

**SOCIO ECONOMIC AND BOTANIC ANALYSIS OF WEST BANK AND
BLOCK A FOREST OF INTERNATIONAL INSTITUTE OF TROPICAL
AGRICULTURE (IITA) IBADAN, OYO STATE, NIGERIA**

BY

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DECLARATION

I hereby declare that this thesis had been written by me and is a record of my own research work. It has not been presented in any previous application for a higher degree of this or any other University. All citations and sources of information are clearly acknowledged by means of references.

Ariyo, Oluyinka Christopher

Date -----

CERTIFICATION

This thesis entitled “Socio Economic and Botanic Analysis of West Bank and Block A Forest of International Institute of Tropical Agriculture (IITA)” by Ariyo, Oluyinka Christopher (PG 01/ 0106) meets the regulation governing the award of the degree of Doctor of Philosophy of the Federal University of Agriculture, Abeokuta and is approved for its contribution to scientific knowledge and literary presentation.

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ABSTRACT

Forests are community of plants (vegetation) dominated by trees and are crucial to the welfare of man. Socio- economic and botanic analysis of West Bank and Block A Forests of International Institute of Tropical Agriculture (IITA) was undertaken with the aim of determining the uses, structure, composition, similarity, extent of diversity of the forests, types and quantity of non- timber forest products (NTFPs) collected from the forests. The determinants of medicinal plants usage and intensity were also determined. Three transects each (500 m long) were constructed in the West Bank Forest and Block A Forest. Sixty plots of 10 m by 10 m each were laid equally along the six transects. One hundred percent enumeration of plants was carried out in each plot so as to obtain information on the ethnobotany and the intensity of medicinal plants use for traditional medicine among residents of all the seventeen villages based within the IITA perimeter fence. A total of 408 plant users and 105 NTFFPs collectors were selected for this study. Respondents were stratified into four major groups in each of the villages: farmers, hunters, herb-sellers and herbalists. Twenty four copies of questionnaire were administered in each village. Descriptive statistics, species relative density, relative dominance, coverage index, Simpson diversity index, Margalef's community diversity index, Sorensen similarity index, Jaccard similarities index, multiple regression, Probit, Tobit, profitability, cost and return analyses were used in analysing the data collected. In the two forests, 219 plant species from 70 families were identified. The West Bank Forest was high in all the diversity indices considered apart from Margalef's diversity index which was high for Block A forest. Sorensen's similarities indices of plant species between the two forests was 59.42%. Average basal area and volume of woody plants in West Bank Forest were respectively 15.11 m²/ ha and 1.05 m³/ha while Block A forest had 13.19 m²/ha and 1.10 m³/ha, respectively. Overall average basal area of 7.53 m²/ha and average

volume of 1.07 m³/ha were recorded for the two forests. The population structure of woody plants in the two forests showed a stable plant population, but there were deviations in the size class of 151-170 cm, 171-190 cm and > 190 cm. The study revealed that eight types of NTFPs were collected from the forests having a total quantity of 12,385 kg. The collection of NTFPs was profitable with gross return of ₦357,536.62 and net profit of ₦3,405.11 per respondent. Variables such as labour cost, transportation cost, years of experience and extent of sales were significant at 1% probability level while cost of tools and household size were significant at 5% probability level, thus play crucial role in quantity of NTFPs collected from the forest. The West Bank and Block A forest of IITA are repository of useful timber and non-timber forest products. Adequate protection and conservation of these forests should be a priority to prevent loss of useful plants.

DEDICATION

This thesis is dedicated to God Almighty for His continuous protection, guidance and blessing over me and my family. Also to my loving wife Mrs. Oluyemisi Mary Ariyo, my parents Mr. and Mrs. Matthew Olaoye Ariyo and to the entire Ariyo's family for their encouragement and support both financially and morally.

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