

Evaluating Cross-Border Natural Resource Management Projects



Cross-border Fire Management for Songimvelo-Malolotja TFCA

SLE



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Fire management in Songimvelo-Malolotja TFCA

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1 Fire management in Songimvelo-Malolotja TFCA

The evaluation team visited Songimvelo-Malolotja TFCA (SM TFCA) in September 2014. At that time activities of the pilot project had not started as the budget has only been transferred to the project implementers during the time of our visit. We conducted interviews with the Swazi national TFCA coordinator and implementer of the pilot project, with the reserve managers of Songimvelo Nature Reserve and Malolotja Nature Reserve, the regional manager of the South African park agency and park employees such as the community outreach officers of both countries. Furthermore, three communities on each side of the border were selected and community group discussions were conducted. In South Africa also a CBO was interviewed. On a higher level, we interviewed the director of parks in Swaziland and the director of TFCA in South Africa, as well as the international coordinator of Lubombo TFCA. Further information was gathered from fire experts in both countries.

1.1 Context Songimvelo-Malolotja Transfrontier Conservation Area

The SM TFCA was accepted as fifth TFCA to function under the Lubombo Commission at the occasion of a trilateral ministerial meeting between South Africa, Swaziland and Mozambique on 2 November 2004 (SNTC, 2005, p. 1). In the following, SM TFCA adopted a Joint Management Plan (JMP, 2009) and set up a Joint Task Group. Currently, the TFCA integrates Songimvelo Nature Reserve (NR) in South Africa and Malolotja Nature Reserve in Swaziland (both framed with red colour in Figure 1) with the option to several expansions on both sides of the border (framed in white).



Figure 1: Map of SM TFCA and options for future extensions (SNTC, 2009)

The structure of Lubombo TFCA encompasses a Trilateral Ministerial Committee and an advising TFCA Commission formed by senior executives on the highest level. Joint Task Groups shall operate in the five individual parts (Usuthu-Tembe-Futi TFCA, Ponta do Ouro-Kosi Bay TFCA, Nsubane-Pongola TFCA, Lubombo Conservancy-Goba TFCA, SM TFCA) according to the Lubombo General TFCA Protocol (2000). In Songimvelo-Malotlja, the Joint Task Group consists of the reserve managers, the TFCA country coordinators, Mpumalanga Tourism and Parks Agency (MTPA)¹, the Barberton Tourism and Biodiversity Information Corridor (BATOBIC)² as well as the Conservation Law Enforcement Officers of both reserves. Further-

more, a member of the community-based Ekuphileni Kwezive Communal Property Association (EKCPA)³ will join this group in the future. Although the JMP requests the formation of a smaller Joint Management Committee for decision-making on the ground, the day-to-day work is still done by the individual reserve management. Several joint projects are currently undertaken, with the construction of an internal link road with a

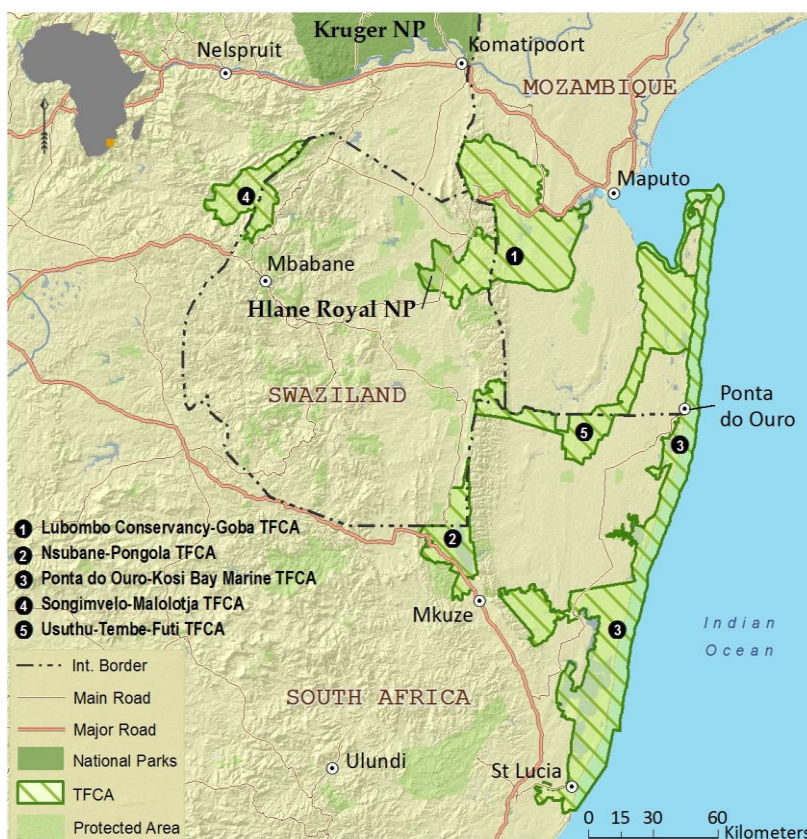


Figure 2: Lubombo TFCA (Peace Park Foundation)

¹ MTPA is a provincial park agency, it administrates state conservation areas in the Mpumalanga province, and was "established in terms of the Mpumalanga Tourism & Parks Agency Act 2005, [with the objective] to provide [...] the management and promotion of responsible tourism and nature conservation in the province and to ensure sustainable utilisation of natural resources for the benefit of everyone in the province." (MTPA, URL: <http://www.mtpa.co.za/index.php?home>)

² BARTOBIC "is a local economic development programme initiated and administered by the Chamber [of Business of Barberton]" (BARTOBIC, URL: <http://www.barbertonchamber.co.za/p-batobicoverview.html>)

³ EKCPA is a communal property association, which means that it represents a community which owes communal land obtained through land restitution. Such a process took place in Songimvelo NR and is described in more detail in the following chapter.

