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# PROMOTING AGROTOURISM FOR SUSTAINABLE DEVELOPMENT IN NIGERIA

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## Abstract

Irrigation farming has increased in Nigeria in the recent times. In northern Nigeria, Irrigated farming is changing the livelihoods of farmers in rural community. The possible reason for this is the increased awareness from the Fadama project jointly funded by World Bank, Federal Government and State Governments. This work was carried out to assess the agrotourism potential of irrigation farming (agriculture) for food security and sustainable development in Nigeria. Before the discovery of crude oil in Nigeria, agriculture has been the backbone of the economy. Furthermore, agriculture was found to be capable of alleviating poverty because it provides income among farming households (they were able to live above US \$1/day/person which is the threshold for poverty level). Hence a duo of irrigation agriculture and tourism can be used to achieve the MDGs for reducing poverty and hunger.

*Keywords: Tourism, Tourism development, rural development, Productivity, Food Security*

## INTRODUCTION

Africa is endowed with numerous potential for positive development which are underutilized and resulted to poverty deepened into the fabric of our society, a predicament that need urgent measures to ameliorate. In the world over, natural landscape elements have become objects of attraction that has gingered people to move from place to place for leisure in form of tourism and has also brought income to communities. These elements can be in form of harnessed natural resources and products of agriculture. It is important to bring agriculture back into the fabric of our society and tourism through the agricultural sector as well as the society.

With more than 140 million inhabitants in 2006, Nigeria is by far the most populous country in Africa and yet can not feed her population in spite of the abundant resources. The farming sector has been the backbone of the economy since independence, employing more than 70 percent of the country's population (Kebbah *et al* 2003). Small farmers dominate the sector and provide the bulk of the nation's domestic food supply. The Nigerian farming sector is characterized by low productivity that has persisted since the early sixties. World Bank reports put the growth rate in total food production at less than 1.5% in the 1990s, compared to an average annual population growth rate of about 3% during the same period (Kebbah *et al* 2003). This has placed tremendous pressure on the farming sector and the economy at large, as limited foreign reserves have to be allocated to food importation in order to meet consumption requirements.

One sure way of increased income for Nigeria is through the development of her tourism sector. Although cultural tourism in Nigeria has gained government attention in recent time with the commencement of Abuja and Calabar carnivals, Argungu Fishing festival and others which have become annual events which have showcase Nigeria's numerous valued culture. Agrotourism, which is an alternative for improving the income and potential economic viability of small farms and rural communities, is yet to be developed in Nigeria. The development of a viable agrotourism farms in Nigeria is a function of comprehensive and sustainable irrigation schemes. One of the goals of irrigation farming is the provision of right amount of water at the right time for growth and development of plants like vegetables, tomatoes, onions and cereal crops which are veritable plants needed to set up agrotourism farm. Nigeria has 11 River Basin Development authorities with many irrigations projects that are heavily supported by the World Bank, Federal and State Government Funded National Fadama Development projects I, II and III to boast farming activities all year round.

Agricultural tourism is an expanding sector in the U.S.A and around the world. Agricultural tourism is referred to as "Agritourism and "Agriculturally based leisure attractions called Agriturismo "in Italy, "Farm Stay" in New Zealand and "Sleeping in the Straw" in Switzerland. It is defined as a business conducted by a producer for the enjoyment and education of the public to promote the products and thereby generate additional income (Sustainable Agriculture 1998)

Agritourism is the economic activity that occurs when people link travel with products, services and the experience of agriculture. It includes visit to nursery and greenhouse attractions as part of a leisure time activity and can significantly benefits farmers and communities in the agricultural urban interface of developing nations. Result from a study in San Diego indicates that agricultural tourism has substantial economic impacts on local economics (Hilchey 1993).

