Management of Community Resources for Sustainable Economy in Ikwerre Local Government Area, Rivers State

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Abstract

The study investigated management of community resources for sustainable economy in Ikwerre Local Government area in Rivers State. The study was guided by two research objectives and two research questions. Descriptive survey research was used for the study, a population of 894 of 171 registered community based organizations whose activities cover social and economic development and financial help to the communities. A proportional sampling technique was used, with a sample size of 268 representing 30% of members of 171 community based organizations in Ikwerre Local Government Area. A self-structured instrument titled: management of community resources for sustainable economy questionnaire (MCRSEQ) was used. The instrument was validated by expert judgement with a reliability index of 0.82. Mean and standard deviation was used to answer the research questions. The finding shows that there is high utilization of modern farming techniques and deforestation and degradation by community based organization farmers in managing agricultural resources for s sustainable economy in Ikwere Local Government Area of Rivers State. It was recommended among others that Modern farming techniques should be encouraged among people of the communities to improve the wide types of production practices employed by farmers.

Keywords: Management, Community Resources, Sustainable Economy

Introduction

Community resources are assets in a community that help meet certain needs of the community, Brittany and Jay (2015) stated that, these assets can be people, places or structures agricultural product and community services. Hospital, community clinics and public health organizations are all considered community resources, whether they are funded by private non-profit groups or local, state or federated government sources. These resources help in building stronger, more resilient individuals and communities, they help meet certain needs for those living in and around the community, especially in the improvement of their quality of life, they help in developing healthy behaviours and in promoting independent individuals and families. This paper focused on agriculture resource management and forest resource management for sustainable community development in Ikwerre Local Government Area.

Remade in Kumar (2017) assert that, any part of the environment such as land, water, air, minerals, forest, wildlife, that the man can utilize to promote his welfare can be regarded as community resources. The increasing human population, rapid industrialization, unplanned urbanization, steady technological development and so on exert tremendous pressure on the existing of these community resources, if these exploitations continue unchecked, within a very short span of time, many of the non-renewable resources will be exhausted. So it is pertinent to diverse means of managing these resources for sustainable economy in Rivers State, precisely in Ikwerre Local Government Area and so that human beings can get continuous supply of required materials and food without the fear of their complete exhaustion or damage. Musa (2005) said that, managing community resources involves all processes and activities directed toward ensuring a good quality environment for the people in a given community. From Musa view of managing community resources, it can be deduced that, it includes all conscious efforts directed at promoting better dwelling and working surroundings for man whether in the urban or rural community.

As the researchers earlier pointed out that, the paper focused on agriculture resource management and forest resource management, the methods adopted for agriculture resource management are: introducing modern farming techniques, negotiating a better price, increasing crop yields, saving for a rainy day and defending gender equality (voluntary service overseas (VSO 2022). Then, the methods adopted for forest resource management are: increasing forest area through reducing deforestation and degradation, maintaining forest area through afforestation and reforestation and increasing landscape-level carbon density (Okunola and Akinyele 2014). These are methods or approaches to the integration of management and conservation of community resources for sustainable economy.

Agriculture resource management for sustainable economy

Agriculture resource management is a geographic information approach support device to aid farmers to better establish their fields and livestock production facilities for their resource management planning, updating their environmental farm plan, food trace ability and animal health purposes Francais Department Service (FDS 2022). Jason (2022) in his own view defined agriculture resource management as an occupation that involves the science of food production, it deals with farming techniques, domestication of animals and the general processing of food.