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border crossing point inside the TFCA to make SM TFCA traversable being the most ambitious and important. (Interview with Swazi national TFCA coordinator, 08/09/2014; SNTC, 2005, p. 2; UNDP, 2014, p. 65). However, none of these projects has been finished so far. The implementation of SM TFCA has been slow for two main reasons: First, there is a lack of funding. The TFCA does not have own budget and depends on external funds and money allocation from the individual reserves. Secondly, a land restitution process slowed down the activities in Songimvelo NR creating a high level of uncertainty over the future of the reserve and the TFCA.

SM TFCA is situated in the Barberton Mountain land, an upper Middle- and Highveld area⁴ with steep mountainous terrains and lower lying valleys ranging from 600 to 1,900m above sea level. Rainfall concentrates from November to March and varies from less than 800mm per year in the low lying south western area to over 1,600mm in the high lying north-eastern parts. Mean minimum and maximum monthly temperatures are 5.4°C and 7.9°C in July and 22°C and 34°C in January for the highland and lowland areas, respectively (SNTC, p.3). "*The vegetation of the higher-lying regions of the SM TFCA belongs to the Grassland Biome. The lower-lying Nkomati valley falls within the Savanna Biome*" (ibid.). These biomes belong to the sourveld⁵.

The area is considered a centre of endemism, hosting e.g. rare cycad species (*Encephalartos paucidentatus* and *E. laevifoliuscycads*) including the only remaining wild population of the Woolly Cycad (*E. heenanii*) (ibid., p. 4). Animal species include leopards, buffalos, wildebeest, African wild cat and aardwolf, as well as elephants and white rhinoceros in Songimvelo NR. Although the latter are not present in Malolotja NR, these species would move to the higher and therefore colder areas of Malolotja NR during high temperature periods once free animal movement is facilitated.

SM TFCA, furthermore, contains some important hydrological catchments for both Swaziland and South Africa, as it is drained by numerous perennial rivers and streams of which the Nkomati and Mlumati are the most significant (ibid., p. 3). Nevertheless, the TFCA is threatened by high population density in the direct vicinity of the park, wild fires, illegal resource harvesting, e.g. jade and rare plants, and poaching.

⁴ Highveld is an area of the South African inland plateau which has an altitude between approximately 1,500m and 2,100m.

⁵ According to a classification of African grassland: "Grassland is mainly in the central, high regions: sour-veldt occurs under high-rainfall on acid soils, and sweet -veldt on fertile soils in semi-arid zones" (FAO, URL: <http://www.fao.org/docrep/008/y8344e/y8344eo8.htm>).

1.1.1 Management of Songimvelo NR and Malolotja NR

Songimvelo NR was first proclaimed a Game Reserve in 1978 comprising an area of 49,000ha. Today, it is a provincial nature reserve co-managed since 2012 by MTPA and EKCPA⁶. At the time of its foundation, people living on the designated land were resettled to the vicinity outside the park. Due to the idea that a conservation area should not be disturbed by the presence of human beings, nobody was supposed to reside on the territory of Songimvelo NR. However, one settlement opposed relocation and remains inside the reserve until today.

Based on the enacting of the Restitution of Land Rights Amendment Act in the 1990's some of the resettled villagers demanded territory of the protected area with the intention of moving back to their former home. As the court consolidated the individual claims, the different villages and claimants formed EKCPA⁷ as their representative body in 2008. During judicial proceedings the initial objective of moving back was replaced by the intention to preserve and benefit from nature conservation. A settlement agreement was reached in March 2012 and a land title over communal land was given to 2,500 successful claimants. Subsequently, the joint park management was established and formalised through a co-management committee formed by MTPA and EKCPA (50% each) with the intention to work together for five years. After this period of time a new co-management committee will be elected. Currently, the MTPA reserve manager is in charge of the technical day-to-day management, whereas EKCPA focuses on strategic planning and tourism development. The association receives 60% revenue from entrance fees, trophy hunting and game capture as well as currently 50% out of eco-tourism facilities. The latter percentage could rise in the future, as EKCPA holds a concession for a lodge inside the park, which is currently under construction. Benefits are shared with the 2,500 land owners via community projects and donations for individual needs, e.g. to orphans and disabled persons as well as for the formation of individuals in conservation related professions. Around 800 active members participate in planning meetings and activities in the park, e.g. seasonal work (Interview with EKCPA chairperson, 11/09/2014). However, not all people living nearby Songimvelo NR have launched land claims. Therefore, not all are formally represented by EKCPA and benefit in the same way from the co-management.

During the process of land restitution the relationship between the reserve and the claimants was conflictive and some violent acts took place, e.g. setting fire in the

⁶ Before 2013, Songimvelo NR was state-land managed by MTPA.

⁷ It represents 2,500 beneficiaries (successful claimants) living in- and outside of Songimvelo NR.

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park. Therefore tourist numbers decreased with heavy consequences on the financial situation of Songimvelo NR. Besides, uncontrolled fires and shortage of staff and equipment are major challenges in the reserve. The latter are a consequence of financial problems of MTPA, which were resolved in 2014 due to money allocation from the government.

Malolotja NR is a state-owned national park, which was gazetted in 1987 with a surface of 18,000ha. Since its foundation Malolotja NR is managed by the Swaziland National Trust Commission (SNTC)⁸, a parastatal park agency responsible for conservation and cultural heritage. Similarly to Songimvelo NR, the communities residing in the designated area were resettled to the surroundings during the establishment of the nature reserve. Today, nobody is living inside the fenced territory of Malolotja NR. However, one small area bought by SNTC in the 1980s was not integrated in the reserve so far and is now densely populated. Land restitution is not an issue in Swaziland as national legislation currently does not promote it.