Agrotourism as a venture afford the capitalization of accommodation available in the farm house which are usually prepared and arranged properly for welcoming the guests, provision of services for meals and complementary activities dependent on the economic specificities of the farm. It provides opportunities for diversification and economic incentives for growers to promote economic development and help educate the public on the important contributions of agriculture to any countries economy's and quality of life. It is an enterprise that can take many forms for the green house industry. On location, property can be designed as nursery trails, picnic or camping grounds, farmers markets, roadside stands to attract customers. Consumers may seek overnight vacation activities such as farm stays or bed–breakfast lodging (Robin *et al*, 2002).

It is evident that many countries around the world are beginning to venture into agrotourism development because of its immeasurable significance to a country's economy and value for which Nigeria, as a country gifted with vast arable fertile land can take advantage of. It is the thrust of this paper to unveil some agrotourism potential of our great nation and how best they can be harnessed for sustainable development.

### **Concept of Agro-tourism**

Agrotourism enables a country to rediscover the values of rural resources disregarded in the modernization process of a natural economy, giving insights to both farmers and policymakers to adopt a wider perspective than the hitherto agricultural product oriented mentality of rural development (Ohe, 2006). The boundary and application of agro – tourism are quite diverse, however, it generally encompasses agricultural production, lifestyle and rural environment which accommodate people in both urban and rural areas. It also has been extensively studied from the view point of farm based rural business for both developed and developing countries (Ohe, 2006).



Robin Brumfield *et al* (1999) noted that Virginia State Government estimated that its tourist industry generated about \$11.2B in 1998 revenues whereas the agricultural tourism industry generated about \$2.2B. Julie Leones *et al* (1994) pointed out that agricultural tourism represent 79% of the estimated 81,450 non-local visitors who came to farm outlets in Cochise County, Arizona during July through October 1993 season. Non-local visitor's parties spent on average of \$58 during their visit to Cochise County, with \$40.33 being spent at the farm outlet. Overnight visitor's parties spend an average of approximately \$130 a day while trippers spend on average of only about \$54. In a related study Robin *et al* (2002) noted that in Cochise County, Arizona, 81,450 non-local visitors spent close to \$1 million and generated \$1.9 million in economic impacts in the county. The average expenditure per day visitor party of an overnight visitor party was \$58 and \$130 respectively.

Bill Hellen, 2007 observed the value in promoting the unique mixture of Mexican and Texan ranching history along the south Texas border. He revealed that La Mota Ranch founded in 1890 outside Hebbronville Texas has received multiple bus loads of tourist per week and charged around \$60 per person in recent years. While there are many success recorded in agrotourism, not all agrotourism ventures have succeeded because it is not a "magic bullet". In this respect, a study of Pennsylvanian business has property tax problems, high insurance and liability costs and the limited seasonality costs and weather as the most significant of the major problems operators faced (Ryan *et al*, 2006).

## **The Potential for Sustainable Agrotourism in Nigeria:**

### **Physical and Demographic Characteristics**

Nigeria occupies an area of 923 768 km<sup>2</sup>. The country lies between latitudes 4° and 14° north of the equator and longitudes 3° and 15° east of Greenwich. There are wide climatic and rainfall variations found in the country due to its location south of the path of the westerly winds in the north and almost out of equatorial doldrums of the south of Nigeria. Consequently, it is in the heart of the trade wind belt with general "summer" rains and "winter" drought.

According to NINCID 2009, Nigeria can be divided into 10 land regions. They are: (1) Sokoto Plain; (2) the Chad Basin, (3) the Northern Plains; (4) the Jos Plateau; (5) the Niger-Beneu River Valley; (6) the Western Uplands; (7) the Eastern Highlands; (8) the South-western Plains; (9) the South-eastern Lowlands; and (10) the Niger Delta.

The main river is the Niger, entering the country in the north-west and flowing first south-east and then south to Gulf of Guinea. Its major tributary, the Benue, rises in the mountains of the Cameroon Republic. Nigeria is a land of great variety (fig. 1). It has hot, rainy sump lands, dry, sandy areas, grassy plains, and tropical forests. High plateaus and Rocky Mountains rise up in parts of the country.

