Terminal Evaluation Report

2016 November

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Reducing Disaster Risks from Wildfire Hazards Associated with Climate Change

GEF Project ID: 3934

UNDP PIMS ID: 3947

Country:	South Africa
Region:	Africa
Focal Area:	Climate Change
Strategic Program:	SCCF Objective CCA-1
Implementing Agency:	United Nations Development Programme (UNDP)
Executing Agency:	Forest Fire Association T/A Working on Fire (Kishugu NPC)

Prepared by:

James Lenoci

Contract No. IC/2016/UNDP/014

Terminal Evaluation Opening Page:

PROJECT DETAILS:

Project Name:	Reducing Disaster Risks from Wildfire Hazards Associated with Climate Change
Project ID:	GEF Project ID: 3934 UNDP PIMS ID: 3947
Country:	South Africa
Region:	Africa
Focal Area:	Climate Change
Funding Source:	Special Climate Change Fund (SCCF)
Strategic Programs:	**SCCF Objective CCA-1 (GEF-4):** Reduce vulnerability to the adverse impacts of climate change
	Outcome 1.1: Increased knowledge and understanding of climate variability and change-induced threats
	Outcome 1.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses
Implementing Agency:	United Nations Development Programme
Implementation Modality:	National Implementation Modality (NIM)
Executing Agency:	Forest Fire Association T/A Working on Fire
Other Implementing Partners:	National Department of Environmental Affairs (DEA)

FINANCIALS:

Project Preparation Grant:	USD 99,960
GEF Project Grant:	USD 3,536,400
Cofinancing Total:	USD 31,800,000 (CEO Endorsement Request indicates USD 30,940,100 in cofinancing)
GEF Agency Fees:	USD 353,640
Total Cost:	USD 35,436,360

PROJECT TIMELINE:

Received by GEF:	01 April 2009
Preparation Grant Approved:	28 May 2009
Concept Approved:	30 June 2009
Project Approved for Implementation:	02 November 2011
State Date:	13 April 2012
Project Closed (planned):	31 December 2016

TERMINAL EVALUATION DETAILS:

TE Timeframe:	September-October 2016
Evaluator:	James Lenoci
Reporting Language:	English

The evaluator would like to acknowledge the feedback provided by the interviewed stakeholders, including the chairperson of the project steering committee, the other interviewed steering committee members, the project director, the project coordinator, UNDP CO country director, UNDP-GEF regional technical specialist, the UNDP finance associate, the project FireWise coordinator, the project communications manager, and the project assistant. Special thanks are also extended to the interviewed FPA stakeholders, scientists and consultants who supported the project, and the committee members of the Goedverwacht FireWise community.

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Executive Summary

Exhibit 1: Project Summary Table				
Project Title: Reducing Disaster Risks from Wildfire Hazards Associated with Climate Change			**at endorsement (USD million)**	**to date (USD million)**
GEF Project ID:	3934	**GEF financing:**	3.5364	3.439
UNDP PMIS ID:	3947	**IA own:**	0.180	0
Country:	South Africa	**Government:**	30.122	24.529
Region:	Africa	**Other:**	0.6381	0.771
Focal Area:	Climate Change	**Total co-financing:**	30.9401	25.299
Strategic Programmes:	SCCF Objective CCA-1	**Total Project Cost:**	34.477	28.739
Executing Agency:	National Department of Environmental Affairs	**Prodoc Signature (date project began):**		13 Apr 2012
Other Partners Involved:	Forest Fire Association T/A Working on Fire	**(Operational) Closing Date:**	Proposed: 13 Apr 2015	Planned: 31 Dec 2016

Note: Total expenditures for 2016 based on 14 Oct 2016 combined deliver report (UNDP)

Project Description

The wildland fire situation has worsened significantly across South Africa. There have been major and catastrophic fires in many areas, land use patterns are also changing rapidly under the influence of diverse factors, including the expansion of towns and cities, causing an expanding Wildland Urban Interface (WUI), and exposing more assets to the hazard of wildland fires. The fynbos biome is identified in South Africa's Initial National Communication (INC, 2003) as the most vulnerable region in the country with respect to disaster risks from wildland fire due to patterns of urbanization, agriculture and potential impacts upon water catchment areas. The fynbos biome covers much of the Western Cape in the southwestern corner of the country, and extends eastward into the Eastern Cape, a transitional zone between the winter rainfall region to the west and the summer rainfall region to the east in KwaZulu-Natal. Fynbos is known for its exceptional degree of biodiversity and endemism, making up the majority of species of the Cape floral kingdom, many of which are endemic.

The IPCC fourth assessment report predicts the following for the Fynbos biome: winter drying of the order of 10-20% by the end of this century; increase in summer and autumn wind speeds by between 0.3 and 0.9 m/s by ~2050; and increase in median temperature in the order of 1.5°C (~0.5°C – 2.0°C represent 25th and 75th percentile limits respectively) - by the end of this century median increases are projected to be as high as 3°C under "business as usual" emissions scenarios. And, there is evidence that large-scale regional circulation patterns are playing an important role in the occurrence of wildland fires.

Although fynbos is fire-dependent, implementation of integrated fire management measures is increasingly important in light of the expected climate-induced disruptions in the occurrence and intensity of wildland fires and in face of continued socioeconomic pressures in the region. The project was designed to develop the adaptive capacity of: (i) Fire Protection Associations (FPAs); (ii) the individual members of these FPAs; and (iii) communities at risk in the WUI, to more effectively manage the increasing risks associated with wildland fires in the fynbos biome.

Terminal Evaluation Purpose and Methodology

This terminal evaluation was conducted to provide conclusions and recommendations about the relevance, efficiency, effectiveness, sustainability, and impact of the project. The evaluation also aimed to identify lessons from the Project for future similar undertakings, and to propose recommendations for ensuring the sustainability of the results. The evaluation was an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, review of available documents and records, and findings made during field visits.

Adaptation Benefits Generated

The project was successful in generating a number of climate change adaptation benefits, including the following, listed in order of significance:

Strengthened IFM capacities reduces ecosystem stress across the fynbos biome

Consolidation of fire protection associations (FPAs) within the fynbos biome has resulted in increased membership and increased the domain under enhanced management, thus reducing ecosystem stress on more than 4 million ha of the fynbos biome. The current six (6) main FPAs in the region, including 5 in the Western Cape (Greater Cederberg, Southern Cape, Greater Overberg, Winelands, and Cape Peninsula) and 1 in the Eastern Cape (Sarah Baartman West) are more efficient associations, with dedicated management staff. Integrated fire management (IFM) capacities have been strengthened through delivery professional training to a substantive number of FPA stakeholders; development of extensive communication materials, including websites and printed FPA toolkits and other knowledge products; and improvements to information management and communication systems.

Improved early warning systems strengthens resilience to the impacts of climate change

The early warning systems available to FPAs within the Fynbos biome have been substantively strengthened, enabling these associations to deliver higher quality services to their members and to better protect against spread of fire to at-risk communities and ecosystems. Each of the 6 main FPAs within the Fynbos biome has received AFIS terminals, and fire danger reporting tools have been further developed. The project also procured 33 new automatic weather stations and arranged the installation of them at strategic locations where there were gaps in coverage, including high altitude environments and other areas.

Reduced vulnerabilities of rural and urban populations

The increased capacity in assessing fire risks, both in terms of economic loss and loss of life, along the wildland urban interface further contributes to reduction of vulnerabilities of rural and urban populations, by providing municipal planners and developers with practical guidance on avoiding wildland fire risks. Introducing the FireWise community concept to four settlements within the Fynbos biome, including Sir Lowry's Pass Village in Helderberg Municipality, Goedverwacht in Bergriver Municipality, Kranshoek in Bitou Municipality, and Clarkson in Koukamma Municipality, has increased awareness and hands-on participation in fire risk reduction activities, therefore reducing the vulnerabilities of these communities, having a cumulative 5,346 households and 18,597 inhabitants. Leveraging off these successful interactions, a micro-insurance scheme under development in cooperation with the Santam insurance company is planned to be rolled out first in these communities and eventually extended to other FireWise communities supported by Kishugu NPC – representing nearly 70,000 people.

Expanded knowledge base enhances the enabling capacity of the scientific community

As climate change resilience is also contingent on the capacity assess and develop response strategies to various scenarios, the project resources also supported achievement of a better understand the fire ecology and climate science within the fynbos biome.

Broadened dialogue across sectors facilitates a collaborative adaptation strategy

Integrated fire management requires more inclusive collaboration than in traditional reactive fire-fighting approaches, and the project has instituted broader dialogue across sectors that provide the foundation for continued climate change adaptation efforts beyond the lifespan of the project. The expanded FPAs include more diverse members, with increased participation of the private sector. The umbrella FPAs have also been strengthened as potential advocacy platforms for affecting more substantive inter-governmental cooperation, e.g., between the Working on Fire and Working for Water expanded public works programmes, and also lobbying for the Department of Agriculture, Forestry and Fisheries (DAFF) to allocate more resources towards the operation of FPAs.

Summary of Conclusions

Under an innovative design, aimed at strengthening climate change adaptive capacity through improved integrated fire management within the fynbos biome situated in the southern reaches of South Africa, the project has managed to satisfactorily achieve the majority of intended outcomes. One of the key achievements of the project was supporting the process of consolidating the domains of the fire protection associations (FPA) operating with the Fynbos biome according to municipal administrative boundaries.

The FPAs within the fynbos biome are also now more capacitated with early warning systems. Six (6) FPAs were provided with AFIS terminals, providing them with much more current and relevant fire danger early warnings and reporting services. There have been substantive information technology developments over the course of the project. For example, reliability of internet is much higher now than when the project was designed back in 2010, and in most cases available throughout the Fynbos biome. This has rendered the need for AFIS terminals mostly redundant. FPAs and other users have more flexibility accessing the web-based AFIS services, which require lower IT skills and essentially removes the concern of updating or refreshing the systems. The quality of the information provided on the AFIS has also been improved through the installation of 33 new automatic weather stations at strategic areas were selected where fire risks were high and automatic weather reporting was limited. The also project made a substantive contribution in improving incident reporting, by developing an online based reporting tool.

FPAs within the fynbos biome and throughout South Africa have struggled to reach sustainable financing operation since the concept of FPAs was introduced in the National Veld and Forest Fire Act passed in 1998. The contribution of the project was a demonstration of how a more capacitated FPA stands a higher likelihood to be financially sustainable. For instance, full-time salaried extension officers have provided an increased level of service to members and also help facilitate more proactive membership. Strengthened Umbrella FPAs also enhance their ability to advocate for change. The Western Cape FPA, for example has recently been able to negotiate membership agreements with several key parastatals, including Eskom, the electrical utility company and Sanral, the national road agency.

Expanding the domains of the FPAs has not come without challenges. Land use within the larger, consolidated FPAs is diverse, ranging from farmland, estates, forest plantations, rural and urban communities, and nature reserves. Expanding the domains of the FPAs to more or less match district boundaries makes sense in terms of improving synergies with municipal level service providers and planners, but it also brings together members having vastly different risks with respect to wildfires. In the NVFFA Act of 1998, the concept of voluntary FPAs was intended for land users having common fire risks. Management of the now larger, more diverse FPAs requires an expanded skill set compared to the smaller, mostly voluntary associations earlier. Consolidation of FPAs, creation of new FPAs, and efforts to strengthen umbrella FPAs have also revealed certain governance issues that might have been taken for granted when there was a smaller group of participating stakeholders. Expanded stakeholder involvement has come with more demands on governance structures.

There were certain departures to some of the envisaged results outlined in the project document. Although the project succeeded in supporting improved fire risk assessment methodologies, particularly along the wildland urban interface (WUI), integrating fire risk assessment criteria into municipal disaster management plans did not materialize as planned. Development of insurance based incentives, together with the insurance industry, that encourage landowners to proactively implement measures to reduce climate change induced fire hazards was also not completed. The project did manage to foster a partnership with one of the two large local insurance companies, Santam, in developing an affordable home insurance product for low-middle income households, initially targeting the FireWise communities that the project sponsored. It took some time to develop this partnership, in fact near the end of the extended project's timeframe, and there is consequently a degree of uncertainty on whether the insurance scheme be as successful as planned and whether the approximately USD 300,000 endowment trust fund resourced from the GEF implementation grant will be efficiently utilized over the short to medium term.

Evaluation Ratings

Evaluation ratings are tabulated below in **Exhibit 2**.

Exhibit 2: Evaluation Rating Table

Criteria	Rating	Comments
1. Monitoring and Evaluation (M&E)		
M&E Design at Entry	Satisfactory	The M&E plan was reasonably well put together using the template for GEF-financed projects. PIR reports contained feedback from key stakeholders and provided detailed summaries of project performance. Constructive adjustments were made following recommendations made by the midterm review. The project board convened regularly, roughly quarterly, and provided constructive feedback to the project team. There were a few shortcomings with respect to monitoring and evaluation, starting with the lack of critically reviewing and adjusting certain performance indicators and targets. And, reporting did not sufficiently capture certain departures from project design, specifically with respect to municipal disaster management plans and insurance-based incentives for landowners.
M&E Plan Implementation	Satisfactory	
Overall Quality of M&E	Satisfactory	
2. Implementing Agency (IA) and Lead Implementing Partner (Executing Agency - EA) Execution		
Quality of IA (UNDP) Execution	Satisfactory	The UNDP-GEF regional technical specialist has been involved since the design phase, and has provided regular support. Constructive support has also been delivered by the UNDP CO finance associate, and the UNDP CO country director has been personally involved in the project in recent years, participating in steering committee meetings and providing senior level guidance. Involvement by the UNDP CO in the early stages of the project, however, was limited, largely due to substantive institutional restructurings during 2012 and 2013. There was limited training on work planning, reporting, cofinancing tracking, and UNDP's comparative advantage with respect to human development were not delivered to the project. Strong continuity of project steering committee members enhances overall IA-EA. The project director and staff of the project management unit were unchanged throughout. Reporting was timely and funds were managed prudently. There were shortcomings with respect to unclear division of responsibilities with respect to stakeholder involvement. As a non-profit company, Kishugu is not strategically positioned to advance policy discussions on behalf of DEA, for instance with the climate change adaptation planning stakeholders or with municipal disaster management agencies. Working planning was generally weak, and there were shortfalls with respect to risk management, by not sufficiently addressing departures from project design in progress reports.
Quality of EA Execution	Satisfactory	
Overall IA-EA Execution	Satisfactory	
3. Assessment of Outcomes		
Overall Quality of Project Outcomes	Satisfactory	Under an innovative design, aimed at strengthening climate change adaptive capacity through improved integrated fire management within the fynbos biome situated in the southern reaches of South Africa, the project has managed to satisfactorily achieve the majority of intended outcomes. The micro-insurance scheme is behind schedule, and there were a couple of departures from the project design, including not integrating fire risk criteria into municipal disaster management plans and not developing an "incentives toolbox".
Relevance	Relevant	The project is relevant across a number of criteria, including with respect to national and provincial strategies, GEF SCCF strategic objectives, and

<table>
<tr><th colspan="4">Exhibit 2: Evaluation Rating Table</th></tr>
<tr><th>Criteria</th><th>Rating</th><th colspan="2">Comments</th></tr>
<tr><td></td><td></td><td colspan="2">priorities of the UNDP CO. Project objectives are closely aligned with the priorities in South Africa's Initial National Communication (INC) to the UNFCCC
The project was relevant with respect to the National Framework for Sustainable Development 2008 and the National Biodiversity Strategy and Action Plan (NBSAP).
The project was consistent with Objective B of the 2007-2010 Country Programme "Promoting Equitable Growth, Poverty Reduction and Sustainable Development", and also according to the outcome "Increase in the number of sustainable 'green jobs' created in the economy; stabilization and reduction of carbon emissions and climate change mitigation and adaptation strategies fully operational" of the 2013-2017 Country Programme.</td></tr>
<tr><td rowspan="3">Effectiveness</td><td rowspan="3">Satisfactory</td><td>Outcome 1: Capacity built at local level to manage increased incidence and extent of fires</td><td>Highly Satisfactory</td></tr>
<tr><td>Outcome 2: Decision-support and risk management systems for fire management improved</td><td>Satisfactory</td></tr>
<tr><td>Outcome 3: Decision-support and risk management systems for fire management improved</td><td>Moderately Satisfactory</td></tr>
<tr><td>Efficiency</td><td>Satisfactory</td><td colspan="2">The GEF funding addressed most of the key barriers that were constraining adoption of a more integrated fire management strategy within the fynbos biome. The project has managed to satisfactorily achieve the majority of intended outcomes within the allocated budget. Local capacity was efficiently utilized and strengthened in implementation of the project. And, cofinancing contributions committed at project entry were realized.
The project timeframe ended up being nearly 2 years longer than the originally planned 3-year duration; this required frequent reassessment on how to allocate available resources which diminished project coherence and efficiency. Development of the micro-insurance scheme is behind schedule, not allowing time for implementation within the lifespan of the project.</td></tr>
<tr><td colspan="4">4. Sustainability</td></tr>
<tr><td>Overall Likelihood of Risks to Sustainability</td><td>Moderately Likely</td><td colspan="2" rowspan="3">Consolidated FPAs according to municipal administrative boundaries improves efficiency and compliance of integrated fire management services. Expanded and more efficient early warning system reduces the likelihood of the occurrence of damaging wildland fires. Strengthened capacities of FPAs and increased membership contribute towards sustainable financing of FPAs. And, consistent Governmental budget allocations for Working on Fire and Working for Water expanded public works programmes enhances the likelihood of project sustainability.
FPAs within the fynbos biome are now more financially viable; however, there remain challenges in reaching financial sustainability. Over the short to medium term this situation seems likely to continue, before</td></tr>
<tr><td>Financial Risks</td><td>Moderately Likely</td></tr>
<tr><td>Socio-Economic Risks</td><td>Likely</td></tr>
</table>

Exhibit 2: Evaluation Rating Table		
Criteria	**Rating**	**Comments**
Institutional Framework and Governance Risks	Likely	alternate financing options are implemented and/or additional Governmental support is made available. There are governance challenges over the short term. Consolidating FPAs has brought together landowners/users having different fire risk concerns. There are uncertainties regarding the micro-insurance scheme, which had not yet been fully established or rolled out by the time of the terminal evaluation. And, continued development pressure, particularly along the wildland urban interface, further reduces the likelihood for sustaining results.
Environmental Risks	Likely	
5. Impact		
Environmental Status Improvement	Negligible	There has been insufficient time for verifiable improvements to ecological status to materialize
Environmental Stress Reduction	Negligible	Improved fuel management is one of the main objectives promoted by FPAs that would reduce stress on ecological systems. There are limited monitoring data available to assess verifiable reductions.
Progress towards stress/status change	Significant	Strengthened FPAs increase the likelihood that IFM measures will be implemented across the Fynbos biome, covering more than 4 million ha. Improved early warning systems enable FPAs and municipal fire services to respond more timely, reducing the risk of spread of fire, and thus decreasing the likelihood of the occurrence of damaging fires. And, the enhanced knowledge base on fire ecology and climate science with the fynbos biome is a significant foundational achievement that will help guide scientists and planners in realizing sustainable development and sensible biodiversity conservation throughout the region.
6. Overall Project Results	**Satisfactory**	The project was successful in generating a number of climate change adaptation benefits, including: • Strengthened IFM capacities reduces ecosystem stress across the fynbos biome; • Improved early warning systems strengthens resilience to the impacts of climate change; • Reduced vulnerabilities of rural and urban populations; • Expanded knowledge base enhances the enabling capacity of the scientific community; and • Broadened dialogue across sectors facilitates a collaborative adaptation strategy.

Recommendations

TE recommendations are summarized below in **Exhibit 3.**

Exhibit 3: Recommendations Table		
No.	**Recommendation**	**Responsible Entities***
Corrective actions for the design, implementation, monitoring and evaluation of the project		
1.	Development of the micro-insurance scheme was realized rather late in the project, and by the time of the terminal evaluation it had not yet been rolled out. During the course of the TE mission, the project team made a preliminary forecast of income generated and expenses incurred over the next few years, making several assumptions regarding level of policy uptake, amount of subsidies provided, and costs associated with guiding the process along, particularly in the initial period when the trust fund is being drawn from. A more detailed business analysis should be made prior to project closure, looking at additional scenarios, including slower rates of policy uptake. The deed of trust for the endowment fund should also be approved by	PMU, Project Steering Committee, Kishugu NPC

Exhibit 3: Recommendations Table		
No.	**Recommendation**	**Responsible Entities***
	the project steering committee prior to project closure.	
2.	Transfer of ownership and long-term operation and maintenance of the 33 automatic weather stations should be resolved prior to project closure.	PMU
Actions to follow up or reinforce initial benefits from the project		
3.	Lessons learned regarding consolidation and strengthening of FPAs should be shared with other FPAs and DAFF representatives. The project should sponsor a workshop for FPA managers from other regions in the country and relevant DAFF representatives. Apart from disseminating lessons learned, this workshop could also lead to new synergies and partnerships, possibly opening entry points for alternative financing options for the FPAs within the fynbos biome.	PMU
4.	The sustainability of the FireWise communities should be enhanced by organizing a workshop with FireWise community representatives, FPAs, local governments, and relevant NGOs, introducing grant options, delivering proposal preparation skills, and describing support services available. The GEF Small Grants Programme (SGP) should be invited to participate.	PMU, Kishugu NPC, UNDP
5.	The gap of not facilitating integration of wildland fire risk criteria into municipal disaster management plans and integrated development plans should be addressed prior to project closure. One option is to organize a workshop bringing together disaster management planners and land use planners from municipalities in the Western Cape and Eastern Cape, with the project FPA stakeholders, scientists, and consultants.	PMU
6.	The envisaged "incentives toolbox" is also a gap that should be addressed. Developing incentives that encourage proactive behavior by landowners is a sensible approach to integrated fire management, and the incentives might have opened up opportunities for FPAs, possibly offering useful additions to the suite of sustainable financing options for the fynbos biome FPAs.	
7.	The project has initiated formulation of a sustainability plan, retaining the services of an experienced consultant, who has held consultations with project stakeholders, collected suggestions, and will be formulating a series of recommendations. The TE evaluator supports this process and recommends that roles and responsibilities be clearly articulated in the sustainability plan, costs for the suggested actions estimated, and possible funding sources identified.	PMU
Proposals for future directions underlining main objectives		
8.	Fuel load management, particularly with respect to invasive alien vegetation, should be further advocated, consistent with National Climate Change Response White Paper published in 2014, which outlines the consolidation and expansion of the Expanded Public Works Programme and its sector components such as the Non-State Sector's Community Works Programme and the suite of Environment and Culture Sector programmes including Working for Water, Working on Fire, and Working for Energy as these have proven effective in building climate resilience and relieving poverty.	DEA, Department of Energy
9.	The likelihood of securing additional funding for integrated fire management would likely be enhanced if a multi-focal approach is taken. For example, linking IFM with sustainable land management, climate change adaptation, and food security might be a feasible nexus to pursue.	DEA
10.	Leveraging off the unique biodiversity values among the fynbos biome, project results could be built upon by developing and demonstrating a payment for ecosystem services (PES) scheme that incentivizes landowners to implement sustainable adaptation measures.	DEA

Good Practices

Practical training by qualified service providers

Capacity building realized through the trainings delivered on the project was one of the key achievements. Utilizing tried and tested training modules delivered by qualified service providers is an example of good practice.

Demonstrable benefits having extension officers supporting FPAs

The project has produced verifiable evidence of the benefits of having salaried extension officers supporting the operations of FPAs. Funding the salaries of the extension officers is a good practice of demonstrating the realized benefits.

Efficiently utilized and strengthened local capacity

The project capitalized on the pool of highly qualified service providers in South Africa, and contributed to strengthening capacities of the scientific and professional communities by implementing innovative integrated fire management approaches.

Frequent and constructive project steering committee meetings

The project steering committee managed to convene 13 times between June 2012 and October 2016, an impressive number compared to other projects, where annual meetings are sometimes difficult to manage. There was a strong continuity among the steering committee, and the meetings provided constructive guidance to the management team.

The envisaged insurance endowment trust fund is an innovative sustainability structure.

Establishing an insurance endowment trust fund is an innovative approach with respect to project sustainability. Building such a trust fund into the project design provides an increased level of assurance that adaptation benefits will continue to be generated after the project's implementation timeframe is completed.

Utilizing existing inter-governmental structures for advocating project sustainability

Through chairperson of the project steering committee, replication of the approach implemented by the project to strengthen FPAs will be advocated through the existing inter-governmental platform of MinMEC meetings – Ministers and Members of Executive Councils meetings. Utilizing existing inter-governmental structures demonstrates a high level of country ownership.

Lessons Learned

Allotted timeframe for implementation was insufficient

The 3-year implementation timeframe indicated in the project document was insufficient. Generating climate change adaptation benefits, in most cases, requires time for stakeholder consultation, delivery of training including on-the-job interventions, and to mainstream the adaptive framework into general practice. There is also an inevitable period of time needed to assemble a project team, prepare work plans, and procure the services required to implement the project strategy, and similarly time need near project closure for consolidating results, advocating for requisite sustainability structures to be supported by key enabling stakeholders, and evaluating performance.

Performance indicators and targets should be achievable within the timeframe of the project

The project was primarily focused on strengthening adaptive capacities. It takes time before such capacity building efforts translate into measurable change as a result of improved management practices. A time horizon of 3 years, even 5 years, is insufficient for achieving changes in the extent and number of damaging and non-damaging fires.

The FireWise committee approach increases the likelihood of sustaining an engaged community

Project stakeholders unanimously agreed that paying a modest stipend to the FireWise committee members ensures that the community remains engaged. Voluntary based involvement has generated mixed results, particularly for low income communities.

Involvement of climate change adaptation planners should be more integrated into the project strategy for a project focusing on strengthening adaptive capacities

It would have been advisable to integrate participation of national climate change adaptation planners into the project strategy.

Cofinancing reporting on GEF-financed projects will likely remain incomplete unless linked to performance based disbursement of funds

In the opinion of the TE evaluator, the GEF agency, in this project UNDP, should set the tone early with respect to requirements on reporting cofinancing contributions. There should be a system developed for tracking cofinancing from partners that confirmed funding at project approval and also allows for capturing contributions that materialize after start of implementation. The system should be reviewed and monitored by the M&E coordinator of the respective GEF agency. As part of quarterly progress reporting, cofinancing contributions for the subject period should be registered and disbursement of funds for the subsequent quarter made contingent upon the completeness of the reporting. Quarterly reporting of cofinancing would also encourage project teams to more closely assess opportunities for synergies with cofinancing partners, rather than just collecting input from partners at the midterm review and terminal evaluation stages.

Abbreviation and Acronyms

Exchange Rate on 31 October 2016: South African Rand (ZAR) : United States Dollar (USD) = 13.7383

AFIS	Advanced Fire Information System
APR	Annual Project/Progress Report
AWP	Annual Work Plan
AWS	Automated Weather Station
BGIS	Biodiversity Geographic Information System
CAPE	Cape Action for People and the Environment
CBD	Convention on Biological Diversity
CDR	Combined Delivery Report (UNDP)
CO	(UNDP) Country Office
CSIR	Council for Scientific and Industrial Research
DA (WC)	Western Cape Department of Agriculture
DAFF	Department of Agriculture, Fisheries and Forestry
DEA	Department of Environmental Affairs
DEADP (WC)	Western Cape Department of Environmental Affairs and Development Planning
DEDEA (EC)	Eastern Cape Department of Economic Development and Environmental Affairs
DLGH (WC)	Western Cape Department of Local Government and Housing
DLG&TA (EC)	Eastern Cape Department of Local Government and Traditional Affairs
DMA	Disaster Management Act
DWA	Department of Water Affairs
ECPTA	Eastern Cape Parks and Tourism Agency
EPWP	Expanded Public Works Programme
FBSA	Fire Brigade Services Act
FDCC	Fire Dispatch and Coordination Centre
FDI	Fire Danger Index
FDRS	Fire Danger Rating System
FPA	Fire Protection Association
FPO	Fire Protection Officer
GCCC	Government Climate Change Committee
GEF	Global Environment Facility
IAS	Invasive Alien Species
ICS	Incident Command System
IDP	Integrated Development Plan
IFM	Integrated Fire Management
INC	Initial National Communication
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MOU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MYFF	Multi Year Funding Framework
NCCC	National Climate Change Committee
NCCRP	National Climate Change Response Policy
NDMC	National Disaster Management Centre
NEWS	National Early Warning System
NFDRS	National Fire Danger Rating System
NIM	National Implementation Modality
NGO	Non-Governmental organization

NPC	Not for Profit Company
NVFF Act	National Veld and Forest Fire Act
NVIS	National Veldfire Information System
PA	Project Assistant
PC	Project Coordinator
PD	Project Director
PIR	Project Implementation Report
PPG	Project Preparation Grant (GEF)
PSC	Project Steering Committee
RTA	Regional Technical Advisor (UNDP-GEF)
SADC	Southern African Development Community
SANBI	South African National Biodiversity Institute
SANDF	South African National Defense Force
SANParks	South African National Parks
SARVM	South Africa Risk and Vulnerability Mapping
SBAA	Standard Basic Assistance Agreement
SCCF	Special Climate Change Fund
SCFPA	Southern Cape Fire Protection Association
SDF	Spatial Development Framework
SDP	Spatial Development Plan
SNC	Second National Communication
SO	Strategic Objective
SP	Strategic Programme
UFPA	Umbrella Fire Protection Association
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WB	World Bank
WCCSAP	Western Cape Climate Change Strategy and Action Plan
WC UFPA	Western Cape Umbrella Fire Protection Association
WDA	Wildland Development Area
WfW	Working for Water
WoF	Working on Fire
WUI	Wildland Urban Interface

1. INTRODUCTION

1.1. Purpose of Evaluation

The objectives of the evaluation were (1) to assess the achievement of project results, with the following purposes:

- ✓ To promote accountability and transparency, and to assess and disclose the extent of project accomplishments;
- ✓ To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefit;

and (2) to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming:

- ✓ To synthesize lessons that can help to improve the selection, design and implementation of future GEF financed UNDP activities;
- ✓ To provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues;
- ✓ To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF), and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

1.2. Evaluation Scope and Methodology

The terminal evaluation (TE) was an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, and also review of available documents and findings made during field visits.