Local communities are not involved in the management of Malolotja NR but approximately 80% of the 30 park employees are recruited from the surrounding villages. Furthermore, the reserve hosts a community outreach department in order to support the local (resettled) communities and to reconcile them with the reserve. Activities of the department include the implementation of livelihood projects such as bee-keeping, gardening or orchards as well as the organisation of community meetings and the issuance of permits⁹ for harvesting some designated resource in the park (three different species of grass, fire wood and poles). The permission to harvest resources shall create a positive attitude towards conservation by showing its values and benefits to local residents and offering incentives against setting fire in the park (Interview with Malolotja Reserve Manager, 02/09/2014). In Songimvelo NR, a social ecology department exists, which executes the same tasks as the community outreach department. Like in Malolotja NR, resource harvesting is facilitated with permits issued by the park management. However, projects and activities of the

⁸ SNTC is "the national agency responsible for the conservation of the Kingdom's natural and cultural heritage as mandated by the Swaziland National Trust Commission Act No. 9 of 1972 [...]. The SNTC carries out its mandate through proclamation and management of national parks and reserves, national museums and monuments. The SNTC is an independent statutory body and a government parastatal, operation at the present time under the umbrella of the Ministry of Tourism and Environment Affairs. [...]" (Project proposal SM TFCA, 2013, p. 12; UNDP, 2014, p. 90) Still, it is dominated by the government, which provides 85% of funds, it retains revenues but the earnings are still low (15%) (Child et al., 2004, p. 144).

⁹ SNTC holds the right to issue permits for hunting, harvesting or conveying species within the boundaries of its proclaimed parks according to the SNTC Act 9/1972. In Malolotja permits are issued to local people. The extraction is restricted to specific days and controlled by the park rangers.

community outreach departments have been reduced in both parks, due to the lack of funds.

Malolotja NR is severely underfunded, with budgeted allocation by the government to SNTC being the main source of funding supplemented by entrance fees (UNDP, 2014, p. 16). This lack of funds is reflected in a shortage of staff and equipment, e.g. vehicles. Other problems in the park are poaching, illegal harvesting of natural resources (e.g. gold, green jade, cycads), human wildlife conflicts in the nearby villages and uncontrolled fires.

1.1.2 Local communities in South Africa and Swaziland

Due to the establishment of the reserves in times of the “parks without people” paradigm, no one should actually live on the territory of SM TFCA. In fact, in Songimvelo NR, one village is still situated inside the conservation area. The village inside the park has opposed resettlement from the beginning; the residents are recognised by the municipality, which provides e.g. electricity. No village is situated inside the fences of Malolotja NR but one is located on a territory which was bought by SNTC but not integrated into the fenced park in the 1980s. Today, this area is densely populated and integration of the area in the reserve will probably not take place any more. Still, village members fear being relocated (Interview with village members, 08/09/2014 und Swazi national TFCA coordinator, 08/09/2014) In this report the term ‘communities’ will refer to all communities in the vicinity and the one inside SM TFCA.

A lot of aspects concerning local communities and their livelihood are very similar for villages on both sides of the border. This refers to the fact that historically the communities lived closely together and belong to the same ethnic group. They only were separated by international demarcation processes and the establishment of the nature reserves. Cross-border contact exists and is strongest in the villages nearby the border, where Swazi children attend school in South Africa, public facilities in the respective other country are used and trading and personal relationship takes place. Characteristics shared by the communities across the border will be outlined jointly in the following chapter.

The ethnic composition in the villages around the TFCA is quite homogeneous with Swazi being the predominant and almost only ethnic group besides Zulu. This ethnic group traditionally makes a living out of farming and cattle grazing, whereby cattle are used not only as a livelihood source but also as investment and status symbol. The traditional Swazi organisational structure consists of chiefdoms, which comprise various villages. These villages are administered by an inner council and an

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“induna” (headman) on behalf of the chief. This structure persists on the Swazi side, with six chiefdoms situated around Malolotja NR. By contrast, in South Africa most of the 20 villages around Songimvelo NR adhere to the governmental structure. Only few combine it with the traditional organisational system. Traditionally, homesteads in the area were scattered; however, population growth is leading to a more agglomerated settlement structure. Currently, over 10,000 people are living in the vicinity of the TFCA on both sides of the border. In Swaziland, basic services like water supply, electricity and health facilities lack in the remote villages. Therefore, people cross the border to South Africa to fulfil their need. In South Africa all visited villages had these services close by.

The main land use in the vicinity of SM TFCA in both countries is commercial forestry and cattle grazing as well as subsistence agriculture in the villages. In the past, mining (e.g. gold, asbestos) created job opportunities for the people living around Songimvelo and Malolotja NR. Today, unemployment is the biggest problem of the area since most of the mines have been closed down. Some jobs are created in commercial forestry and nature conservation¹⁰ but only few other employment possibilities are available in the region, leaving the local people highly dependent on natural resources and subsistence agriculture.

Maize, millet, (sweet) potatoes, beans and vegetables (e.g. cabbage, carrots, spinach) are the main crops cultivated by small-scale farmers on both sides of the border, supplemented by livestock (chicken, goats and cattle) and orchards (e.g. banana, avocado, lemon). Agricultural productivity is low due to poor soils, steep slopes, lack of farm equipment and fertilizers, land scarcity due to population growth as well as the destruction of cultivations by animals and wild fires. Additional livelihood sources are harvesting of wild honey in the forests around the villages, the use of resources from the reserves via permits, handcrafts (baskets, stone and wood carving), as well as illegal hunting and smuggling. Living conditions seem to be slightly better in the village inside Songimvelo NR due to the availability of land. Nevertheless, land and resource use is officially highly restricted in the reserve, e.g. veld fires are not allowed to be used at all.

Residents in both Swaziland and South Africa claim promises made during the re-settlement process, such as jobs or public services, have not been fulfilled and that they feel insufficiently involved in the parks' activities and benefits.

¹⁰ Both parks employ 80% of their permanent staff from the local population (Malolotja NR employs around 30 persons, Songimvelo around 60). Additionally, seasonal workers for fencing or fire management are hired in the communities (Interview with Malolotja Reserve Manger, 03/09/2014 und Songimvelo Reserve Manager, 01/09/2014).