Agriculture employs three quarters of the Nigerian working population, but agricultural landholdings are generally small and scattered. The average number of farm plots per household ranges between 2 and 28 plots and between 0.5 and 5.0 ha, increasing in size from the south towards the north. Farming is generally rain fed and of the subsistence variety. The total population of Nigeria according to 1991 census was about 88.5 million people. The population growth rate has been stable at 2.83% while infant mortality has reduced. The estimated growth rates of population for 2000-2010, and 2010-2025 are estimated to reduce to about 2.70; 2.60 respectively (NPC, 2006).

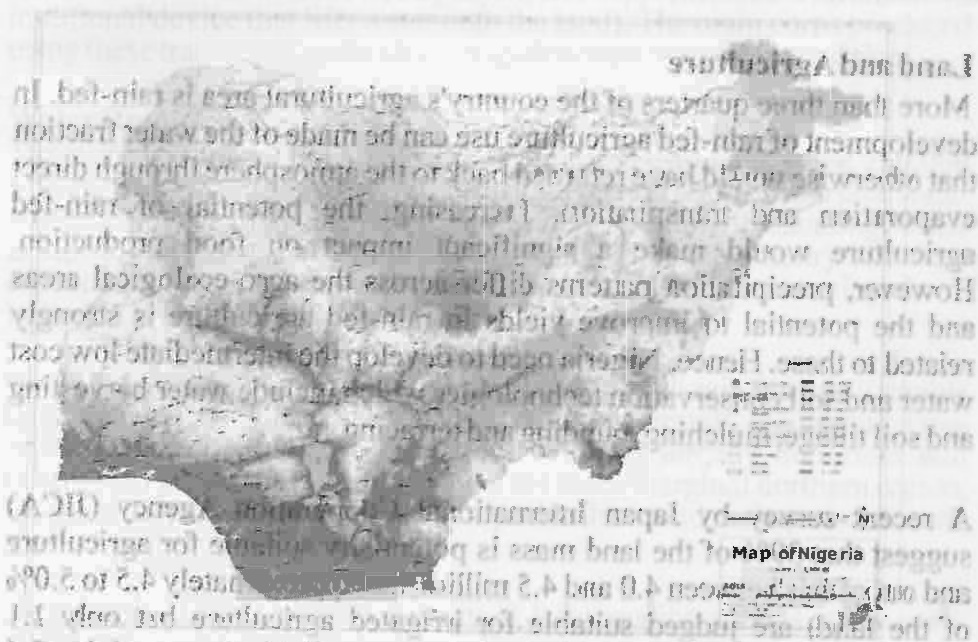


Fig.1: Physical Map of Nigeria Showing the Relief and Topography.

Rainfall averages over 2000 mm per annum in the southeast, 1000 mm in the centre reducing to as low as 500 mm in the north east ( NINCID, 2009). In the same areas the mean annual pan evaporation is 2450 mm and 2620 mm per annum respectively. Similarly, the vegetation of thick mangrove forests and dense rain forests in the south gives way to a near-desert condition in the north-eastern corner of the country.

The county is divided into eight agro-ecological zones for the purpose of irrigation practices based on rainfall and temperature which are the most significant parameters. The major crops grown in the country can be divided into two main groups: food crops (produced for consumption) and export products. Despite the importance of the export crops, the primary policy of agriculture is to make Nigeria self-sufficient in its food and fibre requirements.

Nigeria is listed by FAO among nations that are at the moment technically unable to meet their food needs from rain-fed production at low level of inputs and appear likely to remain so even at intermediate levels of inputs at sometime between 2000 and 2025 (FAO, 1988 ).

### **Land and Agriculture**

More than three quarters of the country's agricultural area is rain-fed. In development of rain-fed agriculture use can be made of the water fraction that otherwise would have returned back to the atmosphere through direct evaporation and transpiration. Increasing, the potential of rain-fed agriculture would make a significant impact on food production. However, precipitation patterns differ across the agro-ecological areas and the potential to improve yields in rain-fed agriculture is strongly related to these. Hence, Nigeria need to develop the intermediate low cost water and soil conservation technologies which include water harvesting and soil tillage, mulching, bunding and terracing.

