

SURVEY OF VEGETATION TYPES AND THEIR USES IN F.C.E (T), GOMBE, NORTH EASTERN NIGERIA

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Abstract

The research was conducted to find out FCET the different vegetation types in FCE Gombe. the method used was survey. the study revealed that 57 % of the vegetation are trees while 23 % are shrubs. Some of these trees and shrubs were found to be medicinal and it was recommended that Enlightenment about the importance of these trees and shrubs should be intensified for maximum utilization

Background of the Study

Vegetation is an assemblage of plants and the ground cover they provide (Burrows, 2014). It is a general term, without specific reference to particular taxa, life forms structures, spatial extent, or any other specific botanical or geographic characteristics. It is broader than the term flora which refers to species composition. The closest synonym is plant community (Walter, 2010).

In Africa the value of vegetation has long been appreciated and often over used (Abdullah, 2010). At least 75% of the vegetation of Africa serves as browse plants and many of those are leguminous (Ariyo *et.al.* 2011). Unfortunately due to large part over-usage by people and livestock, valuable vegetation resources over vast areas in arid and semi-arid regions have been destroyed in the last few decades. In West Africa, firewood is the major source of energy used for cooking, heating and other domestic purposes and wood fuel including fuel wood and charcoal, account for about 90% of total energy consumption (Brocade *et.al.* 2010).

The vegetation cover is obtained as either man-made or natural vegetation, the

greater portion of the vegetation in Nigeria, are the ones that naturally grow (Adamson, 2014). Management strategies for the man-made it is usually not sustainable, this is because most of the man-made vegetation cover people tend to neglect vegetation plantation there by making the non-abundant of this vegetation for animals, humans and other organisms that are found within an ecosystem. Living things depend largely on the vegetation for their relaxation, good health and for their maximum performance and other purposes (smith, 2015).

It is in this light that the magnitude of these effects that has inclined many , research to make efforts towards ensuring that the use of these vegetation are clearly stated. The biased view that most, if not all, vegetation are of low-value and only a few concerned authorities are putting policies for the productive system of vegetation growth (FAO, 2009).

This approach overlooks the uses and opportunities for making the judicious use of some of the vegetation if not all of the various types of vegetation for grazing, fire wood, control of desert encouragement, medicinal and industrial

products, landscaping, construction, wind breaks, wild life habitat, maintaining soil fertility and soil stability, and balancing forage nutrients quality during the dormant season of other alternative source (kumure*et.al*, 2006).

Therefore, it is also in this vein that it became necessary to take stock of the vegetation types in Federal college of education (Technical) Gombe. This research could be used as a baseline study for both researchers and citizenries and also can be used to develop conservation strategies, sustainability synergies that will ensure optimum utilization of these various vegetation types within the study area.

Statement of the Problem

Vegetation that are mostly found within the study area are mainly natural and not man-made. Authorities tend to neglect the importance of these vegetation. Majority of the people are not aware of the environmental benefits and uses of these vegetation's, thus this leads to environmental degradation and desert encroachment and as well as cases of flooding. The ecosystem is not properly in good shape due to extinction of some of the important flora and fauna that can be found within an ecosystem that will enhance survival of the species facing extinction. Vegetation play vital role in maintaining good climatic conditions but majority of people government agencies responsible for the harnessing of these resources tend to neglect the importance of this vegetation. Human activities have also served as a threat to the maintenance of the population of these vegetation. Activities such as bush burning, deforestation, animal grazing, and afforestation; this has led to climate change, extinction of some important species of organisms that are vital to the ecosystem. The research work

is paramount in looking at some of the environmental consequences cause by inadequate planting of new varieties and as well as not knowing the importance and value of some these vegetation.

The vegetation mostly found within the study area are mainly natural vegetation which means the people within the study area fail to realise the importance of some of this vegetation. Failure to know the impact of some of the vegetation has led to environmental degradation such as desert encroachment, desertification, flooding, food in-security, extinction of some of the fauna and flora within the ecosystem. Majority of the people are not aware of the benefits of the vegetation such as medicinal uses, socio-economic benefits etc.