1.1.3 Fire situation and fire management

Fire situation

Malolotja NR is identified as a fire hotspot in Swaziland. Likewise, Mpumalanga, where Songimvelo NR is located, is among the provinces with the largest annually burnt areas (9% of surface) in South Africa (Working on fire, URL: <http://www.workingonfire.org>). Ideal circumstances for extreme wildfires are provided in SM TFCA because of its topography of steep and rugged areas and climatic conditions, which are promoting abundant dry fuel and winds (W. Dlamini, 2010, p. 11; Manyatsi & Mbokazi, 2013, p.3). The majority of fires in SM TFCA occur in the late dry season (August and September). Even though the Highveld sour grassland is fire-dependent and requires fire to avoid domination by woody plant species an inadequate fire regime will cause degradation and loss of biodiversity.

Around Malolotja NR, village members and park employees indicated that wild fires occur between once in two weeks up to twice a week during dry season depending on the location. Residents nearby Songimvelo NR stated that they would experience at least one fire every week in these months. Furthermore, fires often cross the border and start at night.

Fire is perceived a threat, but it is also widely used by the local communities around SM TFCA in subsistence agriculture in order to *"burn off unpalatable growth left over from previous seasons, to stimulate growth during those months when there is little forage available and to protect homesteads from wildfires"* (Interview with South African governmental official, 27/08/2014; Goldammer and de Rohde, 2004, p. 135). Fire is also used for harvesting wild honey¹¹, illegal hunting¹² and smuggling¹³. The latter modes of usage are seen as main causes for uncontrolled fires, because these fires are often not put out properly. Another widespread opinion in the communities is that fires are caused by trespassing cigarette smokers. However, experts mention that a major problem is the lack of knowledge of proper fire management, conditions and consequences of burning among the local population (Interview with Swazi fire expert, 12/09/2014).

¹¹ *"The honey hunters start fire with the intention of smoking bees."* (Manyatsi, Mbokazi, 2013, p. 707). As wild honey often is found in the trees of the plantation forests, the problem with fire because of honey collection is shared by the forestry companies. Honey is collected often by young boys.

¹² Fires are lit for the reasons of poaching in order to clear the sight and because some animals as blesbok, zebras and wildebeest start grazing directly after an area has been burned.

¹³ Smuggler light fires in the night when they cross the border either to distract from their activities or to clear an area for passing.

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Traditional knowledge on the management of fire still exists in the local communities, but it is not used anymore and about to get lost. On the one hand, the young generation does not respect old traditions anymore, on the other hand population pressure and land scarcity promote overuse of resources including the extensive use of fire for agriculture and other livelihood sources (Interview with village members, 07-10/09/2014). Another crucial factor is national legislation in both countries, which requires permits for burning for agricultural purposes (Grass Fire Act 1955 (Swaziland), CARA 1984 (South Africa)). Although these acts are targeting to establish a reasonable fire management, local communities find it complicated to obtain those permits and, as a consequence, burn without permission. This, in turn, is leading to a less careful use of fire, as people run the risk of getting prosecuted.

Legislation concerning Fire

The Grass Fire Act (1955) in Swaziland regulates the use of fire in a way that *"no owner or occupier [...] shall set fire at any time to grass, reeds or other vegetation [...] unless he is in possession of a permit"* (Grass Fire Act, 1955, sec. 3 (2)). These permits are issued by the Directorate of Agriculture (ibid., sec. (4)). Penalties for burning without permission are set. The use of veld fires is allowed if the burned area is cultivated within the following three months (ibid, sec. 1(b)). If the farmer does not manage to do so in the indicated timeframe, he can be persecuted (ibid., sec. 7 (3)). People are allowed to burn fire-breaks around their property but have to inform their neighbours 14 days in advance (ibid., sec. 8 (5)). Additionally, the Forests Prevention Act persecutes any fire setting in forests, bush land or plantations (Forests Prevention Act, 1910, sec. 8). Fires for harvesting of wild honey are also prohibited (Grass fire Act, 1955, sec. 10).

In South Africa the Conservation of Agricultural Resources Act (CARA, 1984) regulates the use of veld fires as land management tool in a way that permission from the authority has to be demanded for the application. Permits are issued according to *"accepted veld management practice in the area"* (CARA, 1984, sec. 12 (2, b, i)). Additionally, the National Veld and Forest Fires Act (1998) determines that *"every owner on whose land a veldfire may start or burn or from whose land it may spread must prepare and maintain a firebreak on his or her side of the boundary between his or her land and any adjoining land"* (National Veld and Forest Fire Act, 1998, 12 (1)).

Fire management

The SM TFCA Joint Management Plan does not mention cross-border fire management; nevertheless, awareness rising in fire fighting is planned in the communities (JMP, 2009, p. 28). Moreover, training and capacity building in pasture manage-

ment and agricultural practices is another activity outlined in the JMP, which relates to managing fires (ibid., p.29). On national level, a Memorandum of Understanding is signed between South Africa and Swaziland in order to cooperate in the case of a fire emergency.

Currently, both parts of SM TFCA have individual but similar fire management practices. A main element is the establishment of fire breaks around the reserve, along the international border as well as inside the reserves. Additionally, yearly alternating blocks are burned. In Songimvelo NR the reserve manager together with the scientific unit of MTPA headquarters coordinates the controlled burning. A park ecologist is responsible for this task in Malolotja NR. The fire breaks are burned by the park rangers in Songimvelo and Malolotja in collaboration with 20 seasonal employees hired from the surrounding villages of each reserve from May to July. These employees are also on stand-by for fire fighting during the dry season. In Songimvelo NR the selection is done by EKCPA (12 from the beneficiaries, eight others), in Malolotja by the park management. These employees receive one-day trainings from the rangers and in Songimvelo NR Working on Fire. However, no specific budget for further or longer trainings is available in the parks.

Due to the steep and often inaccessible terrain, fire fighting has to be undertaken by foot in vast areas of SM TFCA leading to long reaction time with severe implications on fire intensity and danger. Malolotja NR has contact persons in different villages close to the park, who inform the rangers over the outbreak of fires. Besides, no early warning system exists neither in Malolotja NR nor in Songimvelo NR.