A recent survey by Japan International Cooperation Agency (JICA) suggest that 39% of the land mass is potentially suitable for agriculture and out of this between 4.0 and 4.5 million ha (approximately 4.5 to 5.0% of the land) are judged suitable for irrigated agriculture but only 1.1 million ha can be supported fully by the water available, the remaining 3.4 million ha being *fadama*.

### *Rain-fed Agriculture*

In 1987, FAO prepared a working document on the "Need and Justification of Irrigation Development" which undertook a scientific assessment of the size of populations that the agricultural land resources of African countries can support. The report assumed a projected population for Nigeria in the year 2025 of 238 million, 47.90 million hectares of potential rain-fed land and 2.00 million and 3.73 million hectares potential shorter and longer transport irrigable land. The shorter transport irrigable lands were defined as land close to the source of the irrigation water i.e. transport distances were limited to those within one agro ecological zone. On the other hand, longer transport referred to land further away from source: irrigation water may be transported from one agro-ecological zone to another. The potentials were calculated for three alternate levels of inputs namely, low level of inputs, intermediate level of input and high level of input.

The water resources development for agricultural purposes was in the hands of the private sector for the production of sugar cane with only a minor role by states in the northern region of Nigeria. Irrigation practice was rudimentary, using residual flood waters and moisture in the low lands called fadama (flash flood plains), and supplemented with shaduf (a traditional device that lifts water onto the land). The main crops produced using these traditional methods of irrigation were vegetables and rice.

### **Water Resources**

The water resources potential of the country is estimated to be 250,000 Million Cubic Metres (MCM) comprising 190,000 MCM of surface water with the balance in the form of groundwater. This notwithstanding, water is still a limiting factor to agriculture in much of the country but most especially in the northern semi-arid and dry sub-humid zones lying above latitude 11° North.

Overall, the nation has substantial resources of both rain fed and irrigable land. In view of differences in production potentials in various agro-ecological zones however, irrigation, which is already important will continue to be justified, particularly in the more marginal northern region, for the local production of high value perishables, and perhaps for rice and some export crops.

As a result of FAO and US Bureau of Reclamation studies in the early 1970s, three pilot public irrigation schemes were developed, all in the sub-arid and dry sub-humid agro-ecological zones, namely: Bakolori Scheme, the Kano River Irrigation Scheme and the Chad Basin Scheme.



The success of these pilot schemes coupled with the five-year drought (1970-1975) led to the establishment of 11 River Basin Development Authorities (RBDAs) in Nigeria namely: Hadeja-Jama'are, Lower Benue, Lower Niger, Benin-Oowena, Chad, Anambra-Imo, Upper Niger, Niger Delta, Ogun-Osun, Sokoto-Rima and Cross River Basin Development Authorities.

#### a) Irrigation

The development of water resources especially for irrigation purposes in Nigeria dates back to the Pre-colonial era. The traditional application of water to land for dry season farming in the Northern Nigeria was one of the earliest attempts made towards increasing agricultural production. This notwithstanding, Nigeria has not developed irrigation to the same extent as other developing nations, particularly in Asia. Only about 1 million hectare is currently irrigated in Nigeria. By contrast, India, which has about 3.5 times the land mass of Nigeria, irrigates nearly forty-five (45) times as much land (NINCID, 2009).

The initial case for development of irrigation in Nigeria was based in part therefore, on the need to sustain a growth in the food supply that would broadly lead to national food security. It is revealed that between 1976 and 1990, about US\$ 2000 million of public funds were invested in the development of large to medium scale public irrigation projects (Musa, 1997). Consequently, irrigated agriculture witnessed a spectacular growth, rising from slightly more than 25,000 ha of irrigated farmland in 1975 to the current 974,900 ha. Surface irrigation in its various forms (basins, borders and furrows) issued predominantly for water applications in both public and private irrigation schemes.