Purpose of the Study

The specific purpose of the Study is to identify the different types of vegetation in FCE Gombe and their importance to man and the environment and come up with meaningful recommendations.

Objectives of the Study are to determine the:

- i. Various type of vegetation within the Study area
- ii. Uses of the vegetation types found in the study area

Research questions

- i. What are the various types of vegetation within the Study area?

- ii. What are the uses of the vegetation types found in the Study area?

Materials and Methods

The study was conducted in Federal College of Education (Technical), Gombe. The materials used for this survey include: pegs, Ranging pole, Meter/ Tape, Pen and pencil, Calculator, Camera, plain sheet, Vegetation Chart, and a masking tape.

The peg and the ranging pole were used for demarcating a bench mark. Meter/Tape was used to enable the accurate and appropriate measurement of the actual distance from one bench mark to the next. The vegetation chart it was obtained from Gombe State University, Department of Biological Science, the essence of using the chart was to help in identifying the appropriate plant, the chart contains

information and graphics of the various vegetation type found within the Savannah region and the masking tape for the masking of the leaves on a paper and the pen, pencil, plain paper, camera were used for documentation.

The Random sampling which is the most popular method for choosing a sample among population was used. The logic behind random design is that it removes bias from the selection procedure and results in representative sample. The population sample was picked at random to enable equal representation of the population samples in each of the given sample from the total population samples of the various vegetation types found within the study area. A total of 30 Samples were surveyed in the various vegetation areas by the use of Random sampling techniques.

Results

- i. What are the various types of vegetation within the Study area?

Table 1: Shows the various types of vegetation within the Study area

Common Name in the North East	Botanical Name	English Name
Doogonyaaroo	Azadiractaindica	Neem tree
Kanya	Diospyrosmespiliformis	West Africa Ebony
Doorowa	Parkiabiglobosa	Locust tree
Gaawoo	Faidherbiaalbida	Winter thorn tree
Markee	Anogeissusleiocarpus	Chewstick tree
Kargoo	Piliostigmareticulatum	Camel foot
Kirya	<i>ProsopisAfricana</i>	Mesquite

Tsaamiiya	<i>Tamarindusindica</i>	Tamarind
Mangoro	<i>Magniferaindica</i>	Mango
Gam	<i>Acacia senegalensis</i>	Gum Arabic
Magarya	<i>Zizipusmoretania</i>	Local berry
Kurna	<i>Zizipusspino-christi</i>	Traditional
Garuuwa	<i>JetropaCurcas</i>	Physic nut
Rinji	<i>Sennaalatta</i>	Pop-corn senna
Cabi	<i>Crotaliaretusa</i>	Rattleweed
Korenfilawa		Green Bush
Filawa rowan Doruuwaa	<i>Lupinusarboreus</i>	Yellow Bush
FilawanBiiri	<i>Mimulusguratiacus</i>	Ixora
Aduuwaa	<i>Balanitesaegyptiaca</i>	Monkey Flower
		Pride of Bardados
		Desert date
Margosa, Doogonyaaroo	<i>Azadiractaindica</i>	Neem tree
Magarya	<i>Zizipusmoretania</i>	Local berry
Kurna	<i>Zizipusspino-christi</i>	Traditional berry
Garuuwa	<i>Jetrophacurcas</i>	Barbados nut
Baure	<i>Sennaalatta</i>	Emperors candlestick
Tsinsiya	<i>Imperita cylindrical</i>	Local broom
Karangiya	<i>Boeheviadifusa</i>	Red spiderling
Aleyehonjeji	<i>Amaranthusspinosis</i>	Wild Amaranthus
Kirikiri	<i>Axonopusfissifolius</i>	Grass carpet
Tafasa	<i>Sennaoccidentalis</i>	Coffee senna
Korenfilawa	<i>CeanthusAmericana</i>	Green Bush
Filawa rowan Doruuwaa	<i>Lupinusarboreus</i>	Yellow Bush
Wa'awankurmii	<i>Ixoracoccinealinn</i>	Ixora
FilawanBiiri	<i>Mimulusguratiacus</i>	Monkey Flower
Daddawa	<i>Caesalpinia pulcherima</i>	Pride of Bardados

Source: Field study, 2017.