Since productivity and food safety play an important role in the food supply of the world, management of agriculture resource should be taken into cognizance for sustainable economy in Rivers State, especially in Ikwerre Local Government Area. As a result of contaminated food sources and rapid population growth in Nigeria as a whole, government regulatory bodies such as National Agency for Food and Drug Administration and Control (NAFDAC), Standards Organization of Nigeria (SON) and National Codex Committee (NCC) have been emerged to manage the process of food production from both plant and animal sources. The NCC is responsible for synthesizing national position to codex meetings and guiding national policies on food standards, safety and international food trade issues, World Health Organization (WHO 2022). These regulations bodies ensure that agriculture resource is been managed in terms of sustainability, conservation, sufficiency, cost effectiveness, quality, hygiene and so on, for sustainable economy in Nigeria. VSO (2022) enumerated and explained five methods agriculture resource can be prudently managed for sustainable economy in Rivers State, especially in Ikwerre Local Government Area to be:

1. **Introducing modern farming techniques**: Rivers State has a long history of farming and agriculture is the strength of Rivers State economy and Nigeria at large. Two-thirds of Nigeria labour force is farmers, but traditional techniques and antiquated agricultural tools can serve as impediment for effective and quick production. For example soya beans farmers in Niger state spend days beating their harvested crops with a stick to remove the husks and stalks from the seed, threshing by hand is implausible exhausting, and there were reports of injuries (VSO 2022). Thresher farm machines can be use to process the soya beans in a fraction of the time it takes to do it by hand to retain the production. This is a means of agriculture resource management for sustainable economy in Rivers State, especially in Ikwerre Local Government Area.

2. **Having a better price**: Negotiating a better price is not easy for a farmer who works independently on a small scale, when farmers come together, pooling their resources in a cooperative manner, they can get a higher price for their farm produce by selling in bulk or in a bigger size, this can attract larger buyers. Razovan etal (2022) maintained the fact that getting a better price for farm produce such as rice, corn, coconut, sugarcane, banana, cassava, pineapple and vegetables serves as a way of agriculture resource management.

3. **Increasing crop yields**: Access to land is a major hurdle for farmers in Nigeria, so it is imperative to maximize yields. This calls for using experts in the field of agriculture to show farmers how to adopt different techniques to make their work more efficient and ultimately improve their crop yield. The experts can as well show the farmers to discover how to improve in the use of their own plots of land to enable them enhance their crop yield, and to avoid wastage of the farm land. Increasing crop yields is an instrument for agriculture resource management in Rivers State, and Nigeria at large.

4. **Saving for a rainy day**: Urban farmers save money accrued from their farm produce in the bank, while most rural farmers join local savings and loan associations, the reason is to save for the future and to cover emergency costs. Mike (2020) ascertained that, training and development co-operative association equip farmers with specific skills, like; prudent financial management, the association encouraged farmers to set aside money for the future in case of rainy day and to help them have resources to recover in case of force majeure. Saving for a rainy day in case of unforeseeable circumstances aids in agriculture resource management for sustainable economy in Rivers State Rivers State, and Nigeria at large.

5. **Defending gender equality:** The quality of life in urban and rural areas and the sustainability of Nigerian economy depends on how well the community resources especially the agriculture resource is being managed. Management is a social activities which emphasizes efficient allocation of resources for optimum output, therefore any member of the community irrespective of the gender category with the technical know-how can be entrusted with the responsibility of resource management for community survival (Simon, Hephzibah & Ivande 2017). Agriculture is the life-wire of economy with women contributing immensely at every stage of agricultural activities. According to international institute of rural reconstruction (IIRR) in Simon etal (2017) women are key farmers, food producers and care givers, women contribute 60-80% of domestically produced food, provide nearly half the farm labour and shouldered 90% of the domestic responsibilities in Africa, which Nigeria is inclusive. This enormous duty of women, if taking into cognizance by involving them in agriculture resource management without discriminating on the basis of gender equality especially when benefits of this resource accrue will help to sustain in the management of agriculture resource in Rivers State, and Nigeria at large.