The only measure of fire management undertaken by local communities is burning fire breaks around their homesteads. In South Africa this is an imperative due to the Veld and Forest Fire Act 1998 (4), in Swaziland it is promoted by law. The conservation areas do not participate in these activities but some villages get support from closeby timber companies.

Currently, two donors are working on fire management on the national level in Swaziland. First, satellite based fire monitoring is currently introduced funded by the African Union and hosted by SNTC. The equipment has already arrived but no trainings have taken place yet. Second, FAO is conducting a project, which elaborates a new fire policy and implements fire management pilot projects in different villages throughout the country, but none of them being close to Malolotja Nature Reserve. In South Africa various initiatives on fire fighting and fire management have been built up in the past, Working on Fire which has its headquarter close to Songimvelo NR, is the biggest project.

1.2 Project description

The proposal for a fire management project in SM TFCA is motivated by the experience of the disastrous cross-border fires in 2007 and 2008, when fires from South Africa crossed the border to Swaziland and destroyed a total of 20,000ha plantation forests with a financial loss of USD 45 billion only in 2007 (W. Dlamini, 2009).

1.2.1 Project implementer

The pilot project "Cross-border Fire Management in SM TFCA" was initiated by the Swazi national TFCA coordinator, who is still the main driver of the pilot project. The proposal was signed by the SNTC chief executive officer and the MTPA regional manager, as well as by the two reserve managers. Responsible for the implementation of the project are for the Swazi side the national TFCA coordinator and for the South African side the Songimvelo reserve manager. Therefore, the pilot project is conducted by the two park agencies in charge of the reserves and the TFCA management.

SNTC is a parastatal organisation established in the early 1970s, which is strongly dependent on government budget allocation (85% of funds) and partly funded by third parties (Child, 2004, p. 144). It is responsible for the administration of several Swazi conservation areas, one of them being Malolotja NR. The current implementation of fire management inside the parks is under the mandate of SNTC.

MTPA is one of nine provincial park agencies in South Africa. It is managed by a board and financially dependent on the government. The agency suffered from financial problems in the last years, which also affected the employment of staff and the implementation of activities such as maintenance in Songimvelo NR. This financial shortage was solved in 2014 with the allocation of funds from the government. MTPA hosts various provincial parks in Mpumalanga and is in charge of the technical management in Songimvelo including fire management. The MTPA regional manager is not involved in the day-to-day park management. Thus, the Songimvelo reserve manager was assigned as counterpart in the proposal in order to involve people on the ground.

1.2.2 Objective

The objective of the pilot project is *"to create and implement a Fire Management Strategy that emphasizes cooperation between SM TFCA and the communities around it"* (Project Proposal SM TFCA, 2013, p. 4). The proposal qualifies for transfrontier resource management through the intention to *"develop an institutional structure that harmonizes fire management programmes in the TFCA"* (ibid.). Furthermore, a

"skilled community members that can respond to the emergencies of fire and reduce the occurrence of runaway fires in the communities around the TFCA" (ibid.) shall be created.

The objective of the project as stated in the proposal is therefore threefold: First, to create a fire management strategy, secondly, to develop an institutional structure that harmonizes fire management programmes in the TFCA, and thirdly, to create skilled community members.

1.2.3 Activities

The objectives shall be obtained through the implementation of activities belonging to the following five blocks:

- Institutional setup
- Awareness raising
- Capacity building/strengthening
- Information sharing
- Sustainability

As a first step, activities relating to the "institutional setup" will be conducted. These encounter a desk study on *"legislation relating to fire management in both countries"* incorporating also *"indigenous knowledge"*. *"Institutional arrangements in the TFCA [will be harmonised] in order to enable the ease of implementation of a cross-border fire management programme"* and a local fire management strategy will be elaborated.

Activities on "awareness raising" will be carried out after the first block is finished and continue throughout the pilot project. They contain the development and distribution of informational material on fire and fire management including the policy framework as well as the production and *"[distribution] of joint technical material to harmonize institutional arrangements in the TFCA"* area. *"Two multi-stakeholder workshops [will] launch the implementation of the cross-border fire management project"* followed by two information sharing workshops that present the project's achievements.

"Capacity building and strengthening" will be reached through the *"training of trainers in fire management [for the implementation] of the fire management strategy"*. Priority areas (fire hot spots) for the initiation of its implementation will be identified and fire brigades in the villages will be trained. Additionally, a *"multi-stakeholder fire management training manual"* including good practice guidelines will be developed

and the acquisition of fire management and protection equipment for the fire brigades is budgeted.

Activities on “information sharing” contain the *“development of an early warning and reporting”* procedure in the project area, the *“training of local fire coordinators to coordinate information dissemination and fire reporting”* in each village and the *“creation of a fire register to document all fire occurrences and best management practices”*.

“Sustainability” shall be reached through mainstreaming fire management in the JMP and identifying and training a fire management coordinator in each community. Funding will be secured for the continuation of activities after the end of the pilot project phase (Project Proposal SM TFCA, 2013, p. 4-6).

As of September 2014, the project had not yet started and none of the above outlined activities had been carried out due to a delay in the deliverance of funds¹⁴. The project implementers stressed that they would hold on to the proposed activities and wished to implement them in full range until the end of the first TUPNR project phase. Due to the fact that hands-on fire management training needs to be carried out during the dry season, capacity buildings on burning practices in SM TFCA carried out after October is unreasonable. Consequently, preparatory work will be done until March 2015, when burning season starts again (Interview with Swazi national TFCA coordinator, 08/09/2014).

1.3 Findings and analysis

This chapter summarises the key findings of the SM TFCA cross-border fire management pilot project and estimates future changes. Likewise, it gives explanations for the current implementation stage of the project.

