Strengthening Fire Management in Conservation Areas of Taita Taveta County, Kenya, prepared by the Leverhulme Centre for Wildfires, Environment and Society, King's College London, Taita Taveta Wildlife Conservancies Association and the African Wildlife Foundation, August 2025

Strengthening Fire Management in Conservation Areas of Taita Taveta County, Kenya

Policy Brief

Prepared for: County Government of Taita Taveta, Kenya

LEVERHULME Centre for Wildfires, Environment and Society

TTWCA TAITA TAVETA WILDLIFE CONSERVANCIES ASSOCIATION

AFRICAN WILDLIFE FOUNDATION

KING'S College LONDON

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Executive Summary

A Policy Brief for Integrated Fire Management, Conservation, Community Safety, and Climate Resilience

1. Taita Taveta County is home to ecologically vital conservation areas including parts of **Tsavo National Parks**, **Taita Hills Forests**, and **community conservancies and Ranches**. However, increasing wildfires incidences—driven by human activity, climate change, exclusion of Indigenous People and Local communities (IPLC) and their knowledges, and insufficient preparedness—pose a significant threat to biodiversity, tourism, water catchments, and local livelihoods.

2. Fire suppression policies have been implemented countrywide; however, there lacks clear fire use and management frameworks within the county governments. In Taita Taveta County, fire management is broadly categorized under disaster management in the current County Integrated Development Plan (CIDP) and Climate Change Action Plan (CCAP). Despite the devolution of fire management responsibilities, and previous CIDP allocating KES 20 million over a five-year period for forest fire management activities such as creating firebreaks and access roads, fire policies remain undeveloped.

3. Contemporary science now recognizes that fire is an integral component of many ecosystems and landscapes (1) and that intentional fire can be used as a tool to mitigate unwanted fires (2). It is therefore imperative for policy to recognize fire as a land management tool, with its use evolving to curb emerging threats such as climate change, invasive species, pests and diseases, habitat management, improvement of pastures and crop yields while controlling bush encroachment among others. This policy brief outlines the fire risk situation and proposes actionable recommendations for the County Government to strengthen fire management, fire use, prevention of unmanaged and uncontrolled fires, firefighting and community resilience.

Problem Statement

Uncontrolled wildfires are increasingly affecting conservation areas in Taita Taveta County, with recent years witnessing rising fire incidences in **Tsavo National Parks**, and neighbouring **Chyulu National Park**, indigenous forests such as **Ngangao**, **Vuria, Kitobo, Sagalla, Kasigau, Chawia** and their surrounding buffer zones, intensified by climate change and compounded by a range of human and environmental factors which include:

- Agricultural fires emanating from land clearing and vegetation stump burning adjacent to PAs
- Illegal human activities in conservation areas (e.g., honey harvesting, arson, poaching)
- Human-wildlife conflict (retaliation attacks)
- Prolonged droughts linked to climate variability
- Lack of localized early warning and rapid response mechanisms
- Uncoordinated response between the fire managers

threaten critical ecosystems, water catchments, endanger species such as rhinos, elephants and endemic birds, degrade carbon sinks, and damage ecotourism assets. The current fire management capacity at County level remains

limited, under-resourced and largely reactive. As Kenya's forests area is projected to decrease by 50% by 2050 (3); impacts of climate change and changes in wildfire frequency (4), are expected to lead to a moderate increase in fires within conservation areas (5) reducing their resiliency to frequent fire events (6).

Contextual Map and Landscape Overview

The map (Figure 1 below) outlines Taita Taveta County and highlights key conservation areas including Tsavo East & West National Parks, Taita Hills forests, and surrounding community conservancies. Tsavo national parks alone account for 62% and TTWCA's ranches and conservancies account for 24% of the county's landmass, respectively and include globally important biodiversity hotspots. The forests in Taita Taveta County cover 3% of the county and is critical habitat for globally endangered species such as Taita Apalis and Taita Thrush.

Wildfire Trends

Fires in Taita Taveta occur between June and October with frequent fires in Tsavo West National Park. The average annual burned area within Taita Taveta County is 200km^2. The region's worst fires were experienced in 2007 and 2020 where more than 1000km^2 were burned.

Although National Parks are the most affected, ranches and small fragmented forests and community land are also prone to frequent fires. Figure 1 depicts the frequency and spatial distribution of fires in Taita Taveta County between 2001 and 2024.

