that seeks in some way to understand the pattern of events. (Renfrew and Bahn 2000)

Therefore, in an attempt to give explanations to bulk of the cultural materials archaeologists come across often time on the site, the following should be put into consideration:

i. That material remains are aspect of human culture and not the totality;
ii. That material remains are not ends in themselves but means to an end;
iii. That most cultural materials are not always recovered in their complete forms;
iv. That the required information for the explanation of past human activities are not readily available by looking at material evidence on its face value; and,
v. That there exist some relationship between the past and the present.

It therefore becomes inevitable on the part of the archaeologist to utilize relevant information that can be derived from contemporary societies with similar material to that which was recovered from an archaeological site for better interpretation of past ways of life of ancient people. This process in archaeology is termed ethnoarchaeology. This involves the use of ethnographic analogy as an explanatory model for the interpretation of archaeological data. That is, “a reasoning that infers relationships between archaeological data and the ethnographic one” (Odofin, 2006). Using this requires ability to be able to establish some degree of cultural continuity between the past and present society under study taking into cognizance changes in time, place, and people. More so, ethnographic analogy can better be more reliably drawn from societies that are geographically identical or contiguous to some extent. The use of analogy
was further expanded by Lewis Binford (cf Matthew 1999) in what he called middle-range theory. He is of the view that all archaeologists of whatever theoretical strip make a link between present and past by using analogies. We always make an assumption that things in the past were like analogous to the present, that is, similar in some ways. All archaeologists offer possible links between statics and dynamics, every time they put forward an interpretation of archaeological evidence. In practice archaeologists do this by making assumptions about the middle range, that is, the space between statics and dynamics. For example, we excavate a cemetery consisting of a few graves with lots of grave-goods and many graves with very little (static data); from this we infer a society characterized by wealth or social inequality (past dynamics). We do so by assuming a middle-range link between the number and/or value of grave goods and the social/economic status of the person buried (Matthew 1999).

For better explanation in the aspect of the use of artifact, its methods of production, wear and tear, among others, archaeology adopt what is known as experimental archaeology. This also involves experimental stages based on observation made and artificially controls condition. For example, to duplicate the stone tools recovered in an archaeological context by
experiment, to find out the method of manufacture, and the function of the stone tools. This is achieved by making similar tools and using them for the function they were suspected to have been used for, and by also comparing the wear patterns of the newly manufactured tools with those found or recovered from the archaeological context.

Given the new trend in the field of archaeology (Postprocessual Archaeology) and their quest to give better and meaningful explanation to past event. It was argued that there is no single truth about the past, only narratives or description of what the interpreter (the archaeologist) wanted to see (Sutton and Yohe II, 2006). One of the basic arguments of this proponent is the need to be gender sensitive in interpreting archaeological remains, that is, archaeologists should focus their study on the roles of men and women through the archaeological record. Even though related to feminist archaeology, it is totally different from it. Feminist archaeology places women at the centre of investigations and it is gynocentric. While Gender Archaeology involves reconstructing the past from a wider perspective that capitulate the role of male and female in the society. “With gender archaeology, it is possible to begin to understand the entirety of the social organization of past societies from a broader
framework transcending the equator of man the hunter, man the tool maker and looking into the possibility of man and woman, the hunter and even man and woman the tool maker. Gender in archaeology transcend beyond designated roles on sex basis, we should begin to analyze and dissect gender based on age, social status, wealth and other parameter”. (Bakinde and Assa 2008:79).

Discussion
There is no universally accepted perspective from which to understand or explain the human past, this is because there are many ways of knowing. Today there are different approaches to explain who, what, when, where, and why, because the most fundamental question guiding archaeology today is of the above and why things change? This gave rise to the need for explanation in archaeology. The archaeological literatures are awash with theories and models among which are; Historical Archaeology, Middle-Range theory, Gender in Archaeology, Cognitive Archaeology, Phenomenology, Functionalist Model, Evolutionary archaeology, Experimental Archaeology, Forensic analysis, Simulation Studies, Ethnoarchaeology, among others. All claiming special insight into explaining the past in archaeology. For better understanding and study of culture history, reconstructing past life
ways and elucidating cultural processes by the archaeologists, they often take into cognizance the limitations attached to the nature of archaeological records, in that, they are fragmented aspect of the totality of human culture and the fact that they cannot communicate to us about the past (cannot speak). Archaeologists in their bid to get answers to these challenges often adopt series of explanatory methods for better archaeological explanation of their material evidence recovered from different archaeological sites. Therefore, one can safely say that, explanation play a significant role in the interpretation of archaeological records.

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A PRELIMINARY ARCHAEOLOGICAL REPORT
ON THE EARLY HISTORY OF NGAMO PEOPLE
OF NDOKTO FARA, FIKA LOCAL
GOVERNMENT AREA OF YOBE STATE,
NIGERIA

Hassan Disa Hussaini

Abstract
This paper examines the early history of the Ngamo people in Ndokto Fara, Fika Local Government Area of Yobe State, Nigeria. The objective of this paper centres on their history and some traditional ways of life before the coming of Islam. Archaeological methods adopted in the research include; collection of oral information from the people of the area and archaeological survey. There are two versions of migration among the Ngamowa’s which both link to Kanem Bornu as their ancestral homeland. Over the years, there were massive movement of hunters/gatherers and pastoralists from the Chad Basin down to Kanem and to other far and nearby locations in search for fertile land, firewood and security. This paper therefore, documents versions of these traditions and some traditional ways of life for better understanding and reconstruction of aspects of their past life ways.
Introduction
The Ngamo language group belongs to the Chadic language family and are predominantly found in Fika, Potiskum, Nangere and Fune Local Government Areas of Yobe, parts of Bauchi and Gombe States. Ndokto Fara is one of the Ngamowa’s communities found in Fika L.G.A that is largely inhabited by the Ngamo people. The words Ndokto Fara in Ngamo simply means ‘clay’ (Ndokto) and ‘white’ (Fara) from Hausa. Ndokto Fara is situated between latitude 11°23"N and longitude 11°9'E, it is located about 27km northwest from Fika, headquarters of Fika L.G.A and 18km northwest from Gadaka the major town of the Ngamo speaking people. Ndokto Fara is surrounded by some historic archaeological sites and extant communities largely occupied by Ngamo, Bole and Kare-kare people such as Daniski and Kalefo to the southeast. Gudi to the northeast, Ndokto Ja and Boza to the north while Wala, Kadi and Shiyou are located to the southwest among others, as well as river Ngeji and farmlands. Find below (figure. I) show Ndokto Fara in Fika L.G.A with inset maps of Nigeria and Yobe State.
The area is generally characterised by the Sudan Savannah Vegetation which is predominantly made up of short grasses and shrubs ranging from 1.5m to 2m in height, while the tallest trees grow to about 9m to 15m high (Nigeria; physical settings, 2013). The most common grasses in this area include the African peach, *Sarcacephadus latifolius*; Guiera *senegalensis* and *Zizaphus mauritiana*. Trees include silk cotton, *Gossipium Sp*; Dum Palm, *Borassus aethiopum*; Baobab tree, *Adansonia digitata*; Neem tree, *Azadirachta Indica*; Locust Bean, *Parkia Biglobosa*; Mango, *Mangifera Indica*; Aerial shoots, *FiscusSp* and *Acacia Sieberiana* among others. This type of vegetation is majorly
considered suitable for the habitation of domestic animals that are adversely adapted to harsh and open dry land environment. The soil nature is sandy and silty clay which is suitable for the growth of crops such as grains, groundnut Bambara nut and vegetable plants among others. The vegetation however, has a considerable impact on the people of the area who excel as farmers and herbalists.