The overall approach and methodology of the evaluation followed the guidelines outlined in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects[1].

The evaluation was carried out by one international consultant, and included the following activities:

- A TE mission was carried out from 03-21 October 2016; the itinerary is compiled in **Annex 1**;
- As a data collection and analysis tool, an evaluation matrix was adapted from the preliminary set of questions included in the TOR (see **Annex 2**). Evidence gathered during the fact-finding phase of the TE was cross-checked between as many sources as practicable, in order to validate the findings;
- Key project stakeholders were interviewed for their feedback on the project. A list of interviewed persons is included in **Annex 3;**
- On 14 October, the evaluator participated in the 13th project board meeting held in Cape Town;
- The evaluator completed a desk review of relevant sources of information, such as the project document, project progress reports, financial reports, midterm review, and key project deliverables. A complete list of information reviewed is compiled in **Annex 4**;

[1] Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP.

- During the TE mission, visits were made to landowner offices, fire protection association (FPA) bases, offices of participating service providers, and one of the four FireWise communities, Goedverwacht, that the project was engaged with. A summary of the field visits is presented in **Annex 5**;
- The project logical results framework was also used as an evaluation tool, in assessing attainment of the project objective and outcomes (see **Annex 6**);
- Reported cofinancing that has been realized during the lifespan of the project, from 2012 through 2016, is summarized in the cofinancing table presented in **Annex 7**;

The project was approved under the GEF-4 funding cycle, at a time when GEF tracking tools had not yet been developed for Special Climate Change Fund (SCCF) projects.

Evidence gathered during the fact-finding phase of the evaluation was cross-checked between as many sources as practicable, in order to validate the findings.

The rationale for implementing the utilized evaluation methodology is described as follows:

- Component 1: One of the main aims of this component was strengthening of FPAs within the Fynbos biome, and the methodology used to evaluate progress made included interviewing representatives of the FPAs, representative landowners who are members of some of the FPAs, and officials from relevant government agencies. Project deliverables were also reviewed to support the evaluation of this component; documents included Training records consultancy reports, knowledge products, etc.
- Component 2: This component focused on improving early warning systems and the scientific knowledge base associated with integrated fire management. The methodology used to assess progress under this component included visiting sites where early warning systems and improved fire risk management systems were installed and in use, interview people operating these systems, and reviewing relevant project deliverables to gauge the level in which the enhanced information systems are being managed, what is the likelihood that the systems will continue to be maintained and funded after project closure, and evidence of scaling up of these systems within the Fynbos biome and in other parts of the country.
- Component 3: This component was centered on reducing vulnerabilities of communities faced with increasing risks associated with wildland fires. These include residential communities, both in urban and rural areas, and landowners who depend on terrestrial resources that are managed within fire prone areas. The methodology used to assess progress made under this component included visiting representative landowners and communities, interviewing land managers and residents, stakeholders involved in implementing the FireWise program, service providers who are developing the home insurance scheme for low income households, and representatives from the insurance sector. The evaluation was also supported with desk review of project deliverables, progress reports, and information provided by the insurance sector, including publicly available data and specific figures provided by insurance sector representatives.

1.3. Structure of the Evaluation Report

The evaluation report starts out with a description of the project, indicating the duration, main stakeholders, and the immediate and development objectives. The findings of the evaluation are broken down into the following sections in the report:

- Project Formulation
- Project Implementation
- Project Results

The discussion under **project formulation** focuses on an evaluation of how clear and practicable were the project's objectives and components, and whether project outcomes were designed according to SMART criteria (see **Exhibit 4**).

Exhibit 4: SMART Criteria

S	**Specific**: Outcomes must use change language, describing a specific future condition
M	**Measurable**: Results, whether quantitative or qualitative, must have measurable indicators, making it possible to assess whether they were achieved or not
A	**Achievable**: Results must be within the capacity of the partners to achieve
R	**Relevant**: Results must make a contribution to selected priorities of the national development framework
T	**Time- bound**: Results are never open-ended. There should be an expected date of accomplishment

Source: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP

Project formulation also covers whether or not capacities of the implementation partners were sufficiently considered when designing the project, and if partnership arrangements were identified and negotiated prior to project approval. An assessment of how assumptions and risks were taken into account in the development phase is also included.

The report section on **project implementation** first looks at how the logical results framework was used as an M&E tool during the course of the project. Also, the effectiveness of partnerships and the degree of involvement of stakeholders are evaluated. Project finance is assessed, by looking at the degree of cofinancing that was materialized in comparison to what was committed, and also whether or not additional or leveraged financing was secured during the implementation phase. The cost-effectiveness of the project is evaluated by analyzing how the planned activities met or exceeded the expected outcomes over the designed timeframe, and whether an appropriate level of due diligence was maintained in managing project funds. Cost-effectiveness is not only based on how judiciously the funds were managed, but also examines compliance with respect to the incremental cost concept, i.e., the GEF funds were allocated for activities not supported under baseline conditions, with the goal of generating global environmental benefits.

The quality of execution by both the implementing agency and the lead implementing partner (executing agency) is also evaluated and rated in the project implementation section of the report. This evaluation considers whether there was sufficient focus on results, looks at the level of support provided, quality of risk management, and the candor and realism represented in the annual reports.

The project implementation section also contains an evaluation and rating of the project M&E system. The appropriateness of the M&E plan is assessed, as well as a review of how the plan was implemented, e.g., compliance with progress and financial reporting requirements, how were adaptive measures taken in line with M&E findings, and management response to the recommendations from the midterm review.

In GEF terms, **project results** include direct project outputs, short- to medium-term outcomes, and longer term impact, including global environmental benefits, replication efforts, and local effects. The main focus is at the outcome level, as most UNDP supported GEF financed projects are expected to achieve anticipated outcomes by project closing, and recognizing that global environmental benefit impacts are difficult to discern and measuring outputs is insufficient to capture project effectiveness.

Project outcomes are evaluated and rated according to relevance, effectiveness, and efficiency:

Relevance: The extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time. Also, relevance considers the extent to which the project is in line with GEF Operational Programs or the strategic priorities under which the project was funded.

Effectiveness: The extent to which an objective has been achieved or how likely it is to be achieved.

Efficiency: The extent to which results have been delivered with the least costly resources possible; also called cost effectiveness or efficacy.

In addition to assessing outcomes, the report includes an evaluation of country ownership, mainstreaming**, sustainability** (which is also rated), catalytic role, mainstreaming, and impact.

With respect to **mainstreaming**, the evaluation assesses the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

In terms of **impact**, the evaluator assessed whether the project has demonstrated: (a) verifiable improvements in ecological status, (b) verifiable reductions in stress on ecological systems, and/or (c) demonstrated progress towards these impact achievements.

Finally, the evaluation presents **recommendations** for reinforcing and following up on initial project benefits. The report concludes with a discussion of **lessons learned** and **good practices** which should be considered for other GEF and UNDP interventions.

1.4. Ethics

The evaluation was conducted in accordance with the UNEG Ethical Guidelines for Evaluators, and the evaluator has signed the Evaluation Consultant Code of Conduct Agreement form (**Annex 10**). In particular, the evaluator ensures the anonymity and confidentiality of individuals who were interviewed and surveyed. In respect to the UN Declaration of Human Rights, results are presented in a manner that clearly respects stakeholders' dignity and self-worth.

1.5. Audit Trail

As a means to document an "audit trail" of the evaluation process, review comments to the draft report are compiled in **Annex 8**, along with responses from the evaluator. Relevant modifications to the report will be incorporated into the final version of the TE report.

1.6. Limitations

The evaluation was carried out in September-November 2016; including preparatory activities, field mission, desk review, and completion of the evaluation report, according to the guidelines outlined in the Terms of Reference (**Annex 9**).

There were no limitations with respect to language. The project deliverables were prepared primarily in English; some of the documentation and knowledge products were also prepared in

Afrikaans, but there were corresponding English versions as well. Interviews were also held primarily in English; some interpretation assistance was provided in the village of Goedverwacht when the evaluator interviewed the members of the FireWise community committee in a focus group type arrangement.

Representatives from 5 of the 6 FPAs engaged by the project were interviewed during the TE mission. An interview could not be arranged with the Winelands FPA during the mission. The majority of service providers who supported the project activities were also interviewed during the mission. A site visit was made to 1 of the 4 FireWise communities; the evaluator considers this community representative of the other ones. And, one of the automatic weather stations (AWSs) was observed in the field. The AWS units are largely the same, procured from the same consortium of service providers, and, thus, the one viewed is considered representative.

1.7. Evaluation Ratings

The findings of the evaluation are compared against the targets set forth in the logical results framework, and also analyzed in light of particular developments over the course of the project. The effectiveness and efficiency of project outcomes are rated according to the 6-point GEF scale, ranging from Highly Satisfactory (no shortcomings) to Highly Unsatisfactory (severe shortcomings). Monitoring & evaluation and execution of the implementing and executing agencies were also rated according to this scale. Relevance is evaluated to be either relevant or not relevant. Sustainability is rated according to a 4-point scale, ranging from Likely (negligible risks to the likelihood of continued benefits after the project ends) to Unlikely (severe risks that project outcomes will not be sustained). Impact was rated according to a 3-point scale, including significant, minimal, and negligible. The rating scales are compiled below in **Exhibit 5**.

Exhibit 5: Rating Scales

Ratings for Effectiveness, Efficiency, M&E, IA & EA Execution:	**Sustainability Ratings:**	**Relevance Ratings:**
6. Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency	**4: Likely (L)** Negligible risks to sustainability	**2. Relevant (R)**
5: Satisfactory (S): There were only minor shortcomings	**3. Moderately Likely (ML):** Moderate risks to sustainability	**1. Not relevant (NR)**
4. Moderately Satisfactory (MS): There were moderate shortcomings	**2. Moderately Unlikely (MU):** Significant risks to	**Impact Ratings:**
3. Moderately Unsatisfactory (MU): The project had significant shortcomings	**1. Unlikely (U):** Severe risks to sustainability	**3. Significant (S)**
2. Unsatisfactory (U): There were major shortcomings in the achievement of project objectives in terms of relevance, effectiveness, or efficiency		**2. Minimal (M)**
1. Highly Unsatisfactory (HU): The project had severe shortcomings		**1. Negligible (N)**
Additional ratings where relevant: **Not Applicable (N/A)** **Unable to Assess (U/A)**		
Source: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP		

2. PROJECT DESCRIPTION

2.1. Project Start and Duration

Key project dates are listed below:

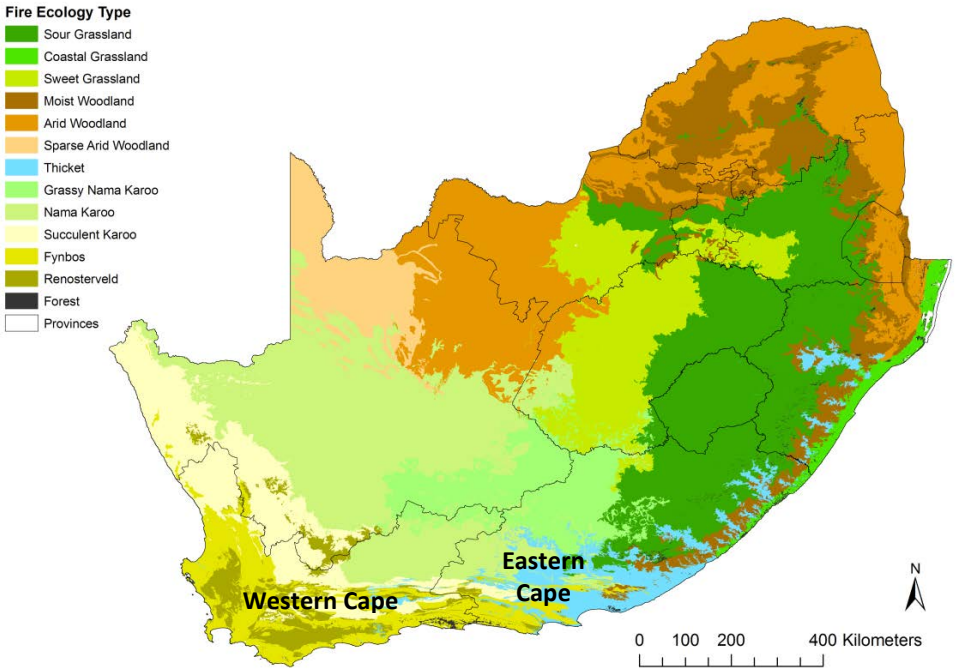
Preparation Grant Approved:	28 May 2009
Project approved for implementation by GEF Secretariat:	02 November 2011
Project start (project document signed by Government of South Africa):	13 April 2012
Project inception workshop:	June 2012
Midterm review:	March 2014
Project completion (planned):	12 April 2015
Project completion (expected):	31 December 2016
Terminal evaluation	October-November 2016

The project was conceptualized in 2007, shortly after the formation of the Special Climate Change Fund (SCCF) in that year. The concept went through a number of iterations until it was approved by the GEF Secretariat in May 2009 and funds provided for the project preparation grant (PPG) phase. The project document was approved by the GEF Secretariat in November 2011, and the document was signed by the Government of South Africa on 13 April 2012, considered the official start date. The project team was assembled shortly afterwards and the inception workshop held in June 2012. The midterm review as made in March 2014, about 2 years after start of project implementation.

In early 2015, substantial surplus funds were available, largely because of the steep devaluation of the South African rand (ZAR) against the United States dollar (USD). The project board agreed to extend the project by an additional 9 months from 13 April 2015 until 13 January 2016, with the condition of adding complementary activities, including enhancing advocacy for policy reform and also expediting the household insurance scheme envisaged for FireWise communities. There were still funds available at the end of 2015, progress on the FireWise insurance scheme was behind schedule, and the terminal evaluation needed to be procured. The project steering committee recommended extending the project a second time until the end 2016, to allow time for the terminal evaluation, development of the micro-insurance scheme, and formulation of a sustainability strategy prior to closure.

2.2. Problems that the Project Sought to Address

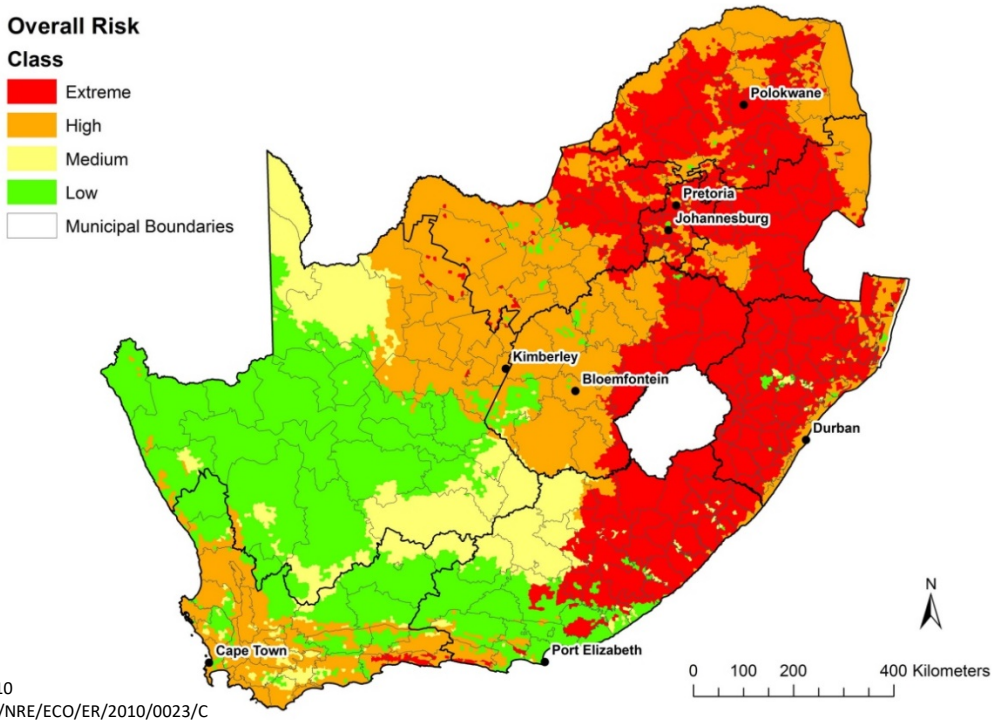
Three of South Africa's seven biomes are not only fire-prone, but also fire-dependent, in the sense that fire exclusion leads to structural transformation and major biodiversity change. One of these biomes - the ***Fynbos biome***, covering an area of 56,193 km^2 (approx. 4.4% of the surface area of South Africa) and traversing the Western Cape Province and western parts of the Eastern Cape Province, as shown in the map below in **Exhibit 6**.



Source: CSIR, 2010
Report No.: CSIR/NRE/ECO/ER/2010/0023/C

Exhibit 6: Distribution of 13 fire-ecology types in South Africa[2]

The Fynbos biome is identified in South Africa's Initial National Communication (INC, 2003) as the most vulnerable region in the country with respect to disaster risks from wildland fire due to patterns of urbanization, agriculture, and potential impacts upon water catchment areas. These risks were verified in a 2010 nationwide veldfire risk assessment, with results of overall risks summarized in the map below in **Exhibit 7**.



Source: CSIR, 2010
Report No.: CSIR/NRE/ECO/ER/2010/0023/C

Exhibit 7: Overall assessment of veldfire risk levels in South Africa[3]

[2] Source: CSIR, 2010. National Veldfire Risk Assessment: Analysis of exposure of social, economic and environmental assets to veldfire hazards in South Africa. CSIR Report No.: CSIR/NRE/ECO/ER/2010/0023/C

[3] Ibid.

While wildland fires are a natural feature of fire-driven ecosystems in the country, changes in climate are having adverse effects through altering the future occurrence of wildland fires, and the area burned, in various ways that involve weather conditions conducive to combustion, fuels to burn and ignition agents. The wildland fire situation had worsened significantly across South Africa during the years before the project was developed. There have been major and catastrophic fires in many areas. Land use patterns were also changing rapidly under the influence of diverse factors, including the expansion of towns and cities, causing an expanding Wildland Urban Interface (WUI), and exposing more assets to the hazard of wildland fires.

South Africa has a number of highly competent fire management resources and systems, but a shift towards more integrated fire management (IFM) is required to effectively address the risks associated with climate change. Certain barriers hinder adoption of such a strategic approach.

Barrier 1: Low institutional and individual capacities in FPAs to effectively coordinate the implementation of IFM

While FPAs are considered an appropriate institutional arrangement for coordinating the implementation of IFM by the responsible institutions and landowners, getting these FPAs functional and fully resourced was a major challenge across the Fynbos biome.

Barrier 2: Insufficient information and tools to guide adaptive management responses to the increased incidence of wildland fires

South Africa's information systems for the reporting of wildland fires - in particular, the National Veldfire Information System (NVIS) - was not yet operating, despite it being prescribed in the National Veld and Forest Fire Act (NVFFA) of 1998. Generally, wildland fire statistics were incomplete and unreliable, with the result that it was still not known what the total value of damage to property or lives lost.

Barrier 3: Inadequate risk management responses to climate-induced vulnerability to wildland fires

A rigorous, reliable and harmonized Fire Danger Rating System (FDRS) had not been formally adopted, since proclamation of such a system in the NVFF Act of 1998.

Many FPAs were using the SAWS fire danger warning system and the WoF FDIs for the region as a guide, based on data generated from local weather stations and local knowledge. However, there were a number of weaknesses to achieving this, including *inter alia*: (i) the number and distribution of local weather stations in FPAs was insufficient to prepare reliable local FDIs; (ii) the FPAs often did not have the technology (i.e. software, computers, routers, etc.) available to collate the local weather station data, and develop these FDIs; and (iii) the FPAs often did not have the infrastructure, staff or technology to distribute these FDIs to members (e.g. via cellphone SMS distribution). Further, a number of FPAs lack access to the use of Fire Dispatch and Coordination Centers (FDCCs) to facilitate the daily distribution of FDIs to FPA members.

While South Africa had recently completed a *National Veldfire Risk Assessment* (March, 2010), it made no provision for the projected impacts of climate-change under different scenarios. Similarly, within the Fynbos biome there are no regional (provincial) and local (municipal or FPA) wildland fire risk assessments that integrate climate change effects into the: (i) analysis of potential hazards and/or threats; (ii) assessment of the conditions of vulnerability that increase the chance of loss for particular elements-at-risk (that is, environmental, human, infrastructural, agricultural, economic and other elements that are exposed to a hazard, and are at risk of loss);

(iii) determination of the level of risk for different situations and conditions; and (iv) defining priorities for action.

And, there was no consistent method for mainstreaming climate-induced wildland fire risk into provincial and municipal development planning. Most municipal Integrated Development Plans (IDP) and Disaster Management Plans did not adequately provide for an IFM approach in the proactive management of the risk of climate-induced wildland fires in the Wildland Urban Interface (WUI).

Barrier 4: Lack of incentives for private landowners to participate in FPAs, and adopt more proactive fire management measures

Many private landowners in the Fynbos biome were not members of FPAs (only public institutions are required by the NVFFA to be members of FPA), and had limited knowledge of their legal responsibilities in terms of the NVFFA. For example, landowners often did not take account of the daily fire danger status[4] - occasionally even ignoring burning prohibition notices issued by DAFF for certain areas on 'red' or 'orange' days – resulting in outbreaks of wildland fires under extreme weather conditions. While some FPAs (e.g., Southern Cape, Cederberg) were attempting to incentivize landowners to become members of FPAs by pooling fire management resources, rationalizing the network of fire breaks and providing access to fire-fighting services this initiative was still in its infancy stages, and the suite of available incentives to sustain involvement of landowners in FPAs are still limited.

While the NVFF Act stipulates that all landowners on whose land a wildland fire may occur or spread must make firebreaks, an FPA has the right to decide whether firebreaks are appropriate and feasible in their area. This constitutes an important incentive for landowners to become members of an FPA, as the establishment and maintenance of property boundary firebreaks is costly, onerous and potentially damaging (e.g., in cases of steep erodible slopes). However, the decision to exempt any landowner or group of owners from the duty of making firebreaks is subject to an application by an FPA to the Minister. At the time of project development, while applications had been submitted, no exemptions had been granted. The implication of this is that some insurance companies were refusing to pay landowner claims for wildland fire damages where they had not prepared fire breaks, despite being part of a registered FPA with a rationalized network of fire breaks.

Insurance companies in South Africa have a range of different wildland fire insurance approaches and policies, but most companies had yet to assess the future impacts of climate-change induced wildland fire hazards on the insurance industry, and introduce incentive measures to encourage landowners to more proactively adapt to the increased risk of wildland fires.

2.3. Immediate and Development Objectives of the Project

The project interventions were aimed generating adaptation benefits that increase the capacity of fire management institutions and agencies to address the anticipated impacts of climate change related to increased risk and unpredictable timing of wildland fires in the Fynbos biome. These benefits were also envisaged to strengthen the resilience of local communities that reside and depend upon the ecosystem goods and services available in the biome.

[4]The South African Weather Service (SAWS) currently issues a fire danger forecast on a daily basis.

Building on the baseline activities of the Government of South Africa and introducing additional activities that address specific climate change induced risks the project has the potential to form an important component of the national climate change adaptation strategy.

2.4. Baseline Indicators Established

Baseline indicators included the following:

- A total of 18 Fire Protection Associations (FPAs) had been registered in the Fynbos biome since the inception of the NVFF Act of 1998, but they were mostly managed by volunteers and were not fully effective in reducing the damage caused by wildland fires. Many of the registered FPAs had limited Integrated Fire Management (IFM) capabilities, and the tendency was mostly reactionary, responding to the outbreak of fires, with little focus on preventive measures.
- Fire management training was widely available, but courses tended to focus on various practical aspects of fire suppression. Important elements of IFM applicable to the Fynbos biome, such as fire ecology, fire behavior, assessing fire risk, the application of prescribed burning, and the likely impacts of climate change on fire management were not adequately addressed adequately.
- FPAs in the Fynbos biome received no direct Governmental funding, although they were receiving in-kind support. Their main source of funding was from membership fees, which were barely covering administrative running costs but were insufficient to employ full-time staff, train members, or buy specialized equipment.
- The small number of landowners who were members compared to the spatial extent of many of the FPAs added to their lack of financial sustainability.
- Fire data were scattered across several organizations and there is no single source of this information for FPAs. This makes it difficult for managers to anticipate fire behavior and identify high risk areas and establish appropriate levels of resources and preparedness.
- Weather data were collected by a variety of State and private organizations, using a range of weather instruments with different levels of adherence to international standards for weather stations. The stations are also almost all located in lowland and low-altitude sites. Data that have been subjected to a range of quality controls are stored in institution-specific databases, often not freely available for stakeholder use.
- Reliable high-speed internet service was unavailable in many parts of the Fynbos biome, making access to the Advanced Fire Information System (AFIS) - maintained by the Meraka Institute - difficult. AFIS field terminals had been field tested at a few selected sites across South Africa, but the lack of sufficient resources for full deployment meant that the system was not generally available to FPAs.
- While a number of dynamic fire behavior models had been developed internationally, South Africa had limited in-country capacity to do this type of modeling and no experience in applying such models. There was no in-country capacity to model fire behavior dynamically under different climate scenarios. There was a growing capacity to model climate at a spatial scale fine enough to drive fire behavior models, such as through fine scale wind modeling at the Climate Systems Analysis Group (CSAG) at the University of Cape Town and fine scale climate change scenario development at the CSAG at CSIR and the University of Pretoria. There was also in-country capacity to determine the role of rising atmospheric CO_2 on fuel

development via invasive and indigenous vegetation, but this issue had not yet been addressed with a view to modeling fuel development, especially for alien invasive species.