Forest resource management for sustainable economy

6. The aim of forest resource management is to ensure that forests supply goods and services to meet both present day and future endeavours and contribute to the sustainable economy of communities. Food and Agriculture Organization (FAO 2002) stated that, the United Nations General Assembly in 2007 recognized sustainable forest management (SFM) as a dynamic and evolving concept that aims to maintain and enhance the economic, social and environmental values of all types of forests in Rivers State, and Nigeria at large for the benefit of present and future generations, considering the following thematic points as a reference framework: increasing forest area through reducing deforestation and degradation, maintaining forest area through afforestation and reforestation and increasing landscape level carbon density.

7. Bara (2018) enumerated eight strategies adopted for forest resource management in terms of deforestation and degradation. They are: planting of trees, using less paper, recycling of paper and cardboard, using recycling products, buying only sustainable wood products, not buying products containing palm oil, reducing of meat intake and not burning firewood excessively, reducing the capacity of a forest to provide goods and socio-cultural and environmental services. Forests are a means of human's livelihood; they provide food, fruits, oils, medicine, energy forage, firewood, employment and income for citizens of Nigeria and other environmental conservation for sustainable economy (Obiora 2003). Food and Agriculture Organization (FAO 2021) said that, in ensuring that the forest resource is been managed properly, the federal ministry of environment should be committed in checkmating the challenges of deforestation and forest degradation by rapidly increasing forest cover and doubling efforts at strategic and improved conservation for the attainment of sustainable economy. For many years FAO has been working with the federal and state government in different interventions that promote sustainable forest management for sustainable economy, these include the strengthening of institutional capacities in various aspect of forest monitory, measurement, reporting and verification procurement of modern forest. Inventory equipment and construction and furnishing with modern hardware and software equipment (FAO 2021). Afforestation and reforestation are effective methods of managing forest Rivers State, and Nigeria at large, which involve degradation and rehabilitation, they are effective climate change mitigation strategies.

United Nations (2016) affirmed that, managing the forest through afforestation could lead to a gradual accumulation of Soil Organic Carbon (SOC), it depends on the previous forest use type and the species and planting methods. Other benefits of forest resource management include accumulation and biodiversity (especially when mixed tree species are used) soil erosion control, and improved ecosystem functions and services, such as soil and water conservation, often aesthetic and cultural services.

The degradation of land for agricultural purposes and forest resources threatens the livelihoods of the millions of people in Nigeria who depends on them. Every year some 12 million hectares of land are degraded while 7.6 million hectares of forest are converted to other uses or lost through natural causes (United Nation 2016). Forest and landscape restoration (FIR) points towards reversing the degradation and up-scaling the sustainable management of community resources, including agriculture and forest. Agriculture and forest resources management for sustainable economy also requires strategies that will secure carbon by building the organic matter base and fertility of soils, as well as increase yields of crops.

Statement of the problem

8. Nigerian communities especially the communities in Ikwerre Local Government Areas are most dependent on natural resources for their survival, these natural resources are materials from the community that are used to support life and meet community needs of which most of them are gotten from agriculture and forest resources such as oil, cassava, yam, maize, timber, air water and other agriculture and forest crops. It has been observed that, most of these agriculture and forest resources are scarce as a result of population pressure that is, increase in food demand, lack of use of modern strategies to manage the resources and inability to understand that the communities own the responsibility of managing their resources for survival. It is on this note that the study sought to investigate different techniques of managing community resources for sustainable economy in Rivers State, Ikwerre Local Government Area precisely.

Purpose of the study

The purpose of this study was to investigate different techniques of managing community resources for sustainable economy in Ikwerre Local Government Area. Specifically the study sought to:

1. Investigate the use of modern farming techniques in managing agriculture resource for sustainable economy in Ikwerre Local Government Area of Rivers State.

2. Identify the use of deforestation and degradation in managing forest resource for sustainable economy in Ikwerre Local Government Areas of Rivers State.

Research Questions

The following research questions were formulated to guide the study.

1.   What is the use of modern farming techniques in managing agriculture resource for sustainable economy in Ikwerre Local Government Area of Rivers State?

2. What is the use of deforestation and degradation in managing forest resource for sustainable economy in Ikwerre Local Government Area of Rivers State?