These trees have their uses as follows:-
Azadiractaindica, it is use as a medicinal plant for the treatment of animals suffering from constipation by boiling the leaves in water, the seeds are use for the removal ticks/mites on the body of the animals. Humans use it as body oil for rash, eczema, and lot of other uses according to

(WHO, 2012). *Acacia senegalensis* is use to prevent crystallization of sugar, as an glaze or topping in bakery products; in soft drinks used as a vehicle for flavouring or as a stabilizer or clouding agent; in frozen dairy products and as well as encapsulating flavours such as in citrus or in industry for coating offset lithographic plates to

prevent oxidation. *Magnifera indica*, it is use for the reduction of both cancerous and non-cancerous cells, it is use for improvement of digestive system in both humans and animals, also is use as anti-oxidant and it can be used in lowering the level of cholesterol in the body. It can as well be used in controlling the high blood pressure and diabetes it normalise the insulin level, this is in line with the findings of (FAO, 2009). *Psidium guajava*, it is used to cure stomach pain, Gum and tooth decay and ulcer. use as anti-oxidant and it is consumed by both humans and animals as a food source. *Parkia biglobosa*, it is consumed raw or prepared as cake using the powder extracts from it and the seeds are use in locust bean cake that is use in making soup mostly in Africa, especially in Nigeria. (Ahmed, 2013).

Table 2 Shows some of the Selected Shrubs

The Uses of these shrubs is as follows:-

Ziziphus spino-christi and *Ziziphus mauritania* are used for firewood, the branches are for retaining bands around conical thatched roofs of huts and are twined together to form thorny corral wall to retain livestock. The seeds are sedative and are taken

sometimes with butter milk, to halt nausea, vomiting and abdominal pain in pregnancy. Check diarrhoea and are poultice on wounds, leaves and also helpful in liver troubles, asthma, fever and the bark is applied on sores, the roots are use as purgative. *Jatropha curcas* is used for the treatment of sick animals, cancer, and cough and anti-septic after birth, the latex serves as a disinfectant in mouth infection the branches are used as a chewing stick. *Senna alata* is use as laxative and purgatives.

Table 3: Shows Selected Grasses

Table 4: Shows the Selected Flower Vegetation within the Study Area.

This table shows the Flowers that were selected *Ceanothus Americana*, *Lupinus arboreus*, *Caesalpinia pulcherrima* and *Ixora*. The flowers have numerous uses which include that of medicinal uses as some of the flowers can be used in treatment of skin diseases and allergies, also they can be use as ornamentals for the beautification of environments either at home or outdoor i.e outside home. Flowers in some countries serve as export plants in which the countries get their revenues/ income.

ii. What are the uses of the vegetation types found in the Study area?

Table 6: Shows the Percentage uses of the vegetation types found in the Study area

Vegetation Types	Frequency	Percentages (%)
Trees	14.25	57
Shrubs	5.75	23
Grasses	3.5	15
Flowers	1.25	5
Others	0.25	0

Source: Field Study, 2017

This table shows the Percentage uses of the various vegetation cover within the

study area. The various proportions of the surveyed vegetation's are represented on

this table. The data shows that 57 % of the vegetation used are Trees, while 23 % of the vegetation used were Shrubs, Flowers took 15 % of the vegetation used in the study area . Therefore these implies that the Trees vegetation are significantly used in the study areas followed by shrubs vegetation and grasses than flowers pre-dominantly found within the area.