**Tradition of Origin**
The history of Ndokto Fara people cannot be complete without mentioning the general background information of the Ngamo people and their migration to the southern part of Yobe State and beyond. The history of these group was largely traced through oral accounts which include informations from emirate council and other narratives from inhabitant of the area. According to an oral informant (Kiri Pers. Comm., 2014) the inhabitants of Ndokto Fara are speakers of Ngamo language, who shares a similarity to other Chadic language groups who migrated from Kanem to the southern part of Yobe State. There are two traditions of origin of the Ngamo people which both traced their origin to the Sayfawa legend. The tradition claims that the people migrated into the Kanem Bornu after the death of their leader Sayf Ibn Dhi Yazan Yemen, who was buried at the valley of Sanaca in Yemen (Alkali, 2013).
The first version of this tradition was mentioned in some written documents (Seidensticker, 1987 and Disa, 2008) that some sections of this group of languages migrated from Ngazargamu to Daniski hilltop site. It was revealed from the work of Ali, (2010) that some group of people were forced out of Ngazargamu as a result of the quest for fertile land and struggle for political power. He further revealed that by the 16th century AD, Birnin Ngazargamu was a centre of the political authority and seat of the Sayfawa government which forcefully drove some people away from the state to establish their kingdom and centres elsewhere. Other sources claim that this language groups settled at the Gudi hilltop settlement site on their arrival from Ngazargamu before moving to the Daniski hilltop site as a result of overpopulation (Nikau Pers. Comm., 2016). The gradual and steady movement of people out of Ngazargamu led to the spread of craftsmanship such as pottery making, weaving, dyeing and leather work among others to other towns and centres within the region and beyond (Disa, 2016).

The second version of the tradition of this language group claim that some section of Ngamo people migrated from Kanem to settle at the Mandara or Wandalamountains area together with their Kanuri brothers before their arrival to the present locations. Other sources further
claimed that after leaving Wandala mountains area the Ngamo settled at Daura in present-day Fune L.G.A. where they established a cordial relationship with the indigenous population. After a couple of years, the Kanuris dominated their Chadic brothers and had total control over them for several decades. After the struggle for many years to reclaim their political power had failed, the Ngamo group migrated to Ndokto Fara and called themselves Ngamo Ndokto(one of the three clans of Ngamo tribe which means Ngamo Clay). According to oral informant (Sama’ila Pers. Comm., 2015) these people (Ngamo Ndokto) descended from seven families namely Shiwo, Kushi, Ndari, Kadiri, Zobol, Janja and Tura who migrated to the area under the leadership of Moi Yaya Kanji. He was said to be the first person to explore and acclimatised himself with the environment and recommended it good for human habitation. It was further revealed that the leader was a hunter and very knowledgeable about environment. Hence, his decision to choose the hilltop settlement was for security and economic reasons. Other groups of this Ngamo section that did not live on any hilltop site in the area settled on the plains and called themselves Ngamo Yaya; which literally means Ngamo sand.

Traditional Religion
Before the coming of Islam and Christianity into the land of West African region people were traditionalists in the sense that they worshipped their ancestors or spirits. It was very common in the past for people to engage in this activity to meet-up with their daily needs and seek for blessings as well as protections against evil people. They worshipped their gods through trees, idols, stones and statues among many others with a belief in the extra-terrestrial being (god). Such practice was very much common among Ngamawa’s of Ndokto Fara, Aerial shoots trees locally called Goro or Gorom (see fig. iii) and Baobab trees called Kushi were worshiped as gods in the past. Each household in the past own Gorom trees located around its house as evidently seen on the abandoned hilltop site of Ndokto Fara. Kushi tree was said to be worshiped specifically by the family that bears its name known as Kushi people Bye Kushi and some other few interested non family members. They had a festival where red chicken and black goats were slaughtered as sacrifice to the spiritual trees by applying blood of these animals and application of a solution of millet powder (ruwan sirki or amma surki) as libation to these spiritual trees. This is done with the intention of seeking blessings and cures of some ailments. Another important aspect of their religion was a belief in bush baby (Gwai-gwai) as another god
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responsible for informing them about the appropriate time to till land and plant farm products (fig. ii shows remains of the Gwai-gwai room foundation). Five stones were identified that made up the foundation and arranged in a circular form. The distance between the stones used in making the foundation differs from one place to another and from the western part it was observed that a remnant of collapsed ruin of building is still visible. A big pot was found buried in situ and the unburied section was found broken, the diameter of the pot and the thickness of the broken parts were measured about 47.0cm and 1.6cm respectively. The entire section of the room measured 1.50m in circumference and the soil texture of the room is grey and compacted in nature. At the beginning of every rainy season the village head Lawani would keep a hoe in the shrine where the bush baby is believed to reside-in and would slaughter red chickens and black goats as sacrifice close to the room. After that, every morning the village head had to go and check whether two thirds of the hoe kept in the room is out and wet, once it’s out and wet he will assemble his people and inform them about the beginning of the farming season and ask them to set out to their farms as rain is expected at any moment. Contrary to this, even if there was rain throughout a day and night or week but the hoe
kept in the shrine is not out, then nobody would be allowed to plant anything on his farm. With the coming of Islam, the present-day people of the area discarded their traditional beliefs and accepted Islam with the belief in oneness of God Allah.