Methodology

The research design used in this study was descriptive survey design. The researchers collected data from a large sample of members of registered community based organizations used for study. The population of this study comprised 894 members of 171 registered community based organization whose activities cover social and economic development and financial help to the communities in Ikwerre Local Government Areas. Out of these

members, 268 representing 30% of members of 171 community based organizations in Ikwerre Local Government Area were sampled using proportionate sampling technique. The instrument for this study was a 21 items structured questionnaire on management of community resources for sustainable economy questionnaire (MCRSEQ). Furthermore, the response option was a 4-point modified likert scale of strongly agree (4), agrees (3), disagree (2) and strongly disagree (1). Data derived from the field were analyzed using descriptive statistical analysis. Mean and standard deviation were used to analyze the research questions at a decision point of 2.50. The implication was that a mean value above 2.50 (i.e 2.50-40) was considered as "agree", while values below 2.50 (i.e 0-2.40 as "disagree).

Results

Research Question 1

What are the modern farming techniques in managing agricultural resources for sustainable economy in Ikwerre Local Government Area of Rivers State?

Table 1: Mean and standard deviation on the use of modern farming techniques in managing agricultural resources for sustainable economy.

S/N	Items	N	Mean	Sd	Cm	Remark
	Modern farming techniques					
1	Do you feel that the irrigation technique protect your fame from the weeds	268	2.72	.78	2.52	Agree
2	Being able to use water harvesting technique for production of organic fruit and vegetable would be a good idea	268	3.30	.79	2.52	Agree
3	Using monoculture technique will create a possibility for economy cultivation of crops	268	2.52	.68	2.52	Agree
4	Being able to work with the use of tractor would make it easier for production	268	3.16	.74	2.52	Agree
5	Usage of aquaponics technique can improve soil fertility and soil structure	268	2.90	.82	2.52	Agree
6	Using vertical system helps in conventional farming production	268	3.00	.76	2.52	Agree
	Grand mean	268	2.93	0.76	2.52	Agree

Field Survey (2022)

A critical look at table 1 reveal that the following agreed on usage of modern farming techniques in managing agricultural resources for sustainable economy. Irrigation techniques protect fame from the weeds ($\bar{x}=2.72$) and sd of .78, water harvesting techniques for production of organic fruit and vegetable ($\bar{x}=3.30$) and sd of .79, monoculture techniques will create a possibility economy cultivation of crops ($x=2.52$) and sd of .68, tractor would make it easier for production ($\bar{x}=3.16$) and sd of .74, aquaponics technique can improve soil fertility and soil structure ($\bar{x}=2.90$), and sd of .82, vertical system helps in conventional farming production ($\bar{x}3.00$) and sd of .76. Furthermore the grand mean score of 2.93 indicates the effectiveness modern farming techniques in managing agricultural resources for sustainable economy Ikwerre Local Government Area of Rivers State.

Research Question 2

What is the use of deforestation and degradation in managing forest resource for sustainable economy in Ikwerre Local Government Area of Rivers State?

Table 2: Mean and standard deviation on the use of deforestation and degradation in managing agricultural resources for sustainable economy.

S/N	Items	N	Mean	Sd	Cm	Remark
7	It improve market access for agricultural production	268	2.72	.78	2.52	Agree
8	For community forest management	268	3.30	.79	2.52	Agree
9	Create alternative income opportunities	268	2.52	.68	2.52	Agree
10	Restoration of degraded forest	268	3.16	.74	2.52	Agree
11	Fuel wood (domestic usage and local consumption)	268	2.90	.82	2.52	Agree
12	Land clearance for subsistence agriculture	268	3.00	.76	2.52	Agree
13	Land clearing for commercial agriculture	268	3.00	.78	2.52	Agree
14	Human induced forest fire	268	2.98	.77	2.52	Agree
15	Commercial wood production	268	2.89	.82	2.52	Agree
16	Charcoal production	268	3.11	.83	2.52	Agree
	Grand mean	268	2.96	0.78	2.52	Agree