Areas under irrigation include areas equipped with full or partial water control, spate irrigation, equipped wetlands and inland valley bottoms (including fadamas), irrespective of their size or management type. From a survey undertaken by FMWR in 1995 it appears that irrigated areas in Nigeria amounts to some 974 900 hectares. However, the exact amount of land under irrigation is difficult to estimate, because there is no clear commonly agreed definition of irrigation that is adopted by all.

Three main categories of irrigation development exist in Nigeria today, namely public irrigation schemes, which are systems under government control (formal irrigation); the farmer-owned and operated irrigation schemes (informal irrigation) that receive assistance from government in the form of subsidies and training; and residual flood plains fadama, where no government aid is supplied and is based on traditional irrigation practices.

The most important irrigated crops are rice, wheat, and vegetables. Together they occupy about 90 to 95 per cent of the total water managed area (Shaib *et al.* 1996).

At 1998 price, the average cost for irrigation development was estimated at N750, 000 per ha. Annual operation and maintenance costs ranged between N5, 000 per ha for gravity systems and N22, 000 per ha for pumping systems, and up to N30, 000 per ha for sprinkler irrigation systems.

### Technology/Crop Yields

There is an enormous potential in Nigeria through the development of irrigation for higher yields, which could possibly be achieved by advances in bio-technology through development of higher production, pest and drought resistant crops. However, seeing the present state of affairs, there is little likelihood of a substantial breakthrough. Only comparatively small advances in the order of five to ten percent may be expected. Notwithstanding, the technological level is sufficient enough to sustain the development of agrotourism (plate 1) in Nigeria.



**Plate 1:** Sustain Agriculture through Agrotourism can Redeem the Lost glory of the past

#### 4.0 Fadama Development in Nigeria

Fadama refers to a seasonally flooded area used for farming during the dry season. It is defined as alluvial, lowland formed by erosional and depositional actions of rivers and streams (Qureshi, 1989). The First National Fadama Development Project was founded with US \$100 million with World Bank loan of US \$67.5 million and implemented from 1993–1999. The initial beneficiary (core) states are Bauchi, Kano, Jigawa, Sokoto and Kebbi that were allocated US \$55 million with additional US \$37.5 million on a first come first served basis. It used a top-down approach that focused mainly on crop production and largely neglects support of post-production activities such as commodity processing, storage and marketing. The emphasis was on providing boreholes and pumps to irrigate farmers through simple credit arrangement aimed at boosting aggregate crop output. (Nkonye *et al*, 2008).

World Bank assisted National Fadama Development Project I in Niger State resulted in completion of the project 66 tube wells drilled, 250 boreholes sunk, 4.7km of fadama access road constructed, 200 fadama user association formed and 360 irrigation pumps distributed as well as culvert constructed (Aliyu, 2005). FGN Upper Niger River Basin Development Authority and Niger State Government have developed 22,000 and 8,000 hectares of fadama land through large and small scale irrigation scheme respectively.

National Fadama Development II was declared effective on May 27, 2001 and funded by World Bank and the African Development Bank (ADB) to the tune of US \$100 million and US \$30 million respectively. Out of the 36 states that are participating in Fadama II, 12 of them are assisted by the World Bank. These states include Adamawa, Bauchi, Gombe, FCT, Kaduna, Kebbi, Lagos, Niger, Ogun, Oyo and Taraba (NFDO, 2007). Micro level analysis showed that the target objectives of increasing income of fadama II by 20 percent has been surpassed (incomes increased by 25.7% by January 2007) (Nwachukwu *et al*, 2008). An estimated 2 million fadama household have benefitted from the expansion in income and wealth derived from the previously unavailable services provided by the project. The estimated total of \$ 33 million of community sub-project investment disbursed through the Local Development Plan (LDFP) resulted in the creation of about 120,000 permanent jobs and additional income of more than \$ 40.8 million for all the participating World Bank states. (Nwachukwu *et al*, 2008).

Result of Fadama II programme in Giwa Local Government areas of Kaduna state shows that about 98% of beneficiary farmers experience high yield which reflected higher income to the farmers and consequently improved standard of living (Kudi *et al*, 2008).