- The NVFF Act identified local municipalities as playing a key role in wildland fire management within their jurisdictions. One of the key responsibilities of metropolitan, district and local municipal level in the Fynbos biome is to develop municipal disaster management plans, which include the preparation of a wildfire risk management strategy to address the current risks associated with wildfires within those municipalities. At the time of project development, most municipalities had failed to play the role in fire risk management that is expected of them, and this has left communities living in the WUI in a very vulnerable position. The establishment of "Fire Wise" communities was a recent initiative of the Working for Water programme aimed at enabling vulnerable communities in the WUI to take the necessary precautions to prevent deaths and injuries and limit damage to assets in the event of a wildfire. It is however still in the early stages of development, with limited reach.
- FPA membership conferred two main types of incentives to landowners: *economic incentives*, especially via insurance considerations and rationalization of the burden of fire management with other land owners; and the provision of *technical and capacity-building support*. A major economic incentive of FPA membership was that a member is viewed in law as not being negligent in the case of a wildland fire on his land, and the onus falls to the claimant to prove negligence with regard to the starting of the fire, or with regard to the spreading of the fire to other farms (section 34 of the Veld and Forest Fire Act). Technical and capacity building support incentives are provided for in the requirement that FPA's assist their members to i) develop and apply a wildland fire management strategy; ii) co-ordinate strategies and actions with adjoining FPAs; iii) make rules for members; iv) organize the training of members with regard to the fighting of fires; and v) manage and prevent fires. The provision of this technical and capacity building support service was however still lacking in most FPAs across the Fynbos biome.
- Insurance-related incentives for FPA members differed between the two major insurers, with one offering reduced premiums to FPA members, but requiring strict maintenance of fire breaks around land-owner property, and the other relaxing the requirement for firebreaks, but offering no premium reduction. Maintaining fire breaks is however a major economic disincentive to land owners as this is expensive, and land allocation to fire breaks reduces potential income by up to 30%. An increasing number of individual claims are being repudiated by insurance companies in an inconsistent manner because of the different interpretations of the requirements of the NVFF Act, particularly as they relate to the requirement for fire break placement and maintenance.
- Poor community residents, particularly those who are not landowners, are exposed to wild fire risks, including those along the urban-rural interface, but had no affordable micro-insurance vehicle available to them.
- Knowledge of good practice in the Fynbos biome was dominated by reactive fire management practices (e.g. ground-based fire-fighting, aerial fire-fighting, incident command systems, etc.), while the description of more proactive fire management measures (e.g. risk management planning, maintenance of fire breaks, prescribed burning, invasive alien plant species management and early fire detection) were not sufficiently researched, documented and disseminated to fire management institutions and private landowners across the Fynbos biome.

2.5. Main Stakeholders

The main project stakeholders, as outlined in the project document, are listed below.

National Government Departments

- Department of Environmental Affairs (DEA)
  - South African National Biodiversity Institute (SANBI)
  - South African Weather Service (SAWS)
- Department of Agriculture, Forestry and Fisheries (DAFF)
- Department of Cooperative Governance (CoG)
  - National Disaster Management Centre (NDMC)

National Expanded Public Works Programmes

- Working on Fire (WoF)
- Working for Water (WfW)

Provincial Government Departments

- Western Cape Department of Local Government and Housing (DLGH)
- Western Cape Department of Environmental Affairs and Development Planning (DEADP)
- Western Cape Department of Agriculture, Forestry, and Fisheries
- Eastern Cape Department of Local Government and Traditional Affairs (DLG&TA)
- Department of Economic Development and Environmental Affairs (DEDEA)

Local Government

- Metropolitan, District, and Local Municipalities in the Eastern and Western Cape

Managers (public entities) of large tracts of State-owned land

- South African National Parks (SANParks)
- CapeNature
- Eastern Cape Parks and Tourism Agency (ECPTA)
- South African National Defence Force (SANDF)

Cooperative Governance Structures

- National Committee on Climate Change (NCCC)
- Government Committee on Climate Change
- Fire Protection Associations (FPAs)

Private Land Owners

- Individuals, organizations, companies, etc.
- MTO Forestry

Private Institutions

- Council for Scientific and Industrial Research (CSIR)
  - Meraka Institute
  - Natural Resources and the Environment (NRE) Cooperating Unit

2.6. Expected Results

The expected result of the project is development of adaptive capacity of (i) Fire Protection Associations (FPAs); (ii) individual members of these FPAs; and (iii) communities at risk within the wildland urban interface, to more effectively manage risks associated with the anticipated increase in the occurrence and unpredictable timing of climate-induced wildland fires in the Fynbos biome.

3. FINDINGS

3.1. Project Design / Formulation

3.1.1. Analysis of Project Design and Logical Results Framework

The project was one of the first funded under the Special Climate Change Fund (SCCF), aligned to Strategic Objective CCA-1, "Reduce vulnerability to the adverse impacts of climate change", specifically under Outcome 1.1, "Increased knowledge and understanding of climate variability and change-induced threats", and Outcome 1.2, "Strengthened adaptive capacity to reduce risks to climate-induced economic losses".

The design was innovative, linking climate change adaptation and integrated fire management, in fact, one of the few fire management initiatives within the GEF portfolio of projects. The involvement of the private sector, specifically the insurance industry, was also innovative, as was building in a sustainability structure of establishing an endowment trust fund to support a micro-insurance scheme for low-middle income households following project closure.

The objective of the project, "*Develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks*", was designed to be achieved through the following three components:

Outcome 1: Capacity built at local level to manage increased incidence and extent of fires;

Outcome 2: Decision-support and risk management systems for fire management improved;

Outcome 3: Innovative risk reduction interventions implemented.

The three components were mostly mutually supporting, starting with strengthening expanding FPAs across the landscape and rationalizing their configuration and governance arrangements, and equipping, resourcing, staffing, financing and training of FPAs and FPA members to implement IFM under Outcome 1. The strengthened FPAs as a result of these interventions were reinforced by activities under Outcome 2 which were aimed at improving the quality of weather data, fire danger forecasting, early fire detection information and fire spread models; and developing tools for assessing wildfire risks, thus facilitating the implementation of corrective actions to reduce environmental, social, and economic risks. Outcome 3 was designed to capitalize on the strengthened capacities achieved under Outcomes 1 and 2 in supporting the development and implementation of a suite of incentives aimed at encouraging behavioral change in landowners and at-risk communities.

Project Objective:

There are two indicators established at the project objective level.

Indicator	End-of-Project target	SMART analysis				
		S	M	A	R	T
Objective: Develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks.						
Obj.1: Increased number and extent (ha) of non-damaging wildfires (i.e. 'minor' and 'insignificant' fires, as described in section 2.5) per annum in the Fynbos biome	Non-damaging veldfires: Area (ha): >165,000 No.: >1700	Y	N	?	Y	Y
Obj.2: Decreased number and extent (ha) of damaging veld fires (i.e. damaging and catastrophic fires, as described in section 2.5) per annum in the Fynbos biome	Catastrophic fires: Area (ha): <52,500 No.: <300	Y	N	?	Y	Y
SMART: Specific, Measurable, Achievable, Relevant, Time-Bound Green: SMART criteria compliant; Yellow: questionably compliant with SMART criteria; Red: not compliant with SMART criteria						

The two objective level indicators, the extent and number of non-damaging and damaging wildfires, were firstly not measurable. The baselines proved essentially not possible to validate, and there were no monitoring systems. The other issue was achievability. Building adaptive capacity takes time, and achievement of measurable changes in the patterns of wildfires was unrealistic, particularly over a 3-year period, which was the approved project timeframe.

The four indicators under Outcome 1 were mostly compliant with SMART criteria.

Indicator	End-of-Project target	SMART analysis				
		S	M	A	R	T
Outcome 1: Capacity built at local level to manage increased incidence and extent of fires						
1.1.: Number of FPAs integrated into, and aligned with, the affected municipal structures (including the municipal land use planning, fire brigade and disaster management services).	>6	Y	Y	Y	Y	Y
1.2: Number of FPAs with the adaptive capacity to effectively manage the risks associated with climate-induced fires	>6	?	?	Y	Y	Y
1.3: Number of wildland fire management staff completing specialized training and/or skills development in adaptation-related fire management technologies	>30 (short courses) >4 (full-time courses)	Y	Y	Y	Y	Y
1.4: Number of FPAs with adequate sustainable financing sources to mitigate the increasing risk of wildfires as a consequence of climate change	>6	?	Y	?	Y	Y
SMART: Specific, Measurable, Achievable, Relevant, Time-Bound Green: SMART criteria compliant; Yellow: questionably compliant with SMART criteria; Red: not compliant with SMART criteria						

For Indicator No. 1.2, the term “adaptive capacity” is not sufficiently specific and rather difficult to measure. Similarly, for Indicator No. 1.4, the term “adequate sustainable financing sources” lacks specifics, and there is also an issue of achievability of this indicator. The project was not designed to support strengthening of FPA capacities, but realizing sustainable financing sources in a 3 year period is not realistic.

The six indicators under Outcome 2 were also largely compliant with SMART criteria.

Indicator	End-of-Project target	SMART analysis				
		S	M	A	R	T
Outcome 2: Decision-support and risk management systems for fire management improved						
2.1: Number of FPAs with functional, populated (i.e. data) and networked AFIS field terminals	6	Y	Y	Y	Y	Y
2.2: Coverage (ha) of area where fires are detected, profiled (for risk) and tracked by the FPA AFIS field terminals	>4 million ha	Y	Y	Y	Y	Y
2.3: Number of AWSs recording local weather conditions under a changing climate regime in the high altitude mountain areas of the Fynbos biome	>50	Y	Y	Y	Y	Y
2.4: Average percentage (across all FPAs) of FPA members receiving localised daily fire danger forecasts	>80%	Y	Y	Y	Y	Y
2.5: Extent (ha) of the Fynbos biome with a local landscape level wildfire risk rating that integrates climate change scenarios into the risk assessment	>3 million ha	Y	Y	N	Y	Y
2.6: Number of municipalities (local, district and metropolitan) with climate-based fire risk information for wildlands integrated into the municipal disaster management plans.	>6	Y	Y	Y	Y	Y
SMART: Specific, Measurable, Achievable, Relevant, Time-Bound Green: SMART criteria compliant; Yellow: questionably compliant with SMART criteria; Red: not compliant with SMART criteria						

For Indicator No. 2.5, the capacity among the scientific community to integrate wildfire risk ratings that integrate climate change scenarios was not fully in place at project entry, which renders the achievability of this indicator questionable.

Under Outcome 3, the phrasing of Indicator No. 3.3 was not sufficiently specific and, measuring progress in this context is also difficult to realize.

Indicator	End-of-Project target	SMART analysis				
		S	M	A	R	T
Outcome 3: Innovative risk reduction interventions implemented						
3.1: Percentage of landowners in the demonstration areas (Southern Cape FPA and Cedarberg FPA) that are paid up members of the FPA, and conform with the FPA rules and regulations	>60%	Y	Y	Y	Y	Y
3.3: Number of private landowners in FPAs instituting proactive risk management measures in response to insurance-based incentives	>100	?	?	Y	Y	Y
3.3: Number of households in the targeted WUI areas that have an improved resilience to outbreaks of climate-induced wildfires	>2500	?	?	Y	Y	Y
SMART: Specific, Measurable, Achievable, Relevant, Time-Bound Green: SMART criteria compliant; Yellow: questionably compliant with SMART criteria; Red: not compliant with SMART criteria						

According to the descriptions in the project document, the number of households that have an improved resilience to outbreaks of climate-induced wildfires, as defined in Indicator No. 3.3, is associated with the number of micro-insurance policies.

3.1.2. Assumptions and Risks

The assumptions outlined in the strategic results framework were indeed relevant, including the following:

- WoF and WfW continue to receive adequate funding to maintain or increase its current capacity in IFM and invasive alien plant control respectively;
- Fire-prone developments in the WUI do not significantly increase in number and extent;
- The number of days where the risks of fire (as measured by the Fire Danger Index) are dangerously high follow the predicted climate trends;
- FPAs continue to be endorsed by government as an appropriate institutional structure to promote a partnership approach in reducing the frequency and severity of wildland fires;
- DAFF develops the capacity to fulfil a regulatory and oversight function to FPAs;
- The NVIS is established and operational;
- FPAs adopt the AFIS as an 'industry standard';
- Relevant spatial and temporal data is available for undertaking fire risk assessments at both the landscape (FPA) and WUI scale;
- Municipal disaster management plans have a specific section focused on fire risk management;
- The development of fire insurance products for FPA members and 'communities at risk' is a viable investment for the insurance industry;
- FPA members and communities living in the WUI will respond positively to the suite of incentives developed by the project;

The following six project risks were outlined in the project document, with one assigned a risk rating of "high", two rated as "medium", and three as "low".

Risks identified at entry (from project document)		TE Comments
Description	**Risk Rating**	
Failure to contain the spread of flammable woody invasive alien plant species adds to	High	This remains a high risk, as managing fuel loads is a critically important concern of

Risks identified at entry (from project document)		TE Comments
Description	**Risk Rating**	
fuel loads, increases fire risks and restricts opportunities for prescribed burning.		FPAs and other entities involved in integrated fire management. The project made an attempt to facilitate improved collaboration between the Working on Fire and Working for Water expanded public works programmes, but there remain significant shortfalls on how management of invasive plants is integrated with fire management strategies.
Local, District and Metropolitan municipalities fail to adopt a more proactive approach to wildland fire risk mitigation and pre-fire season preparedness.	Moderate	This risk was effectively mitigated through better aligning FPAs with municipal administrative boundaries.
Private landowners do not register as members of FPAs and/or do not participate in the planning and implementation of preventative wildland fire measures in FPAs.	Moderate	This risk did not materialize, and, in fact, the numbers of new members among the FPAs in the Fynbos biome has steadily increased over the course of the project.
Failure to maintain the fire regime within its historical distributions for key variables, notably fire season and fire recurrence intervals, leads to the loss of sensitive key species in a global biodiversity hotspot.	Low	This is a long-term risk that remains a concern. Strengthening the capacities of FPAs, expanding membership, and facilitating more proactive management responses by land owners, the project contributed towards reducing this risk in the long run.
Given government's priority needs to address the unacceptably high levels of poverty and unemployment, the allocation of public resources for IFM in wildland areas is incrementally reduced.	Low	The Government of South Africa continued allocation of financial resources to the Working on Fire programme throughout the course of the project. As the WoF has a strong social dimension as a job creation initiative, there is continued political will to support the programme moving forward.
Communities living in the WUI fail to cooperate in the development and implementation of community-based wildfire protection planning.	Low	This risk was partly mitigated through the positive involvement of the FireWise communities supported by the project. Introducing affordable fire insurance products for such communities was developed rather late in the project.

Externality risks associated with the devaluation of the South African Rand were not included in this list of risks, but did indeed materialize and prompted the project to progressively respond to.

3.1.3. Lessons from other Relevant Projects

Lessons were drawn from some of the previous projects completed in South Africa, including the UNDP and World Bank GEF bioregional conservation programmes (Cape Action for People and the Environment (CAPE), Agulhas Biodiversity Initiative (ABI), National Grasslands Biodiversity Programme (NGBP) and the Conservation and Sustainable Use of Biodiversity on the South African Wild Coast). These projects and initiatives built up an extensive body of knowledge and

experience in the management of fire for conservation outcomes, including the status of the Fynbos biome in relation to fire frequency, fire interval and season of burn; the impacts of the fire regime of biophysical processes in different vegetation types; a database of fire history in the fynbos; and recommendations for integrated fire management policies and strategies.

3.1.4. Planned Stakeholder Participation

The project had a fairly good mix of stakeholder participation, starting with governmental agencies, mostly notably the DEA and the Western Cape DAFF. Through matching the domains of the FPAs with district administrative boundaries, the project was able to enhance involvement of district level fire services with the FPAs. Integrating fire risk information into municipal disaster management plans requires extensive consultations with disaster management authorities; involvement with these stakeholders was limited over the course of the project.

Some of the larger landowners within the FPAs in the Fynbos biome were also actively involved in the project. These include governmental bodies, such as the conservation agencies South African National Parks (SANParks), CapeNature, Eastern Cape Parks and Tourism Agency (ECPTA), and also the private sector, e.g., owners of large estates and commercial forests, and insurance companies. The participation of the private sector is particularly commendable, as these stakeholders provided a more business oriented approach to management, focusing on the quality of services rendered and governance issues.

The national expanded public works programme Working on Fire (WoF) was actively involved, in the four FireWise communities targeted by the project, and by enhancing the collaborative mechanisms between the FPAs and the programme. Working for Water (WfW) had less involvement, but there was a pilot coordination activity with WoF implemented after the midterm review, in order to address the need for these two programmes more effectively work together.

The four FireWise communities, having more than 5,000 households cumulatively, were direct beneficiaries of the project. And, micro-insurance scheme developed under Outcome 3 of the project will be rolled out first in these settlements, delivering additional resilience benefits to the inhabitants there.

The scientific community was involved largely through service contracts. Two separate operating units of the Council for Scientific and Industrial Research (CSIR) delivered technical expertise, with the Natural Resources and Environment (NRE) provided support with fire risk assessment and climate modeling, and the Meraka Institute as operator of Advanced Fire and Information System (AFIS) in South Africa. The University of Cape Town, in collaboration with other service providers, designed and helped with installation of the automatic weather stations (AWS).

Several activities were supported by the professional community, including consultancies on financial sustainability of FPAs and service providers delivering certified training courses.

There was limited involvement envisaged by the civil society; notwithstanding Kishugu NPC and the FPAs which are registered as not for profit companies.

Engagement of climate change enabling stakeholders was fairly limited, e.g., the project coordinator participated on some climate change planning committees, including for the Western Cape provincial government. Branding the project as a climate change initiative was a challenge from the beginning, considering the predominance of fire management stakeholders involved. The fact that the climate change division of DEA is based in Pretoria was another factor.

3.1.5. Replication Approach

One of the replicability strategies outlined in the project document was to leverage off the Working on Fire Programme, for disseminating information and lessons learned, to other regions in South Africa and to neighboring Southern Africa Development Community (SADC) countries. One example of this is the FireWise communities concept, which Kishugu continues to promote throughout South Africa, and to other countries, including the USA, where FireWise has mostly been introduced to affluent communities, compared to the lower income communities in South Africa, and also to Indonesia and Chile.

The replication approach also included a knowledge database, envisaged as a tool for compiling information and lessons learned – and integrated into the CAPE knowledge management system maintained by the South African National Biodiversity Institute (SANBI). This knowledge database was not realized as planned.

3.1.6. UNDP Comparative Advantage

The UNDP comparative advantage as implementing agency was based on their extensive experience working in South Africa, with in-country operations in Pretoria, their favorable standing among national stakeholders, including the Department of Environmental Affairs, and their institutional expertise in supporting climate change adaptation projects. UNDP has delivered extensive and continuous in-country support to the South African government and other partners in strengthening institutional and individual capacities with respect to climate change, disaster risk reduction, biodiversity conservation, energy, and the multitude of aspects centered on human development, including gender and social inclusion.

3.1.7. Linkages between Project and other Interventions

A number of linkages with other national and regional projects were outlined in the project document, including:

- The UNDP *Eastern Cape Capacity Development for Pro-Poor Growth and Accountability* (CDPGA) – the support to the Provincial Government of the Eastern Cape to improve service delivery at the provincial and municipal level will complement project outputs under Outcome 1 linked to rationalizing, resourcing and development of skills in the FPAs located in the western coastal region of the Eastern Cape province (i.e. the areas forming part of the Fynbos biome).
- The US Forest Service (International Programmes) *Building Capacity for Disaster Response in South Africa: Incident Command System and National Fire Danger Rating* - the project will integrate the NFDRS and the ICS training, developed under this initiative, into the UFPA and FPAs across the Fynbos biome.
- UNDP *National and Regional Processes on Climate Change and Adaptation* – the project will contribute toward the government of South Africa's knowledge base on climate change adaptation responses post-Copenhagen and pre-Mexico.
- The *National/Provincial/Municipal Platform on Disaster Risk Reduction in South Africa*, as part of the *UN Hyogo Framework for Action 2005-2015: Building Resilience of Nations and communities to Disasters* – the project will identify approaches to protecting 'communities at risk' in the WUI.

Except for linkages with the US Forest Service capacity building programme, there was limited evidence available demonstrating that links to these other projects materialized during project implementation.

3.1.8. Management Arrangements

The Department of Environmental Affairs (DEA) as the national UNFCCC focal point and the management agency for the Working on Fire (WoF) expanded public works programme was a logical choice as executing agency for the project. Considering that the Forest Fire Association (FFA), later renamed Kishugu NPC, had been implementing the WoF programme in the field on behalf of DEA, it also was a sensible decision to have the FFA be responsible for the day to day execution of the project. Unlike the DEA, however, Kishugu NPC had not executed a GEF-financed project before this one. The composition of the project steering committee, with the DEA as chair, was one way this lack of experience was mitigated.

3.2. Project Implementation

3.2.1. Adaptive Management

The original project objective and the three components, as well as the strategic results framework remained unchanged throughout the implementation timeframe.

There were a few departures from the original design, including not following up with introducing fire risk assessment criteria into municipal disaster management plans, and not developing insurance-based incentives to encourage landowners to more proactively implement IFM measures on their properties. Based on the progress reports reviewed as part of the TE, there was no evidence of reflecting these departures or addressing them in project steering committee meetings.

The majority of adaptive management was realized through expanding project deliverables and introducing additional activities as a result of the devaluation of the ZAR against the USD, which effectively resulted in more funds in ZAR terms. Some of these adaptive management measures included:

- Hiring of additional extension officers, as compared to indicted in the project design, including for the newly formed FPAs: Greater Overberg and Winelands;
- Development of a fynbos fuel handbook;
- Real time fire behavior modeling;
- Development of electronic fire incidence reporting tool;
- Development of the fynbos fire hazard early warning information system portal;
- Delivery of substantively more short course trainings than originally planned;
- Production of additional FPA toolkits;
- Preparation of base GIS data layers for the Eastern Cape Umbrella FPA;
- Development of a sustainability plan for the project.

The project design did not have a policy dimension, particularly with respect to climate change adaptation. The project board did address this issue, and at one stage in 2015 discussed retaining the services of an adaptation specialist to help facilitate policy advocacy. One of the justifications for agreeing to the first no-cost extension was to allow more time for policy advocacy. An

adaptation specialist was not hired but the project coordinator did participate in a number of workshops and committees, as summarized below.

Workshops:

- Long-Term Adaptation Scenarios Flagship Research Programme (LTAS) hosted by the Department of Environmental Affairs (DEA) in collaboration with the South African National Biodiversity Institute (SANBI), and (GIZ)
- Biome Response Measure Workshop, hosted by Biodiversity and Climate Change Directorate, Department of Environmental Affairs

Working groups:

- PSO7 Climate Adaptation Work Group, run by Climate Change and Biodiversity Directorate, Department of Environmental Affairs and Development Planning, Western Cape Government
- Western Cape Climate Change Response Work Group (PSG4)
- Western Cape Department of Agriculture, Green Portal Project
- South African Incident Command System Working Team

Committees:

- Nelson Mandela Metropolitan University Advisory Committee for the course: Higher Certificate in Veldfire Management
- Cape Action Plan for People and the Environment (C.A.P.E.) Implementation Committee (CIC)
- Scientific committee member of the 6th International Wildland Fire Conference

Inputs:

- Oxfam in South Africa map of work across South Africa that has a bearing on climate change adaptation
- Western Cape Government's Climate Change Unit Climate Adaptation Database (WCCAD)
- Western Cape UNFCCC and INDC Stakeholder Workshop

Presentations and/or attendance:

- African Climate and Development Initiative (ACDI) at University of Cape Town
- Southern African Adaptation Colloquium, Climate Change and BioAdaptation Division, South African National Biodiversity Institute
- Effective States & Inclusive Development : panel discussion, University of Cape Town - Graduate School of Development Policy and Practice and Department of Political studies
- 2nd National Global Change Conference, Knowledge Fields Development (KFD) Division of the National Research Foundation

A few of the key climate change policies and reviews issued over the past few years include:

- National Climate Change Response White Paper, 2014
- South Africa's Greenhouse Gas (GHG Mitigation Potential Analysis, 2014 (Appendix G: Agriculture, Forestry, and Other Land Use Sector)
- National progress report on the implementation of the Hyogo Framework for Action (2013-2015), print date 23 April 2015

3.2.2. Partnership Arrangements

Two of the fundamental partnership agreements on the project were the Standard Basic Assistance Agreement (SBAA, 1994) between the UNDP and the Government of South Africa that defines the requirements associated with national implementation modality (NIM) projects – in this case, with the Department of Environmental Affairs (DEA). The DEA, in turn, had a

Memorandum of Understanding (MOU) with the FFA Section 21 Company (Not-For-Profit) of the WoF Group to implement the project on its behalf.

Agreements were also concluded with the participating FPAs and the project, for hiring of extension officers, delivery of trainings, and procuring various systems and equipment.

The work activities completed under the various outputs were arranged through contracts with service providers or individual consultants, and mostly based upon competitive bidding.

A collaborative partnership was also formed between the insurance company Santam and Kishugu NPC for development of a micro-insurance scheme for FireWise community households. The endowment trust fund that is under development to help fund the operation of this insurance scheme is envisaged to be arranged through a deed of trust. At the time of the TE, the deed of trust and the board of trustees to oversee the process had not yet been finalized.

3.2.3. Feedback from M&E Activities used for Adaptive Management

The project steering committee (PSC) was to be the main decision-making mechanism used for adaptive management. The PSC has convened thirteen (13) times between June 2012 and October 2016; an impressive number of times.

Project reporting was satisfactory, including timely completion project implementation reviews (PIRs) and annual progress reports (APRs). These reports were sufficiently detailed, with input provided by key implementation stakeholders, including the regional technical advisor (RTA), UNDP Country Office programme analyst, and the project coordinator.

A few shortcomings partly diminished the M&E feedback systems. The departures to project design were not articulated in project progress reports and were not addressed during project steering committee meetings. Also, the 2014 and 2015 financial audits observed that the project steering committee was not sufficiently reviewing progress with respect to project schedule.

3.2.4. Project Finance

Financial Expenditures

According to expenditure records documented in the combined delivery reports provided by the UNDP CO, USD 3,439,187, or 97% of the USD 5,536,400 GEF implementation grant had been incurred through 14 October 2016, leaving a balance of USD 97,213 (see **Exhibit 8**).

Exhibit 8: Indicative Budget and Actual Expenditures							
	Total Expenditures						GEF Grant
Component	2012	2013	2014	2015	2016*	Total	Prodoc Budget
Component 1	$36,313	$229,702	$317,726	$393,873	$155,585	**$1,133,199**	$786,000
Component 2	$90,162	$183,442	$165,519	$496,973	$136,552	**$1,072,648**	$1,269,000
Component 3	$48,903	$198,244	$476,903	$207,006	$61,494	**$992,550**	$1,129,000
Project Management	$70,454	$100,303	$143,721	$6,551	$14,889	**$335,918**	$352,400
Unrealized Loss	$12,228	$11,633	$22,353	$163,439	$117,800	**$327,453**	$0
Unrealized Gain	$0	-$9,918	-$27,565	-$163,461	-$120,459	**-$321,402**	$0
Bank Charges	$0	-$30,887	$0	$0	$0	**-$30,887**	$0
Claims and Adjustmen	$0	$0	$0	$0	-$70,292	**-$70,292**	$0
Total	**$258,061**	**$682,518**	**$1,098,657**	**$1,104,382**	**$295,569**	**$3,439,187**	**$3,536,400**
Balance						**$97,213**	

Figures in USD; Source: Combined delivery reports (CDR), provided by UNDP
*2016 figures based on CDR reported 14 October 2016

Spending on Component 1 (USD 1,133,199) was 44% more than the indicative amount outlined in the project document (USD 786,000), and the amounts spent under Components 2 and 3 were 85% and 88%, respectively, of the indicative project document budgets.

Project management costs have totaled USD 335.918 through 14 October 2016, or 10% of the total amount spent through that date. Year to year, project management costs varied widely, from 27% in 2012, 15% in 2013, 13% in 2014, 1% in 2015, and 5% in 2016 through 14 October. The abnormally low level of project management costs accounted in 2015 seems to be due to not allocating costs of the project management unit staff under the other three components for substantive support rendered.

In looking at the distribution of project expenditures over time, a steady increasing trend is apparent from the first year in 2012 until the maximum spending realized in 2015, particularly under Outcome 2, as several consultancies on activities in this component were finalized at the end of that year (see **Exhibit 9**).