Fig. II: Remnant of Shrine Foundation

Socio-cultural organisation and economy
There are different aspects of social activities among this group of people such as wedding ceremony, harvest festival and other religious festivals among others. Like any other ethnic group, this group of people also enjoyed a unique form of traditional way of marriage. Families of the couple would come together under the family of the bride to introduce themselves and discuss relevant issues in connection to the wedding of their children, which is seen as the introduction. Local tobacco and bear called Oshore and Moshim respectively is sheared among the family members and relatives to celebrate the engagement. After some few days the groom would slaughter a black goat and take
the meat to his mother in-law’s house over the night and put it on her bed. The father in-law would invite his associates and other family members in the morning to come and eat the meat to mark the second segment of their daughter’s wedding (*cin naman amarya*) and offer a prayer for them. The third aspect is the most tedious and demanding in their wedding which is voluntary service on the bride’s father’s farm. The groom had to invite his friends and family members to the father in-law’s farm during rainy season to work voluntarily for glory. This voluntary service includes all the stages of farming processes from clearing farm land to the harvest. Thereafter, the groom had to continue sponsoring the needs of the wife until she conceived and delivered in her family house. The naming ceremony is also organised by the groom to provide all that is required for the naming ceremony. Six chickens and a half of ram or goat are given out to the girl’s family by the groom and the naming ceremony take place at night. After naming ceremony the girl (wife) would spend some days together with her family before her husband finally take her along with her child away to his house.
The community or village head (Moi) of Ndokto Fara is nominated or emerged based on consultations among the elders of the community and this has been in practice up to the present. According to oral information (Abdulmumini, Pers. Comm., 2015) a leader emerged from the royal family after a series of meetings and consultations among the elders. When a consensus is reached among the princes, the name of the qualified candidate would be sent to the district head in Fika for final approval and confirmation. According to this tradition, four pre-Islamic rulers ruled for several years including the first leader Moi Yaya Kanji, Moi Ma’aji, Moi Anga and Moi Langawa. The number of years they spent on the throne was not disclosed. The Islamic leaders include Moi Bazam who ruled for 80 years, Moi Doya, Moi Kakau seven years, Moi Boyaya 23 years, Moi Shua’ibu Haruna 14 years and Moi Alhaji Abdulmumini 1993 to date.
The people of Ndokto were farmers, hunters and craftsmen. Trading was also part of their livelihood. Geographic nature of the area influence their rainy and dry season farming activities. Ngeji stream is their major source of dry season farming (fadama). The soil is very fertile for the production of crops like maize, guinea corn, millet, rice and vegetable crops. They reared animals for both domestic and commercial purposes such as cows, goats, sheep, horses and dogs among others. They were craftsmen who specialised in mat and cloth weaving, iron working, wood carving, dyeing and pottery making among others. According to Barkindo (1980) the Chadic speaking group and their Kanuri neighbours introduced cloth dyeing and other craftsmanship to Mandara from Kanem in the 17th century A.D. The knowledge of these craftsmanship were later spread to Ndokto Fara through migration. According to oral information (Kiri Pers. Comm., A. 2014) former inhabitants of Ndokto Farawere hunters and skilful craftsmen who were attracted to the hilltop site for the dense nature of the forest for security and natural resources for craftsmanship. These people were also traditional herbalist, who specialised in the knowledge of their environment. Up to the present time people troop into the town to collect traditional medicine that can cure illnesses such as fever, asthma and
ulcer as well as charms for protection against evil spirit (*sinkau*), iron, bullet and fire accident among many others.

Traditional way of disposing death was a very common phenomenon among African societies, some contain grave good with believe of another life after death. Such practice was also common in the Lake Chad region. Grave goods found in relation to grave furniture were identified in Daima of Lake Chad region in north-eastern Nigeria that includes ornaments, terracotta clay headrest and clay figurines of animals (Gundu, 1988). According to oral informant (Bala Pers. Comm., 2016) burial system in Ndokto Fara is of two types and deceased’s are housed or buried in their compounds, kings (Mois) graves are circular in shape with stone mounds (see fig. iv) with a circular chamber where their bodies are buried seated with grave goods such as cowries and other valuable goods among others. The other grave architecture is in linear form lying east to west where the ordinary citizens are buried with their heads lying on their right hand and their face facing north. The external architecture of this system of burial is circular form and it is covered by a heap of stones. Ethnographic information disclosed to this research that the deceased are now buried according to Islamic obligation and graves are located far away from their compounds unlike in the past where dead
bodies are buried within their compounds (Jibir Pers. Comm., 2015).

![Image of circular grave with stone mound]

**Figure IV: Typical nature of circular grave with stone mound**

**Discussion and conclusion**

This paper revealed the aspect of Ngamawa’s history of migration and some indigenous traditions of origin which manifested mostly in their archaeological features. Their migration was believed to have started from the upper Lake Chad area to Potiskum area and subsequently to Ndokto Fara and beyond. As claimed by their traditions, the migration process adopted by these people was gradual and steady through Mandara and Ngazargamu at a different time. On their arrival they settled at different locations some on hilltops while others on a plain land.

Before the coming of Islam and the spread of its knowledge to the ancient Kanem Bornu and subsequently to the other parts of Nigeria and
West Africa in general as well as the settlers of Ndokto Fara where traditionally religious. They believe in extra-terrestrial beings and some specific trees claim to be a hideout of spirits as their gods and saviours. The paper further revealed how those gods were worshiped in the past and what it takes to make sacrifice for personal or public needs. This form of religion is reflected in most of their social activities including traditional wedding, farming system and festivals among others. To establish a strong and blessed union between couples is done through seeking of blessing from the extra-terrestrial beings and elders. In the traditional marriage husband has to go through a scrutinized test and sacrifice. Naming ceremony among this set of traditional people took place in the bride’s family house over the night.

Aspect of traditional religion and burial has been clearly identified through the material evidence and oral information. There was a belief of life after death as suggested by oral information, the Moi’s where accompanied to their graves with surplus of expected materials to be used after this life. As noted by Connah (1981) such practices of burial were very common among the tradition of Soapeople of Lake Chard region. Further intensive archaeological research through excavation and probably dating is suggested to reveal their relationship in-terms of social practices.

Conclusively, this paper reveals a pre-colonial complex society with a centralised system of government under the leadership of a trusted leader known as Moi and a strong
socio-economic practice in the past. Some scholars argue that the occupants of Ndokto Fara area were agrarian and immigrants who came from Mandara mountains area to Daura before they finally settled on Ndokto Fara hilltop site.

