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The Rate of Removal and Planting of Economic Tree Crops in ondo State the Implication on Employment and Food Productivity

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Abstract: This research rate of removal and planting of economic tree crops in ondo state the implication on employment and food productivity was designed to assess the rate of removal of economic tree crops among rural farmers in Ondo State of Nigeria and specifically the study was designed to; Identify the economic tree crops in the study area and to determine the indigenous uses of different components of the economic tree crops to the farm families. Four Local Government Areas in Ondo state were purposively selected for this study. Based on the findings of the study, it was concluded that a greater proportion of the identified economic tree crops were planted directly (personally by the farmer) i.e the respondents, while few were inherited from their parents. The rate at which the economic tree crops were being removed by the respondents was greater than the rate at which they were being replaced or planted. The high rate of removal of these tress was attributed to the erection of more/new buildings, disease attack, and dryness, road/path construction. Some of the tress were being planted or replaced mainly for more income generating purposes. Various parts like the fruits, roots, bark and leaves of many of these economic tree crops were used indigenously, for cultural preservation, for preparation of medicine, for manure and for livestock feeds.

Keywords: Removal, ,Planting, employment, food and tree crops.

I. INTRODUCTION

Economic trees are those tree crops planted deliberately by man for different purposes such as income generation, food security, cultural preservation, and social activities [1].Trees and human existence are symbolically interrelated for the overall development of each other. Since the creation of the first mankind Adam and Eve, the potentiality of trees since then has been utilized to date and yet there are still vast potentialities of these economic trees that are yet to be exploited. Trees, not only serve mankind with basic needs such as food, shelter, income generation as well as cultural preservation and social activities. The produce of a tree must be selected to meet the purpose for which it is introduced .These economic tree crops are planted on arable crop lands and are intensively managed as home garden in form of agro-forestry which has been described as a land use system that combines tree crops or animals so as to get higher productivity, more economic return and social benefits on sustained yield than obtained from mono culture on the same units of land [3]. Economic tree crops have contributed a greater percentage to total realizable income from agriculture, hence the name "economic trees crops". They serve as a source of food and income to the local farmers for example plantain and banana are important food crops in Nigeria as in all humid tropical zones of Africa they provide more than 25% of carbohydrates and 10% of the calorie intake for approximately 70 million people in Africa others such as oil palm, mango, cashew and sweet orange [5],[7].

Have also made remarkable contribution to the National economy. The early colonial masters first introduced many of these economic tree crops and during this era, the development of cash crops was the priority of the British and this motivated them to bring many new crops from other tropical regions for test-planting. The successful ones were used both for local consumption and for export to their home country [2]. Initially, these economic tree crops were only seen as source of income but local farmers later appreciated their uses in ensuring ecological balance and maintaining soil fertility. With arable crops intermingled with economic tree crops, rapid soil fertility regeneration with more efficient plant species and reduction of leaching is evident [3]. But in recent times, many of these economic tree crops were being removed by the farm families in the course of erecting buildings for domestic and or Industrial purposes, provision of social amenities and recreational facilities without commensurate replacement.

This act not only affected man by causing drastic reduction in the quantity of food made available for consumption and farmers' level of income, but has also contributed to the ecological imbalance. According to [7], crop removal or species extinction can have both local and global consequences, locally climate may become extreme, soils may suffer physical and chemical deterioration and hydrological balance may be perturbed. Massive albedo and regional atmospheric water imbalance could affect weather patterns and there is particular concerns at the possible re-cast of carbon dioxide into the atmosphere from burning or decomposition of biomass. Furthermore, when trees are absent following its removal by man, there is every possibility that when water spikes bare soil, it become muddy and thereby clogging soil openings and the adsorptive rate goes down and the tendency is for the water to flow, leading to soil erosion.This study was designed to assess the rate of removal of economic tree crops among rural farmers in Ondo State of Nigeria and specifically the study was designed to Identify the economic tree crops in the study area and to determine the indigenous uses of different components of the economic tree crops to the farm families.

II. METHODOLOGY

Four Local Government Areas in Ondo state were purposively selected for this study: they are Owo, Ikare Akoko, Oba Akoko and Oka Akoko Local Government Areas of Ondo State because they were known to be the

major producers. From each of these four Local Government Areas, two communities were selected through simple random sampling technique, giving a total number of eight communities. From each of the eight communities, ten (10) households were selected through clustering sampling technique giving a total number of eighty households. The heads of the 80 households were interviewed for the purpose of the study. The sample size for the study was therefore, 80 rural farmers. Structured interview schedule was developed and used to obtain relevant information from the farmers. The interview schedule covered the objectives of the study. The data collected were analyzed through the use of frequency and percentage distributions.