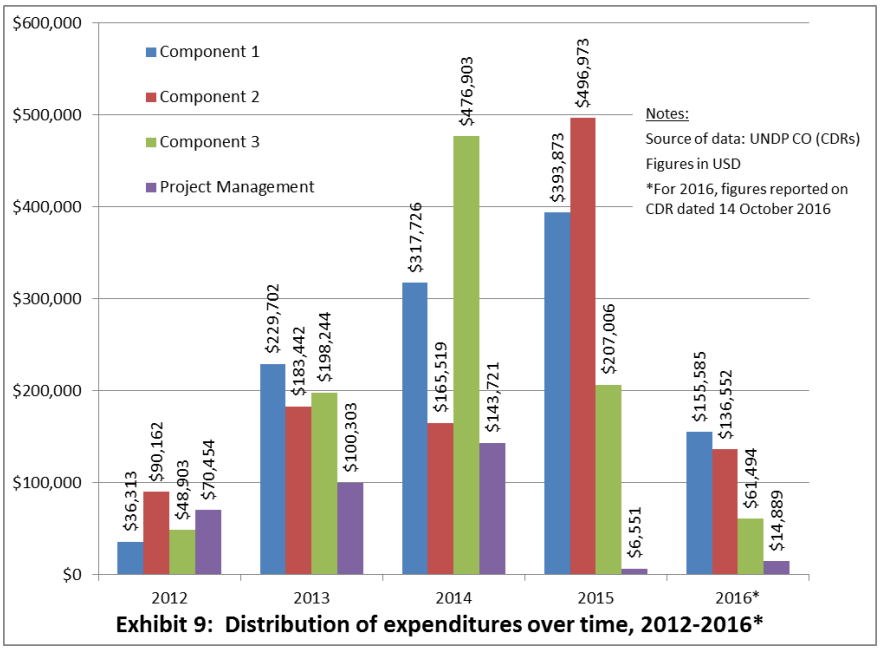


Exhibit 9: Distribution of expenditures over time, 2012-2016*

The peak in spending under Outcome 3 in 2014 is due to establishment of the micro-insurance endowment trust fund. According to the Kishugu NPC financial manager, an initial capital investment of ZAR 3,800,000 and an additional one of ZAR 300,000 were made in 2014 and deposited into a separate bank accounted opened that year. Based upon a bank statement dated 3 November 2016, the value of the fund was ZAR 4,161,828.38 (USD 308,828.04, at an exchange rate of ZAR:USD of 13.4762 obtained from the South African Reserve Bank, www.resbank.co.za). The financial manager further explained that one withdrawal against interest earned at a value of ZAR 7,958.34) by Moonstone, one of the advisors who has been assisting in the establishment of the insurance scheme.

One reason for skewed spending pattern illustrated in **Exhibit 9** was the impact of the devaluation of the ZAR against the USD over the course of the project, as shown below in **Exhibit 10**.

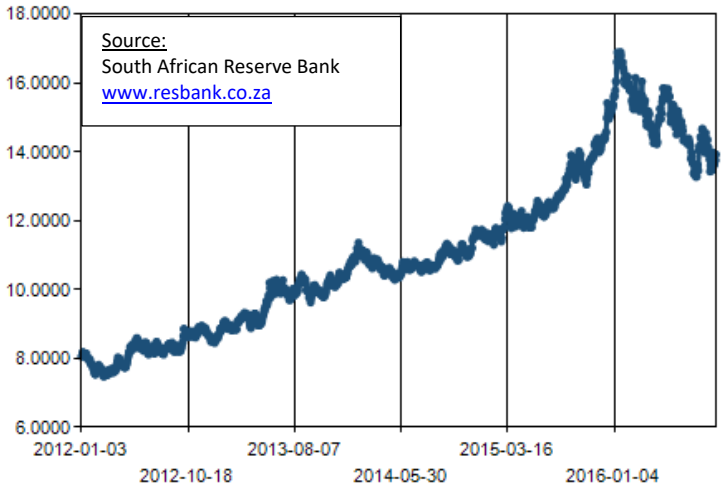


Exhibit 10: Weighted average ZAR:USD exchange rate, 2012-2016

As the value of the ZAR steadily fell against the USD, the project was progressively striving to adjust spending upwards, as local prices did not keep up with the devaluation and inflation.

The project followed public procurement procedures, issuing open tenders for contracts having a value greater than ZAR 500,000. The largest contracts concluded include the following:

Activity	Service Provider	Contract Value
Information Management, Fire Research and Modeling, and Fire Risk Assessment	CSIR NRE	ZAR 3,186,000
Automated Weather Stations	InterMet Africa	ZAR 3,183,708
Building the Capacity and Sustainability of FPAs	Earthworks	ZAR 3,000,000
AFIS terminals and support	CSIR Meraka	ZAR 2,080,000
Fire Insurance Scheme	Kishugu NPC	Information unavailable

According to the project asset register dated 25 January 2016, the gross value of a total of 111 individual assets was ZAR 597,739.13; the net value, excluding VAT was ZAR 348,611.32. The majority of the items on the asset register were items procured for the participating FPAs, mostly including communication equipment, two-way radios, aerials, and also some office furniture. There were other physical assets procured with project resources, but included under contracts with service providers. These include the 6 AFIS terminals and 33 automatic weather stations purchased and installed.

One financial audit was available for review, the one completed for calendar year 2015 by Deloitte & Touche and reported on 8 April 2016. One of the annexes (Annexure A) included in this 2015 audit report was a tabulated summary of the findings from the 2014 audit. There were no high severity issues or medium severity issues identified in the 2015 audit. The singular low severity issue was the observation that the project was behind schedule. A similar finding was noted in the 2014 audit, which was attributed by the project management unit as due to the prolonged process of Government procurement. With the same finding noted in the 2015, the auditor concluded that the cause was inadequate supervision by supervisors. The project management unit explained that the 9-month no cost extension awarded from 13 April 2015 to 13 January 2016 was agreed upon to capitalize on the surplus funds available as a result of the devaluation of the ZAR, and the additional extension until the end of 2016 was to accommodate the terminal evaluation and further progress on certain aspects to better ensure sustainability of project results.

The 2014 financial audit contained two medium severity observations. The first one was inadequate segregation of duties in the expenditure process. In following up this observation as part of the 2015 audit, the auditor observed that there is, in fact, adequate segregation, as payments of tested expenditures were authorized by the financial director and the project coordinator. The second medium severity finding was the observation that inspected project steering committee minutes did not include details on the review of the progress of the project. After following up this observation in the 2015 audit, the auditor reached the same conclusion as stated in the 2014 audit, i.e., that project progress is not reviewed by the project steering committee.

Cofinancing

Cofinancing contributions were pledged from the UNDP, DEA, Western Cape DAFF, the Southern Cape and Greater Cederberg FPAs, and the FFA Group. The cumulative total of cofinancing based on the available cofinancing letters was USD 30.9401 million; which is consistent with the cofinancing amounts recorded in the approved CEO Endorsement Request. The vast majority of the actual USD 29.612 million in cofinancing was contributed by the DEA, and represented the operational costs of the Working on Fire programme within the Fynbos biome region.

Based upon information available at the time of the TE, the total amount of cofinancing realized from the DEA has been USD 25.299 million (see **Annex 7**). Year on year, the budget allocations to the Working on Fire program in the Fynbos biome region steadily increased from ZAR 32,038,311 in fiscal year 2011/2012 to ZAR 51,300,000 in fiscal year 2016/2017; in USD[5] terms, the annual budgets decreased over this same time period, from USD 4,670,580 in 2011/2012 to USD 3,474,998 in 2016/2017. Even though the project ran for roughly 2 additional years, the amount of cofinancing in USD terms was lower than the confirmed amount.

UNDP cofinancing did not materialize as planned. The other cofinancing partners, including the Western Cape DAFF, Southern Cape and Greater Cederberg FPAs, and FFA Group (Kishugu Group), confirmed that their pledged cofinancing sums were realized in full.

Two other sources of cofinancing were realized after the start of project implementation. The Eastern Cape FPA indicated that they contributed USD 59,925 in in-kind cofinancing, to cover the costs of their manager to participate in project steering committee meetings. An additional ZAR 1,000,000 (USD 72,789; at a ZAR:USD exchange rate of 13.7383, 31 Oct 2016) was contributed by

[5] USD values calculated using ZAR:USD exchange rates at 30 June of the leading year in each fiscal year cycle, using rates available on the South African Reserve Bank website (www.resbank.co.za)

the CSIR, through a parliamentary grant their research institution received to carry out extensive regional climate change projection experiments. The results of these projections were utilized by the CSIR colleagues who carried out demonstration climate change scenario analyses under contract by the project.

3.2.5. Monitoring & Evaluation

Overall Quality of Monitoring & Evaluation is rated as: Satisfactory

Supporting Evidence:

+ The monitoring and evaluation plan was reasonably well prepared, using the standard template for GEF-financed projects.
+ PIR reports contained feedback from key stakeholders and provided detailed summaries of project performance.
+ Constructive adjustments were made following recommendations made by the midterm review.
+ The project board convened regularly, roughly quarterly, and provided constructive feedback to the project team.
− Adjustments were not made to unclear indicators and targets in the project results framework.
− Deviations from project design, specifically with respect to municipal disaster management plans and insurance-based incentives for landowners, were not reflected in monitoring and evaluation reporting.
− Monitoring key information was a bit lacking, e.g., monitoring of performance of FPAs might have reinforced some of the assumptions regarding benefits achieved in consolidating and strengthening capacities of FPAs.
− Allocated funding for monitoring and evaluation was a bit low, at USD 77,000 or 2.1% of the GEF implementation grant.

Monitoring and Evaluation design at entry is rated as: Satisfactory

The monitoring and evaluation plan included in the project document was prepared according to the standard GEF template. The allocated USD 77,000 M&E budget, roughly 2.1% of the total GEF grant, included costs for international consultants for the midterm review and terminal evaluation, at USD 28,000 and USD 36,000, respectively. USD 4,000 was allocated for preparing the inception report and USD 3,000 per year for financial audits. The other activities in the M&E plan were slated as being carried out by project management or UNDP staff, so there were no additional costs added.

The project results framework largely contains indicators with quantifiable targets, meant to be achieved and measurable within the timeframe of the project. There were some uncertainties with respect to baseline conditions and certain assumptions were made that these would be sorted out during project inception. For a 3-year project, there was limited time available to clarify baseline conditions and work out monitoring protocols; in the opinion of the TE evaluator, it would have been advisable to have these issues resolved during the preparation phase.

Implementation of Monitoring and Evaluation Plan is rated as: Satisfactory

Implementation of the monitoring and evaluation plan has been reasonably well implemented. The frequent convening of the project steering committee was a particular aspect of proactive monitoring and evaluation during the project implementation phase. One of the monitoring and evaluation shortcomings was the fact that the project results framework was not critically reviewed and adjusted at project inception. One of the footnotes included in the results framework in the project document, for the objective level indicators, was as follows:

"To track the effectiveness of the project intervention by various socioeconomic impacts associated with the fires, the project will develop an appropriate indicator during the inception phase through further stakeholder consultation (e.g., recovery costs from a fire incident, etc.)"

One of the midterm review recommendations was to make such a critical review, but by the time of the terminal evaluation, there remain unclear indicators and performance targets, including the two objective level indicators which aim for changes in the extent and number of non-damaging and damaging wildfires.

Progress reports were also well written and generally contained candor accounts of performance and challenges. Deviations from project design, specifically with respect to municipal disaster management plans and insurance-based incentives for landowners, were, however, not reflected in monitoring and evaluation reporting.

Monitoring key information was a bit lacking, e.g., monitoring of performance of FPAs might have reinforced some of the assumptions regarding benefits achieved in consolidating and strengthening capacities of FPAs. For instance, regularly tracking information on FPA membership numbers, breakdown of member type (e.g., estate, agricultural, conservation agency, commercial forestry, etc.), financial expenditures and income, etc., would have provided more robust information on how the engaged FPAs were transformed.

It would have also been advisable to have maintained a record of adaptation benefits generated and regularly communicating these results. This might have improved branding of the project as a climate change adaptation initiative.

The midterm review provided some constructive guidance to the project, and most of the recommendations from the review were implemented by the project, as summarized below.

Midterm review recommendation	Status at terminal evaluation
1. Following the consideration of the MTR by UNDP and the Board, a stakeholder workshop should be convened to review progress in the overall project, using the Log-frame as the structure of discussions and analysis. In particular, the definition and reporting on assumptions, targets and indicators should be agreed. Action – PMU.	The project took steps to address this recommendation; however, no adjustments were made to the results framework and there remain uncertainties regarding how to measure progress for some of the performance indicators.
2. In order to obtain baseline statistics on the primary indicator of project success (changes in the extent of damaging and non-damaging fires) the workshop might define a TOR for a consultant to synthesise best available data for a sub-sample of the Fynbos biome for the 2012/2013 and 2013/2014 fire seasons. Action – PMU.	The project attempted to obtain baseline statistics, but the baseline conditions for the objective level indicators could not be validated.
3. At Mid-Term, the tensions between some key FPA stakeholders and the consultant's recommended re-configuration and operation of FPAs remains acute, and the Board must take the initiative to direct a process of conflict resolution. This process should be led by a facilitator who was not previously involved	Steps were taken to mitigate this situation. Based on interviews during the terminal evaluation mission, this issue clearly still resonates with some of the FPA stakeholders.

Midterm review recommendation		Status at terminal evaluation
	in the fire management industry, but who is familiar with the legislative environment at the three tiers of government. The facilitator should engage with stakeholders from the key institutions with responsibilities for wildland fire management in the Fynbos biome, and in addition, should include senior officials at national level in natural resource management. It should formulate an end-of-project statement which defines the project's vision on the role and configuration of FPAs and the future institutional arrangements for the project activities, assets and legacy. While focusing on the needs of the Fynbos biome, the institutional framework agreed should be compatible with national arrangements. Action – Board.	
4.	The Board might wish to define the activities and priority that should be given to mobilizing a meaningful project presence and impact in the Eastern Cape. Action – Board.	The project was able to increase participation of Eastern Cape stakeholders, including facilitated support to the newly established Sarah Baartman FPA.
5.	The Board should review the budget and if funds permit, request approval by UNDP and partners of a 12-month no-cost extension of the project to build further the activities of FPA Extension Officers and Operational Support Officers. Action – Board & UNDP.	The recommended no-cost time extension was granted, and an additional 9-month extension also approved.
6.	It is recommended that the UNDP CO participate more actively in Board meetings and play a supportive role in the stakeholder meetings proposed following the presentation of the MTR.	Involvement by the UNDP CO did improve during the second half of the project, with the country director participating in many of the project steering committee meetings held in that time period.
7.	The Board approve the appointment of an Extension Officer and an Operations Support Officer in the Cape Winelands FPA.	The project did follow up with this recommendation.
8.	The Board to determine responsibility for production of the toolbox and handbook.	The project did follow up with this recommendation, and the IFM toolkits were produced later in 2016.
9.	Due to the long delay in initiating the project, it is possible that funds could be allocated to extending the project and thus extending the terms of the FPA staff funded by the project. It is the activities of these staff that mobilizes new membership, and thus sustainability of the FPA. The balance between dependence on GEF funds and creating new self-generated funds must be considered in decisions on extension of such operational expenses carried by the project.	The project has retained the services of an external consultant to work on a sustainability plan for the project – addressing the issue raised in this recommendation, as well as identifying other areas to focus attention after GEF funding ceases.
10.	The Board to clarify institutional responsibility for long-term operations and maintenance of the AWS network at project end.	The project has initiated discussions regarding long-term responsibility of the AWS network. By the time of the terminal evaluation, there had not been a decision yet reached. This remains an open issue.
11.	It is recognized that fire management is a male dominated profession. However, the importance of IFM and reducing risk for vulnerable communities, usually not represented in FPAs, and very often the responsibility of families headed by single women, needs to be considered more seriously in both actions and reporting.	Reporting on gender mainstreaming was included in PIRs following the midterm review. The management response noted that at the time of project development, a gender analysis and action plan was not required.

3.2.6. Implementing Agency (IA) and Executing Agency (EA) Execution

Overall IA-EA Execution: Satisfactory

Supporting Evidence:

- \+ Strong continuity of key stakeholders throughout the entire project.
- \+ Frequent project steering committee meetings, with constructive guidance rendered.
- \+ Qualified and dedicated project management unit staff members.
- \+ Intended outcomes have been mostly achieved, within the allocated budget.
- \+ Annual progress reports and project implementation reviews generally contain candor accounts of project performance.
- – Due to certain institutional restructurings, involvement by the UNDP CO in the early stages of the project was limited.
- – Unclear division of responsibilities with respect to policy advocacy.
- – Relatively weak work planning.
- – Shortfalls in risk management, e.g., by not addressing deviations of project design.

Quality of Implementing Agency (UNDP) Execution is rated as: Satisfactory

The UNDP-GEF regional technical specialist has been involved since the design phase, and has provided regular support to the project management team throughout the implementation phase as well. And, a concerted effort has been made during the second half of the project to bolster involvement by the UNDP Country Office (CO). For example, the country director of the UNDP CO has participated in project board meetings during the past couple of years. Constructive support has also been delivered by the UNDP CO finance associate, particularly considering the challenge of managing project resources under the steep devaluation of the South African rand (ZAR) against the United States dollar (USD) over the course of the project's lifespan.

The early stages of the project coincided with a number of institutional matters at the UNDP Country CO. For example, the UNDP Regional Service Centre relocated from South Africa to Addis Ababa at this time, leaving a shortage of human resources in the country office. There was also an absence of a Deputy Resident Representative and Country Director between April 2012 and 2013 September, at which time an interim Country Director was appointed. Furthermore, UNDP cash cofinance did not materialize as planned. These institutional challenges resulted in limited involvement in the project during the first couple of years. For example, among the first 6 project board meetings, from June 2012 until February 2014, UNDP CO representatives participated in 3 of them. There was no evidence of training provided by the UNDP CO to the PMU on work planning, reporting, cofinancing tracking reporting, etc. For example, the work planning template was first provided to the PMU for calendar year 2015. Costs of the PMU staff were not allocated across the technical components for substantive input rendered; rather these costs were fully accounted under project management in the first 3 years.

There was also limited evidence of involvement by UNDP CO support functions. For instance, the project team was largely unaware of opportunities under the GEF Small Grants Program, e.g., as a possible funding source to further advance the activities of the FireWise community based organizations. In terms of gender and social inclusion, which the UNDP has particular expertise

both nationally and globally, but there was no evidence of support delivered by these corporate functions to the project.

Overall, considering the concerted efforts to improve involvement after the midterm review, a satisfactory rating is applied.

Quality of the Executing Agency Execution is rated as: Satisfactory

The project was run under a national implementation modality (NIM), with the Department of Environmental Affairs (DEA) as the official executing agency. The DEA effectively outsourced the execution of the project to the Kishugu NPC, a non-profit company, formerly named Forest Fire Association (FFA) at the time of project entry. Roles and responsibilities were a bit obscured under this arrangement, in some ways the project operated under a NGO implementation modality. Notwithstanding this slightly unusual organizational structure, the quality of project execution was generally good, and senior level participation by DEA officials was steady throughout the implementation phase. The DEA Chief Director of the Natural Resource Management Programmes was the chairperson of the project steering committee and personally chaired the meetings – rather than delegate the responsibility. This consistent senior level involvement nurtured a strong continuity on the project; most board members stayed the same throughout the project and rarely missed a meeting.

The project management unit also remained intact for the duration of the project, with the project director, project coordinator, FireWise coordinator, and project assistant unchanged from the beginning. The project communication officer joined during the implementation timeframe, after serving as an operations support officer for the Cederberg FPA. Reporting was timely, and funds were prudently managed throughout.

There were a few shortcomings. For example, DEA could have better defined the division of policy related responsibilities. As a non-profit company, Kishugu is not strategically positioned to advance policy discussions, for instance with the DEA climate change division or with municipal disaster management agencies. The project stakeholders were largely based in the Western Cape, and even though the DEA office in Cape Town is the national headquarters for the Working on Fire and Working for Water programmes, there was an underlying provincial dimension to the project - where the majority of the Fynbos biome is situated.

Work planning was fairly weak; albeit, the team received limited guidance from UNDP. The TE evaluator received only one approved annual work plan, for year 2015. The work plan contained limited details, project outputs and activities were not listed (only broken down by outcome), and the results framework was not linked to the plan. And, there seems to have been insufficient attention placed on risk management, as evidenced by not addressing deviations in project design in progress reports.

3.3. Project Results

3.3.1. Overall Results (Attainment of Objective)

Project Objective: Develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks	**Attainment of Objective:**
	Satisfactory

The phrasing of the project objective does not fully capture the added value of the GEF funding. In the opinion of the TE evaluator, the project objective could be better characterized as strengthening adaptive capacity, and there is compelling evidence that the project has satisfactorily attained this objective. Adaptation benefits generated include: (1) strengthened integrated fire management capacities reduces ecosystem stress across the fynbos biome, (2) improved early warning systems strengthen resilience to the impacts of climate change, (3) reduced vulnerabilities of rural and urban populations within the biome, (4) an expanded knowledge base enhances the enabling capacity of the scientific community, and (5) broadened dialogue across sectors facilitates the prospects for a more collaborative adaptation strategy.

The performance indicators established for the objective-level of the project are based on achieving change in the extent and number of non-damaging and damaging wildfires. As discussed in Section 3.1 of this TE report, under Project Design, realizing verifiable change in the occurrence of wildfires over the envisaged 3-year duration of the project is unrealistic; in fact, it would also be essentially unattainable if the project was designed for 5 years. It will take a number of years for the strengthened capacities and improved early warning and planning systems to result in measurable change in the field. The other challenge with respect to the objective-level indicators is that the baseline conditions proved difficult to validate, and more importantly, there were no systems in place for measuring change.

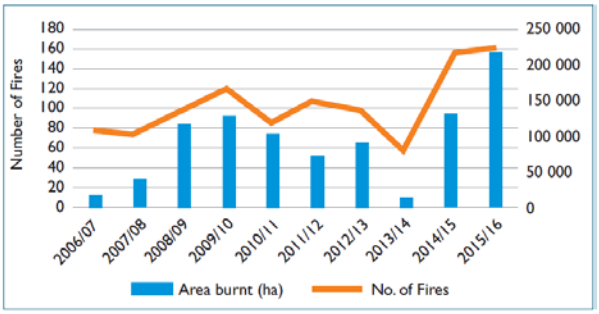
The first performance indicator at the project objective level is an increase in the extent and number of "non-damaging" veldfires; inferring that through implementation of improved IFM practices, ecological veldfires would be better managed.

Indicator Obj-1: Increased number and extent (ha) of non-damaging wildfires (i.e. 'minor' and 'insignificant' fires, as described in section 2.5) per annum in the Fynbos biome				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	Non-damaging veldfires: Area (ha): >145,200 No.: >1,580	Non-damaging veldfires: Area (ha): >165,000 No.: >1,700	No data available*	**Unable to assess**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

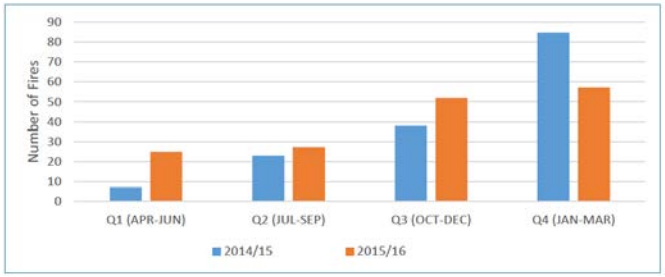
*Data were unavailable because the baseline conditions could not be validated and there were no monitoring systems in place to measure change.

As shown in the fire statistics shown below in **Exhibit 11**, extracted from the 2015/2016 annual report of CapeNature, it is difficult to draw conclusions regarding increasing or decreasing trends of non-damaging fires.

Exhibit 11: Fire statistics from CapeNature[6]



Fire Regime, 2006/07 through 2015/16



Number of Fires, 2014/15 and 2015/16

It is fairly safe to assume that a substantive proportion of fires reported by CapeNature are non-damaging, occurring within the nature reserves under their management. There were an abnormally low number and extent of fires in 2013/14, followed by a sharp increase in the subsequent two years. The time horizons are too short to assess trends influenced through improved management practices; the figures shown in **Exhibit 11** are likely more attributed to weather conditions in those years.

The chart on the right side in **Exhibit 11** shows the seasonal distribution of fire incidence over the past two fiscal years. One of the possible impacts of climate change is a disruption in seasonal weather patterns, resulting in changes to when veldfires are occurring. There are, however, a number of variables at play and it is difficult to make such conclusions with limited temporal data. For example, based on information gathered during TE interviews, certain landowners are increasingly reluctant to implement prescribed burning due to legal liability concerns of spread of fire to neighboring properties. Such changes in behavior also impact the distribution of fire incidence.

Indicator Obj-2: Decreased number and extent (ha) of damaging veld fires (i.e. damaging and catastrophic fires, as described in section 2.5) per annum in the Fynbos biome				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	Catastrophic fires: Area (ha): <74,800 No.: 420	Catastrophic fires: Area (ha): <52,500 or 30% reduction No.: <300 or 30% reduction	No data available*	**Unable to assess**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

*Data were unavailable because the baseline conditions could not be validated and there were no monitoring systems in place to measure change.

The second performance indicator at the objective level had similar shortcomings; Indicator Obj-2 was aimed at achieving a decrease in the extent and number of damaging, i.e., catastrophic fires. An alternate indicator might have been a decrease in economic loss as a result of wildland fires. For example, the March 2016 dated Western Cape Climate Change Response Strategy - Biennial Monitoring & Evaluation 2015/2016 includes the following statement:

"Losses from the El Nino and climate change driven drought of 2015/16 and associated fires in the Western Cape: ± R2 – 4 billion. Projected impact on Agriculture: loss of 5-10% of normal production"

There are, however, multiple constraints and variables to consider in using an economic loss as a measure of decreasing damaging fires. First and foremost is the lack of detailed records. And, factors such as market fluctuations in property values and currency devaluation are difficult to normalize over comparative timeframes.

[6] Information obtained from Cape Nature Annual Report 2015/2016, www.capenature.co.za

It would have been advisable to formulate a performance indicator during the inception phase that was achievable and measurable over the course of the project implementation timeframe.

Outcome 1: Capacity built at local level to manage increased incidence and extent of fires	**Achievement of Outcome:**
	Highly Satisfactory

Indicative budget in project document: USD 786,000
Actual cost incurred on this Outcome through 14 October 2016: USD 1,133,199

One of the key achievements of the project was supporting the process of consolidating the domains of FPAs in the Fynbos biome according to district administrative boundaries. Indicator No. 1.1 was formulated to measure the success of these restructuring efforts.

Indicator 1.1: Number of FPAs integrated into, and aligned with, the affected municipal structures (including the municipal land use planning, fire brigade and disaster management services)				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	1	>6	6	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

The map shown below in **Exhibit 12** shows the district administrative boundaries where the main FPAs are located within the biome.

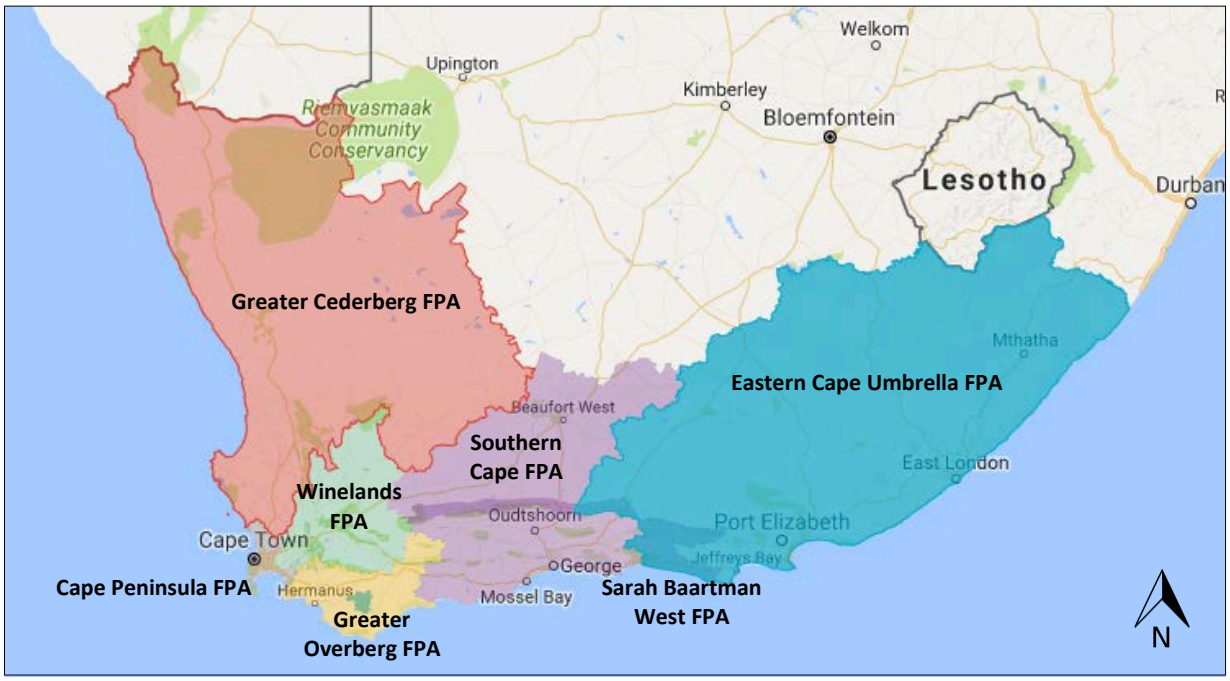
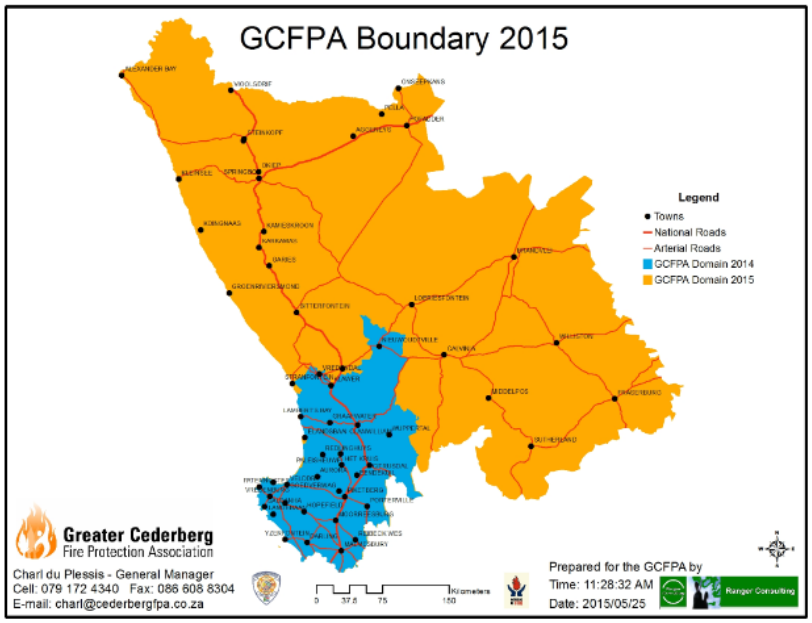


Exhibit 12: Map showing major FPAs within the Fynbos biome, 2016

The domain of the Greater Cederberg FPA (GCFPA), the most expansive FPA in the Western Cape, was significantly expanded, as shown below in **Exhibit 13**.