1.3.1 Project logic

The **project logic** is evaluated based on the description of the activities and objectives in the proposal. We assess if the chosen activities are suitable for achieving the project’s objectives as outlined in chapter 1.2.2:

- Create a Fire Management Strategy
- Harmonise the institutional structure of the TFCA
- Create skilled community members

In the five proposed activity blocks (chapter 1.2.3) the relation between the objectives and these activities is not outlined. However, some of these activity blocks such

¹⁴ Funding had only arrived in the second week of September 2014.

as “awareness raising” and “sustainability” are rather objectives than activities. Thus, we will call them intermediate objectives. Within the activity blocks a logical link between activities and the intermediate objectives can be identified yet several objectives appear again as activities within the blocks.

Objective 1 (Creating a Fire Management Strategy) is mentioned as an objective and as an activity in the block “institutional setup”. Other activities in this block somehow relate to objective 1 but it is not outlined in detail how this strategy will use collected information and how it will be elaborated and by whom.

Objective 2 (Harmonise institutional structure of the TFCA) is linked clearly to the block “institutional setup”, which contains the activities of collecting information on legislation on fire and fire management on both sides of the border. Again, “harmonising the institutional structure” is mentioned as an activity in this block. The activity “integrating fire management in the JMP” in the block “sustainability” also relates reasonably to the objective 2.

Objective 3 (Creating skilled community members) shall be achieved by the blocks “awareness raising”, “capacity building” and “information sharing”. These blocks contribute to educating and skilling the community in fire management and are in line with CBFiM.

The individual activities are outlined very vaguely in the proposal; therefore, their meaning and implications can just be assumed and it is difficult to determine whether they are appropriate and useful to realise the objectives stated above. Some activities described in the proposal do not seem promising for leading to the desired effects and thus supporting the achievement of the objectives. This is, according to our perception, the case for the block “awareness raising” which consists mainly of dissemination of information material. If dissemination takes place only, without personal communication, explanation and discussion with the population, the contribution to awareness raising and behaviour change is questionable. As fire is a sensitive issue, which has to be seen in context of local peoples’ livelihood, this activity may not have significant effects. Also, illiterate people may be excluded from this measure.

“Capacity building” and the implementation of an early warning system involves a variety of trainings for fire brigades and trainers, fire management coordinators as well as fire coordinators. A lot of different positions are created but not well described. This makes it impossible to determine the degree of contribution to the objectives.

1.3.2 Effectiveness

As the implementation of the pilot project has not yet started, only assumptions concerning the probability of the achievement of its goals can be made on the basis of the proposed activities and the context. Several factors may influence the capacity to meet the objectives in either a positive or a negative way.

SM TFCA has already established a permanent cross-border structure, the Joint Task Group, through which regular exchange between the involved parties takes place. The responsible persons for current fire management in the two nature reserves are the same individuals who participate in this Task Group and implement the cross-border fire management pilot project. Therefore, they hold knowledge on the reserves, on fire relevant data and transfrontier processes which can be rated as positive. Furthermore, the structures of the park management as well as fire management practices are quite similar on both sides of the border. Another advantage is the existence of the community outreach departments in both parts of SM TFCA, which hold contact to the surrounding communities. These capacities can support the implementation of the pilot project and contribute in a positive way to its effectiveness. Nevertheless, shortage of staff and equipment on both sides of the border pose a serious obstacle to the achievement of the objectives. This is even more severe in Swaziland, where the implementing partners lack vehicles. The project implementers and their employees are overloaded with work and therefore sometimes unable to fulfil their duties.

Generally, the range of activities presented in the proposal seems ambitious. In the light of the above mentioned advantages and limitations it is questionable if all activities can be implemented in nine month time and with the amount of 50,000 EUR.

1.3.3 Impact

No impacts on fire management, poverty alleviation and biodiversity conservation can be perceived up to date due to the early implementation stage. Still, some impacts likely to occur can be described.

The pilot project is perceived as a veritable opportunity to bring the Joint Management Committee (JMC), designated in the JMP to manage SM TFCA on a daily basis, to life: For planning and implementation of the pilot project a project management team, which contains the reserve managers and the current chairman of the Joint Task Group as well as two community representatives from each country was established. This group integrates more or less the same persons that would be part of the JMC, and it works in a way the future JMC should work, e.g. reporting to

the Joint Task Group (De-Briefing, 12/09/2014). Therefore, various stakeholders expressed their intention and wish to transform this team into the JMC after the end of the project (Interviews with international TFCA coordinator, 28/08/2014 and Swazi national TFCA coordinator, 08/09/2014).

1.3.4 Sustainability

The sustainability of the project depends on its ability to acquire further funding after the end of the pilot project. This is crucial for the continuation of activities, especially if the project cannot be fully implemented because the parks are provided with limited budget whilst no budget is allocated to SM TFCA at all. The current fire management of the reserves is on the financial limit and cannot sustain any further expenditure. Securing funds is a planned activity in the proposal, but no further explanation on how this will take place is given (Project Proposal SM TFCA, 2013, p. 6).

The proposal suggests the inclusion and thereby institutionalisation of the newly developed fire management strategy in the JMP. Positions such as the fire brigades, fire coordinators and fire management coordinators will be established with specific tasks in order to implement the strategy. Still, neither payment details for these tasks are mentioned in the proposal (ibid) nor if there is payment at all or if they are voluntary.

In the proposal, monitoring is not part of the project, but some forms of knowledge management are. They include the inventory of policies and indigenous knowledge, the creation of a manual including guidelines for good practices and the establishment of fire registers in communities. These measures could contribute positively to the availability of local data on fire and local strategies and thus to the sustainability of the project results.

1.3.5 Relevance

Relevance of fire management

SM TFCA has been identified as a fire hotspot by scientific methods like satellite monitoring (Interview with Swazi fire expert, 12/08/2014; WoF, <http://www.workingonfire.org>). Fire outbreaks are highly dangerous because they spread quickly and fire fighting is difficult. The occurrence of cross-border fire disasters (2007, 2008) has shown the need for international cooperation on this issue. A MoU has been reached for the case of emergencies; nonetheless, cross-border fire management is very relevant to avoid such incidents.