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HERITAGE MANAGEMENT IN THE SOKOTO RIMA BASIN: A CASE STUDY OF ALKALAWA IN SABON BIRNI LOCAL GOVERNMENT AREA OF SOKOTO STATE.

Isa Muhammad

Abstract
Alkalawa is an abandoned settlement site, located ten kilometers away from SabonBirni Local Government Area Sokoto State Nigeria. It has got some archaeological features like; grave yard, dye pits, ruins of defensive wall, historical manuscript which speak a lot about the heritage of Gobir people who settled in this site. The site is currently enlisted as one of the tourist site in Sokoto State because of its archaeological potentials. The Ministry of Arts and Tourism started a site Museum which is uncompleted and It also attract people from within and outside Nigeria who come to seek spiritual blessing from the grave of Bawa Jan Gwarzo and other rulers of Gobir Kingdom. Despite these potentials the site is currently managed by the inhabitant of the present day Alkalawa village. Little or no support is coming from the State Government in safeguarding these archaeological resources and the site is under threat due to intensive farming and desertification. This paper attempts to suggest ways towards managing and protecting this historical site for the purpose of education, tourism and economic activities.

Keywords: Heritage Management, Sokoto Rima and Archaeological potentials.
Introduction

Alkalawa is located on latitude 13° 36’ 47” N and longitude 06° 15’ 36” E and in Sabon Birni Local Government Area of Sokoto State. The early settlers in Alkalawa were said to be Gobirawa who were said to have been Kipiti (Copts) from Misra (Egypt) (Na-dama 1977:289). Alkalawa formally became the capital of Gobir Kingdom after the defeat of Birnin Zamfara in 1757 A.D. It later fell to the Sokoto Jihadist in (1808 A.D) who destroyed the city as they were seen as rebels against the Islamic Faith (Augi 1984: 416).

The old city was said to have been destroyed and abandoned about 200 to 250 years ago. The ruins of the city wall and mound are still visible suggesting that these features were massively built (Augi 1984:419). The founder of the capital Ibrahim Babari was said to have devoted seven years of his reign to building, developing and fortifying Alkalawa. (Na-dama 1977: 280).

Archaeological evidence in Alkalawa includes; ruins of city wall, dye pit, burial cairns (ground), potsherds, huge mounds among others. This site is also of great spiritual significance as people used to come from within and outside Nigeria to seek blessings from one of the great ruler of the town Bawa Jan Gwarzo, he was said to have been the longest serving king of Alkalawa (Augi 1984:412).
The presence of cultural materials on this site which is presently threatened by intensive farming and desertification informed this paper. The paper also attempts to suggest ways towards managing and protecting this historical site for the purpose of education, tourism and economic activities.

**Objectives of the Research**

The main aim of this research is to identify and document finds and features that are of archaeological interest which are under threat by human and natural factors in Birnin Alkalawa. This aim was achieved through collecting and documenting oral tradition, Archaeological Reconnaissance and desktop review of literatures.

**Method of Research**

- **Oral Tradition:** Five people were interviewed, the interview centered on origin, migration, environment, political and economic system.

- **Desktop Review of Literatures:** Information about Alkalawa were obtained from a variety of written sources particularly written sources that document events that pre date the jihad period for example colonial records which mentioned Alkalawa. One of the major works found was a manuscript written in Arabic which was gotten from the Gobir Palace in SabonBirni. The manuscript is claimed to have been sent from Yemen. The author is said to be a Bagobir (a
descendant) who ran away after the defeat of the Alkalawa, though some parts of the book has been translated into Hausa, but the original manuscript is not properly preserved hence it is infected by termites and is deteriorating (see plate I and II).

Plate I: Manuscript sent from Yemen

Plate II: The Gaffaka in which the Manuscript is preserved

- **Archaeological Reconnaissance:** The ground reconnaissance method was employed in this research. The reconnaissance involved systematic field walking and traversing round Alkalawa site.

**Results**
The following features were identified.
- **Grave yard**
This is where prominent rulers of Alkalawa and their family members were buried. There is an ancient well in the grave yard from which water for mixing the mud to cement the grave was obtained. Mallami (Pers. Com. 2013), recounted that people from various parts of West Africa used to come and seek spiritual blessings from the grave of one of the famous and prominent ruler of Alkalawa Bawa Jan Gwarzo. Some herd’s men come to the site during the dry season to graze their animals with the belief that there are spiritual benefit when they feed their animals on the site. The grave yard is fenced in a rectangular shape with 27m length and 19m breadth covering an area513Square Meters. There are about thirty (30) tombs in the grave yard all form the royal family.

Plate III: Front View of the entrance to the grave yard
About fifteen dye pits in a cluster were among the features found on the site. They are located at the lower depression of the site which is about two hundred meters North West of the grave yard. The soil colour of the area differs from other areas as it is whitish and grey. Some of the dye pits are covered with soil. The dye pits range from 0.8 – 1.2m in diameter. The dye pits covers a rectangular area of length 9m by 7m breadth totaling 63m². The clustered dye pits are about two hundred and sixty-six meters (266m) north west of the grave yard.
Plate VII: Dye Pits.

- **Pool of heads** (*TafkinKanu*)
  A pool was found in the site, its water is muddy and it looks like *fadama*. Oral sources (Ladan, Pers. Com. 2013) said that whenever Alkalawa archers captured Shehu Usmanu Danfodio’s fighters they chopped off their heads and threw them into the pool. Similarly those who committed capital offences and were condemned to death, their heads were also chopped off and thrown into the pool. It is about a kilometers walk northeast from the grave yard.

Plate VIII: Pool of Heads (*TafkinKanu*)
Remains of defensive wall (BazarBirni): the remains of the defensive wall shows that the wall was built with mud though presently washed away by River Rima which flows by its side. Oral information and written documents confirm the names of the seven gates found on the wall namely; Kofar Malam, KofarGaladimaKachiro, KofarKihinBisa, Kofar Sarkin Kabi, kofar Sarkin Kwanni, KofarSarki, KofarBaramaka (Augi 1984, Suleiman, per.com 2014). The ruin of the defensive wall has a height of fifty (50) cm.

Plate IX: Remains of Defensive Wall
Discussion and Conclusion
The above features can be termed as cultural heritage of the Gobirawa, this is because by the world heritage convention’s operational guidelines heritage can be seen as both cultural and natural heritage that are priceless and irreplaceable possessions. The essence of managing heritage resources is primarily for the benefit of the current users of the resources as well as for posterity. Heritage management is also accompanied with linked vision and target goal, this vision involves the
adaptation of strategies that helps to maintain resources in their realistic state for future use (Adedayo, 2007–77).

