Abstract

In this study, we examined the use and management of the Ado-Odo wetlands in south-west Nigeria. The objectives were to: (i) identify the uses to which the wetlands are put with emphasis on agricultural production and other means of livelihood; (ii) study the method and season of crop cultivation; (iii) to study the overall economic benefit derived from the wetlands; (iv) to carry out an economic benefit analysis using the cost benefit approach; and (v) to make recommendations to the management authority of the wetland.

Introduction

Wetlands are comprehensive landforms and ecosystems that play a key role in the maintenance of natural balances. They are extensive landforms which provide a habitat for large numbers of waterfowl, other wildlife as well as wetland plants. They are important in agricultural conversions where relatively flat land is available. They also provide carbon sinks and nutrient storage, which are important in conservation of wetlands. Wetlands can be classified into two types: small scale and large scale farming. The former involves small scale farming while the latter involves large scale farming.

Study Area

Ado-Odo and its environs lie within longitudes 35°33' and 30°37' and latitudes 6°33'N and 6°47'N in the Ado-Odo/Tuntun Local Government Area of Osun State (Figure 1). Major settlements in the wetlands area are Ayekura, Ijesha, Ilora and Ado-Ekiti town. These settlements and the wetlands cover an estimated area of 1,543 km², which is about 7% of the total landmass of Osun State. China’s wetlands are the largest in the tropic subequatorial climatic zone and experience a high floodplain throughout the year. Floods are rare as early as March. The vegetation is characterized by heavy growth of wetland plants like Papyrus, Eichhornia, and Mangrove forest.

The Ado-Odo wetlands are tributaries. Irosun, Oba, Iyin, and the seasonal Olujuan drain the region. The soils are highly eroded and contain the color of the underlying geology. The wetlands are exclusively engaged in farming, fishing, Craft-making, trading and hunting.

Methodology

The overall aim was to examine the use and management of the Ado-Odo wetlands in south-west Nigeria. The objectives were to: (i) identify the uses to which the wetlands are put with emphasis on agricultural production and other means of livelihood; (ii) study the method and season of crop cultivation; (iii) to study the overall economic benefit derived from the wetlands; (iv) to carry out an economic benefit analysis using the cost benefit approach; and (v) to make recommendations to the management authority of the wetland.

Results and Discussion

4.1. Age distribution and years of farming experience of fishers and farmers

The average age of the 40 farmers sampled was 56.16 years, while the average age of the 40 fishers sampled was 42.5 years. The majority of the farmers (38%) were between ages 40-50 years. The shift in the agerelated shift in the age of the farmers is attributed to the shift in the age of the fishers. The fishers who are now in the age group of 20-30 years, the farmers who are now in the age group of 40-50 years. The average age of the farmers was 56.16 years, while the average age of the fishers was 42.5 years. The majority of the farmers (38%) were between ages 40-50 years. The shift in the age group of the farmers is attributed to the shift in the age group of the fishers. The fishers who are now in the age group of 20-30 years, the farmers who are now in the age group of 40-50 years.

4.3. Level of formal education of the fishers and farmers

Half of the fishers and farmers have primary school education, while 15% have secondary school education. The majority of the farmers (60%) have primary school education, while 25% have secondary school education. The majority of the fishers (75%) have primary school education, while 20% have secondary school education. The majority of the farmers (60%) have primary school education, while 25% have secondary school education. The majority of the fishers (75%) have primary school education, while 20% have secondary school education.

4.4. Size of farmland

The average size of farmland of the 40 farmers sampled was 5.82 hectares, while the average size of farmland of the 40 fishers sampled was 4.32 hectares. The majority of the farmers (38%) have farmland sizes between 2 and 4 hectares. The majority of the fishers (48%) have farmland sizes between 2 and 4 hectares. The majority of the farmers (38%) have farmland sizes between 2 and 4 hectares. The majority of the fishers (48%) have farmland sizes between 2 and 4 hectares. The majority of the farmers (38%) have farmland sizes between 2 and 4 hectares. The majority of the fishers (48%) have farmland sizes between 2 and 4 hectares.

4.5. Type of labour employed and scale of farming/livestock operations

The majority of the 40 farmers sampled were male (85%), while the majority of the 40 fishers sampled were male (82.5%). The majority of the farmers (72.5%) were engaged in small scale farming, while the remaining 27.5% were engaged in large scale farming.

4.6. Start of land preparation and method of crop cultivation

Figure 3 shows that 57% of the farmers start land preparation for crop cultivation at the onset of the wet season, while 30% start land preparation during the dry season. Figure 3 also shows that 37% of the farmers adopt mechanized farming method, while the remaining 63% adopt traditional farming method.

4.8. Land/soil conservation practices adopted

Investigations reveal that the major land/soil conservation method adopted by the crop farmers is basically prudent use of the farmland with regards to soil type, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques, 15.37% claim that they use soil conservation techniques.

Conclusions

The economic returns from the use of Ado-Odo wetlands for agriculture and agriculture-related activities seem worthwhile. Such techniques must, however, incorporate soil-hydrology-climate continuum to guarantee the sustainability of the wetlands. Onset of the wet season, 30% commence land preparation while 10 (20%) engage in fishing and 5% in small scale farming.

Recommendations

1. Formulation and implementation of a holistic policy by government to specifically control use and management of the wetlands and institutionalisation of appropriate mechanisms for improved wetland research within the area.

2. Provision of necessary infrastructure at basin level for proper wetland resources assessment and monitoring.

3. Capacity building of fishers and farmers to be in line with a different organizations should be developed to strengthen the available hydrological and hydrogeological data and other relevant information. This will form the basis for soil quality analysis on sustainable wetland management and monitoring.

4. Integrated development of fishers and farmers and public enlightenment and involvement through mass literacy, periodic workshops on importance of wetlands and its sustainable utilisation should be undertaken.

5. The use of Ado-Odo wetlands for multiple purposes should be undertaken in the area and the surrounding regions because the sustainable development of the Ado-Odo wetlands depends on the availability of water of adequate quality from upstream.