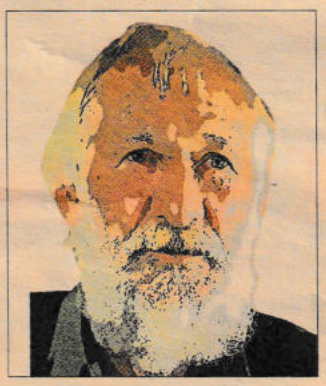
Fires In Namibia – Lessons For Other Countries?

• **GARTH OWEN-SMITH**



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DESTRUCTIVE wildfires are once more in the news. This time in California, but have also recently occurred in South Africa, Australia and southern Europe.

Houses have been reduced to ashes, property destroyed and human lives lost. Millions of dollars were spent to protect people's homes, often to no avail. But as wildfires are not a new phenomenon, why have the most technologically advanced countries in the world still not learned how to control them?

What is fire? Put simply, when dry plant material (the fuel) is heated, it gives off carbon-based particles (smoke) and when sufficiently hot they combine with oxygen in the atmosphere to form carbon dioxide. This chemical reaction (visible as flames) produces more heat that ignites nearby dry fuel. Therefore, to start a fire, only three ingredients are needed: fuel, oxygen and heat – two of which occur all around us, with the third provided by either humans or lightning.

Apart from in the arid west and south, most of Namibia's pre-colonial landscapes were moulded by fires. The fuel was grass, de-hydrated during the long dry season, with the heat provided by lightning strikes. These wildfires, which occurred over millions of years, usually took place at the start of the rainy season when temperatures were high and strong winds common.

Their impact on fire vulnerable woody plants was considerable, restricting trees and shrubs to along watercourses and around springs, where the fuel had been reduced by wild grazers during the dry season.

In Namibia, a key factor is that there were very few permanent water sources on the interior highlands, leaving large tracts of un-grazed grass at the end of each dry season, providing ample fuel for very hot fires. Once lightning strikes ignited the grass there were also few natural barriers to prevent them from burning until either the wind changed direction or heavy rain fell.

Away from the springs and other fire-refuge sites this created a landscape of grasslands, with widely spaced trees, that supported great herds of zebra, wildebeest, hartebeest, eland and springbok.

Because of the danger that hot, late dry season lightning fires posed, Namibia's early hunter-gatherers burned the grasslands every year, as soon as they dried out enough to sustain a fire. These slow moving, cool winter fires would have burned a mosaic through the grasslands, stopping later lightning fires from gaining momentum, as well as reducing the amount of fuel that accumulated.

For the hunter-gatherers early burning improved the visibility, making it easier to hunt and safer for women gathering veld food. It also benefited the wildlife by stimulating the growth of green grass during the dry season.

When pastoralists from the north entered Namibia, they also burned off the old grass to provide better grazing for their livestock, especially on nutrient-poor sandy soils. Consequently, together with the early burning by hunter-gatherers in the waterless areas they retreated to, this resulted in vast tracts of the highland grasslands and savannahs being burnt every year, the situation recorded by many early white travellers in the region.

By reducing the frequency of destructive lightning wildfires, as well as inhibiting the growth of woody plants, this anthropogenic fire regime created the prime cattle ranching country that the early colonists found when they came into Namibia.

Unfortunately, as happened on all the continents colonised by Europeans, the new authorities disregarded the "primitive" fire management practices of the local inhabitants, that were based on generations of practical experience. To them the deliberate burning of grasslands was seen as a waste of good grazing and made illegal, with farmers also required to put out lightning or accidental fires occurring on their property.

Coupled with the proliferation of artificial waterpoints and continuous cattle grazing, the prevention and suppression of fires favoured the growth of woody plants, and created the severely bush-encroached commercial farms we have today.

In the northern and eastern communal areas a propaganda campaign by foreign aid agencies against veld burning, supported by government forestry and conservation officials, has also resulted in severe bush encroachment and loss of what were some of the finest open savannahs in southern Africa.

Although it will take many years to reverse this situation, at least in the Bwabwata National Park the resident Khoe people's fire management practices have been re-established, with their benefits clearly demonstrated by the substantial increases in sable, roan and lechwe populations.

So what can be learnt from this? Firstly, destructive (to both mature trees and property) wildfires will inevitably occur unless regular cool burns are carried out to reduce the fuel load. Secondly, early burning creates a mosaic of natural fire breaks that is more effective at stopping wildfires than the many millions of dollars spent on firefighters and water dumping aircraft.

Thirdly, traditional knowledge and practices are not irrelevant in the modern world. They could improve the way we manage our planet.

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