

## **An Exploratory Analysis of the Social, Economic and Environmental Impacts on Wetlands: The Case of Shurugwi District, Midlands Province, Zimbabwe**

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**Abstract:** The paper analyses the impacts of socio-economic and environmental factors on wetlands in Shurugwi district. Plant species and vegetation cover changes were used as indicators for determining wetland area shrinkage. Results reveal a negative relationship between economic activities, socio-political factors and wetland status. In 1980 wetlands occupied 220 hectares or 56.6 percent of the study area. By 2003 wetlands had declined to 43.4 percent representing an annual average decline of 0.6 percent. Desire by local communities to optimise family welfare decrease wetland protection effort. For wetlands to be effectively protected, sound environmental policies combined with continued per capita investment in social services must be put in place so as to raise the threshold of wetland protection effort. Increased knowledge of wetland attributes may also lead to increased opportunities for policy intervention.

**Key words:** Wetland decline, plant species, intervention policies, plant root constance, drought intensity

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### **INTRODUCTION**

Wetlands are areas of marsh, which are either permanent or temporary with water that is either static or flowing<sup>[23]</sup>. Wetlands have been classified internationally into marine, estuarine, riverine, palustrine and lacustrine systems. They either contain salt or fresh water<sup>[6]</sup>. The study will focus on vleis, locally known as dambos. Vleis in general are seasonally waterlogged grass covered depressions mostly found in river headwaters and along stream banks but can also occur independent of the drainage system<sup>[8]</sup>. The main vleis in Zimbabwe include floodplains, riverine systems, pans, swamps and artificial impoundments<sup>[11]</sup>.

Wetlands are vital in ecosystem performance and functions as they provide products and possess attributes that are beneficial to almost all forms of life. They are home to many plants such as reeds, grasses, water lilies, sedges and trees. These plants in turn provide food, place of attachment and shelter for many species. Animals and humankind benefit from them through habitation, water provision, aquaculture and agriculture. Wetlands also serve as stopping points for migratory species especially birds and spawning fish<sup>[21]</sup>. Wetlands are also linked to other systems through cycles of energy and matter. In addition, they purify water by trapping nutrients like nitrogen and phosphorous, pathogenic

bacteria, pesticides and heavy metals such as mercury. They act as groundwater recharge systems and regulate stream-flows<sup>[20]</sup>.

Wetland ecosystems are dynamic in space and time as they are influenced by environmental changes around them<sup>[3]</sup>. Disturbance in wetland functions as life support systems has detrimental effects on them and the surrounding environment<sup>[2]</sup>. Moyo<sup>[19]</sup> asserts that in both urban and communal lands of Zimbabwe, population pressure and high demand for arable land continues to undermine wetland status and functions.

**Purpose of the research:** Approximately 13 percent of Southern African Development Community (SADC) countries is made up of wetlands, the majority of which are found in areas inhabited by about 60 percent of the population<sup>[8]</sup>. Environmental scarcity, due to high population densities, economic decline, internal and international conflicts and decline in per capita investment in social services, in some countries, have decreased wetland protection effort<sup>[7]</sup>. Wetlands are negatively associated with danger, dampness, disease and difficulty. Consequently they are likely to be converted to alternative uses such as cropland, dams, plantations of exotic trees, waste disposal sites and pastures<sup>[25]</sup>. High urbanisation rate and a correspondingly high demand for urban infrastructure has placed a great demand on