The site is currently enlisted by the Sokoto state government as one of its tourist attraction site because of its historical significance. Similarly, the Federal Ministry of Culture and Tourism established a site museum which is still uncompleted (see plate X). The museum is 10m south of the grave yard.

**Plate X: Front view of the uncompleted site Museum.**

Despite these bodies mentioned above who are suppose to be managers of this site, the site is under threat of human and natural factors as shown in the plates above. Currently the management of the site is done by the inhabitant of the present day Alkalawa village who receive little or no support from the State Government or Ministry in safeguarding these cultural heritages. The condition of the site requires urgent attention by all stakeholders; members of the community, Traditional
Institution, State Government, National Commission for Museums and Monuments (NCMM) and the Ministry of Culture and Tourism. Though, this site has been enlisted by Sokoto State Government as a Tourist Attraction Site, which is useful and important in promoting educational, economical and recreational value of the state. There is the need to deliberately embark on more detailed research and documentation of the site as what is written in the Sokoto State Tourist Guide is very scanty and could be misleading.

The Federal Government and National Commission for Museum and Monuments need to work harder towards completing the site museum in Alkalawa, as this would be the first of its kind in the state and more information would be assessed if the museum is put in place, it would also serve as a medium for public awareness which can also be called public archaeology.

The manuscripts about the history of Alkalawa is a very important document, hence it needs to be properly preserved particularly now that termites have started destroying it. There is the need for the royal home to collaborate with Arewa house in Kaduna in producing a proto type and scanning it to get an e-copy of the manuscript; they also need to partner towards translating the
whole manuscript into English and Hausa Languages as this will go a long way in providing more information about Alkalawa.

References


A HISTORY OF COLONIAL TAXATION IN WUDIL DISTRICT, KANO PROVINCE 1907-1960

Nura Isah Zubairu

Introduction

Taxation was an important component of the economy of Wudil District area even before the occupation of the area by British colonial authority. Since the area was part of Kano Kingdom it was introduced to the taxation system during the reign of Sarki Muhammad Sharefa (1703-31) who was believed to have introduced the policy of tax collection in Kasar Kano.¹ Similarly, during the emirate administration, more taxes were collected in Kano emirate in general, Wudil District inclusive. The taxes that were collected at the beginning of emirate administration include: kharaj, zakat, jizya and war booty.² In view of the fact that the administration of Kano emirate became more complex and government financial needs increased in subsequent years the need to diversify the emirate sources of revenue became necessary. This led to increase in the incidence of the existing taxes and the introduction of new ones.³ The various taxes collected in Kano emirate in general in the

² Ibid, p.118.
³ Ibid, p.120.
mid 19th Century include: *kharaj*, *kudin karofi* (tax on dye pits), *kudin fito* (import and export duties) and *kudin rafi* (tax on vegetable produce). During this period, Emir Usman (1846-55) directed that Islamic scholars should also pay tax to the emirate administration. Following the conquest of Kano emirate by the British, colonial taxation was introduced in the emirate. Therefore, this paper is set to examine the history of colonial taxation in Wudil District.

Geographically, Wudil District is located on the south-eastern part of Kano Emirate. It lies between latitude 11°025N to 12°000N and longitude 8°045E to 9°000E. It has an area of 32,803 square miles. It is also located in south-eastern region of Kasar Kano which has fertile soil and received heavy rainfall throughout the year.

**Pre-colonial Taxation in Wudil District Area**

In Wudil District area numerous forms of taxes were collected in pre-colonial period these included: *zakat* which was a religious tithe on harvested, cattle tax otherwise known as *jangali*, *Kudin kasa* land tax, *Kudin Shuke shuke* or levies on agricultural crops, *kudin rafi* or tax

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4 Ibid. Before this period, Islamic scholars were exempted from taxation in Kasar Kano.
5 NAK/KanProf/79/Wudil Inspection Note Vol.I
7 Abdullahi Mahadi, “State and Economy in Kano: The Sarauta System and its Roles in Shaping the Society and Economy of Kano with particular reference to the 18th and 19th Centuries”, PhD, ABU, Zaria, 1982, p.78
levied on fishermen, traders tax and *kudin karofior* dye-pit tax. In the 19th century, these taxes were collected by the various *Jakadu* and village heads and handed over to Makama (Wudil District Head) who in turn took some portion and submitted the remaining to the Emir of Kano. The emir in turn passed some parts of the tax collected to the Caliph *Sarkin Musulmi* in the form of gift or tribute. This means the people of the district were used to taxation even before the occupation of the area by British colonial authority.

**Colonial Taxation in Wudil District**

The conquest of Kano emirate by the British colonial forces in 1903 signified the occupation of Wudil District area by the British colonial authority. This brought about several changes in Wudil district area including the creation of the district as a colonial unit of administration. This was followed by the introduction of several colonial economic policies in the district. One of these colonial economic policies introduced in the district was colonial taxation.

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Taxation was an important economic instrument that was utilized by the British colonial authority due to its importance in running the colonial administration and on account that the people of Wudil district were already used to taxation right from the pre-colonial period. As such British colonial authority, in line with the objective and policy of colonial domination found it suitable to impose colonial taxation on the people of Wudil District. On this note, Frederic Lugard was of the opinion that no system of government could be efficient until it had some form of financial independence. This made the colonial authority to direct the Native Authority officials to collect taxes from the people on behalf of the colonial authority. This was used for the payment of salaries and implementation of ‘development’ projects.\(^{10}\) With this in mind, the colonial authority immediately directed that parts of the tax paid by the people be remitted to colonial government. This was clear in the way the colonial authority, as early as 1904 ordered for the collection of some percentage of the taxes paid by the colonized people on their land such as *Kudin Kasa*, *Kudin Shuka*, *Kudin Karofi* and *Jangali* or Cattle tax in Kano Emirate, our area of study inclusive.\(^{11}\) This was necessary because

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\(^{10}\) Frederick Lugard, *The Dual Mandate*, op.cit., p.230.