Table 1: Percentage Distribution Of Respondents Based On Their Possession Of The Economic Tree Crops

S/N	Economic Tree Crop	Scientific Name	%
1.	Cocoa	Theobroma cacao	70
2.	Kola 2 cotyledons	Cola aptida nitida	48
3.	Kola	Cola accuminata	65
4.	Cashew	Anacardium occidentale	31.4
5.	Guava	Pisidium guajava	41.8
6.	Sweet orange	Citrus sinensis	50
7.	Coconut	Cocus nucifera	47
8.	Oro	Irvingia smithii	38
9.	Grape	Citrus paradise	20.9
10.	Bread fruit	Treculia Africana	30.5
11.	Walnut	Pentachthra phylum maestro	49.2
12.	Plantain	Musa sapientum	58
13.	Banana	Musa spp	42
14.	Mango	Magnifera indica	70
15.	Pawpaw	Carica papaya	24.3

Field Survey 2012

III. OWNERSHIP OF THE IDENTIFIED ECONOMIC TREE CROPS

In table two below, a greater proportion of the identified economic tree crops such as grape fruits, guava, plantain, pawpaw, banana, cashew, were planted directly (personally) by the farmer i.e the respondents. Others like sweet orange, cocoa, Kolanut, Africa wall nut, Oro were inherited by the respondents. The implications of these findings are that:

a. There is a greater awareness in the study areas for the planting of fruit trees.
b. A higher proportion of the economic tree crops planted by the respondents are likely to be relatively young because majority of the respondents were within the ages of 40-49yrs.
c. Most of the inherited tree crops need to be replaced due to old age and low productivity and removal.

Table 2: Percentage Distribution Of Respondents On The Basis Of Ownership Of The Indentified Economic Tree Crops

Economic Tree Crops	Self Planted	Inherited
Cocoa	36.4	63.6
Kola nuts with two cotyledons	22.2	77.8
Kolanut with 3-6 cotyledons	22.2	77.8
Cashew	97.2	2.8
Guava	100.0	0.0
Sweet orange	86.0	14.0
Coconut palm	97.0	3.0
Oro	15.0	85
Grape fruits	100.00	0.00
Wall nut	83.8	16.2
Plantain	100.00	0.0
Banana	98.2	1.8
Mango	44.9	55.1
Pawpaw	98.0	* 20

Field Survey 2013

The rate of removal and planting of economic tree crops between 2000-2010 (10 years).

Entries in table 3 revealed that many economic tree crops were removed while few were increase in number between year 2009-2010, within this periods, a percentage decrease in population was recorded for each of the following crops. African bread fruit (25.6%), bitter kola (10.3%), coconut palm (20%) grape fruit (30.6%), guava (24.4%) kola (*Kola nitida*) (15.8%), mango (17.0%), oil palm (38.8%), Oro (9.1%) wall nut (38.8%), plantain (32.0%), and sweet orange (2.5%) .it was gathered that percentage increase for each of the following crops like banana (3.5%); bitter nut (6.7%), cashew(4.0%),pawpaw (6.8%).According to the findings, the overall plant population for year 1990 was:

Table: 3

S/N	Tree Crops	Crop Population 2009	Crop Population 2010	%Rate of Removal	%Rate of Planting
1.	Banana	351	368	-	4.8
2.	African bread fruits	32	32	0.0	0.0 *
3.	Bitter cola	15	13	13.3	-
4.	Coconut palm	96	46	52.1	-
5.	Grape fruits	18	17	5.6	-
6.	Guava	67	48	28.4	-
7.	Kola nut with 3-6 cotyledons	26	24	7.7	-
8.	Mango	110	87	20.99	-

9.	Oil palm	42	32	23.8	
10.	Oro	16	14	12.5	-
11.	Wall nut	12	11	8.3	-
12.	Plantain	25	27	-	8
13.	Cocoa	252	248	1.6	-
14.	Sweet orange	78	75	3.8	-
15.	Pawpaw	110	100	9.1	-
16.	Kola nut with 2 cotyledon	3	3	0.0	0.0

Field Survey 2012

Crop population in 2009 - crop population in 2010 = 1253 - 1145 = 108

Percentage decrease

$= \frac{108}{1253} x \frac{100}{1} = 8.60\%$

IV. MAJOR REASONS FOR THE REMOVAL OF ECONOMIC TREE CROPS IN THE STUDY AREA

Data in table 4 indicates that majority (60%) of the respondents removed economic tree crops from their surroundings or farms due to the need for the erection of more or new houses, while 57.7% of them destroyed or removed the trees as a result of disease attack and dryness. Road/path construction caused about 30% of the respondents to destroy their economic tree cops while wind effects caused about 29% of them to remove their tree crops. Also responsible for the removal of economic tree crops by the respondents were the expansion of arable farm land (27.5%), posing threat to the surroundings (20.0%) construction of fences 14.3 unproductiveness (12.4%) old age (8.6%), fire outbreak (10.7%) and land acrimony 1.4.