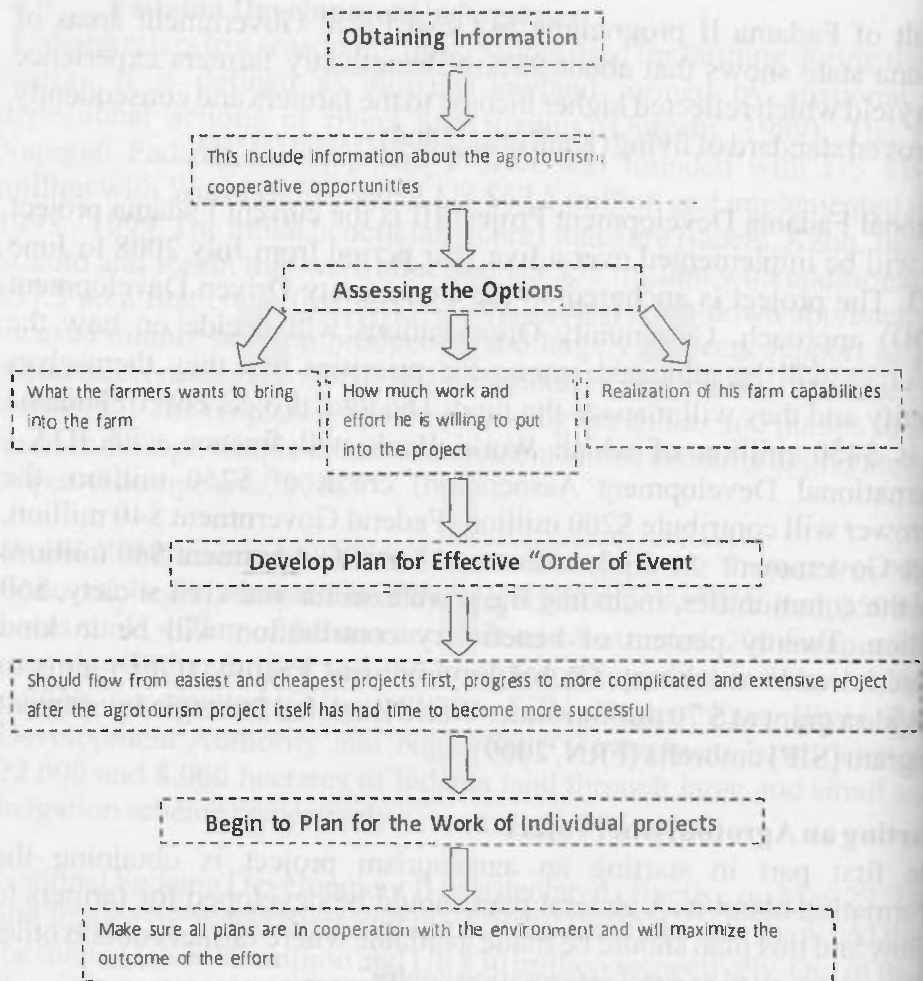
National Fadama Development Project III is the current Fadama project and will be implemented over a five year period from July 2008 to June 2013. The project is anchored on the Community Driven Development (CDD) approach. Community Organizations will decide on how the resources will be allocated among the priorities that they themselves identify and they will manage the fund. The total project cost of Fadama III is \$450 million of which World Bank will finance with IDA (International Development Association) credit of \$250 million, the borrower will contribute \$200 million (Federal Government \$40 million, State Government \$60 million and Local Government \$40 million) and the communities, including the private sector and civil society, \$60 million. Twenty percent of beneficiary contribution will be in kind (material and/ or labour). Global Environment Facility (GEF) aims to provide a grant of \$70 million under World Bank led Strategic Investment Program (SIP) umbrella (FRN, 2009).

### **Starting an Agrotourism Project**

The first part in starting an agrotourism project is obtaining the information about it. A general plan should be developed for farmers to follow and this plan should be made available where farmers obtain other information, such as rural information centre.