Social-Economic and environmental Impacts of wildfires

Fire has been highlighted as one of the key challenges affecting both communities and ecosystems (3,8), driven mainly by human activities, including anthropogenic climate change. These uncontrolled fires are frequently severe and are affecting the management of conservation areas. They increase Human Wildlife Conflicts (HWC), poaching and bushmeat as well as habitat destruction, as experienced during the 2020 fires.

The ranches have spent approximately 10 million Kenyan Shillings to create fire breaks while the Kenya forest and Kenya wildlife services, County government and other agencies spent over 30 million Kenya Shillings to control the wildfires in 2020 (7). During a survey carried out in 2022 (8), local communities indicated that fires lead to increased human wildlife conflicts in the adjacent areas, resulting in crop loss and sometimes human injury and death. Livestock predation is also reported to increase during fires when carnivores follow their prey outside protected areas. However, effective fire use has direct benefits such as pest and invasive species management, bush encroachment control, improvement of crop yields, improvement of forage quality for livestock, ensure wildlife distributions, contribute to carbon sequestration and reduce risk of future wildfires (9) among others.

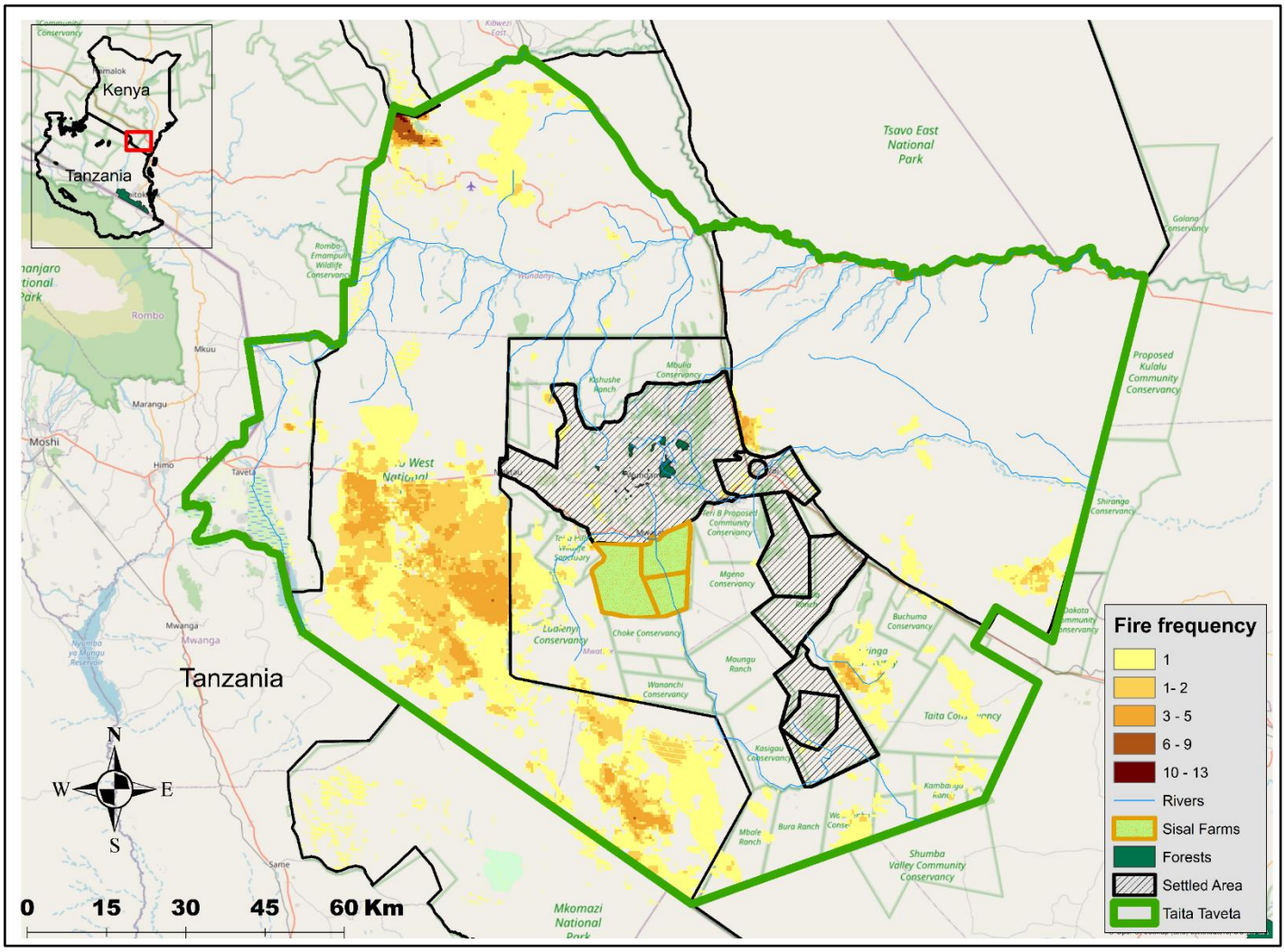

Figure 1: Wildfire Frequency within Taita Taveta County between 2001-2024

Policy Context

Although Taita Taveta County lists forest fires as a major threat to its biodiversity in the **Climate Change Adaptation plan 2023-2027** and **County Integrated Development Plan (CIDP) 2023-2027**, the county lacks comprehensive fire policy and legal framework to operationalize fire management, which is a devolved function under **Schedule 4** of the Constitution. Both plans recommend study of forest fires (regimes, history and predictions) and coordinated forest fire management within the county but does not account for fires in ranches, community land and national parks. The **Forest Conservation and Management Act (2016)**, **Wildlife Conservation and Management Act (2013)**, and **Environmental Management and Coordination Act (EMCA) (1999)** provide legal backing for ecosystem protection and fire response. However, effective enforcement and localized implementation require stronger county-level leadership under Kenya's devolved governance framework. The **County Government of Taita Taveta** has a constitutional mandate to manage natural resources, disaster response, environmental protection and more specifically fire management. The 2018-2022 CIDP recommended policy and enforcement laws developments for fire management and allocated 20 million Kenyan shillings for patrol and sensitization on forest fires protection around its 42 fragmented forests. Further, the CIDP recommended development of forest fire management plans within the county forests. However, these recommendations are pending due to lack of legal frameworks.

Recommendations

To address escalating fire risks in critical community, conservation, and wild-urban interface areas while ensuring sustainable fire use, we recommend that the County Government:

1. **Develop policy guidelines and legal frameworks on fire management, fire use and permitting** within the County including, use of fire in vegetation management within community, ranches, conservation areas, forests and proximity to critical habitats.