Governmental levels in South Africa and Swaziland have different views on fire management in the area. Whereas the South African Directorate of Environmental

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Affairs (DEA) was not very positive about the use of fire management for the TFCA and did not consider it as relevant, high SNTC officials were supportive and contributed to the proposal with his expertise (Interviews with Swazi fire expert, 12/09/2014 and South African government official, 28/08/2014).

Fire management is currently not included in the TFCA's JMP. In fact, the pilot project shall correct this. The reserve managers named fire together with poaching as relevant issues in their respective park. They identified most fires as anthropogenic and see its initiation in the local communities nearby the park. Regardless of this, communities are also highly affected by wild fires with losses of property being indicated.

Community members close to Songimvelo NR and Malolotja NR mentioned fire as a problem which threatens their life, home and livelihood basis. They also stated that they are not included in current fire management strategies of the TFCA, but expressed their wish to participate and to be empowered on this issue (Interviews in villages in South Africa and Swaziland, 08 - 10/09/2014). A Swazi fire expert explained that there is a lot of confusion and ignorance among rural communities about the legal procedures for obtaining burning permission (see chapter 1.1.3). Consequently, people burn without permits. Therefore, fire management and that education on legislation and administrative procedures pertinent to fire management and capacity building on safe burning highly required in the area (Interview with Swazi fire expert, 12/09/2014).

Nevertheless, the biggest problem in the villages on both sides of the border is a lack of job opportunities. As few jobs are available local people have to rely on subsistence agriculture and some additional livelihood sources. Due to a low degree of mechanization a lack of fertilizers fire is used extensively in agriculture. Additional livelihood sources, also illegal ones, involve the use of fire as well. Therefore fire has to be seen in its broader livelihood context. Village members, especially around Malolotja NR, though not feeling sufficiently involved in the park, do see a value in conservation and expressed the wish to develop tourism that provides benefits for them through employment and the selling of crafts (Interviews with village members 08 -09/09/2014).

Relevance of community involvement/CBNRM

The pilot project measure is based on community-based fire management (CBFiM). This stands in line with the Lubombo General TFCA Protocol, which seeks to create a framework that facilitates the "*involvement of communities in and adjacent to TFCA's through consultation, representation and participation in TFCA management*" (Lubombo General TFCA Protocol, 2000, p. 3). The legal foundations of

CBNRM in South Africa lie in land restitution and the following establishment of Communal Property Associations: "*The Communal Property Association Act of 1996 provides the overarching framework for CBNRM, allowing communities to establish legal common property institutions [which can claim and own communal property]*" (Collins and Snel, 2008, cited after Roe et al, 2009, p. 162). No specific policy on CBNRM has been established so far, but CBNRM measures have already been implemented successfully in the country and BATOBIC also seeks to implement it around SM TFCA. In Swaziland, no specific legislation on CBNRM could be found, but several conservation related acts do mention community involvement. 2014 United Nations Development Programme (UNDP) and Global Environmental Facility (GEF) published a study giving recommendation on how to strengthen CBNRM in Swaziland. GEF also intends to conduct a project on CBNRM policy development from 2014 onwards (UNDP, 2014, p. 12).

In SM TFCA, EKCPA and its members participate directly in the reserve management of Songimvelo and get benefits from the reserve. However, the communities around Malolotja NR, as well as residents around Songimvelo NR, who did not claim, are not involved in the management of natural resources inside the TFCA so far. Villagers in Swaziland as well as in South Africa confirmed that they are not involved and do not benefit from the TFCA. Together with the past resettlements, this might create opposition against conservation.

1.3.6 Efficiency

No statements can be made concerning the efficiency of the pilot project measures and money expenditure, because the project has not started yet. Some activities appear to be overlapping with a negative influence on efficiency.

For the submission of the proposal and the following administrative processes, the efficiency can be rated as low due to the fact that the first money transfer only took place about one year after the approval of the proposal. Administrative procedures necessary for signing the financial agreement and complications transferring the first instalment are considered the foremost reasons for this delay. For GIZ, it was impossible to transfer money to the bank account of the implementer due to administrative restrictions of GIZ and Swazi financial regulations. Solving this problem was time-consuming

The implementer responsible for the pilot project's administration stated the process required a lot of "writing and re-writing" with new documents being requested consecutively at different times during the process. Some of those documents were difficult to deliver, such as audit statements, which had not yet been

prepared by the auditor at the time demanded. Generally, park agencies are bureaucratic entities, where the deliverance of documents takes time.

1.3.7 Cooperation

As one objective of the pilot project approach is to foster cooperation, a special focus lies on this topic. Cooperation will be measured on various levels therefore.

Cooperation between the project implementers

Cooperation between the project implementers exists for several years due to their involvement in the implementation of SM TFCA. Their collaboration is formalised in the Joint Task Group since 2009 and meetings take place on a regular basis, normally quarterly. Both parties stress their mutual respect and trust and therefore relationship building is not a necessary part of the pilot project.

For the conduction of the project activities a project management team was established working as a sub group under the Joint Task Group and reporting to it. Meetings between the members are held but cooperation is hindered by the necessity of long travel because no internal link road in the park has been established yet and by a lack of means of transport.

Despite the establishment of the project management team, the pilot project is strongly dependent on one single person who is at the same time national TFCA coordinator and therefore has limited time resources for the implementation of this project. He is supported in the Swazi part by the Malolotja Reserve Manager, who is well informed and has briefed his employees. On the South African side the Songimvelo Reserve Manager is the only person really involved in the project and he seems to be waiting for instructions from the Swazi side rather than being active himself. Due to the shortage of staff in Songimvelo NR, the reserve manager currently has to fulfil a variety of tasks, some of them not being his preliminary duty, which leaves him with a very high workload. There is nearly no information flow on the South African side; e.g. the Songimvelo social ecologist, who should play a significant role in the pilot projects according to the proposal, was not briefed and EKCPA was informed only in July 2014 over the project. The disequilibrium between the two sides might derive from the different and somehow unequal positions of the two counterparts, one being a national TFCA coordinator and one a reserve manager. Also, the TFCA coordinator has more experience with conceptual planning and the development of fire management strategies. Although he is disposed to oversee and coordinate the project as a whole (Interview with Swazi national TFCA coordinator, 08/09/2014), his resources are limited. However, the implementation of the pro-

ject requires more on the ground and practical coordination which would increase the involvement of the reserve managers (Interview with Songimvelo reserve manager, 02/09/14).