\(^{11}\) Asma’u G. Saeed, “The Establishment of British Colonial Rule in Kano During The Reign of Emir Abbas B. Abdullah, 1903-
the colonial authority was not ready to finance the administration of the colonies as they were conquered for economic motives. Subsequently, the Native Revenue Proclamation came into being in 1906 which superseded the 1904 proclamation and it became the basis upon which colonial taxation was hinged. There is an argument that colonial taxation was introduced in order to subject the colonized people to total submission to colonial authority. Similarly, colonial taxes were introduced for the purpose of destroying the indigenous economic activities especially agriculture and craft production. This was essentially for the purpose of laying solid foundation for the introduction of colonial economy. In this regard, efforts were directed towards the production of export crops which served as raw material to the ever rising British manufacturing industries and the consumption of British manufactured goods which were also the byproducts of these industries.

To cover up and justify the introduction of colonial taxation, the colonial officers advanced various reasons to that effect. This was clear in the writings of colonial officials. Frederic Lugard was of the opinion that “to run the colonial administration effectively and bring development
projects to the people, tax must be levied from the colonized people.”

By this, he was supporting the colonial authority to employ a means by which it could get revenue that it could use in paying the traditional rulers it co-opted into its services. Lugard was equally of the view that a considerable amount of the tax collected was spent on the immediate interest of the colonized people and only the little that was left was to be used by the colonial authority at higher level.

The colonialists went as far as arguing that direct taxation which they introduced was a “thing of necessity in all civilized societies of the world, as such African societies that aspired to be recognized as such should also adopt it.” Furthermore, the introduction of colonial taxation was also associated with abolishing of slavery and slave labour in Northern provinces. In this regard, Lord Lugard said:

“Direct taxation may be said to be the corollary of the abolishing, however gradual of forced labour and domestic slavery.” All these explanations were provided in order to legitimize the introduction of colonial taxation in particular

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14Frederick Lugard, *Political Memoranda*, p. 166.
15 Ibid.
and colonial domination in general. Colonial taxation however, was introduced in order to subject the pre-existing economy of the colonized people of Wudil District to the service of world capitalist economy.

Assessment and Collection of Colonial Taxation in Wudil District

The collection of tax was the responsibility of the district head who in turn assigned the various village heads for the exercise in their localities. These traditional rulers were supervised and monitored by the colonial officials. They were equally paid salary from the revenue generated from the tax they collected. This was part of British colonial design of ensuring that the Native Authority officials submitted to the dictates colonial government. In line with its policy which absorbed the pre-colonial taxes, British colonial authority adopted some of the pre-colonial taxes which were found to be in existence in our area of study. However, major changes in relation to the method of collection and means of payments were brought about. Some of these taxes that were collected in Wudil District during colonial period are as follows:

Table 1.1: Taxes Collected in Wudil District at the Beginning of Colonial Period

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Type of Tax</th>
<th>Tax Incidence</th>
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</thead>
</table>

From the table above the taxes were collected at the beginning of colonial period but were based on pre-colonial taxes. The only difference is that in the pre-colonial period they were collected in local or indigenous currencies or even in kind. But during colonial period they were collected in colonial currency. Thus, the establishment of colonial domination in Wudil District altered the pre-colonial methods of tax collection by demanding that all these taxes be paid in colonial currency and to be paid at a specific period of time usually during or on the eve of harvesting period of the year. This was new to the people of the district and it brought about
untold hardship to them as they had to look for ways through which they could get colonial currency to pay their tax obligations. This forced the peasantry of the district to embark on the production of export crops in large quantity, especially groundnuts and cotton. The outcome of this was the neglect of food crops production in the district.

The method of tax collection in the district in colonial period did not remain the same throughout the period. This was evident in the way and manner in which British colonial authority introduced a new method of tax collection in the district in 1916 which replaced the previous method that was based on pre-colonial taxes. This new method was called Taki system of tax assessment.¹⁶ This system involved the act of measuring the farmland and dwellings of people for the purpose of assessing individual’s income. This was introduced so that the colonial government could generate more revenue that was necessary for running the colonial administration at all levels. This was also instrumental in destroying the pre-colonial method of paying taxes jointly, as individuals were asked to pay their taxes on individual basis.¹⁷ Contrary to Adamu Fika’s view that the

¹⁶ Adamu M. Fika, op.cit, P.184.
Taki assessment method was meant to free the peasantry from extortion and tyranny of the pre-colonial taxation\textsuperscript{18}, rather it was done for the purpose of increasing the amount of revenue for colonial authority as the colonial type of taxation was extortionate and tyrannical in the process of its assessment and collection. British colonial system of Taki assessment which was introduced in Wudil District in 1916 was used as the method of tax assessment and collection up to 1926. The introduction of this system of colonial taxation was accompanied with a programme of training some people that were later employed to serve the colonial authority in the tax assessment exercise. These trainees were known as Taki Mallams, who specialized in the various aspects of the exercise, most especially the act of measuring the farm lands and recording same for the purpose of determining the amount that were to be paid by the owners of the farms. This method of tax assessment and collection was utilized by the British colonialists in Wudil district with the effort of the colonial authority and the indigenous rulers of the district which comprised both the district head, his subordinate officials and the various tax officers Taki Mallams assigned to the area. These officials were adequately supervised by the colonial

\textsuperscript{18} Ibid., p. 188.
officers who were in charge of Wudil District, particularly the District Officer, Assistant District Officer and the various touring officers who were sent to the area from time to time. The colonial government was found to have introduced different methods of tax assessment and collection in various parts of their colonies to the extent that even within a particular division, different forms of tax assessment and collection were used. This was evident in the sense that within Kano division, different methods of tax assessment such as Taki system, Lump sum, Revenue survey amongst others were used by the British colonial authority in various districts at different times. Although the colonial authority capitalized on the fact that the various methods that were formerly employed from the beginning of the colonial period were not suitable, the real essence of changing one method with another was for the purpose of generating more revenue. This was used in running the colonial administration and other colonial activities. This was done at the expense of the colonized people of the district.