The fact that a greater proportion of the respondents removed economic tree cops from their surroundings or farm was as a result of erection/construction of more or new houses and road/paths indicates lack of meaningful environmental planning in the rural areas unlike what is obtainable in the urban centre and also can be attributed to increase in population and motor ways.

Table 4: percentage distribution of respondents based on the primary reasons for the removal of their economic tree crops (n=70).

REASONS FOR REMOVAL	**%**
Blown off by wind	25.6
Dryness and disease attack	5.8
Fire out break	5.7
Old age	8.6
Land acrimony	1.4
Expansion of arable farm land	27
Erection of more houses	60.8
Road construction	30.0
Construction of fences	14.4
Posing threat to surroundings	20.0
Unproductive	12.0

Field Survey 2012

V. MAJOR REASONS FOR PLANTING ECONOMIC TREE CROPS IN THE STUDY AREA

Data in table 5 below shows that the respondents 80% embarked on the planting of economic tree crops because of the need for additional income. A few 7.1% planted them to serves as wind breaks, while 2.9% planted them to provide shade and resting place after work. Those that planted economic tree crops for the purpose of boundary demarcation accounted for 7.1%. it can therefore be inferred from the findings that major reasons why the rural farmers from the study area are planting economic trees is to generate more income.

Table 5: Percentage Distribution of Respondents Based on the Major Reasons for Planting Economic Tree Crops (n=70).

S/N	**Reasons for Planting more Economic Tree Crops**	**%**
1.	To serve as source of income	100.0
2.	To provide live fencing	7.1
3.	To serve as wind breaks	4.3
4.	To provide shade and resting place after work	5.9
5.	For land boundaries demarcations	7.1

VI. CONCLUSION

Based on the findings of the study, it was concluded that the most common economic tree crops in the study area are cocoa, oil palm, banana, plantain, bread fruits, bitter cola, kola nut, guava, sweet orange, pawpaw and wall nut. A greater proportion of the identified economic tree crops were planted directly (personally by the farmer) i.e the respondents, while few were inherited from their parents. The rate at which the economic tree crops were being removed by the respondents was greater than the rate at which they were being replaced or planted. The high rate of removal of these tress was attributed to the erection of more/new buildings, disease attack, and dryness, road/path construction. Some of the tress were being planted or replaced mainly for more income generating purposes. Various parts like the fruits, roots, bark and leaves of many of these economic tree crops were used indigenously, for cultural preservation, for preparation of medicine, for manure and for livestock feeds.

VII. THE IMPLICATION ON FOOD PRODUCTION AND INCOME GENERATED OF THE PEASANT FARMERS

a. The most important economic tree crops in the study area are cocoa, banana, plantain, and kola. Yet, banana, plantain, and kola nuts are highly consumed, banana, plantain, and kola nut marketing forms the major source of income to a greater proportion of the peasant farmers in the zone. Therefore it could be generally paid that the observed rapid increase in the interest of the farmer's families towards the production of these tree crops in and around their compounds and farms is a new development. This calls for the ADPS collaborative and coordinating effort of the extension workers in the state to investigate the cultivars/varieties being planted and liaise with the

International Institute of Tropical Agriculture (IITA) and cocoa research institute of Nigeria (CRIN) for the purpose of establishing improved varieties of these tree crops for onward dissemination to the peasant farmers growing these tree crops or those who are willing to go into its production in their farm or around their compounds. The activities of the farmers should be well monitored and coordinated for this purpose.

b. The unwillingness of many of the peasant farmers there to plant or replace the removed economic tree crops is capable of reducing species diversity, hitting hard at the genetic base of most of these economic tree species. According to Ajayi (2001) many of these same species provide the rural people with the invaluable products they need to service like medicine, timber, poles, fire wood, oil, nuts, fodder for their livestock's, vegetables and of course, fruits.

c. The observed differences between the rate of removal and planting of economic tree crops among the rural farm-families in the zone are capable of bringing about sudden climatic and or ecological imbalance.

The Ondo State Ministry of Environmental protection should bring it to the knowledge of the peasant farmers the ecological implications of economic tree crops removal. Trees in general have been identified as a major contributor in solving land degradation problems. Trees bring about improved rainfall and protect the soil from water and wind erosion. So to achieve ecological balance these farmers needs to be advised to plant as much economic tree crops as they remove to achieve ecological balance.

VIII. REFERENCES

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