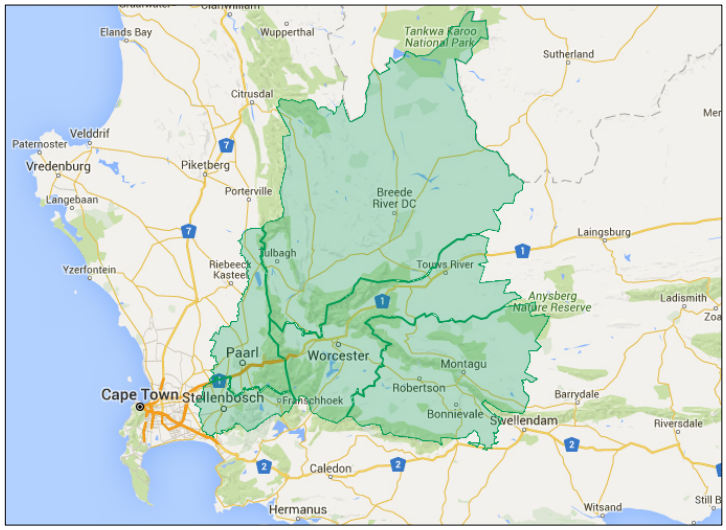


Source: GCFPA website
Note: The blue shaded area shows the extent of the GCFPA's domain at project entry and up until 2014, and the amber shaded area shows the expanded domain of the FPA matching district administrative borders.

Exhibit 13: Map showing domain of the Greater Cederberg FPA

The GCFPA only has 10-12 members in the expanded area to the north, where land use and fire risks are considerably different compared to the southern reaches of the FPA; however, aligning the FPA with the district administrative borders provides more continuity between district fire services and the operation of the FPA.

Realignment of the GCFPA also meant losing some members to the newly created Winelands FPA to the south, where a number of smaller FPAs were amalgamated into a larger FPA according to district boundaries, as shown below in **Exhibit 14**.



Source: Winelands FPA website
Note: The Winelands Fire Protection Association was registered with the Department of Agriculture, Forestry and Fisheries in November 2014 amalgamating the former Stellenbosch, Tulbach/Wolseley, Witzenburg, Ceres/Kouebokkeveld, Warmbokkeveld FPAs. The boundaries now encompass an area of 22,309 ha making up large parts of the Cape Winelands District Municipality.

Exhibit 14: Map showing domain of the Winelands FPA

Similar to the Winelands FPA, the Greater Overberg FPA is a newly established association, formed during the timeframe of the project, and resulting in the consolidation of several smaller FPAs.

Expanding the domains of the FPAs has not come without challenges. Land use within the larger, consolidated FPAs is diverse, ranging from farmland, estates, forest plantations, rural and urban communities, and nature reserves. Expanding the domains of the FPAs to more or less match district boundaries makes sense in terms of improving synergies with municipal level service

providers and planners, but it also brings together members having vastly different risks with respect to wildfires. In the NVFF Act of 1998, the concept of voluntary FPAs was intended for land users having common fire risks. Consolidating FPAs requires more skill in management heterogeneous stakeholders.

A large proportion of the Fynbos biome is under private ownership. This presents specific challenges to governmental agencies responsible for integrated fire management. For example, the nature reserves under CapeNature management have more than 4,000 km of cumulative borders; considering an average of about 1 km per neighboring landowner, that means there are more than 4,000 landowners that this one agency has to manage. In this context, consolidation of FPAs is sensible.

The Southern Cape FPA is also adjusting to the concept of realignment of their FPA domain, and losing some members to newly formed FPAs, including the Sarah Baartman FPA, in territory falling under the adjacent Eastern Cape Province. The Southern Cape FPA has steadily developed over the past 10+ years, and has also provided services to landowners on the Eastern Cape side, where municipal services are much less developed than in Western Cape. It will take time for the new FPAs in the Eastern Cape to become established and build up service quality.

There are considerable differences between the Western Cape and Eastern Cape in terms of integrated fire management. Firstly, municipal services are much more developed in the Western Cape; municipal services some areas in the Eastern Cape are essentially non-existent, according to interviewed FPA stakeholders. There seems to be more funding under the Working on Fire program directed to the Western Cape.

Consolidation of FPAs, creation of new FPAs, and efforts to strengthen umbrella FPAs have also revealed certain governance issues that might have been taken for granted when there was a smaller group of participating stakeholders. Expanded stakeholder involvement has come with more demands on governance structures. For instance, the Greater Overberg FPA recently decided to pull out of the Western Cape Umbrella FPA, partly due to certain unclear governance issues.

The term “adaptive capacity” in Indicator No. 1.2 is not clearly defined. The project largely addressed this through describing the benefits achieved by the FPAs as a result of having salaried extension officers on staff, and also increased operational efficiency due to consolidation of FPA domains.

Indicator 1.2: Number of FPAs with the adaptive capacity to effectively manage the risks associated with climate-induced fires				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0	>6	6	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

The extension officers clearly added a boost to service quality and helped facilitate FPA membership expansion. In most cases, the extension officers hired and supported with project funds have since been integrated into the FPA organizations after project funding ceased at the end of 2015.

There was also a high level of appreciation of the assistance provided by the project in terms of producing communication materials, including websites, public awareness brochures, and technical guidance manuals. The FPAs did not previously have the resources or capacities to produce such content.

Training was another highlight of the project. The number of short course trainings delivered far exceeded the target of 30 wildland fire management staff, and not only did FPA staff participate but also landowners and workers.

Indicator 1.3: Number of wildland fire management staff completing specialized training and/or skills development in adaptation-related fire management technologies				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0	>30 (short courses) >4 (full-time courses)	>4500* persons completed short course trainings 1 full-time course on Veldfire Management established at NMMU	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

*Some individuals completed more than one course.

Short course trainings on the following subjects were delivered by qualified service providers:

- Integrated Fire Management principles (Prevention, protection, suppression)
- Risk Analysis (Risk determination and offset of risks)
- Community Risk Reduction/Fire &
- Life Safety Educator (level I)
- Fire Danger Index (FDI) system - Planning for high fire danger
- Fire Ecology and Conservation
- Wildfire Suppression Basic
- Veldfire Risk Analysis
- Radio Communication
- Fire Symposium Incident Command System
- Basic Incident Command System (ICS)
- Base operator course
- Planned / Prescribed Burning
- Initial Attack Fire Boss
- Area Command
- Basic Wildfire Training (for Estates)
- Basic Wildfire Training (Individuals)
- Logistic Section Chief

Interviewed stakeholders were uniformly satisfied with the training provided by the project. Delivery of the trainings adapted to the needs of the participants, e.g., the trainers often delivered the trainings at the premises of the landowners.

In addition to the short courses, a Higher Certificate programme in Veldfire Management was established at the Nelson Mandela Metropolitan University in Port Elizabeth in 2013, with some support from the project.

Indicator No. 1.4 is a measure of financial sustainability of the engaged FPAs. The FPAs within the Fynbos biome and throughout South Africa have struggled to reach sustainable financing operation since the concept of FPAs was introduced in the NVFF Act passed in 1998.

Indicator 1.4: Number of FPAs with adequate sustainable financing sources to mitigate the increasing risk of wildfires as a consequence of climate change				
	Baseline	**End Target**	**TE Comments**	**TE Assessment**
Value:	0	>6	6	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

Achieving an adequate level of sustainable financing sources was beyond the scope of the project; rather, the main contribution made by the project was a demonstration of how a more capacitated FPA can be financial viable. For instance, full-time salaried extension officers provide an increased level of service to members and also help facilitate more proactive membership expansion. One of the interviewed FPA managers indicated the following:

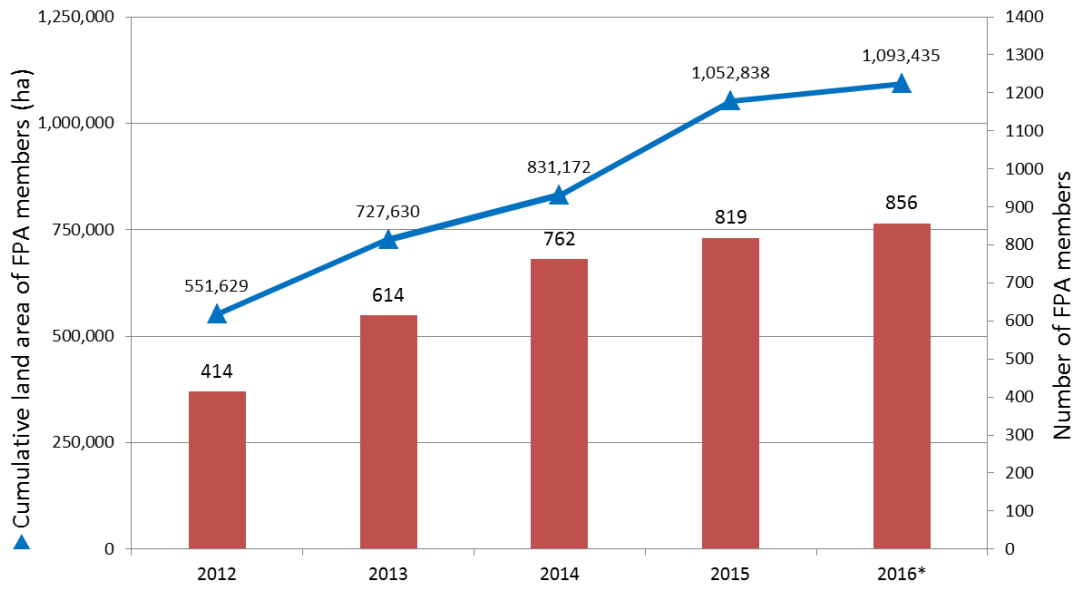
> "*The extension officers added to our staff with support from the GEF-financed project facilitated a doubling in the number of FPA members*" Director of one of the FPAs in the Fynbos biome

The extension officer hired to cover the North Ward of the Cape Peninsula FPA has been able to facilitate an increase in the number of members to a point that membership fees now from landowners in that ward are sufficient to cover his salary.

The Southern Cape FPA now has 4,200 members, essentially twice as many as when the project started implementation. Increased membership has been facilitated the hiring of two extension officers, both of whom have been since added as FPA staff members.

In the case of the Greater Cederberg FPA, the number of members has increased from 414 in 2012 to 856 in September 2016, and the land area covered by the FPA members expanded over the same timeframe from approximately 550,000 ha to nearly 1,100,000 ha (see **Exhibit 15**).

Exhibit 15: Greater Cederberg FPA Land Area and Number of Members, 2012-2016



Source of data: Greater Cederberg FPA.
*2016 figures through September.

The newly formed FPAs, Greater Overberg and Winelands, have also progressively gained new members during the past few years.

Strengthened Umbrella FPAs also enhance their ability to advocate for change. The Western Cape FPA, for example has recently been able to negotiate membership agreements with several key parastatals, including Eskom, the electrical utility company and Sanral, the South African National Roads Agency.

Outcome 2: Decision-support and risk management systems for fire management improved	**Achievement of Outcome:**
	Satisfactory

Indicative budget in project document: USD 1,269,000
Actual cost incurred on this Outcome through 14 October 2016: USD 1,072,648

Outcome 2 was designed to strengthen decision-support and risk management systems, leading to increased capacities of FPAs and integrating fire risk criteria into disaster management planning.

Six (6) FPAs within the Fynbos biome were provided with Advanced Fire Information System (AFIS) terminals, providing them with much more current and relevant fire danger early warnings and reporting services. Among the 6 units, the one delivered for the Eastern Cape, to the Eastern Cape Parks and Tourism Agency (ECPTA) was not installed properly and is not functioning, and the one delivered to the Cape Peninsula FPA was stolen earlier in 2016. The TE evaluator was informed that these two organizations are in discussions to procure with their own funds the AFIS Premium Service, which is a web-based system.

Indicator 2.1: Number of FPAs with functional, populated (i.e. data) and networked AFIS field terminals				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0	5	4	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

There have been substantive information technology developments over the course of the project. For example, reliability of internet is much higher now than when the project was designed back in 2010, and in most cases available throughout the Fynbos biome. This has rendered the need for AFIS terminals mostly redundant. FPAs and other users have more flexibility accessing the web-based AFIS services, which require lower IT skills and essentially removes the concern of updating or refreshing the systems.

The supply of AFIS terminals has provided FPAs with increased capacity to detected and profile fires in their regions. Considering the domains of the FPAs have increased over the course of the project, the cumulative coverage by the AFIS terminals exceeds the end target of 4 million ha.

Indicator 2.2: Coverage (ha) of area where fires are detected, profiled (for risk) and tracked by the FPA AFIS field terminals				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0 ha	>4 million ha	>4 million ha	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

The project also helped increase the coverage of automatic weather conditions recording, with procurement and installation of automatic weather stations throughout the Fynbos biome.

Indicator 2.3: Number of AWSs recording local weather conditions under a changing climate regime in the high altitude mountain areas of the Fynbos biome				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	<10	>50	33	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

A cumulative total of 33 weather stations have been installed at the locations shown on the map below in **Exhibit 16**.

Exhibit 16: Map showing locations of automatic weather stations installed

Design and installation of the AWSs were procured through the company InterMet Africa, a consortium including the University of Cape Town.

The AWSs were sited at locations distributed across the biome on properties owned by a wide spectrum of landowners, including CapeNature which has 10 stations on the nature reserves under their stewardship. Not all of the installed weather stations were placed at high altitude locations. Based upon a gap analysis, strategic areas were selected where fire risks were high and automatic weather reporting was limited, on the western flank of the Twelve Apostles mountain range, where the project negotiated with the Twelve Apostles Hotel to install a unit on the roof of the main building there (see **Exhibit 17).**

Exhibit 17: Photo of AWS at Twelve Apostles Hotel

Note: Having this AWS situated on the property of a high-end hotel provides an increased level of assurance that the unit will be protected against negative externalities such as vandalism.

Transfer of ownership and long-term maintenance and operation of the automatic weather station (AWS) units have not yet been sorted out. The project team is investigating available options, preferably entailing transferring all the units to a common agency or service provider, e.g., the South African Weather Service (SAWS). It seems unlikely that a resolution will be reached by project closure in December 2016.

Information collected by the weather stations feed into the AFIS, and through the service delivered by AFIS, FPAs are now much more capacitated to provide their landowner members localized fire danger forecasts.

Indicator 2.4: Average percentage (across all FPAs) of FPA members receiving localised daily fire danger forecasts				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	<5%	>80%	>80%	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

An example of a Fire Danger Index (FDI) forecast report is shown below in **Exhibit 18**.

Exhibit 18: Example of a Fire Danger Report generated by AFIS

To date, the only legally authorized fire danger index (FDI) is provided by the South African Weather Service, an entity of the Department of Environmental Affairs. The service fee from the SAWS of ZAR 75,000 (USD 5,700) per year, for delivery of FDI readings, is prohibitive for several of the FPAs. Currently, SAWS is the only recognized legal source of FDI information, and the FPAs feel obliged to purchase the annual service for liability reasons. During the October 2016 project steering committee meeting, members discussed lobbying for recognizing the FDIs issued by AFIS to be recognized by DAFF as also legal.

The quality of service delivered continues to be improved, as the AFIS is further developed. For example, two lightning sensors have been installed. With respect to fire incident reporting, one

reason there is sparse historic data on fire damage extent is the lack of proper fire incident reports. Project made substantive contribution in improving incident report, by developing an online based reporting tool. One of the FPA managers indicated that it is a challenge to fill out incident reports during fire season; they can have 40 fires to manage at any given time. And, field fire managers typically are not best at producing written reports.

The project had a difficult time delivering on Indicator No. 2.5, largely because of issues associated with achievability. The CSIR team retained to review available climate change scenario modeling tools and to assess the applicability of applying these to the fynbos biome. Five real-time fire behavior prediction models that are in a fairly advanced stage of development were reviewed: Phoenix; FIRESCAPE; FARSITE; Prometheus; and Australis. One of the main constraints identified was the requirement of detailed and accurate fuel models, which are unavailable for the fynbos biome. The following conclusions were indicated in the CSIR report[7] on this output:

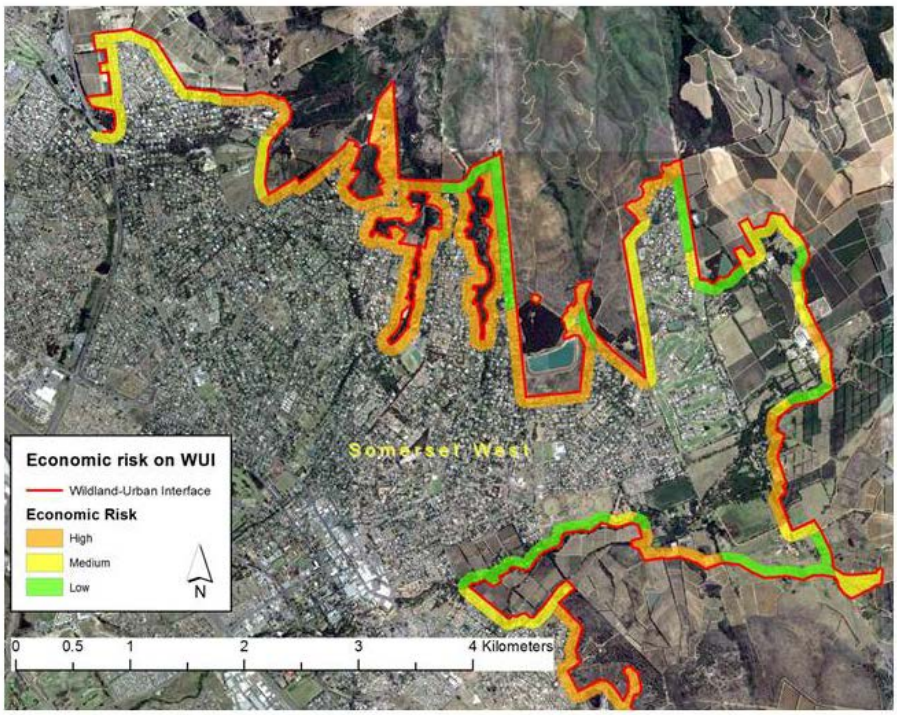
"Projections of global climate change were down-scaled to the level of the fynbos biome, achieving a high level of spatial resolution for a global model (±50 km x 50 km). The results suggest the burning season will become longer over the Greater Cedarberg region, but with a significant reduction in risk during the late summer. For the Cape south coast region, increases in the number of days of high fire danger (0.5 to 3 days per month) are projected to occur, consistently across all seasons. These changes would be attributed to increases in temperature and decreases in rainfall that are projected for the region."

The demonstration climate change scenario modeling completed by the CSIR team is an important achievement and provides clear guidance on what gaps need to be filled in order to further refine these capabilities. The modeling outputs delivered, however, fall short of what is called for under Indicator No. 2.5.

Indicator 2.5: Extent (ha) of the fynbos biome with a local landscape level wildfire risk rating that integrates climate change scenarios into the risk assessment				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0 ha	>3 million ha	Demonstration of climate change scenario modeling	**Unlikely to be achieved by project closure**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

The project has supported fire risk assessment modeling along wildland urban. Through a service contract, the CSIR team developed a WUI risk assessment algorithm and demonstrated it for the Helderberg Basin in the Cape Town Metropolitan Municipality, within the domain of the Cape Peninsula FPA, and for Plettenberg Bay, situated in the Eden District Municipality, included within the domain of the Southern Cape FPA. An extract from the Helderberg Bay WUI risk assessment is shown below in **Exhibit 19**.

[7] CSIR, January 2015. Fynbos Fire Regimes, Fire Weather and Climate Change, CSIR Report Number: CSIR/NRE/ECOS/ER/2015/0079/B



Extract from Figure 13:
The distribution of the potential level of economic risk along the Helderberg Basin Wildland-Urban interface.
(Digital aerial photograph extract: Chief Directorate: National Geo-spatial Information, 2013)

Exhibit 19: Extract of estimated economic risk along the Helderberg Basin WUI

The WUI risk assessment activities were carried out under Output 2.6, "Facilitate the integration of community wildfire protection plans into municipal planning (e.g. IDP and SDF) and disaster management planning processes", which is represented by Indicator No. 2.6 in the project results framework.

Indicator 2.6: Number of municipalities (local, district and metropolitan) with climate-based fire risk information for wildlands integrated into the municipal disaster management plans				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0	>6	0	**Unlikely to be achieved by project closure**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

Integrating climate-based fire risk information into municipal disaster management plans is directly aligned with the provisions included under the Disaster Management Act No. 57 of 2002, specifically Chapter 5 on Municipal Disaster Management, §53 (1) which states that "*Each municipality must, within the applicable municipal disaster framework (a) prepare a disaster management plan for its area according to the circumstances prevailing in the area; and (2) A disaster management plan for a municipal are must (a) form an integral part of the municipality's integrated development plan.*".

Developing the risk assessment capacities is only the first step. The expected result was that municipalities would integrate this information in their municipal disaster management plans. The TE evaluator reviewed the Five-Year Integrated Development Plan 2012-2017 (2016/17 Review and Amendments version) for the City of Cape Town and the Eden District Municipality Disaster Management Plan (2014 version); there was no evidence climate-based risk information integrated into these plans or others. The 2016 PIR indicates that the FPA toolkit is being

submitted to Provincial Disaster Management in the Western Cape and Eastern Cape in order to facilitate the integration of findings into municipal structures for the coming fire season. In the opinion of the TE evaluator, submitting the FPA toolkit to provincial disaster management authorities does not constitute integration of climate-based fire risk information into municipal disaster management plans. The toolkit contains practical guidance information and communication materials for FPAs.

Outcome 3: Innovative risk reduction interventions implemented	**Achievement of Outcome:**
	Moderately Satisfactory

Indicative budget in project document: USD 1,129,000
Actual cost incurred on this Outcome through 14 October 2016: USD 992,550

The activities designed to achieve Outcome 3 involved developing and implementing interventions that resulted in reduced risks to landowners and residents within the fynbos biome. The underlying intention under Output 3.2, "Wildland fire extension programme piloted in FPAs", was that the support delivered by extension officers would assist FPAs in expanding membership, thus reducing risks by covering more area and additional landowners, and also increasing the service quality of the FPAs, leading to improved compliance among members.

Indicator No. 3.1 was formulated as a measure of the effectiveness of the wildland fire extension programme.

Indicator 3.1: Percentage of landowners in the demonstration areas (Southern Cape FPA and Cedarberg FPA) that are paid up members of the FPA, and conform with the FPA rules and regulations				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	<20%	>60%	>60%	**Achieved**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

With respect to the percentage of landowner being paid up members of the Southern Cape and Greater Cederberg FPAs, interviews with the managers of these FPAs during the TE mission confirmed that the end of project target of >60% is safely exceeded. In fact, the Southern Cape FPA indicated they have implemented a policy of cancelling memberships if members are more than three months late in their membership fees. Compliance is also significantly improved as well. The 2015/2016 annual report of the Southern Cape FPA indicates that among the 12 organs of State and Municipalities that fall within the domain of the FPA, 6 were members. For example, SANRAL, the National Road Agency, is now a member and in compliance. Similar improvements were reported for the Greater Cederberg and the other FPAs in the fynbos biome.

As part of the envisaged increased service quality by the FPAs, Output 3.1, "*A suite of incentives to encourage implementation of IFM measures developed*", was designed promote proactive risk reduction measures by landowners, leveraging off a "toolbox" of incentives developed with project support. As outlined in the project document, these incentives could have included *inter alia*:

(i) Reductions in municipal rates and/or insurance premiums for landowners and residents living in the WUI who comply with legislative requirements, FPA rules and/or best practice guidelines for mitigating wildland fire effects on structures;

(ii) Professional, financial and/or technical support to landowners to reduce fuel loads (e.g. invasive alien plant mechanical controls, prescribed ecological burning);

(iii) Strategic rationalisation of firebreaks for landowners within an FPA;

(iv) Pooling and coordination of landowners resources for fire management;

(v) Preferential access to fire danger warnings, early detection and rapid response to fire outbreaks for landowners and communities living in the WUI;

(vi) Financial support (in the form of grants, low-interest loans, etc.) for IFM for landowners;

(vii) Employment opportunities in IFM for poor communities living in the WUI;

(viii) Capacity building of landowners and residents and communities in the WUI;

(ix) Introduction of a range of risk transfer mechanisms (e.g. wildland fire catastrophe bonds, catastrophe pools, index-based insurance or micro-insurance schemes) and/or social protection programmes (e.g. safety nets and calamity funds) as a means of providing effective financial instruments for managing wildland fire risk and dealing with natural disaster shocks for vulnerable residents and local communities in the WUI; and

(x) Removing the assumption of negligence (in terms of the NVFFA) for FPA members in wildland fire damage claims.

The performance indicator for measuring this result was Indicator No. 3.2:

Indicator 3.2: Number of private landowners in FPAs instituting proactive risk management measures in response to insurance-based incentives				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	<20 (est.)	>100	No data available	**Unlikely to be achieved by project closure**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

There was no evidence that the "incentives toolbox" was developed. The designed activities under Output 3.1 also included training responsible fire management authorities and institutions in the application of the incentives toolbox, and partnering with private and public sector in support of the implementation of viable wildland fire incentives. There was also no evidence that these activities were carried out. This is partly reflected in the expenditures for Outcome 3; approximately 88% of the indicative budget had been incurred by 14 October 2016, and nearly one-third of that sum is made up of the insurance endowment fund established in 2014, at a current value of USD 308,828. Additional funds were allocated to Outcome 1 and less was spent on Outcomes 2 and 3.

The 2016 PIR states the following progress towards Indicator No. 3.2: "*According to feedback from FPA managers, SANTAM and Mutual and Federal, more than 100 landowners within the Fynbos Biome have bought into fire risk insurance products*". Based on interviews with FPA stakeholders during the TE mission, most landowners had fire insurance before the project was initiated. The fact that 100 landowners have bought fire risk insurance products is not a relevant assessment of the expected result under Indicator 3.2.

There have indeed been advances in the insurance sector over the course of the project, and insurance companies are taking a broader look at disaster related risks. For example, the Santam insurance company issued a Climate Change Positioning Statement in November 2015. Based on interviews with Santam insurance representatives during the TE mission, discounts on premiums have been extended to FPA members for a number of years. The company has recently added extra cover options to cover fire extinguishing costs, including air suppression. Not pursuing the incentives toolbox under Outcome 3 was somewhat of a missed opportunity to collaborate with the insurance industry on developing and demonstrating alternate insurance-based incentives.

The risk reduction interventions included in Outcome 3 also covered rural and urban communities, not only FPA member landowners. Under Output 3.4, "Cost-effectiveness of different fuel management measures in the WUI assessed", one of the activities included implementing the FireWise community concept in at least four settlements in the fynbos biome. The four settlements selected, having a cumulative number of households of 5,346, are listed below in **Exhibit 20**.

