

# **FIRE, WEALTH AND ACCESS TO WETLAND RESOURCES IN THE PANHANDLE OF BOTSWANA'S OKAVANGO DELTA**

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## **1. INTRODUCTION**

The wetlands of the Okavango Delta provide an abundance of resources to rural households, such as thatching grass and reeds for building, grazing for livestock, and fish for food, as well as income-generating activities through the Okavango's wilderness-based tourism industry, such as jobs and curio production. Every year fires burn extensively in and around the Okavango. Because of their remoteness and intensity, these fires tend to spread until they reach very wet areas or until they burn themselves out. Many of the fires in the current burning regime are started by people - in an ostensible paradox, since these fires consume many of the resources on which people depend. This study explores the contributing roles of wildfires and wealth on people's access to wetland resources while also seeking to understand the motivation and the socio-economic differentiation behind the burning.

## **2. APPROACH**

The paper focuses on resource use by four villages during the year 2001, documenting the location of their wetland resource areas and the distribution of fires for that year. Specifically, the first objective of the study is to identify the extent and distribution of wetland resource areas used by each of the 4 villages, and the extent and distribution of fires during 2001. Secondly, it seeks to understand how resource use varies according to a) the occurrence of fires and b) socio-economic characteristics of households in the villages. The approach combines a spatial analysis (based on the interpretation of Landsat 7 ETM+ satellite imagery) with a sustainable livelihoods analysis (using household surveys, focus group discussions and key informant surveys).

## **3. RESULTS**

Results show that the location and distribution of resources is determined by their location relative to permanent river channels, with villages on floodplain areas having to travel further for building materials, but having easy access to floodplain grazing. Villages close to river channels have easy access to building materials, but little access to floodplain grazing. Due to seasonal drying, fires tend to spread more easily on floodplains.

The percentage burnt within the total of all the villages' plant collection areas (8.65%) and grazing areas (10.8%) is much higher than the 4.16% for the study area as a whole. Nevertheless, this is still a small proportion of the resources areas. Importantly, interviews revealed that the timing of the fires is central to their impact on access. Fires that occur outside of the harvesting or grazing seasons have less overall impact.

Instead, access to wetland resources is governed more by the wealth of a household, in particular through its ability to mobilize labour and equipment (such as dugout canoes). This is where the effects of fire and wealth interact. Wealth distribution is highly unequal, with a Gini coefficient of 0.73 for the study area. Wealthier households tend to be able to collect plant resources before most fires are set, while poorer households often have to wait to borrow equipment and labour. In addition, wealthier households are more likely to keep livestock, and have an incentive to set fires to promote new palatable grass growth on the floodplains.

#### **4. CONCLUSIONS**

In conclusion, most people in the study area view fire as having a beneficial effect on wetland resources. However, vulnerable groups, such as female-headed households or ethnic minorities, are more likely to be adversely affected by fires because they are less able to complete collection activities before the start of the burning season.