Data in table shows there is deforestation and degradation in managing agriculture resource for sustainable economy. The mean responses of these items are greater than the criterion mean (2.5). The mean scores are effective, market access for agricultural production ($\bar{x}=2.72$) and sd .78, community forest management ($\bar{x} = 3.30$) and sd of .79, create alternative income opportunities ($\bar{x} =2.52$) and sd of .68, Restoration of degraded forest ($\bar{x} =3.62$) and sd

of .74, fuel wood local consumption ($\bar{x}$=2.90) and sd of .82, land clearance for subsistence agriculture ($\bar{x}$ =3.00) and sd of .76, land clearing for commercial agriculture ($\bar{x}$=3.00) and sd of .78, Human induced forest fire ($\bar{x}$=2.98) and sd of .77, commercial wood production ($\bar{x}$=2.89) and .82, charcoal production ($\bar{x}$=3.11) and sd of .83. The grand mean of 2.96 indicates the high quality usage of deforestation and degradation in managing agriculture resource for sustainable economy.

Discussion of Findings

Findings of this study showed that there was high utilization of modern farming techniques by   community based organizations farmers in managing agricultural resources for s sustainable economy in Ikwerre Local Government Area of Rivers State. These community organizations made used of tractors, water harvesting monoculture, irrigation and aquaponics technics for farming. All the respondents belonged to a farmers group with a very creative names that depicted teamwork and cooperation, development, wisdom and uplifting. Most farmers indicated that using monoculture method will create a possibility for economic cultivation of crops, cultivating a single kind of crop that is best suited to development in specific climate conditions allows the farmer to get better yields and therefore get higher income (Christiaensen, 2017). Finding also showed that modern farming techniques in managing agricultural resource for sustainable economy in Ikwere Local Government Area of Rivers State include aquaponics technique. Community based organization used aquaponics system of farming because it is suitable for farmers who have fewer land holding in area where water is scarce. Iwana (2012) contended that the success of an aquaponics system requires proper maintaining of the plants fish and nutrients that gives a well- balanced and interdependent relationship. By using aquaponics technics, community based organization learn more about the lives of plants and fish. They can become more aware of how the foods they buy in grocery stores have been produced.

The study also showed that use of deforestation and degradation in managing forest resource for sustainable economy improve market access for agricultural product, community based organizations found it appropriate for commercial wood production, charcoal production and human induced forest fire. This is in line with Collier and Dercon (2014) observation that, forest plays important roles in subsistent livelihoods of people in a community providing wood, fuel as energy for daily cooking. He further observed that over exploitation and clearing of forest resources to meet the basic needs of increasing population and for supporting economic growth have caused rapid loss of forest, especially in the tropics where more than two-thirds of the words biodiversity is found, such loss is due to forest clearing and forest degradation. Forest is of vital importance to man. It provides wood for furniture, building industry and fuel wood. The result has been that the area of high forest has declined very rapidly in Nigeria through the process of deforestation which has also led both socio-economic and environmental degradation problems that is why there is need to manage the forest properly in order for its function efficiently (Bankole & Gbadamosi, 2010).

Conclusion

Management of community resources for sustainable economy involves all processes and activities directed towards ensuring a good quality environment for people in a given community. The processes involved using modern techniques. These techniques helped increase productivity, and lead to an improvement in the overall standard of farmer communities. Based on the current findings, it was presumed that deforestation and degradation in managing agricultural resources for sustainable economy in Ikwerre Local Government Area of Rivers State was in used that was as a result of rapid exploitation of the forest

Recommendation

From the result of findings obtained in this study the following recommendations were made on the managing community resources for sustainable economy.

1.   Modern farming techniques should be encouraged among people of the communities to improve the wide types of production practices employed by farmers.

2.   Government should curb the falling of trees by enforcing a series of rules and laws to govern deforestation and degradation.

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