Exhibit 20: FireWise Communities supported by the project

Community	No. of Households	No. of Inhabitants
Sir Lowry's Pass Village, City of Cape Town, Helderberg Municipality	2,900	8,700
Goedverwacht, Piketberg, Bergriver Municipality	650	2,400
Kranshoek, Plettenberg Bay, Bitou Municipality	1,142	5,597
Clarkson, Tsitsikamma, Koukamma Municipality	654	1,900
Totals:	**5,346**	**18,597**

Note: Figures provided by Kishugu NPC; indicated source: Census reports from Stats South Africa 2011, officially released in 2015

Kishugu NPC has been establishing and assisting FireWise communities for a number of years before the project started. The unique approach implemented on this project was a financially supported committee approach, compared to a voluntary arrangement. FireWise committees were formed in each of the four settlements, a modest stipend was paid to the committee members (a cumulative total of 60 committee members were supported). For low income communities, paying a nominal fee for administering a FireWise community is sensible, and has proven successful. The project ceased funding to the FireWise communities at the end of 2015 and Kishugu NPC has maintained payment through alternate financing sources, which are secured through March 2017. The company is hopeful that additional funding will be raised to continue support moving forward and they plan on expanding the committee approach to other FireWise communities in the near future – as illustrated in the map shown below in **Exhibit 21**.

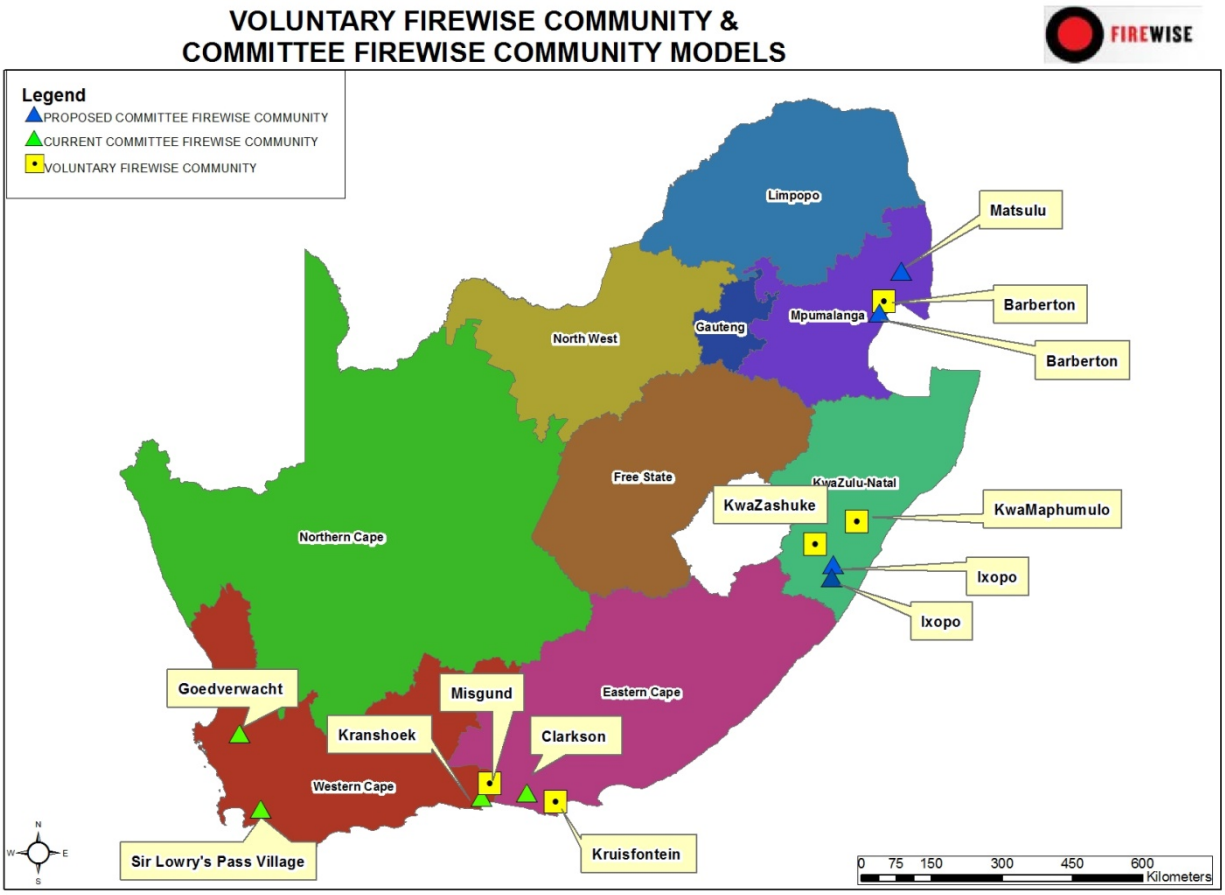


Exhibit 21: Map showing locations of FireWise communities

The FireWise communities have been earmarked as the locations to roll out the micro-insurance scheme that is also under developed among the Outcome 3 activities, specifically Output 3.3, "*Fire and insurance scheme developed*". The increased awareness of fire risks and trained community members in implementing risk reduction measures makes the FireWise communities a sensible choice for the micro-insurance scheme.

Development of the micro-insurance scheme is behind schedule. Procurement for a consultancy to develop the scheme was first advertised in December 2013. After not receiving any submissions, the project steering committee agreed in February 2013 that FFC Non Profit Company (later renamed Kishugu NPC) would manage the process. Potential conflicts of interest were considered, as FFA NPC had overall responsibility for project execution, on behalf of the DEA, but the steering committee agreed that there were limited alternative options.

Extensive consultations were made with the insurance sector, and an arrangement was nearly finalized with Mutual and Federal, until this company decided to pull out at the last minute, citing a shift in corporate priorities. The team then tried to develop the scheme with Santam, and finally was able to reach the right channels earlier in 2016. Once there was confirmed commitment by Santam senior management, progress has improved significantly. The closure of the project at the end of 2016 was the other factor that influenced expediting of the activities.

Based on a limited sampling during the TE mission, while visiting the FireWise community of Goedverwacht, there seems to be a keen interest in the home insurance scheme by local residents, and the envisaged premiums seem to be affordable.

The proposed scheme is illustrated below in the schematic presented as **Exhibit 22**.

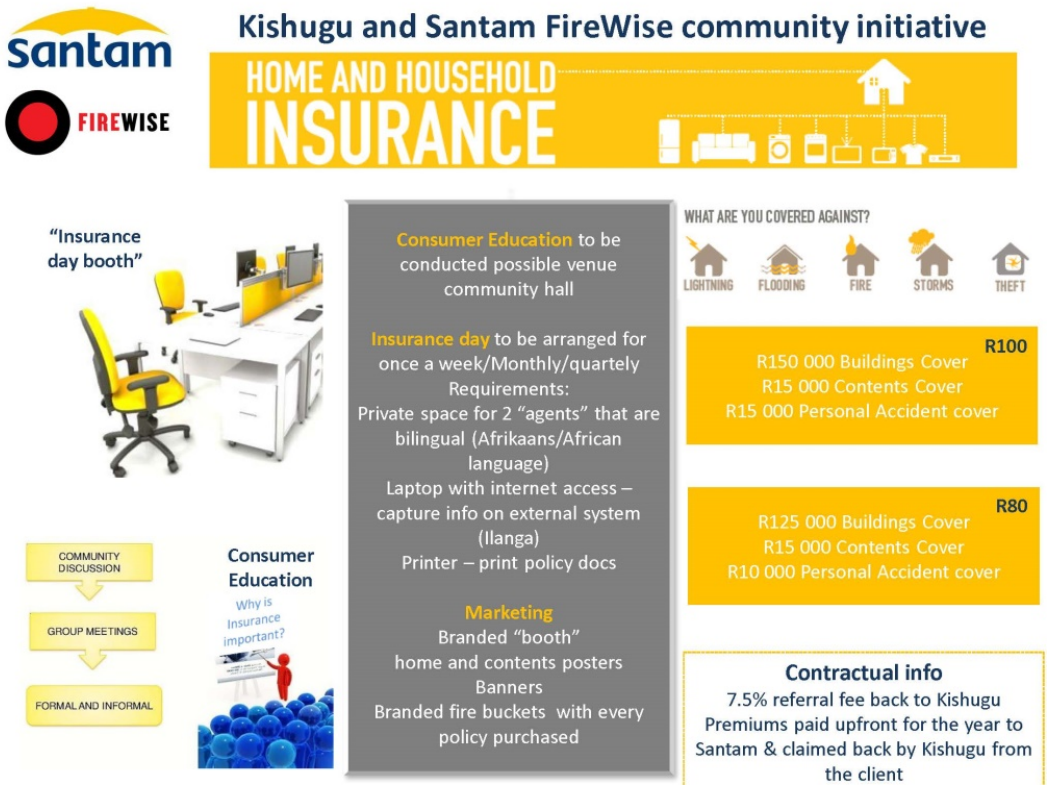


Exhibit 22: Outline of Kishugu-Santam FireWise home insurance scheme

The first set of consumer education visits were planned in the village of Goedverwacht in late October – following the TE mission.

There are a number of other activities regarding the micro-insurance scheme, including setting up the requisite arrangements for administering the endowment trust fund that has been set up to support the preliminary implementation of the scheme following project closure. Funds from the GEF grant were transferred into a separate bank account in 2014. Based on a bank statement dated 3 November 2016, the current value of the trust fund is ZAR 4,161,828 (USD 308,828).

A Deed of Trust is being prepared, and pending further input by the hired financial service provider, the draft document will be completed and circulated to the project steering committee for approval. The Board of Trustees also needs to be assembled. During the October 2016 steering committee meeting, members agreed that unanimous approval of the deed will be required.

With only 2 months remaining before project closure, the project is hard pressed to complete these activities in time. The original idea was for the micro-insurance scheme to be implemented for a year or so within the project's lifespan. This would have enabled more resources for expanding coverage and also monitoring and evaluating progress.

Indicator 3.3: Number of households in the targeted WUI areas that have an improved resilience to outbreaks of climate-induced wildfires				
	Baseline	**End Target**	**Status at TE**	**TE Assessment**
Value:	0	>2500	Micro-insurance scheme not yet implemented	**Unlikely to be achieved by project closure**
Date:	2010	31 Dec 2016	30 Oct 2016	30 Oct 2016

Considering that implementation of the scheme will effectively begin after the project closes, there is concern among the steering committee members regarding financial viability. The

insurance scheme is planned to be first rolled out it in the four FireWise communities that were supported by this project and then expanded to the other FireWise communities. The combined 13 communities, listed below, reportedly have a cumulative number of households exceeding 70,000.

FireWise Communities where the Micro-Insurance Scheme will be offered:

1. Wupperthal in the Cederberg
2. Goedverwacht in the Berg River Municipality
3. Clarkson in the Koukamma Municipality
4. Kranshoek in the Bitou Municipality
5. Sir Lowry's Pass Village in the Helderberg Municipality
6. Matatiele in the Eastern Cape which has 3 project sites - Nkau, Mpharane and Madhlangala
7. Mutale, in Limpopo Province, Thohoyandou Municipality area
8. Louieville in Mpumalanga, Nkomazi Municipality
9. Jeppes Reef in Mpumalanga, Nkomazi Municipality
10. Manguzi, Mpumalanga, Nkomazi Municipality
11. Eshowe, KwaZulu Natal, Umlalazi Municipality
12. Richmond, KwaZulu Natal, Richmond Local Municipality (uMgungundlovu District Municipality)
13. Piet Retief, Mpumalanga, Mkhondo Local Municipality

Over the course of the TE mission, the team that is developing the micro-insurance scheme made some preliminary forests of income and expenditures for the 5 years from 2017-2021. The chart below in **Exhibit 23** is a graphical representation of the forecasted figures.

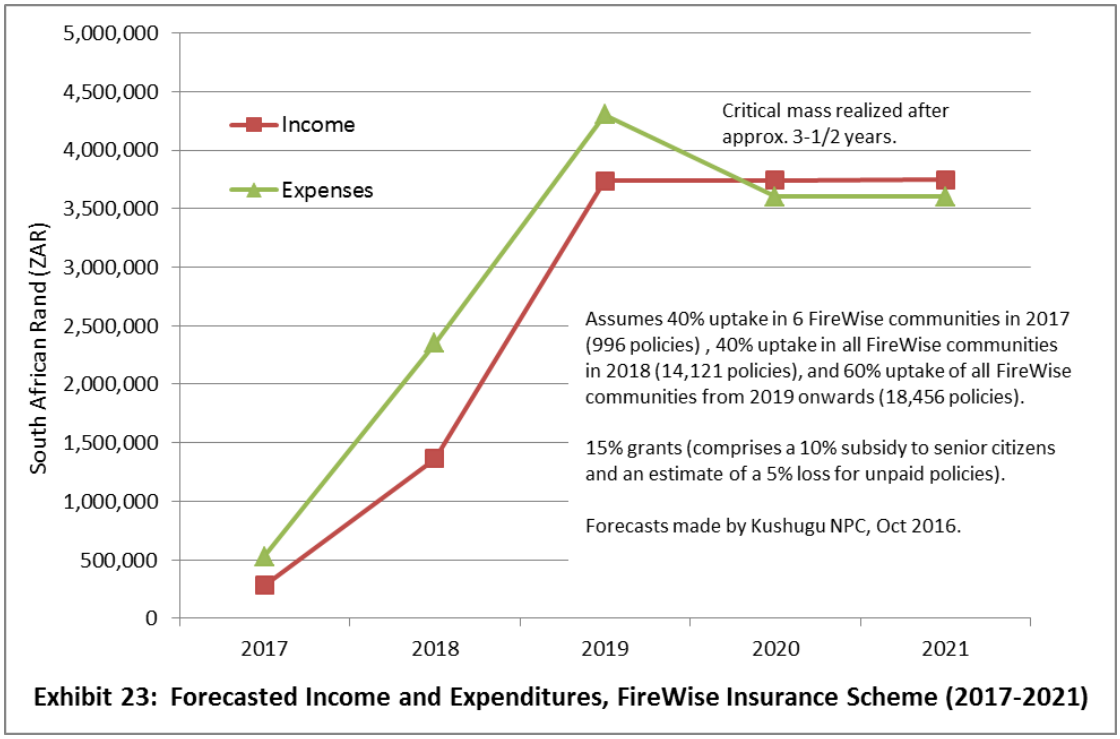


Exhibit 23: Forecasted Income and Expenditures, FireWise Insurance Scheme (2017-2021)

Based on these forecasts, critical mass, i.e., the number of policies required before income exceeds expenditures, will be achieved in approximately 3-1/2 years. The number of policies required to reach this point, approximately 18,500, is reasonable, but the rate of expansion seems a bit overly optimistic. Achieving such a rapid uptake of the policies will require a strong on-the-ground force, concerted consumer education and advocacy, and effective collection services.

3.3.2. Relevance

Relevance is rated as: Relevant

The project is relevant across a number of criteria, including with respect to national and provincial strategies, GEF SCCF strategic objectives, and priorities of the UNDP CO. The need to improve wildland fire hazard monitoring and forecasting capabilities, and reduction in the frequency of wildland fires were identified as priorities in South Africa's *Initial National Communication* (INC) to the UNFCCC at COP 9 in December 2003. The Second National Communication, delivered in 2010, reconfirmed the concerns about increasing wildland fire risks, particularly for biodiversity, plantation forestry, agriculture, and human settlements. The issues surrounding wildland fires, particularly in the Fynbos biome, remain relevant as indicated in the following excerpt from the 2014 National Climate Change Response White Paper:

"Additional stresses to biodiversity resulting from climate change include wildfire frequency (which appears to already show climate change-related increases in the Fynbos biome), and the prevalence of invasive alien species. These stresses combined with reduced and fragmented habitats will further increase the vulnerability of biodiversity to climate change."

The project was well-aligned with the National Framework for Sustainable Development 2008 and the National Biodiversity Strategy and Action Plan (NBSAP).

With respect to fire management, the key legal Act governing the administration and management of wildland fires in South Africa is the National Veld and Forest Fire (NVFF) Act 101 of 1998. Other legislation relevant to the project included the Fire Brigade Services Act 99 of 1987, the Disaster Management Act 57 of 2002 and the associated National Disaster Management Framework of 2005.

The project was also relevant at the provincial level. For example, the *Climate Change Strategy and Action Plan for the Western Cape* (WCCSAP) prepared in 2007 acknowledged the compounding effects of climate change on fire risks in the province. It identified a number of adaptation responses in the focus area 'Fire risk management and control' under Outcome 3 - 'Establish clear linkages between land stewardship, livelihoods and the economy'.

The project was one of the first proposed under the Special Climate Change Fund (SCCF), aligned to Strategic Objective CCA-1, "Reduce vulnerability to the adverse impacts of climate change", specifically under Outcomes 1.1 and 1.2:

Relevant SCCF Outcome	Relevant SCCF Core Outputs
Outcome 1.1: Increased knowledge and understanding of climate variability and change-induced threats.	Output 1.1.1: Risk and vulnerability assessments conducted and updated Output 1.1.2: Systems in place to disseminate timely risk information.
Outcome 1.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses.	Output 1.2.1: Adaptive capacity of regional centers and networks strengthened to rapidly respond to extreme weather events.

The project was aligned with the objectives set out in the UNDP Country Programme 2007-2010 for South Africa. The project was consistent with Objective B of the Country Programme 'Promoting Equitable Growth, Poverty Reduction and Sustainable Development'. The current UNDP CO Country Programme for the period 2013-2017 was issued after the project had started implementation. The project remains relevant to this programme as well, specifically to the outcome aiming for an "*Increase in the number of sustainable 'green jobs' created in the economy;*

stabilization and reduction of carbon emissions and climate change mitigation and adaptation strategies fully operational".

3.3.3. Efficiency

Efficiency is rated as: Satisfactory

Supporting Evidence:

- \+ The GEF funding addressed most of the key barriers that were constraining adoption of a more integrated fire management strategy within the Fynbos biome.
- \+ The project has managed to satisfactorily achieve the majority of intended outcomes within the allocated budget.
- \+ Local capacity was efficiently utilized and strengthened in implementation of the project.
- \+ Cofinancing contributions committed at project entry were realized.
- − The project timeframe ended up being nearly 2 years longer than the originally planned 3-year duration; this required frequent reassessment on how to allocate available resources.
- − Development of the micro-insurance scheme is behind schedule, not allowing time for implementation within the lifespan of the project.

With respect to incremental cost criteria, the project was satisfactorily efficient, addressing most of the key barriers that were constraining adoption of a more integrated fire management strategy. These barriers included: (1) low institutional and individual capacities in FPAs to effectively coordinate the implementation of IFM; (2) insufficient information and tools to guide adaptive management to the increased incidence of wildland fires; (3) inadequate risk management responses to climate-induced vulnerability to wildland fires; and (4) lack of incentives for private landowners to participate in FPAs, and adopt more proactive fire management measures. There were a few shortcomings with respect to addressing these barriers. Integrating fire risk criteria into municipal disaster management plans was not realized as planned; and insurance-based incentives for landowners were not developed and implemented as envisaged in the project design.

The project was also satisfactorily cost-effective, achieving the majority of intended outcomes within the allocated budget. The duration of the implementation has extended nearly 2 years longer than the 3-year approved timeframe. The additional time for implementation seems more attributed to an under-estimation of the time required rather than inefficient implementation. However, project coherence was diminished a bit, as the project needed to regularly reassess allocation of budget resources over the period of two successive time extensions. The development of the micro-insurance scheme occurred late in the process, in fact near the end of the second time extension, thus not allowing time for implementation within the lifespan of the project.

Efficiency was further demonstrated through the effective utilization of local capacity for project implementation, in terms of scientists and consultants who supported the project activities, trainings delivered by qualified local service providers, and equipment and systems developed and installed by various institutions and companies.

Cofinancing contributions further enhances project efficiency, as the confirmed cofinancing at project entry was realized, and two additional sources of cofinancing were leveraged after the

start of implementation, one from CSIR regarding climate modeling and the other from the Eastern Cape Umbrella FPA to cover their participation in project steering committee meetings.

3.3.4. Country Ownership

Country ownership has been generally satisfactory. Firstly, the project design was rooted in national priorities, e.g., South Africa's Initial National Communication to the UNFCCC in 2003 identified the Fynbos biome as the most vulnerable region in the country with respect to disaster risks from wildland fire due to patterns of urbanization, agriculture and potential impacts upon water catchment areas.

The Department of Environmental Affairs (DEA), the executing agency for the project, is the national UNFCCC focal point and also the management agency for the Working on Fire expanded public works programme. Senior DEA officials, including the Chief Director, Natural Resource Management Programmes – who was the chairperson of the project steering committee – were consistently involved in the project. Cofinancing commitments from the DEA were realized; in USD terms, the total cofinancing sums were lower than pledged at project entry, but this was due to the steep devaluation of the ZAR against the USD over the course of the project.

The Department of Agriculture, Forestry and Fisheries (DAFF) was also closely involved in the project, primarily through the Western Cape provincial office. Focusing on the Fynbos biome, which is predominantly situated in the Western Cape, isolated the project a bit from other regions of the country, giving the impression to some stakeholders outside of the Western Cape that the project had a provincial focus.

Branding the project as a climate change adaptation initiative, rather than only focused on fire management, was also a challenge throughout the course of the project. The DEA climate change division is based out of Pretoria, which presented some logistical hindrances in this regard. As outlined in the Adaptive Management section of this TE report, the project coordinator actively participated in various working groups on climate change, disaster management, and biodiversity conservation. The project did not have a specific policy objective, but these efforts did help raise the awareness of the project among key cross-sectoral platforms.

3.3.5. Mainstreaming

The project has generated a number of results that help local populations within the Fynbos biome better cope with natural disasters, particularly climate-induced damaging wildfires. Strengthened FPA capacities and improved early warning systems enable quicker response times to fire incidents. Expanded membership among FPAs contributes to increased level of awareness among landowners and users in the region. Predictive capacities have also been further developed among the scientific community, providing more guidance to municipal disaster management authorities. Implementation of the FireWise concept in four communities in the Fynbos biome has also reduced the vulnerabilities of the households in these settlements from the expected impacts of climate change, and also provided the local residents with skills and basis equipment to assist in diminishing fire risks within their communities.

A gender or social inclusion analysis was not prepared at the project preparation phase or after implementation had started. The fire management sector is largely male-dominated, but the project was quite successful in achieving substantive involvement by women.

- According to training records provided by the PMU, there were 416 women and 2463 men receiving short course trainings over the period of Q3 2015 through Q3 2016.

- The majority of the project management unit were women, including:
  - Project Director
  - Project Coordinator
  - FireWise Coordinator
  - Project Communications Manager
  - Project Assistant
- The UNDP-GEF regional technical specialist and the UNDP CO Energy and Environment program manager are also women.
- The FireWise community committees were largely composed of women; 60% (24 people) of the total number of staff employed under the FireWise community projects were women.
- The manager of the Greater Overberg FPA is a woman.
- Several of the project steering committee members, hired consultants, and service providers were also women.
- The production of the IFM toolkits was completed by a company that employs 60 previously disadvantaged women.

3.3.6. Sustainability

Sustainability is generally considered to be the likelihood of continued benefits after the GEF funding ends. Under GEF criteria each sustainability dimension is critical, and the overall ranking, therefore, cannot be higher than the lowest one.

Overall:
Likelihood that benefits will continue to be delivered after project closure: Moderately Likely

Supporting Evidence:

+ Consistent Governmental budget allocations for Working on Fire and Working for Water expanded public works programmes.
+ Consolidated FPAs according to municipal administrative boundaries improves efficiency and compliance of integrated fire management services.
+ Improved dialogue among cross-sectoral stakeholders increases likelihood of proactive collaboration, sharing of resources.
+ Expanded and more efficient early warning system reduces the likelihood of the occurrence of damaging wildland fires.
+ Strengthened capacities of FPAs and increased membership contribute towards sustainable financing of FPAs.
+ Vulnerabilities of rural and urban communities have been reduced based on increased awareness of the associated risks of wildland fires, empowerment of residents in FireWise communities, and improved methodologies of assessing WUI risks.
+ Increased knowledge base in fire ecology and climate science better enables the scientific community to provide guidance to FPAs and disaster management planners.
+ Project cofinancing contributions were largely realized as pledged.
− Over the short to medium term, the financial sustainability of FPAs is likely to remain tenuous, which could possibly diminish service quality.

- There are governance challenges over the short term. Consolidating FPAs has brought together landowners/users having different fire risk concerns, and the expanded involvement of the private sector has shifted focus on institutional governance and financial sustainability.
- There are uncertainties regarding the micro-insurance scheme, which had not yet been fully established or rolled out by the time of the terminal evaluation.
- There is continued development pressure, particularly along the wildland urban interface.

Financial Risks:
Likelihood that benefits will continue to be delivered after project closure: Moderately Likely

The rating of "moderately likely" was applied after careful deliberation of evidence gathered during the TE mission and desk review of available information and project deliverables. There was an overwhelming sentiment among the interviewed stakeholders that financing of the FPAs in the Fynbos biome is tenuous and cannot yet be considered sustainable in most cases. The FPAs are faced with the challenge of providing sufficient quality service delivery to their members, at the same time many members are reluctant to pay additional fees. The project made significant contributions in demonstrating the benefit of having salaried extension officers in facilitating increased membership of FPAs and also improving service quality. For some FPAs, the majority of operations are being financed with membership fees, but only barely.

There is also a long-standing opinion (predating the project) that DAFF needs to provide direct funding for the operation of FPAs. One of the key aspects of the NVFF Act of 1998 was the provision allowing the formation of FPAs, as voluntary associations of landowners/users having common fire risks. Over time, the roles of FPAs have evolved, e.g., supplementing inadequate district level fire management services. There have been concerted lobbying efforts urging DAFF to support the function of FPAs, but there is yet a substantive decision. One of the key consultancy deliverables on the project that looked at FPA financing also concluded that the long term financial sustainability of FPAs is contingent on funding support from DAFF.

There are positive signs, however, such as recognition by the DAFF Minister in May 2016[8] that FPAs are being hampered by insufficient financial support. The Minister has pledged to establish a National Veld and Forest Fire Working Group to strengthen DAFF's mandate with regard to implementation of the legislation. Based upon an interview during the TE mission, the National FPA Advisory Forum is working on completing a sustainable financing model for FPAs for DAFF. This model will reportedly provide a framework for how DAFF will contribute to the financing and operation of FPAs.

Apart from DAFF, there is strong governmental support towards fire management, including the Working on Fire expanded public works program, which has been running for a number of years and budget allocations have steadily increased. Administered under the DEA, this program has a strong social dimension, i.e., generating jobs. This increases the likelihood that this program will continue to garner governmental support.

FPAs within the Fynbos biome are now more financially viable; however, there remain challenges in reaching financial sustainability. Over the short to medium term this situation seems likely to

[8] Speech by Minister Hon. Senzeni Zokwana (MP), 13 May 2016, THE LAUNCH OF THE NATIONAL VELD AND FOREST FIRE WORKING GROUP AND THE BEGINNING OF 2016/17 WINTER FIRE SEASON.

continue, before alternate financing options are implemented and/or additional Governmental support is made available.

Socio-Economic Risks:
Likelihood that benefits will continue to be delivered after project closure: Likely

The project has made significant contributions towards reducing vulnerabilities of rural and urban communities to the expected impacts of climate change, including occurrence and impacts of wildfires. The four FireWise communities supported by the project have a cumulative number of households exceeding 5,000. The micro-insurance scheme that will firstly target these households is designed to be rolled out to the other FireWise communities engaged by Kishugu NPC, in other regions of South Africa.

Increased membership among the FPAs within Fynbos biome implies that landowners are more aware of the benefits of integrated fire management. The strengthened capacities of the FPAs reduce the risks associated with spread of wildfires, thus diminishing the likelihood of economic loss and loss of life. There do remain strong development pressures in the region, particularly along the wildland urban interfaces (WUI). The increased capacity to assess WUI risks mitigates these development pressures, and expanded dialogue among stakeholders, including municipal disaster management agencies, further ensures that fire risks criteria will be increasingly considered as part of urban and rural development planning.

Institutional Framework and Governance Risks:
Likelihood that benefits will continue to be delivered after project closure: Likely

The strengthened institutional capacities of the FPAs within the Fynbos biome enhance the likelihood that the results achieved through the project will be sustained after GEF funding ceases. The strengthened capacities were delivered through a substantive number of short course trainings, hiring of extension officers, procurement of communication and early warning systems and equipment, and development of websites, IFM toolkits, and other knowledge products that provide the FPAs with marketing capabilities that were largely not available prior to the project.