After this information is obtained, the farmer can begin to assess his options. First he must decide what he wants to bring to the farms capabilities. After gaining an idea of what he can do and what he wants to do, he should consider an effective "order of events" that will ensure a smooth and effective development of the project. The development plan for starting an agrotourism project will help with creating an order for implementation. As soon as the farmer customizes his plan to fit his needs, wants, and capabilities, he can begin his work.





Source: Adapted From Lacie Hoskins,2003

Fig. 1: Starting an Agrotourism Project Flow Chart

## Promoting and Financing Agrotourism Business in Nigeria

It's no more news that Nigeria has vast fertile land hitherto underutilized for irrigation agriculture which can enhance agrotourism development and yet it has not realised its potential to develop and also promote agrotourism. First and foremost, the basis of any agrotourism promotional program is product excellence. If your product or operation is excellent, promotion will enhance your sales. If your agro products are poor, all the advertisement in the world will not help (Kent *et al*, 2005).

However, there are several ways agrotourism can be promoted in Nigeria and they are as follows:

- (i) **Signage:** A business without a sign is a sign of no business. Agrotourism farm e.g. a vegetable farm produced through irrigation should have a sign as the first promotion to do and the sign should include name of the business large enough for people to see and a brief explanation e.g. "Banki's Farm" "Pick-Your-Own vegetables" hours of operation and phone numbers.
- (ii) **Paid Advertising:** Is usually the first strategy one think of in term of promotion. In advertisement, you are trying to call attention to your product and make people want to try it. Although, it may be expensive for most low income Nigeria farming group, Nigerian Government media through radio and television should be used at very subsidized rate. Direct mail, yellow pages, billboards and Internet can all be effective.
- (iii) **Publicity:** Small and large irrigation agrotourism farms in Nigeria should explore this medium because it's a non paid advertising for farm products as it can produce big results without a big expenditure as your cost is mostly in time and materials. Farm owners should offer tours, interview to local stations and newspaper lifestyle or food editors and persuade them to write articles about their agrotourism farms. Tours to schools, speaking at local functions and civic meetings, sponsoring of seminars and demonstrations can be of advantage.
- (iv) **Discounting:** Is most often done in the form of coupons or quantity discounts. Discounting can help you attract price – sensitive and first time customers to agrotourism farms in Nigeria as Nigerians have been known to be attracted to cheap and quality products. It can also be used to track the effectiveness of paid advertising.
- (v) **Product Sampling:** Include a free trial of a product or service. It is especially effective with food products particularly those that can be displayed for agrotourism. The advantage is that sampling the product often produces immediate sales. Event sampling can often be through hosting various group and organisation.

Funding for agrotourism business can be sourced through commercial banks agricultural facilities such as the First Bank Farm Settlement Scheme, Multi-channel Agricultural Finance Scheme (Multi-Cafs), Commercial Agricultural Credit Scheme for large scale agrotourism farms. Irrigation farmers can also obtain credit facilities from cooperatives using the Micro Finance Banks and the Nigeria Agricultural and Rural Development Bank should be seen to be playing a leading role in the financing of agrotourism business.

### **Conclusion and Recommendation**

Irrigation farming is a profitable and sustainable venture for the farmer. Farmers make an average net profit that translates above the recommended US \$1.00 per day per person. Therefore, it could be established that irrigation farming can serve as an instrument for alleviating poverty among farmers which is a major item among the MDGs. It is noteworthy that this amount is not entirely spent on consumption by the farming household and excess can be re-invested in irrigation farming, invested in other ventures or saved for future consumption. In conclusion, it is recommended that policy actions should be focused on promoting irrigation and other agricultural development and agrotourism through intervention programs such as the Fadama Program (of the Federal Government and the World Bank) by concentrating on the development of storage facilities and provision of enough soft loans to farmers which were identified as major problems militating against irrigation farming. These can only be achieved if there are good policies backed with adequate extension services that can train farmers on the use of new technology such as irrigation scheduling and pumping machine operating techniques and so on.

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