Discussion of Findings

Tree vegetation are significantly used in the study areas followed by shrubs vegetation and grasses than flowers pre-dominantly found within the area. Most households in developing countries lack access to modern energy facilities, therefore they rely on the use of traditional biomass fuels like crop waste, dung, and wood to meet their basic energy needs, especially for cooking. This statement was emphasised in the 2005 UNDP's Millennium Development Goals (MDGs) assessment report. A continued high level of fuel wood usage is an alarming situation. Indicated that fuel wood can compete directly with food crops in the developing countries in terms of demand on household budgets pointed out that the massive use and dependence on fuel wood in the developing countries is environmentally unsustainable.

There have been numerous land cover classification systems (LCCS) that have resulted in either classifying only natural vegetation types, agricultural areas or broad land cover classification types. The finding shows that there is need for orientation and re-orientation of populace within the study area about the importance of planting all the vegetation types.

Conclusion

The study shows some of the selected vegetations that were found within the

study area. *Adropogangayanus* it is use for holding paddocks as it can feed a large number of cattle, cut fresh for feed and for fodder conservation by smallholders, use for rehabilitation of run-down paddocks and degraded fields, reclaiming overgrazed land, it reduce wind erosion occurring at the start of wet season. The stems are used for weaving grass mats and thatch roof. The *Axonopusfissifolius* is use as lawn and pasture grasses in warm areas. It is used for both indoor and outdoor the decoration of land-scape, It is used as turf in a home yards, ground cover etc. *Cynodondactyon* it is used for pile, eczema, urticaria, injuries, eyes problem, skin rashes, constipation, mental debility, diabetes, epilepsy vaginal problem. *Imperita cylindrical* it is use as a broom for sweeping floor and decoration. *Boehevadiifusa*, it is used as a ground cover against erosion by wind. *Sennaoccidentalis* it is used for feeding livestock and in some countries people use it in making salad and soup for human consumption, the stem is use for the construction of thatch roofs and walls. *Cyperusesculentus*, it is use primarily as animal feed, snack is made by toasting the nut and it is coated with sugar this is popular among the Hausa children of northern Nigeria. Also, a drink known as Kunun Aya is made by processing the nut with dates and later sieved and served chilled. It is used as liver tonic, heart stimulant, it promote normalise menstruation, it is use as anti-oxidants Vegetation's like *Zizipusspino- Christi*, *Zizipusmauritania*, *Azadirataindica*, *Ximeniaamericana*, *Leptadeniahastata* are good source of diet for livestock. Then shrubs like *Combretumnigricans* and *Combretummicrathum* are good source of wood. *Sennaalata*, *Sennaoccidentalis* and *Guirasenegalensis* are highly sought for their medicinal uses while *Crotalaria retusa*, *Cynodondactylon*, *Polinthalinglefolia*, *Terminaliacatappa*, are sought as ornamentals (Mckell, 2010). *Adansoniadigitaata*,

Balaniteaegyptiaca, *Psidiumguajava* are used as anti-oxidant and are used in treating stomach constipation (NAERL, 2012).

Recommendation

The people within the study area should be enlightened by the government through policy making or by sensitizing the people about the various types of vegetation that is found within their locality, this will help them have proper knowledge of the vegetation's there by helping them to choose the vegetation type that best suits their environmental and climatic requirement.

- i. People should be informed about environmental benefits of the vegetation that are within their area and the importance of these vegetation in mitigating the climatic changes that they experienced in their day to day activities and the dangers of this climate change through the use of extension agents, individuals who are knowledgeable and as well as volunteer groups.
- ii. The government should encouraged the populace to embrace the planting of seedlings by providing them with the incentives, knowledge on how to go about it and informed them about the importance of planting vegetation. Also, government should enact laws that will encourage the planting of seeds and seedlings by the people through the use of extension agents, ministries, Agencies etc.
- iii. The populace should be informed about the common names of some the vegetation's, this will help the people to have the appropriate

knowledge of the right type of vegetation that they are supposed to plant. Also, the knowledge will serve as a way of understanding the proper uses of some this vegetation types and this will help the populace how to easily identify and know the uses of the vegetations within their vicinity.

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