There have also been benefits associated with consolidation of FPAs according to municipal administrative boundaries, such as more institutional synergies with municipal level fire services. Expansion of membership has also meant increased participation by the private sector, which has introduced more of a focus on management efficiency. The amalgamation of smaller FPAs in larger ones has also resulted in a more heterogeneous composition of FPAs, e.g., having landowners with vastly different fire risks on their properties. The heterogeneous mix of landowners and increased private sector involvement has also revealed certain governance issues among FPAs that were maybe taken for granted earlier when the make-up of the FPAs was less diverse. For example, the Winelands FPA has pulled out of the Western Cape Umbrella FPA, resulting in some confusion and loss of continuity.

Management of fuel loads in the region, particularly those associated with invasive alien vegetation, are being somewhat hampered by lack of coordination between the Working for Water and Working on Fire expanded public works programmes. The project supported an assessment this issue, concluding that there are deep-seated institutional and governance issues to overcome before improved collaboration between these programmes is realized.

Notwithstanding the institutional and governance challenges outlined above, the strengthened institutional and individual capacities enable local stakeholders to achieve proactive resolutions,

thus enhancing the likelihood that benefits catalyzed by the project will further be supported after GEF funding ceases.

Environmental Risks:
Likelihood that benefits will continue to be delivered after project closure: Likely

The project was designed to increased adaptive capacity, and substantive results in this regard have been generated. Early warning systems are greatly improved, enabling swifter response and minimizing damaging wildfires. Rural and urban communities have reduced vulnerabilities to the expected impacts of climate change as a result of strengthened FPAs, increased awareness of fire hazards, mobilization of insurance products to strengthen resilience, and increases in the knowledge base of fire ecology and climate science within the Fynbos biome. These factors increase the likelihood that project results will be sustained after GEF funding ceases.

3.3.7. Catalytic Role

The project has had a catalytic effect and the adaption benefits generated could potentially facilitate replication after project closure. The extensive short course trainings the project supported are one of the key achievements of the project and have capacitated the participating FPAs and a substantive number of individuals. At least one long course has also been established, a Higher Certificate programme in Veldfire Management at the Nelson Mandela Metropolitan University in Port Elizabeth. The director of the certificate programme wrote the following email to the project coordinator in response to a query raised by the TE evaluator:

> 14 October 2016 (email correspondence):
> Dear Tessa Oliver,
>
> I just want to once again make use of the opportunity to thank you, your fynbosfire team and GEF for all the inputs into the veldfire education programme at the Nelson Mandela University. Some of our students have benefitted greatly from your financial support towards their qualifications and you also made it possible for many veldfire managers to attend our short learning programmes. I also need to thank you for sponsorships towards our Veldfire Management symposia over the last few years.
>
> Lastly but not least, I want to commend you for the initiative to produce the outstanding GEF handbook on Integrated Fire Management as well as the donation of a number of these books to our programme. After reading the book we decided to prescribe the book as handbook for the Integrated Fire Management Module within the Higher Certificate in Veldfire Management Programme (HCVM). I trust that this handbook will be available for students to buy for many years to come?
>
> Kind regards,
>
> Tiaan Pool
> Designation (Programme Coordinator Forestry & Veldfire Management)
> School of Natural Resource Management, Faculty of Science,
> NMMU George Campus

The 1000 copies of the FPA toolkits produced by the project have been disseminated to FPAs, conservation agencies, certain public and private landowners, research institutions, etc.

> 10 November 2016 (email correspondence from Eastern Cape Umbrella FPA to project communication manager)
>
> "Just a note to say thank you! Thanks for the FPA toolkits that you sent to us. It is really a great tool and will be used effectively.
>
> I've got a couple of people in the office working on it and adding local content. I can see a lot of hard work went into this. Well done as this to me is the evidence of a project that worked for the FPAs."

Copies of the toolkits were also sent to the United States Forest Service, which has since requested additional copies:

> 7 November 2016 (excerpt of email correspondence from US Forest Service to project director)

> "... I reviewed the fire pack materials and couldn't put it down. What a stellar job of putting everything together in one kit. Very impressive. ... Any chance of getting 5 more of the kits and 2 of the Red teacher prevention kits from past work by the group?
>
> I want to get them to the Washington DC office of Dept. if Interior, Dept. of Agriculture US Forest Service offices of International Programs , Fire and Aviation and Prevention/Firewise. I also want to get 1-2 to USAID in USA and Pretoria."

An additional 1,000 copies of the IFM handbook have been printed as a result of the high demand.

The methodology developed by the CSIR Natural Resources and the Environment (NRE) team for assessing fire risks along the wildland urban interface (WUI) could potentially become a widely used guideline throughout the country. There are early signs that the methodology is gaining popularity. For example, the Cape Peninsula FPA has hired a local company to assess WUI risks in their domain using this algorithm. Further replication is likely, not only in the Fynbos biome but in other parts of South Africa and in other countries.

The CSIR Automated Burned Area Detection algorithm, also developed with project resources, has been published:

> L. Vhengani, P. Frost, C. Lai, N. Booi, R. van den Dool and W. Raath, "Multitemporal burnt area mapping using Landsat 8: Merging multiple burnt area indices to highlight burnt areas," 2015 IEEE INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM (IGARSS), Milan, 2015, pp. 4153-4156.

And, the new algorithm is running operationally in AFIS and maps all large fires such as the fires of the Western Cape of 2014/2015. It supported the Overberg FPA by mapping the large fires around Bredasdorp in 2016 and mapped the recent fires in Sabie for Sappi.

Another example of catalytic effect is the illustrated fuel handbook produced by the CSIR NRE team. This is the first such handbook in South Africa.

The electronic fire incidence reporting tool that was developed by the CSIR Meraka Institute with additional funds provided by the project is also gaining traction among FPAs. For example, the Greater Overberg FPA has already used the reporting tool. Wider use of electronic fire incidence reporting would be a significant accomplishment, in improving fire incident statistics and moving towards a uniform digital reporting system.

Project support also contributed to the further development of the AFIS. For example, the AFIS terminals developed for the Fynbos biome FPAs were first to have custom dashboards and to use geo-webserver functions. These features are now standard in the commercial AFIS systems offered by the CSIR Meraka Institute in other parts of South Africa and, increasingly, in other Southern African countries, including Mozambique[9].

Based on interviews made as part of the TE, there is interest among certain stakeholders to share lessons learned through consolidating the Fynbos biome FPAs, hiring extension officers, and developing improved communication capacities.

3.3.8. South-South Cooperation

South-South cooperation involves sharing of knowledge and experience, training, technology transfer, and in-kind contributions between developing countries themselves, with varying degree of involvement by Governments and often active participation from multilateral agencies, non-governmental organizations, and public and private institutions.

The project has facilitated South-South cooperation in the past few years, mostly involving the FireWise community concept. Through participation by the project director and project

[9] According to feedback provided during TE interviews, October 2016.

coordinator participation at the Wildland Fire Conference held in South Korea in October 2015 and the Australasian Fire & Emergency Service Authorities Council (AFAC) fire and emergency management conference in September 2016, the FireWise community engagement on a landscape scale sparked interest in Mozambique, where activities could possibly be initiated in the next year or so.

The FireWise model implemented on the Fynbos project has been adapted by Kishugu NPC for the Working on Fire progamme in Chile, where preparations are currently underway to roll out model in 7 communities, which will possibly increase to 12 over in the near future. The FireWise coordinator for the Fynbos project will be directly involved in implementing the FireWise concept in the Chilean communities.

Indonesia is another example. Kishugu NPC has deployed WoF personnel to assist and training Indonesian fire-fighting staff. This initial involvement has led to discussion on developing fire protection association (FPAs) models in the country, following the approaches used on the Fynbos project. The discussions have moved forward, and there are now plans to develop a project with UNOPS, GIZ, and Indonesian counterparts.

Kishugu NPC is well positioned to leverage the experience gained on IFM, packaging it under disaster risk reduction initiatives and delivering it to other regions of South Africa, sub-Saharan Africa, and other countries.

3.3.9. Impact

The typical timeframes of GEF-financed projects, e.g., 5 years, are often insufficient for verifiable improvements in ecological status to materialize. Such impacts could take a decade or more. But, impact can also be tested according to verifiable reductions in stress on ecological systems and through specified process indicators that progress is being made towards achievement of stress reduction and/or ecological improvement.

An evaluation of the status of the impact indicators outlined is summarized below.

Impact Indicator	Comments	Impact Rating
Verifiable improvements in ecological status	There has been insufficient time for verifiable improvements to ecological status to materialize.	**Negligible**
Verifiable reductions in stress on ecological systems	Improved fuel management is one of the main objectives promoted by FPAs that would reduce stress on ecological systems. There are limited monitoring data available to assess verifiable reductions.	**Negligible**
Progress towards stress/status change	Strengthened FPAs increase the likelihood that IFM measures will be implemented across the Fynbos biome, covering more than 4 million ha. Improved early warning systems enable FPAs and municipal fire services to respond more timely, reducing the risk of spread of fire, and thus decreasing the likelihood of the occurrence of damaging fires. And, the enhanced knowledge base on fire ecology and climate science with the fynbos biome is a significant foundational achievement that will help guide scientists and planners in realizing sustainable development and sensible biodiversity conservation throughout the region.	**Significant**

4. CONCLUSIONS, RECOMMENDATIONS, LESSONS, GOOD PRACTICES

4.1. Conclusions

ADAPTATION BENEFITS GENERATED:

The project was successful in generating a number of climate change adaptation benefits, including the following, listed in order of significance:

Strengthened IFM capacities reduces ecosystem stress across the fynbos biome

Consolidation of fire protection associations (FPAs) within the fynbos biome has resulted in increased membership and increased the domain under enhanced management, thus reducing ecosystem stress on more than 4 million ha of the fynbos biome. The current six (6) main FPAs in the region, including 5 in the Western Cape (Greater Cederberg, Southern Cape, Greater Overberg, Winelands, and Cape Peninsula) and 1 in the Eastern Cape (Sarah Baartman West) are more efficient associations, with dedicated management staff. Integrated fire management (IFM) capacities have been strengthened through delivery professional training to a substantive number of FPA stakeholders; development of extensive communication materials, including websites and printed FPA toolkits and other knowledge products; and improvements to information management and communication systems.

Improved early warning systems strengthens resilience to the impacts of climate change

The early warning systems available to FPAs within the Fynbos biome have been substantively strengthened, enabling these associations to deliver higher quality services to their members and to better protect against spread of fire to at-risk communities and ecosystems. Each of the 6 main FPAs within the Fynbos biome has received AFIS terminals, and fire danger reporting tools have been further developed. The project also procured 33 new automatic weather stations and arranged the installation of them at strategic locations where there were gaps in coverage, including high altitude environments and other areas.

Reduced vulnerabilities of rural and urban populations

The increased capacity in assessing fire risks, both in terms of economic loss and loss of life, along the wildland urban interface further contributes to reduction of vulnerabilities of rural and urban populations, by providing municipal planners and developers with practical guidance on avoiding wildland fire risks. Introducing the FireWise community concept to four settlements within the Fynbos biome, including Sir Lowry's Pass Village in Helderberg Municipality, Goedverwacht in Bergriver Municipality, Kranshoek in Bitou Municipality, and Clarkson in Koukamma Municipality, has increased awareness and hands-on participation in fire risk reduction activities, therefore reducing the vulnerabilities of these communities, having a cumulative 5,346 households and 18,597 inhabitants. Leveraging off these successful interactions, a micro-insurance scheme under development in cooperation with the Santam insurance company is planned to be rolled out first in these communities and eventually extended to other FireWise communities supported by Kishugu NPC – representing nearly 70,000 people.

Expanded knowledge base enhances the enabling capacity of the scientific community

As climate change resilience is also contingent on the capacity assess and develop response strategies to various scenarios, the project resources also supported achievement of a better understand the fire ecology and climate science within the fynbos biome.

Broadened dialogue across sectors facilitates a collaborative adaptation strategy

Integrated fire management requires more inclusive collaboration than in traditional reactive fire-fighting approaches, and the project has instituted broader dialogue across sectors that provide the foundation for continued climate change adaptation efforts beyond the lifespan of the project. The expanded FPAs include more diverse members, with increased participation of the private sector. The umbrella FPAs have also been strengthened as potential advocacy platforms for affecting more substantive inter-governmental cooperation, e.g., between the Working on Fire and Working for Water expanded public works programmes, and also lobbying for the Department of Agriculture, Forestry and Fisheries (DAFF) to allocate more resources towards the operation of FPAs.

SUMMARY OF CONCLUSIONS:

Under an innovative design, aimed at strengthening climate change adaptive capacity through improved integrated fire management within the fynbos biome situated in the southern reaches of South Africa, the project has managed to satisfactorily achieve the majority of intended outcomes. One of the key achievements of the project was supporting the process of consolidating the domains of the fire protection associations (FPA) operating with the Fynbos biome according to municipal administrative boundaries.

The FPAs within the fynbos biome are also now more capacitated with early warning systems. Six (6) FPAs were provided with AFIS terminals, providing them with much more current and relevant fire danger early warnings and reporting services. There have been substantive information technology developments over the course of the project. For example, reliability of internet is much higher now than when the project was designed back in 2010, and in most cases available throughout the Fynbos biome. This has rendered the need for AFIS terminals mostly redundant. FPAs and other users have more flexibility accessing the web-based AFIS services, which require lower IT skills and essentially removes the concern of updating or refreshing the systems. The quality of the information provided on the AFIS has also been improved through the installation of 33 new automatic weather stations at strategic areas were selected where fire risks were high and automatic weather reporting was limited. The also project made a substantive contribution in improving incident reporting, by developing an online based reporting tool.

FPAs within the fynbos biome and throughout South Africa have struggled to reach sustainable financing operation since the concept of FPAs was introduced in the National Veld and Forest Fire Act passed in 1998. The contribution of the project was a demonstration of how a more capacitated FPA stands a higher likelihood to be financially sustainable. For instance, full-time salaried extension officers have provided an increased level of service to members and also help facilitate more proactive membership. Strengthened Umbrella FPAs also enhance their ability to advocate for change. The Western Cape FPA, for example has recently been able to negotiate membership agreements with several key parastatals, including Eskom, the electrical utility company and Sanral, the national road agency.

Expanding the domains of the FPAs has not come without challenges. Land use within the larger, consolidated FPAs is diverse, ranging from farmland, estates, forest plantations, rural and urban communities, and nature reserves. Expanding the domains of the FPAs to more or less match district boundaries makes sense in terms of improving synergies with municipal level service providers and planners, but it also brings together members having vastly different risks with respect to wildfires. In the NVFFA Act of 1998, the concept of voluntary FPAs was intended for land users having common fire risks. Management of the now larger, more diverse FPAs requires

an expanded skill set compared to the smaller, mostly voluntary associations earlier. Consolidation of FPAs, creation of new FPAs, and efforts to strengthen umbrella FPAs have also revealed certain governance issues that might have been taken for granted when there was a smaller group of participating stakeholders. Expanded stakeholder involvement has come with more demands on governance structures.

There were certain departures to some of the envisaged results outlined in the project document. Although the project succeeded in supporting improved fire risk assessment methodologies, particularly along the wildland urban interface (WUI), integrating fire risk assessment criteria into municipal disaster management plans did not materialize as planned. Development of insurance based incentives, together with the insurance industry, that encourage landowners to proactively implement measures to reduce climate change induced fire hazards was also not completed. The project did manage to foster a partnership with one of the two large local insurance companies, Santam, in developing an affordable home insurance product for low-middle income households, initially targeting the FireWise communities that the project sponsored. It took some time to develop this partnership, in fact near the end of the extended project's timeframe, and there is consequently a degree of uncertainty on whether the insurance scheme be as successful as planned and whether the approximately USD 300,000 endowment trust fund resourced from the GEF implementation grant will be efficiently utilized over the short to medium term.

4.2. Recommendations

No.	Recommendation	Responsible Entities*
Corrective actions for the design, implementation, monitoring and evaluation of the project		
1.	Development of the micro-insurance scheme was realized rather late in the project, and by the time of the terminal evaluation it had not yet been rolled out. During the course of the TE mission, the project team made a preliminary forecast of income generated and expenses incurred over the next few years, making several assumptions regarding level of policy uptake, amount of subsidies provided, and costs associated with guiding the process along, particularly in the initial period when the trust fund is being drawn from. A more detailed business analysis should be made prior to project closure, looking at additional scenarios, including slower rates of policy uptake. The deed of trust for the endowment fund should also be approved by the project steering committee prior to project closure.	PMU, Project Steering Committee, Kishugu NPC
2.	Transfer of ownership and long-term operation and maintenance of the 33 automatic weather stations should be resolved prior to project closure.	PMU
Actions to follow up or reinforce initial benefits from the project		
3.	Lessons learned regarding consolidation and strengthening of FPAs should be shared with other FPAs and DAFF representatives. The project should sponsor a workshop for FPA managers from other regions in the country and relevant DAFF representatives. Apart from disseminating lessons learned, this workshop could also lead to new synergies and partnerships, possibly opening entry points for alternative financing options for the FPAs within the fynbos biome.	PMU
4.	The sustainability of the FireWise communities should be enhanced by organizing a workshop with FireWise community representatives, FPAs, local governments, and relevant NGOs, introducing grant options, delivering proposal preparation skills, and describing support services available. The GEF Small Grants Programme (SGP) should be invited to participate.	PMU, Kishugu NPC, UNDP
5.	The gap of not facilitating integration of wildland fire risk criteria into municipal disaster management plans and integrated development plans should be addressed prior to project closure. One option is to organize a workshop bringing together disaster management planners and land use planners from municipalities in the	PMU

No.	Recommendation	Responsible Entities*
	Western Cape and Eastern Cape, with the project FPA stakeholders, scientists, and consultants.	
6.	The envisaged "incentives toolbox" is also a gap that should be addressed. Developing incentives that encourage proactive behavior by landowners is a sensible approach to integrated fire management, and the incentives might have opened up opportunities for FPAs, possibly offering useful additions to the suite of sustainable financing options for the fynbos biome FPAs.	
7.	The project has initiated formulation of a sustainability plan, retaining the services of an experienced consultant, who has held consultations with project stakeholders, collected suggestions, and will be formulating a series of recommendations. The TE evaluator supports this process and recommends that roles and responsibilities be clearly articulated in the sustainability plan, costs for the suggested actions estimated, and possible funding sources identified.	PMU
Proposals for future directions underlining main objectives		
8.	Fuel load management, particularly with respect to invasive alien vegetation, should be further advocated, consistent with National Climate Change Response White Paper published in 2014, which outlines the consolidation and expansion of the Expanded Public Works Programme and its sector components such as the Non-State Sector's Community Works Programme and the suite of Environment and Culture Sector programmes including Working for Water, Working on Fire, and Working for Energy as these have proven effective in building climate resilience and relieving poverty.	DEA, Department of Energy
9.	The likelihood of securing additional funding for integrated fire management would likely be enhanced if a multi-focal approach is taken. For example, linking IFM with sustainable land management, climate change adaptation, and food security might be a feasible nexus to pursue.	DEA
10.	Leveraging off the unique biodiversity values among the fynbos biome, project results could be built upon by developing and demonstrating a payment for ecosystem services (PES) scheme that incentivizes landowners to implement sustainable adaptation measures.	DEA

4.3. Good Practices and Lessons Learned

GOOD PRACTICES:

Practical training by qualified service providers

Capacity building realized through the trainings delivered on the project was one of the key achievements. Utilizing tried and tested training modules delivered by qualified service providers is an example of good practice.

Demonstrable benefits having extension officers supporting FPAs

The project has produced verifiable evidence of the benefits of having salaried extension officers supporting the operations of FPAs. Funding the salaries of the extension officers is a good practice of demonstrating the realized benefits.

Efficiently utilized and strengthened local capacity

The project capitalized on the pool of highly qualified service providers in South Africa, and contributed to strengthening capacities of the scientific and professional communities by implementing innovative integrated fire management approaches.

Frequent and constructive project steering committee meetings

The project steering committee managed to convene 13 times between June 2012 and October 2016, an impressive number compared to other projects, where annual meetings are sometimes difficult to manage. There was a strong continuity among the steering committee, and the meetings provided constructive guidance to the management team.

The envisaged insurance endowment trust fund is an innovative sustainability structure.

Establishing an insurance endowment trust fund is an innovative approach with respect to project sustainability. Building such a trust fund into the project design provides an increased level of assurance that adaptation benefits will continue to be generated after the project's implementation timeframe is completed.

Utilizing existing inter-governmental structures for advocating project sustainability

Through chairperson of the project steering committee, replication of the approach implemented by the project to strengthen FPAs will be advocated through the existing inter-governmental platform of MinMEC meetings – Ministers and Members of Executive Councils meetings. Utilizing existing inter-governmental structures demonstrates a high level of country ownership.

LESSONS LEARNED:

Allotted timeframe for implementation was insufficient

The 3-year implementation timeframe indicated in the project document was insufficient. Generating climate change adaptation benefits, in most cases, requires time for stakeholder consultation, delivery of training including on-the-job interventions, and to mainstream the adaptive framework into general practice. There is also an inevitable period of time needed to assemble a project team, prepare work plans, and procure the services required to implement the project strategy, and similarly time need near project closure for consolidating results, advocating for requisite sustainability structures to be supported by key enabling stakeholders, and evaluating performance.

Performance indicators and targets should be achievable within the timeframe of the project

The project was primarily focused on strengthening adaptive capacities. It takes time before such capacity building efforts translate into measurable change as a result of improved management practices. A time horizon of 3 years, even 5 years, is insufficient for achieving changes in the extent and number of damaging and non-damaging fires.

The FireWise committee approach increases the likelihood of sustaining an engaged community

Project stakeholders unanimously agreed that paying a modest stipend to the FireWise committee members ensures that the community remains engaged. Voluntary based involvement has generated mixed results, particularly for low income communities.

Involvement of climate change adaptation planners should be more integrated into the project strategy for a project focusing on strengthening adaptive capacities

It would have been advisable to integrate participation of national climate change adaptation planners into the project strategy.

Cofinancing reporting on GEF-financed projects will likely remain incomplete unless linked to performance based disbursement of funds

The GEF agency, in this project UNDP, should set the tone early with respect to requirements on reporting cofinancing contributions. There should be a system developed for tracking cofinancing from partners that confirmed funding at project approval and also allows for capturing contributions that materialize after start of implementation. The system should be reviewed and monitored by the M&E coordinator of the respective GEF agency. As part of quarterly progress reporting, cofinancing contributions for the subject period should be registered and disbursement of funds for the subsequent quarter made contingent upon the completeness of the reporting. Quarterly reporting of cofinancing would also encourage project teams to more closely assess opportunities for synergies with cofinancing partners, rather than just collecting input from partners at the midterm review and terminal evaluation stages.

5. ANNEXES

Annex 1: Evaluation Mission Itinerary (03-21 October 2016)

Date	Activity
Monday, 3 October	Meet with project coordinator
Tuesday, 4 October	Interview chairperson and manager of Greater Overberg FPA Interview consultant working on micro-insurance scheme Teleconference with insurance company representative
Wednesday, 5 October	Visit Goedverwacht FireWise community
Thursday, 6 October	Participate in Western Cape Umbrella FPA meeting Meeting with Santam insurance company representatives
Friday, 7 October	Interview project director Interview project communications manager Interview independent consultant working on sustainability plan
Weekend	
Monday, 10 October	Interview with manager of Cape Peninsula FPA Interview CSIR NRE scientists
Tuesday, 11 October	Interview with country director of UNDP CO
Wednesday, 12 October	Participate in project steering committee meeting
Thursday, 13 October	Interview CSIR Meraka Institute scientist Interview UNDP-GEF Regional Technical Specialist Further interviews with project director and project coordinator Interview with Manager of Southern Cape FPA
Friday, 14 October	Interview with project assistant Interview with Manager of Greater Cederberg FPA Interview Kishugu NPC financial manager
Tuesday, 18 October	Interview with Manager of Eastern Cape Umbrella FPA Interview with CapeNature Fire and Catchment Manager

Note: Other stakeholders interviewed via Skype or telephone. Desk review carried out on other days during the mission.

Annex 2: Evaluation Matrix

Evaluation Criteria Questions	Indicators	Sources	Methodology
Relevance: Is the project relevant with respect to the environmental and development priorities at the local, regional and national levels?			
To what extent is the principle of the project in line with sub-national and national priorities?	Level of participation of the concerned agencies in project activities. Consistency with relevant strategies and policies.	Minutes of meetings, Project progress reports, national and regional strategy and policy documents	Desk review, interviews
To what extent is the project aligned to the main objectives of the GEF focal area?	Consistency with GEF strategic objectives	GEF Strategy documents, PIRs, Tracking Tools	Desk review, interview with UNDP-GEF RTA
To what extent is the project aligned to the strategic objectives of UNDP?	Consistency with UNDP strategic objectives	UNDP Strategic Plan, Country Programme Document	Desk review, interview
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
Assessment of progress made toward achieving the indicator targets agreed upon in the logical results framework			
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?			
Is there evidence that sufficient funding has been secured to sustain project results?	Financial risks	Progress reports, sectoral plans, budget allocation reports, testimonial evidence	Desk review, interviews
Have individual and institutional capacities been strengthened, and are governance structures capacitated and in place to sustain project results?	Institutional and individual capacities	Progress reports, testimonial evidence, training records	Desk review, interviews
Are there social or political risks that may threaten the sustainability of project results?	Socio-economic risks	Socio-economic studies, macroeconomic information	Desk review, interviews
Are there ongoing circumstances and/or activities that pose threats to the sustainability of project results?	Risks to sustainability	Sectoral plans, progress reports, macroeconomic information	Desk review, interviews, field visits
Have delays affected project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?	Impact of project delays	Progress reports	Desk review, interviews
Impact: Are there indications that the project has contributed to, or enabled progress toward long lasting desired changes?			
Has the project made verifiable environmental improvements	Verifiable environmental improvements	Progress reports, sectoral plans, municipal development plans	Desk review, interviews, theory of change analysis
Has the project made verifiable reductions in stress on environmental systems	Verifiable reductions in stress on environmental systems	Progress reports, sectoral plans, municipal development plans	Desk review, interviews, theory of change analysis
Has the project demonstrated progress towards these impact achievements?	Progress toward impact achievements	Progress reports, sectoral plans, municipal development plans	Desk review, interviews, theory of change analysis
Efficiency: Was the Project implemented efficiently, in-line with international and national norms and standards?			
Was the project efficient with respect to incremental cost criteria?	Incremental cost	National strategies and plans, progress reports	Desk review, interviews

Evaluation Criteria Questions	Indicators	Sources	Methodology
Was the achievement of project objective and results realized according to the proposed budget and timeline	Efficient utilization of project resources	Progress reports, financial records	Desk review, interviews
Country Ownership:			
How are project results contributing to national development plans and priorities?	Development planning	Government approved plans and policies	Desk review, interviews
Have governments approved policies or regulatory frameworks in line with the project objective?	Policy reform	Government approved plans and policies	Desk review, interviews
Have governmental and other cofinancing partners maintained their financial commitment to the project?	Committed cofinancing realized	Audit reports, project accounting records	Desk review, interviews
Stakeholder Involvement and Partnership Arrangements:			
Has the project consulted with and made use of the skills, experience, and knowledge of the appropriate government entities, NGOs, community groups, private sector entities, local governments, and academic institutions?	Effective stakeholder involvement	Meeting minutes, reports, interview records	Desk review, interviews, field visits
Were partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval?	Partnership arrangements	Memorandums of understanding, agreements	Desk review, interviews
How have partnerships influenced the effectiveness and efficiency of project implementation?	Effective partnerships	Progress reports, interview records	Desk review, interviews, field visits
Have relevant vulnerable groups and powerful supporters and opponents of the processes been properly involved?	Inclusive stakeholder involvement	Meeting minutes, reports, interview records	Desk review, interviews, field visits
Has the project sought participation from stakeholders in (1) project design, (2) implementation, and (3) monitoring & evaluation?	Stakeholder involvement	Plans, reports	Desk review, interviews, field visits
Catalytic Role:			
How has the project had a catalytic or replication effect in the country?	Catalytic effect	Interview records, municipal development plans	Desk review, interviews
Synergy with Other Projects/Programs			
How were synergies with other projects/programs incorporated in the design and/or implementation of the project?	Collaboration with other projects/programs	Plans, reports, meeting minutes	Desk review, interviews
Preparation and Readiness			
Were project objective and components clear, practicable, and feasible within its time frame?	Project coherence	Logical results framework	Desk review, interviews