The quantity of colonial taxation collected in the district continued to increase throughout the colonial period. The method of assessment and collection continued to change from time to time. This was noticed when the colonial authority
decided to carry out revision of assessment and conversion of the previous system of tax assessment to another system popularly known as lump sum. This exercise was introduced in Wudil District in 1928.\textsuperscript{19} This method of taxation was based on an income tax which was allotted to every adult male. The tax was levied as lump sum on each and every village area and it was distributed to the individual members of the various villages of the district by their respective village heads. Henceforth, this method became the avenue through which tax assessment and collection was undertaken in Wudil District for the rest of the colonial period. This system of colonial taxation required an extensive and accurate male census in the district,\textsuperscript{20} which was carried out under careful supervision of the colonial officer, particularly assistant district officer who was assigned to oversee the exercise in the district. The census was however not conducted until all farmers who travelled in form of seasonal migration \textit{cin rani} returned to their homes.\textsuperscript{21} This shows the extent to which the colonial authority was concerned about colonial taxation. By 1929/30 tax season, the assessment was based on an incidence of 6/6d

\textsuperscript{19} NAK/ KanProf/Provincial Annual Report 1928, P.30.
\textsuperscript{20} NAK/KanProf/256/Vol. 1/Wudil District Revision of Assessment for 1930.
\textsuperscript{21} Ibid.
per adult male. This was increased to 7/- and 7/6 in the 1930/31 tax season. The 1930/31 tax season came with two incidences as the people of southern part of the district were requested to pay 7/- in view of the fact that they were less wealthy than those of the northern part who were directed to pay 7/6.\textsuperscript{22} The following example shows the manner in which the quantity of colonial taxation collected in the district continued to increase: In the 1929/1930 tax season in the district the amount generated was £ 10,093.8.0 while in the following season 1930/1931 £ 11,856.3.6 was generated. This shows an increase of £ 1762.15.6.\textsuperscript{23}

The above figure shows an increase of more than 10\% of the total tax revenue collected by the colonial authority in Wudil District from 1929 to 1931. This was an unprecedented increase in revenue generation for the colonial authority. The revenue accrued was not spent on expenditure meant for the benefit of the people of the district rather it was taken abroad for the development of Britain. Similarly, Cattle tax popularly known as \textit{Jangaliis} is another form of taxation that was also collected by the British colonial authority in

\textsuperscript{22} Ibid.
\textsuperscript{23} NAK/ KanProf/ 256, Vol. 1/ Wudil District Revision of Assessment for 1930
Wudil District. It was a tax which was levied on the pastoralists. The tax was collected in such a way that each village head collected the tax upon *Shanun Gida* local cattle in his village. That of nomad herds *Shanun Baki* was collected by the district head. However, it was the duty of the various village heads of the district to report the presence of such nomads in their areas to the district head. The incidence of this tax in Wudil district as at 1947 was 2/- per head of cattle. Most of the payments on *Jangali* cattle tax were made in the month of July of every year. In the year 1948, the incidence of cattle tax in Wudil District was increased to 3/- per head of cattle. This was intended mainly to increase revenue generation for the colonial authority. The table below will affirm this assertion.

**Table 1.2: Cattle Tax *Jangali* and Revenue Generation in Wudil District, 1938-1948**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Cattle</th>
<th>Tax Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>17,884</td>
<td>£1788.8</td>
</tr>
<tr>
<td>1939</td>
<td>19,096</td>
<td>£1909.12</td>
</tr>
<tr>
<td>1947</td>
<td>20,062</td>
<td>£2507.15</td>
</tr>
<tr>
<td>1948</td>
<td>19,212</td>
<td>£2,881.16</td>
</tr>
</tbody>
</table>

**Source:**  NAK/KanProf/79/Wudil  Inspection  Notes  Vol. I

From the above table, although there was decrease in the number of cattle in the district from 20,062 in 1947 to 19,212 in 1948 which
was due to some epidemics, sales of cattle and their movements from one place to another, the total amount of the tax collected increased from £2,507.15 in 1947 to £2,881.16 in 1948 which shows an increase of £374.01. This is equivalent to an increase of 15%.

One important institution that was associated with taxation in Wudil District in particular and Kano Emirate in general was the Central Revenue Office that was constituted in Kano in 1918 under the supervision of Wazirin Kano. This office was mainly established for the purpose of administering the tax collected both from within the city and the various districts of the emirate, Wudil District inclusive. The revenue generated was shared in such a way that the various traditional rulers that collected the tax from their respective territories were given 25% and the remaining 25% and 50% went to the Native Treasury and the colonial authority respectively. However, this was used at the inception of colonial domination. The Native Authorities were later put on salaries. The British colonial government did not use the bulk of the revenue generated in promoting the development of Wudil District in particular and Kano Emirate in general. All that the colonialists

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25 Ibid, p.188.
promoted was the interest of British capitalism represented by the colonial regime established in Wudil District. The above sharing formular of the revenue generated from taxation is a proof to this assertion. The 25% which was given to the traditional rulers was not meant to improve the living condition of the peasantry who formed the majority of the population, the other 25% which was deposited at the Native Treasury was equally not used in the development of the district or Kano emirate though some part of the money was used for the provision of some infrastructures, these infrastructures were not for the development of the colonized people of the district in particular or Kano emirate in general. They were provided in order to ease the difficulties the colonialist might encounter in the evacuation of the available material resources of the district mainly the agricultural produce. According to Geophrey Manase colonial infrastructure was used for the further exploitation of the colonized people. As such this does not translate to the development of the district, but rather it promoted the interest of British capitalism.

British authority was not in any way satisfied with what it was generating in its colonial territories colonies. This is evident in the way the colonial authority introduced another form of taxation in Wudil District in the name of ‘rich people’s taxation’ (*Kudin Masu Arziki*). Thus, rich people’s taxation is another form of colonial taxation collected in Wudil District. In the collection of this type of tax, preferential treatment was given to the members of the ruling class and their large families as well as the *Ulamma* and wealthy traders who were completely exempted from paying the tax. Only the producers and cattle herders paid. This form of taxation was collected in Wudil District in the 1953-1954 tax seasons. The table below shows the number of people and the tax revenue collected from them.

**Table 4.5: Rich People Taxation (*Kudin Masu Arziki*) in Wudil District, 1953-1954**

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Name</th>
<th>Occupation</th>
<th>Income 195253</th>
<th>Amount Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alhaji Haruna</td>
<td>Trading</td>
<td>£200</td>
<td>£4.8</td>
</tr>
<tr>
<td>2.</td>
<td>Malami Maibahare</td>
<td>Trading</td>
<td>£400</td>
<td>£9.8</td>
</tr>
<tr>
<td>3.</td>
<td>Sanda Lajawa</td>
<td>Trading</td>
<td>£300</td>
<td>£6.18</td>
</tr>
<tr>
<td>4.</td>
<td>Adamu Darki</td>
<td>Trading</td>
<td>£500</td>
<td>£11.8</td>
</tr>
<tr>
<td>5.</td>
<td>Ayuba Utai</td>
<td>Trading</td>
<td>£400</td>
<td>£9.8</td>
</tr>
<tr>
<td>6.</td>
<td>Alhaji Inuwa Garko</td>
<td>Trading</td>
<td>£400</td>
<td>£9.8</td>
</tr>
<tr>
<td>7.</td>
<td>Alhaji Idi Garko</td>
<td>Trading</td>
<td>£250</td>
<td>£5.13</td>
</tr>
<tr>
<td>8.</td>
<td>Muhammadu Kawo</td>
<td>Trading</td>
<td>£400</td>
<td>£9.8</td>
</tr>
</tbody>
</table>