2. **Develop and adopt a County Fire/Forest Management Strategy as proposed in the CIDPS and CCAP**, including risk mapping, roles/responsibilities, response protocols, and community education and fire management in key ecosystems.

3. **Establish and train local fire surveillance and response units**, partnering with KWS, KFS, ranches and conservancies to support community-led patrols and fire management.

4. **Invest in early warning systems and fire monitoring technology** and use satellite data and local fire marshals reporting systems to detect and respond to fire outbreaks early.

5. **Mainstream fire management in climate adaptation and conservation funding**, and leverage funds from the County Climate Change Fund (CCCF) and development partners.

6. **Promote and integrate fire research within the climate change framework,** including, evaluating social, economic and environmental risks and benefits of fire use and prescribed burning in conservation areas.

Expected Outcomes

- Reduced frequency and severity of wildfires within the county
- Improved biodiversity conservation and ecosystem resilience
- Improved rangelands for livestock production and other compatible land uses
- Increased climate resilience in agriculture and conservation
- Safer livelihoods and reduced conflict between people and wildlife
- Increased tourism potential

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Find out more:

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The Taita Taveta Wildlife Conservancies Association (TTWCA) is a non-profit organization established in 2013 to unify and coordinate community-led conservation efforts in Taita Taveta County, Kenya. TTWCA brings together 35 community ranches and conservancies—10 of them registered as wildlife conservancies—spanning 4,046 km², or 24% of the county's land. Operating within the Tsavo Landscape, a key wildlife corridor between Kenya's Tsavo and Tanzania's Mkomazi national parks, this region plays a vital role in preserving wildlife dispersal areas and migratory routes while also serving as an important hub for livestock development.

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African Wildlife Foundation is a non-governmental international conservation organization established in 1961 and headquartered in Nairobi, Kenya. AWF champions African-led wildlife conservation and sustainable development with a mission to ensure wild lands and wildlife thrive in modern Africa. With its unique portfolio, AWF: has six decades of experience working in conservation of wildlife and wild lands of Africa, has a strong track record of implementing many successful projects across the continent and engages and supports leadership at all levels in their efforts to stabilize Africa's wildlife habitats, protect wildlife and wild lands, eliminate illegal wildlife trade, and ensure the development of Africa is inclusive and green. AWF uses an integrated approach to large-scale landscape conservation which incorporates a holistic approach to conservation and business, and the empowerment of local communities and governments in natural resource management. Throughout its tenure, AWF has developed a suite of tools and methodologies that it uses across its landscape programs to ensure consistency, quality and efficiency of execution. www.awf.org
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