Cooperation with other stakeholders

There are no other donors currently present in the project area on neither side of the border. Nevertheless, a number of possibly relevant but not yet involved stakeholders working on fire management can be identified.

- 1) In the northern part, SM TFCA is surrounded by widespread plantation forests owned by private business and at least one NGO¹⁵. These timber companies experience similar problems with wild fires. Thus, they share the interest in protecting their property and keeping fires out. These companies have expertise in fire fighting training and possess own equipment such as helicopters and vehicles which can access the difficult mountainous terrain. As wild bees are often found in plantations, honey harvesting of local communities is a problem. The companies therefore started community projects on bee-keeping and support communities in doing fire breaks.
- 2) Working on Fire headquarter is situated 1.5 hours from Songimvelo NR and is a community employment programme on fire fighting. They already do the one-day trainings for the seasonal employees on fire breaks in Songimvelo NR. Furthermore, they own helicopters and other heavy equipment.

Community participation

Generally, the proposal is based on the CBFiM approach including traditional or indigenous knowledge and involving local people in planning and implementing fire management via fire brigades, fire coordinators (monitoring) and fire management coordinators (Project Proposal SM TFCA, 2013; c.f. FAO, 2011, p. 4; Goldammer, 2004, p. 396f). Still, no information is given about the level of independent decision-making competences and how far community participation will go in this project.

Nonetheless, for the planning process community participation can be measured. In Swaziland, community representatives had been informed and consulted during the planning phase and were able to contribute with their knowledge and opinion to the proposal and to shape the activities. This process can be characterised as “interactive participation”. In South Africa, the project was presented only to one commu-

¹⁵ Bulembu Ministries in Swaziland is an NGO and orphanage sustaining itself through timber, honey and dairy production in order to be independent from donor funding.

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nity. This can be regarded as “participation by consultation”. The implementing partners from Swaziland participated in the South African meeting, whereas no South Africans took part on the Swazi side. Although EKCPA is the representative body of the successful land claimants in Songimvelo NR, the association has not been particularly involved so far either (Interviews with Malolotja reserve manager, 03/09/2014, and Swazi national TFCA coordinator, 08/09/2014).

Furthermore, four community representatives are part of the project management during the implementation phase. EKCPA shall be represented by one of them. Still, the participation of four community members out of up to 30 settlements is very low and it is not clear how they represent the communities.

1.4 Conclusions and recommendations

The above presented findings lead to a number of conclusions and recommendations for GIZ and the project implementers of the SM TFCA fire management pilot project. As the pilot project has not yet started its implementation, these recommendations consider also the ongoing process and can contribute to shape the project.

1.4.1 Implementing partners

The project logic is not consistent and activities are described too vague. Therefore, a revision of the proposal is recommended, which should include the precision of each activity in order to have a more detailed picture of the content and implications of the planned measures. Furthermore, some of the proposed activities seem to overlap with others, thus, all activities should be checked and adapted accordingly. Against the background of the limited resources, the intended creation of many different positions and tasks in the local communities should be reviewed and reduced/simplified in order to adapt to the capabilities of the communities.

The establishment of a project management team is a good initiative to manage the pilot project and cooperate across the border. The team should institutionalise meetings and share responsibilities for the implementation of the project among the involved individuals in order to overcome the current dependence on one single person.

Involvement of private business in the project should be considered. Private timber companies, working in the vicinity of SM TFCA share the interest of protecting its property from fire and thus in creating awareness and increasing knowledge on fire management in the communities. Some of them already have established links with the local population. These companies could contribute with their expertise on fire management and fire fighting, support the TFCA in emergencies with their equip-

ment, e.g. helicopter, and might be disposed to financially contribute to projects. The Swazi NGO Bulembu Ministries, sustaining itself through a timber plantation, showed interest to cooperate with the TFCA on this issue.

1.4.2 GIZ

A major finding of community group discussions in both countries was that the occurrence of wild fires originating from local communities is embedded in the context of unemployment and the dependence on subsistence agriculture and additional livelihood sources based on natural resources. Fire is widely used for these tasks. Subsequently, fire management just tries to cure the symptoms and cannot be sustainable as long as the lack of job opportunities persists. Therefore, future CBFiM projects should include alternative income generation activities, e.g. assessment if the collection of wild honey can be substituted by bee keeping. Furthermore, the villagers showed interest in tourism development. The potential of community-based tourism should therefore be assessed, especially because initiatives in Songimvelo NR have already been started by EKCPA.

Concerning the current process in SM TFCA, the dependence on one implementer with limited resources is perceived as a structural problem. The strong reliance on one specific person without having other alternatives does present an obstacle for the implementation and coordination process. Besides, no other stakeholder holds sufficient management capacities in order to support the Swazi national TFCA coordinator significantly in the overall cross-border coordination of the pilot project. We recommend the empowerment of local stakeholders on management parallel to pilot project implementation. Possible partners are the Swazi reserve manager and the South African EKCPA, which is a functioning community-based organisation. This measure requires a closer link of the project to GIZ and a technical advisor to accompany this process for some time. A side effect of this measure could be the positive influence on the implementation of the TFCA as a whole through enhanced capacities in the Joint Task Group and the JMC.

Disregarding the current implementation stage, the project proposal seems to be very ambitious for nine months and 50,000 EUR and it is recommended to do a feasibility assessment prior to selection of projects.

As the administrative procedures are regarded as inefficient, we recommend to simplify and to create transparency about the administrative procedures.