Thus, apart from the other forms of taxes which were collected and the revenue they provided to the colonial authority in Wudil District, this additional tax in the form of rich people taxation was also an avenue through which British colonial authority increased its revenue by taxing the rich people of our area of study individually based on their incomes. The way this form of taxation was introduced and the kind of procedure followed in the assessment and collection of the tax is a proof to the fact that British colonial authority was really the agent and indeed the vanguard of the development of capitalism in Britain which was at the detriment of the colonized people of Wudil District.

Therefore, colonial taxation as a policy of the British colonial authority in its conquered areas, Wudil District inclusive, was introduced for the purpose of laying a solid foundation for the development of colonial economy in Wudil District. It supported the colonial authority by providing fund which was used in the administration of the colony as well compelling the people of the district to produce export commodities.28

Discrimination, Intimidation, Extortion and Embezzlement in the Assessment and Collection of Colonial Taxation in Wudil District

The assessment and collection of colonial taxes was full of abuses in Wudil District. Some of these abuses included discriminatory practices, intimidation, extortion and embezzlement.

The assessment and collection of colonial taxes in Wudil District was associated with discrimination. There were instances in the colonial period whereby the people of the district were assessed and ordered to pay their taxes on the basis of different incidences. A clear example in this regard was the 1930/31 tax season when the people of southern part of the district paid 7/- while those of the northern part of the district paid 7/6 on the ground that those of the northern part of the district were wealthier than those of the southern part. The reality of this was that the colonial government was just discriminatory because it was reported that the southern part of the district was slightly wealthier agriculturally and richer in cattle and livestock.

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29NAK/KanProf/256/Vol.I/ Wudil District Revision of Assessment for 1930.
30Ibid.
Similarly, people who failed to meet their tax obligation were threatened and intimidated to the extent of imprisonment. It was in response to this nature of colonial taxation that many people were reported to have emigrated from Wudil District to neighboring districts for fear of what might befall on them when they failed to pay their tax on time. A clear example in this regard was the case of occupants of 50 compounds that left Dal town to Rano District immediately after the town was assessed.\(^{31}\) Similarly, the case of other occupants of some compounds in Kuta town amounting to 32 compounds in number also left the district to Zaria province immediately after the 1912 tax assessment was conducted in the area.\(^{32}\) These people left our area of study for other places where the tax burden was less severe. This is an act of cruelty on the people of our area of study. The fact that the producers and cattle herders paid general tax as well as cattle tax implied double payment which was exploitative.

An example of tax embezzlement case in Wudil District was that of Makama Aminu alleged involvement in the misappropriation of the tax revenue collected in 1922. Following this,

\(^{31}\) NAK/KanProf/63/442/12/Makama District Assessment Report, P.40.
\(^{32}\) Ibid, Par.41.
Makama Aminu was deposed and the district was divided into two. Wudil District with headquarters at Wudil was given to the newly appointed Makama Isa. On the other hand, the newly created Sumaila District went to Dandarman Isa. 33

**Impact of Colonial Taxation on the Society and Economy of Wudil District**

Colonial taxation brought certain impact to the society and economy of Wudil District. This is because it impacted negatively on the lives of the people. This is largely due to the fact that the economy of the district was interfered by the use of colonial taxation which brought untold hardships and left indelible marks on the aspects of the economy and society of Wudil District which are examined below.

Colonial taxation in Wudil District served the colonial authority with needed export crops and revenue as well. In the process of tax collection, people of the district were exposed to series of economic and social problems such as indebtedness and poverty which eventually led to the migration of many people out of the district.

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to many places such as other districts in Kano Province as well as to other province such as Zaria Province. This brought fear and insecurity in the minds of the people of the district which eventually led to decline in industrial activities as well as other meaningful endeavors which would have contributed to the development of the district. This implies the development of underdevelopment in Wudil District.

Colonial taxation in Wudil District led to increased poverty among the people. The nature of the system being excessive and exploitative and without concession in time of drought or famine placed the peasant producers of the district at difficult time. This is because those who were opportune to pay their tax were left with little cash which was not enough for them to cater for their family needs. Others people could not meet their tax obligation in some instances which became unbearable to them as they were aware of the consequence which in some cases amount to imprisonment. Therefore, colonial taxation contributed immensely to the peasant pauperization in Wudil District. This is due to the continuous increase in the rate of the tax collected. It was opined that after paying the

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34NAK/KanProf/63/442/Makama District Assessment Report, pp.40-41.
colonial tax sometimes people were left penniless.\textsuperscript{35}

**Conclusion**

The paper has examined the history of colonial taxation in Wudil District, Kano province. The submission of the paper is that the history of taxation in Wudil District dates back to pre-colonial period. However, with the occupation of the district by British colonial forces after the conquest of Kano emirate, new system of colonial taxation was introduced in the area. Colonial taxation was different from pre-colonial taxation in a number of ways. It was a system that demands payment in specific period and in colonial currency, its incidence was heavier than that of pre-colonial taxation. Similarly the assessment and collection of colonial taxation involved intimidation, extortion and embezzlement. This exposed the people of the district to series of economic and social problems such as indebtedness and poverty which eventually led to the migration of many people out of the district to many places such as other districts in Kano Province as well as to other

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\textsuperscript{35} Interview with Malam Inuwa Mai Tafsiri Kachako, on 12\textsuperscript{th} November, 2013.
neighboring provinces such as Zaria Province. Similarly, it brought insecurity and fear in the minds of the people of the district which eventually led to decline in industrial activities as well as other meaningful endeavors which could have contributed to the development of the district. This implies the development of underdevelopment in Wudil District.

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36NAK/KanProf/63/442/Makama District Assessment Report, pp.40-41.

**Unpublished Material**


**Archival Materials**

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NAK/ KanProf/Provincial Annual Report 1928

NAK/KanProf/79/Wudil Inspection Note Vol.I

**Oral Interview**

Interview with Malam Inuwa Mai Tafsiri Kachako, on 12th November, 2013.