Evaluation Criteria Questions	Indicators	Sources	Methodology
Were the capacities of the executing institution(s) and its counterparts properly considered when the project was designed?	Execution capacity	Progress reports, audit results	Desk review, interviews
Were counterpart resources, enabling legislation, and adequate project management arrangements in place at Project entry?	Readiness	Interview records, progress reports	Desk review, interviews, field visits
Financial Planning			
Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds?	Financial control	Audit reports, project accounting records	Desk review, interviews
Has there been due diligence in the management of funds and financial audits?	Financial management	Audit reports, project accounting records	Desk review, interviews, field visits
Has promised cofinancing materialized?	Realization of cofinancing	Audit reports, project accounting records	Desk review, interviews
Supervision and Backstopping			
Has GEF agency staff members identified problems in a timely fashion and accurately estimate their seriousness?	Supervision effectiveness	Progress reports	Desk review, interviews
Has GEF agency staff members provided quality support, approved modifications in time, and restructured the project when needed?	Project oversight	Progress reports	Desk review, interviews
Has the implementing agency provided the right staffing levels, continuity, skill mix, and frequency of field visits for the project?	Project backstopping	Progress reports, back-to-office reports, internal appraisals	Desk review, interviews, field visits
Monitoring & Evaluation			
Were intended results (outputs, outcomes) adequately defined, appropriate and stated in measurable terms, and were the results verifiable?	Monitoring and evaluation plan at entry	Project document, inception report	Desk review, interviews
Has the project monitoring & evaluation plan been implemented as planned?	Effective monitoring and evaluation	Progress reports, monitoring reports	Desk review, interviews
Has there been sufficient focus on results-based management?	Results based management	Progress reports, monitoring reports	Desk review, interviews
Mainstreaming			
Were gender issues had been taken into account in project design and implementation?	Greater consideration of gender aspects.	Project document, progress reports, monitoring reports	Desk review, interviews, field visits
Were effects on local populations taken into account in project design and implementation?	Positive or negative effects of the project on local populations.	Project document, progress reports, monitoring reports	Desk review, interviews, field visits

Annex 3: List of Persons Interviewed

Name	Position
Christo Marais	Chairperson of Project Board, Chief Director, Natural Resource Management Programmes, Department of Environmental Affairs
Val Charlton	Project Director, Kishugu NPC Managing Director
Tessa Oliver	Project Coordinator
Philip Prins	Table Mountain National Parks Fire manager; SANParks and Western Cape UFPA Chairman; Cape Peninsula FPA Chairman, and Project Board member
Philip Frost	CSIR independent scientist, Project Board member
Tony Marshall	Fire and Catchment Manager, Cape Nature, Project Board member
Pierre Gallagher	Manager, Cape Peninsula Fire Protection Association
Dr Paul Cluver	Chairman, Greater Overberg Fire Protection Association
Louise Wessels	Manager, Greater Overberg Fire Protection Association
Paul Gerber	Manager, Southern Cape Fire Protection Association
Charl du Plessis	General Manager, Greater Cederberg Fire Protection Association
Thinus Botha	General Manager, Eastern Cape Umbrella Fire Protection Association
Greg Forsyth	Conservation Biologist-Hydrologist, CSIR Natural Resources and the Environment
David Le Maitre	Conservation Biologist-Hydrologist, CSIR Natural Resources and the Environment
Henda Kellerman	Project Communications Manager
Chandra Fick	FireWise Coordinator, Kishugu NPC
Tina Stockdale	Financial Director, Kishugu NPC
John Lomberg	Santam insurance company
Evashinee Joseph	Santam insurance company
Hanlie Kroese	Business Development Manager, Agriculture, Santam insurance company
Onno Huyser	Independent Consultant (insurance output)
Walid Badawi	Country Director, UNDP Country Office, South Africa
Akiko Yamamoto	Regional Technical Specialist, UNDP Regional Service Centre for Africa
Aubrey Manamela	Finance Associate, UNDP Country Office, South Africa
James Jackelman	Independent Consultant, team leader during project preparation phase

Annex 4: List of Information Reviewed

1. Project Identification Form (PIF)
2. Project Document
3. GEF CEO Endorsement Request
4. Project Inception Report
5. Project implementation reports (APR/PIR's)
6. Quarterly progress reports and work plans of the various implementation task teams
7. Project budget and financial data
8. Audit reports
9. The Mission Reports and Lessons learnt study
10. M&E Operational Guidelines, all monitoring reports prepared by the project
11. Financial and Administration guidelines
12. Midterm review (MTR) report
13. Management response to midterm review report
14. Financial expenditure records
15. Cofinancing records
16. List of contact details for project staff, key project stakeholders, including Project Board and other partners to be consulted
17. Project operational guidelines, manuals and systems
18. Project Deliverables
19. Minutes of FYNBOS Meetings
20. Minutes of the FYNBOS Project Steering Committee Meetings
21. Maps (included in the Project document)
22. The GEF Completion Report guidelines; and
23. UNDP Monitoring and Evaluation Frameworks
24. UNDP Development Assistance Framework (UNDAF)
25. UNDP Country Programme Document (CPD)
26. UNDP Country Programme Action Plan (CPAP)
27. GEF focal area strategic program objectives

Annex 5: Summary of Field Visits

Notes from the field visits:

- Land use within the larger, consolidated FPAs is diverse, ranging from farmland, estates, forest plantations, rural and urban communities, and nature reserves. Expanding the domains of the FPAs to more or less match district boundaries makes sense in terms of improving synergies with municipal level service providers and planners, but it also brings together members having vastly different risks with respect to wildfires. In the Forest and Veldfire Act of 1998, the concept of voluntary FPAs was intended for land users having common fire risks. Consolidating FPAs requires more skill in management heterogeneous stakeholders.
- Consolidation of FPAs, creation of new FPAs, and efforts to strengthen umbrella FPAs has revealed certain governance issues that might have been taken for granted when there was a smaller group of participating stakeholders. Expanded stakeholder involvement has come with more demands on governance structures.
- The FireWise community of Goedverwacht is a settlement under the jurisdiction of the Moravian Church; something that is rather common in the Western Cape. One of the advantages of such a community is the high level of social cohesion. There are also challenges. For instance, there is an inconsistent understanding of the distribution of responsibilities between the municipal authorities and the Church; e.g., among the 44 fire hydrants in the community, only 2 are functional.
- A large proportion of the Fynbos biome is under private ownership. This presents specific challenges to governmental agencies responsible for integrated fire management. For example, the nature reserves under Cape Nature management have more than 4,000 km of cumulative borders; considering an average of about 1 km per neighboring landowner, that means there are more than 4,000 landowners that this one agency has to manage.
- There have been substantive information technology developments over the course of the project. For example, reliability of internet is much higher now than when the project was designed back in 2011, and in most cases. This has rendered the need for AFIS terminals mostly redundant. FPAs and other users have more flexibility accessing the web-based AFIS services, which require lower IT skills and essentially removes the concern of updating or refreshing the systems.
- Interviewed stakeholders were uniformly satisfied with the training provided by the project. Delivery of the trainings adapted to the needs of the participants, e.g., the trainers often delivered the trainings at the premises of the landowners.
- There was also a high level of appreciation of the assistance provided by the project in terms of producing communication materials, including websites, public awareness brochures, and technical guidance manuals. The FPAs did not previously have the resources or capacities to produce such content.
- Transfer of ownership of the automatic weather station (AWS) units has not yet been sorted out. The project team is investigating available options, preferably entailing transferring all the units to a common agency or service provider, e.g., the South African Weather Service (SAWS). It seems unlikely that a resolution will be reached by project closure in December 2016.

- The service fee from the SAWS of ZAR 75,000 (USD 5,700) per year, for delivery of fire danger index (FDI) readings, is prohibitive for several of the FPAs. Currently, SAWS is the only recognized legal source of FDI information, and the FPAs feel obliged to purchase the annual service for liability reasons. The project board discussed lobbying for recognizing the FDIs issued by AFIS to be recognized by DAFF as also legal.
- Relationship between FPAs and WoF seems to be a work-in-progress. In some cases, the FPAs are actively utilizing WoF teams, while in others the working relationships are not as developed.
- With respect to fire incident reporting, one reason there is sparse historic data on fire damage extent is the lack of proper fire incident reports. Project made substantive contribution in improving incident report, by developing an online based reporting tool. One of the FPA managers indicated that it is a challenge to fill out incident reports during fire season; they can have 40 fires to manage at any given time. And, field fire managers typically are not best at producing written reports.
- Insurance market has evolved in recent years. Some landowners and FPA managers are unaware of the products and services available.
- Micro insurance, procurement of a service provider for this activity proved difficult. Delays in finding the right channels inside the insurance companies. Based on a limited sampling of FireWise community committee members, there seems to be a keen interest in the micro-insurance policy.
- There are considerable differences between the Western Cape and Eastern Cape in terms of integrated fire management. Firstly, municipal services are much more developed in the Western Cape; municipal services some areas in the Eastern Cape are essentially non-existent. There seems to be more funding under the Working on Fire program directed to the Western Cape. And, there are larger commercial forests in the Eastern Cape.
- Fuel load management is a common concern among FPAs. There needs to be better coordination between alien clearing (Working for Water) and vegetation management (Working on Fire).

Annex 6: Matrix for Rating Achievement of Project Objective and Outcomes

No.	Indicator	Baseline	End of Project Target(s)	TE Comments	TE Status
Objective: Develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks.					
Obj-1	Increased number and extent (ha) of non-damaging wildfires (i.e. 'minor' and 'insignificant' fires, as described in section 2.5) per annum in the Fynbos biome	Non-damaging veldfires: Area (ha): >145,200 No.: >1,580	Non-damaging veldfires: Area (ha): >165,000 No.: >1700	There are certain anecdotal lines of evidence that one could use to conclude this has been satisfactorily achieved, e.g., through strengthened capacities of FPAs and increased awareness among landowners; however, there are no quantitative data to back this up. Firstly, the baseline conditions proved difficult to validate, and more importantly, there were no systems in place for measuring progress made.	**Unable to Assess**
Obj-2	Decreased number and extent (ha) of damaging veld fires (i.e. damaging and catastrophic fires, as described in section 2.5) per annum in the Fynbos biome	Catastrophic fires: Area (ha): <74,800 No.: 420	Catastrophic fires: Area (ha): <52,500 No.: <300		**Unable to Assess**
		Project Objective Rating	**Satisfactory**		
Outcome 1: Capacity built at local level to manage increased incidence and extent of fires					
1.1	Number of FPAs integrated into, and aligned with, the affected municipal structures (including the municipal land use planning, fire brigade and disaster management services).	1	>6	One of the key achievements of the project was supporting the process of consolidating the domains of FPAs in the Fynbos biome according to district administrative boundaries.	**Achieved**
1.2	Number of FPAs with the adaptive capacity to effectively manage the risks associated with climate-induced fires	0	>6	The extension officers clearly added a boost to service quality and helped facilitate FPA membership expansion. In most cases, the extension officers hired and supported with project funds have since been integrated into the FPA organizations after project funding ceased at the end of 2015.	**Achieved**
1.3	Number of wildland fire management staff completing specialized training and/or skills development in adaptation-related fire management technologies	0	>30 (short courses) >4 (full-time courses)	Training was another highlight of the project. The number of short course trainings delivered far exceeded the target of 30 wildland fire management staff, and not only did FPA staff participate but also landowners and workers. In addition to the short courses, a Higher Certificate programme in Veldfire Management was established at the Nelson Mandela Metropolitan University in Port Elizabeth in 2013, with some support from the project.	**Achieved**
1.4	Number of FPAs with adequate sustainable financing sources to mitigate the increasing risk of wildfires as a consequence of climate change	0	>6	The main contribution made by the project was a demonstration of how a more capacitated FPA can be more financial viable.	**Achieved**
		Outcome 1 Rating:	**Highly Satisfactory**		

No.	Indicator	Baseline	End of Project Target(s)	TE Comments	TE Status
Outcome 2: Decision-support and risk management systems for fire management improved					
2.1	Number of FPAs with functional, populated (i.e. data) and networked AFIS field terminals	0	5	Six (6) FPAs within the Fynbos biome were provided with Advanced Fire Information System (AFIS) terminals, providing them with much more current and relevant fire danger early warnings and reporting services. Among the 6 units, the one delivered for the Eastern Cape, to the Eastern Cape Parks and Tourism Agency (ECPTA) was not installed properly and is not functioning, and the one delivered to the Cape Peninsula FPA was stolen earlier in 2016.	**Achieved**
2.2	Coverage (ha) of area where fires are detected, profiled (for risk) and tracked by the FPA AFIS field terminals	0 ha	>4 million ha	The supply of AFIS terminals has provided FPAs with increased capacity to detected and profile fires in their regions. Considering the domains of the FPAs have increased over the course of the project, the cumulative coverage by the AFIS terminals exceeds the end target of 4 million ha.	**Achieved**
2.3	Number of AWSs recording local weather conditions under a changing climate regime in the high altitude mountain areas of the Fynbos biome	<10	>50	A cumulative total of 33 weather stations have been installed.	**Achieved**
2.4	Average percentage (across all FPAs) of FPA members receiving localised daily fire danger forecasts	<5%	>80%	Information collected by the weather stations feed into the AFIS, and through the service delivered by AFIS, FPAs are now much more capacitated to provide their landowner members localized fire danger forecasts.	**Achieved**
2.5	Extent (ha) of the Fynbos biome with a local landscape level wildfire risk rating that integrates climate change scenarios into the risk assessment	0 ha	>3 million ha	The demonstration climate change scenario modeling completed by the CSIR team is an important achievement and provides clear guidance on what gaps need to be filled in order to further refine these capabilities. The modeling outputs delivered, however, fall short of what is called for under Indicator No. 2.5.	**Unlikely to be achieved by project closure**
2.6	Number of municipalities (local, district and metropolitan) with climate-based fire risk information for wildlands integrated into the municipal disaster management plans.	0	>6	Developing the risk assessment capacities is only the first step. The expected result was that municipalities would integrate this information in their municipal disaster management plans.	**Unlikely to be achieved by project closure**
		Outcome 2 Rating:	**Satisfactory**		
Outcome 3: Innovative risk reduction interventions implemented					

No.	Indicator	Baseline	End of Project Target(s)	TE Comments	TE Status
3.1	Percentage of landowners in the demonstration areas (Southern Cape FPA and Cedarberg FPA) that are paid up members of the FPA, and conform with the FPA rules and regulations	<20%	>60%	With respect to the percentage of landowner being paid up members of the Southern Cape and Greater Cederberg FPAs, interviews with the managers of these FPAs during the TE mission confirmed that the end of project target of >60% is safely exceeded. Compliance is also significantly improved as well.	**Satisfactory**
3.2	Number of private landowners in FPAs instituting proactive risk management measures in response to insurance-based incentives	<20 (est.)	>100	There was no evidence that the "incentives toolbox" was developed. The designed activities under Output 3.1 also included training responsible fire management authorities and institutions in the application of the incentives toolbox, and partnering with private and public sector in support of the implementation of viable wildland fire incentives.	**Unlikely to be achieved by project closure**
3.3	Number of households in the targeted WUI areas that have an improved resilience to outbreaks of climate-induced wildfires	0	>2500	With only 2 months remaining before project closure, the micro-insurance scheme is not yet finalized; the deed of trust is not yet approved.	**Unlikely to be achieved by project closure**
		Outcome 3 Rating:	**Moderately Satisfactory**		

Annex 7: Cofinancing Table

Annex 7: Cofinancing Table												
Note	Co-Financing Source	Type	UNDP (USD million)		Government (USD million)		NGOs (USD million)		Private Sector (USD million)		Total Co-Financing (USD million)	
			Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Implementing Agency (UNDP)												
1	UNDP	In-Kind	0.180	0							0.180	0.000
Government												
2	National Department of Environmental Affairs	Grant			29.612	24.019					29.612	24.019
3	Western Cape Department of Agriculture, Forestry and Fisheries	In-Kind			0.510	0.510					0.510	0.510
Non-Governmental Organizations (NGOs)												
4	Fire Protection Associations (Southern Cape and Cederberg)	In-Kind					0.4381	0.4381			0.438	0.438
5	Fire Protection Association (Eastern Cape)	In-Kind					0.000	0.059925			0.000	0.060
Private Sector												
6	FFA Group	In-Kind							0.200	0.200	0.200	0.200
7	CSIR Natural Resources & the Environment Operating Unit	In-Kind							0.000	0.0728	0.000	0.073
Total Cofinancing for Project Implementation:			**0.180**	**0**	**30.122**	**24.529**	**0.438**	**0.498**	**0.200**	**0.273**	**30.9401**	**25.299**
% Actual to Planned Cofinancing:			0%		81%		114%		136%		**82%**	

Notes:

1. UNDP cofinancing did not materialize as planned.
2. Actual cofinacing in ZAR confirmed by DEA via email on 7 Nov 2016 as follows (exchange rates from South Africa Reserve Bank, www.resbank.co.za).

Fiscal Year:	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Cofinancing, ZAR:	32,038,311	34,449,797	36,648,720	43,861,500	48,735,000	51,300,000	247,033,328
ZAR:USD Exchange Rate	6.8596	8.4405	9.9655	10.6135	12.2406	14.7626	
Exchange Rate date	30 Jun 2011	30 Jun 2012	28 Jun 2013	30 Jun 2014	30 Jun 2015	30 Jun 2016	
Cofinancing, USD:	4,670,580	4,081,488	3,677,560	4,132,614	3,981,422	3,474,998	24,018,662

3. Western Cape Department of Agriculture, Forestry and Fisheries confirmed actual cofinancing via email, 31 October 2016.
4. Southern Cape FPA confirmed cofinancing contribution via email, 14 October 2016.
5. Eastern Cape FPA confirmed to project coordinator (Jan 2014 cofinancing spreadsheet) for the period of inception through Dec 2013, for participation on project board.
6. FFA Group (Kishugu NPC) confirmed actual cofinancing contributions via written letter dated 4 November 2016.
7. CSIR parlimentary grant of est. ZAR 1,000,000, for supporting regional climate change projections, which were used by the CSIR team contracted by the project to analyze climate change scenarios for the Fynbos Biome. USD equivalent calculated with an ZAR:USD exchange rate of 13.7383, 31 October 2016 (South African Reserve Bank)

Annex 8: Evaluation Consultant Code of Conduct Agreement Form

Evaluator:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and: respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/ or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: James Lenoci

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed in Cape Town on 03 October 2016

Signatures:

James Lenoci
Terminal Evaluator

Annex 9: Audit Trail

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution ("Author" column) and track change comment number ("#" column):

Author	Comment location	Comment/Feedback on the draft TE report	TE Evaluator response and actions taken
JG	Executive Summary, Exhibit 2, Rating Table, IA-EA Execution	To give backdrop, certain institutional matters are relevant and worth bearing in mind: the entire UNDP Regional Service Centre relocated from South Africa to Addis Ababa, leaving a major vacuum in human resources at the country office (management and administration). Coupled with this was an absence of a DRR or CD in the country office for an extended period of time between April 2012 – September 2013 (interim CD) and then CD in January 2014. The then programme manager (Maria) had challenges in justifying XB budget to be used for project monitoring which might explain the inability to have participated in various Project Steering Committee meetings. Finally, the UNDP cash-co-finance did not materialize. Despite this significant institutional restructuring which fell far beyond the control of the Country Office, we are pleased that this project has achieved satisfactory results.	I have reflected these issues in the ratings table and in the narrative sections of the report.
JG	Executive Summary, Exhibit 2, Rating Table, IA-EA Execution	UNDP participated at the inception workshop. However, this is somewhat of a grey area: work planning during any project inception phase could be arduous, hence it is a 2-way street. Guidance can be requested and provided, and if delivered, it may or may not be taken up. With respect to UNDP's comparative advantage on climate change adaptation, we disagree with the severity of the statement. For example, we recall we had proposed that the project retain the services of an adaptation specialist we recommended (we can share the correspondence), but the Project Steering Committee decided on a different approach to reflect the adaptation legacy the project would leave behind. We recall very detailed conversations on the subject in more than one PSC meeting (2014?).	These comments are noted. I have revised the discussion in the ratings table and also in the narrative sections of the report. The recommendation to retain the services of an adaptation specialist is addressed in Section 3.2.1 (Adaptive Management).
JG	Executive Summary, Exhibit 2, Rating Table, Efficiency	Please contextualize this South African reality throughout the Report. The lengthy gestation period is the result of serious challenges in recruiting and contracting from a limited skills pool, and the time-to-establishment of the PMU (these processes typically take much time) – both are essential agents in project implementation. This, coupled with extreme currency fluctuations of >50% necessitated realignment of budgets to Annual Work Plans running January-December). To put into perspective, the Rand/Dollar exchange rate: Project Start (May 2012) – 8.13 December 2012- 8.63 December 2013 – 10.38 December 2014 – 11.45 December 2015 – 14.96 2016 – peak at >17.00 In hindsight, the long gestation period was necessary and valuable (Val Charlton/Kishugu is on	Base on my experience, one of the comparative advantages of South Africa is the strong skills pool. The project did experience low response to the procurement for the consultancy to support the insurance outputs. Overall, however, there were no substantive problems associated with limited skills pool, in my opinion. The assessment of project costs in the TE was based on USD based costs, not ZAR. The year when the highest amount of money was spent, in USD terms, was 2015, which is the extension year. This signifies a shortfall with respect to efficiency. I respectively disagree that a long inception period was necessary. For a

Author	Comment location	Comment/Feedback on the draft TE report	TE Evaluator response and actions taken
		record for saying this in her speech at the Book Launch/Project Closure event on 30/11/2016).	3-year project, in fact, for any project, the inception phase should be made as efficient as possible. It is also important to note that the PPG phase on GEF financed projects is 18 months long, allowing further opportunities to sort out preparatory issues.
JG	Executive Summary, Exhibit 2, Lessons Learned, Cofinancing	While we think this is pertinent and up for debate, we are not convinced that this proposal alone will enable cofinance delivery as it is an institutionalization/monitoring issue; our impression is that it is not highly critical to the project evaluation itself. Perhaps Akiko or other RTAs can comment on *if* and *how* this is done by UNDP on all other GEF projects.	This point has been qualified by indicating: "In the opinion of the TE evaluator, ...". This is a common issue on GEF financed projects, and in my opinion, cofinancing tracking needs to be improved.
JG	Section 1.3, Structure of the Evaluation Report	Evidently not assessed as per the TOR.	Mainstreaming was assessed and is included in Section 3.3.5 of the report.
JG	Section 2.4, Baseline Indicators Established	Please quantify as these are project beneficiaries.	The baseline indicators are summarized from information included in the project document. The point is that there were a relatively low number of FPA members compared to the spatial extent covered by the FPAs, and this impacted the financial sustainability of the associations, i.e., the limited number of members meant relatively low income from membership fees.
JG	Section 3.2.4, Project Finance	What is key is that the initial observations were adequately addressed.	This point is indicated in the TE report; I have slightly modified the text, to stress this point.
JG	Section 3.2.4, Project Finance	We do not think that this is an accurate assessment, but perhaps Tessa can clarify. There were always quarterly progress reports that were discussed at Project Steering Committee meetings in varying degrees of detail.	This is one of the medium severity findings of the 2014 audit which was followed up in the 2015 audit. The finding might be associated with the question of how the final 9-month time extension had been documented.
JG	Section 3.2.4, Project Finance	There have been exchange rate gains over the project period which may not have necessitated additional co-financing. See earlier comment.	Cofinancing from DEA was represented by the operation cost of the Working on Fire programme in the fynbos biome region. This cofinancing contribution was relevant for each year of project implementation, including the extended project period.
JG	Section 3.2.5, Monitoring & Evaluation, summary of progress made towards responding to MTR recommendations	Agreed. To note, the current CD was invited to deliver a keynote address at a major stakeholder gathering in early 2014 (we can share the speech), so beyond the Project Steering Committee meetings, UNDP did engage with stakeholders.	This has been addressed in the revised version of Section 3.2.6.
JG	Section 3.2.6, IA-EA Execution, Overall	Please see earlier comments and rebalance.	This section has been revised.

Author	Comment location	Comment/Feedback on the draft TE report	TE Evaluator response and actions taken
JG	Section 3.2.6, IA-EA Execution, IA	Please see earlier comments that seem to run contrary to this section.	I have modified the rating to Satisfactory.
JG	Section 3.2.6, IA-EA Execution, EA	Please see earlier comments and rephrase.	With respect to not addressing certain outputs in the project document, risk management was insufficient, in my opinion.
JG	Section 3.3.1, Overall Results, Objective	Please summarise and unpack this overall result at the onset. Overall it is good to see that the project had a satisfactory result.	OK, noted. Overall results have been summarized in the beginning of this section.
JG	Section 3.3.1, Overall Results, Objective	For all No Data Available entries in this Report - Does it mean that data were not accessible to the consultant during the evaluation period, or is it that it was not captured and does not exist. Please specify.	Data were unavailable because the baseline conditions could not be validated and there were no monitoring systems in place to measure change. Footnotes were added accordingly.
JG	Section 3.3.1, Overall Results, Outcome 1	This is a major achievement.	Noted and agreed.
JG	Section 3.3.2, Relevance	This is key, hence the project was pioneer.	I understand that the project was one of the first proposed under the SCCF. I modified the text accordingly. SCCF funding started in 2008, so by the time the Fynbos project was approved in 2011, there were a number of projects already being implemented under the SCCF. I would not use the word “pioneer” in this case.
JG	Section 3.3.5, Mainstreaming	Please disaggregate: provide data for both men and women, and youth (boys and girls) – because these are important indicators for UNDP/GEF, as well as for assessing gender disparities, opportunities and unintended consequences that can contribute to, or affect the target beneficiaries’ access and benefits to the project.	The project has compiled gender-disaggregated training records from Q3 2015 through Q3 2016. I tallied up the number of women trained during that timeframe. There were trainings made earlier as well, but the records are not gender-disaggregated. I have indicated the number of men and women receiving training during the period of Q3 2015 to Q3 2016. There were no records on the number of youth trained.
JG	Annex 7, Cofinancing Table	Also reflect percentages.	Actual to planned percentages have been added to the cofinancing table.
JG	Annex 10, Terms of Reference	Attach TOR.	Noted. The TOR will be added to the final pdf version.

Annex 10: Terms of Reference

UNDP-GEF: TERMS OF REFERENCE FOR TERMINAL EVALUATION

Reducing Disaster Risks from Wildfire Hazards Associated with Climate change in South Africa

1. INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP supported, GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) set out the expectations for a Terminal Evaluation (TE) of the full-sized project- "Reducing Disaster Risks from Wildfire Hazards Associated with Climate change in South Africa" (PIMS 3947) implemented through the South African Department of Environmental Affairs. The prodoc was signed on April 13th, 2012. The project has been extended until 13 April 2016.The Terminal evaluation to be undertaken in 2016.

The essentials of the project to be reviewed are as follows:

Project Title:	Reducing Disaster Risks from Wildfire Hazards Associated with Climate change in South Africa			
UNDP Project ID:	PIMS 3947	**Project financing**	*at endorsement (Million US$)*	*at MTE (Million US$)*
ATLAS Project ID:	00076680 (ZAF10)	GEF financing:	3,536,400	3,536,400
Country:	South Africa	IA/EA own:	180,000 (UNDP)	
Region:	Africa	Government:	30,122,000 (National DEA and Western Cape DAFF)	
Focal Area:	Climate Change Adaptation (SCCF)	Other:	638,100.00	
GEF Focal Area Strategic Program	**CCA-1 Reduce vulnerability to the adverse impacts of climate change**	Total co-financing:	30,940,100.00	
Executing Agency:	Department of Environment (DEA), Government of South Africa	Total Project Cost **in cash**:	34,476,500	
Other Partners involved:	Western Cape DAFF, Fire Protection Associations, FFA Group	ProDoc Signature (date project began):	13 April 2012	
			Planned closing date: 13 April 2015	Revised closing date: 13 April 2016

2. PROJECT BACKGROUND INFORMATION AND OBJECTIVES

South Africa's draft Second National Communication (SNC, 2010) predicts the following general climate change trends for South Africa: (i) Assuming a moderate to high growth in greenhouse gas concentrations, by 2050 the coast is likely to warm by around 1-2ºC and the interior by around 2-3ºC. After 2050, under emissions scenarios that assume little mitigation effort, the rate of warming is projected to reach around 3-4ºC along the coast and 6-7ºC in the interior; and (ii) Rainfall projections for the summer rainfall region of the country show a tendency towards wetting, and for the winter rainfall region towards drying.

While wildland fires are a natural feature of fire-driven ecosystems in the country, changes in climate are having adverse affects through altering the future occurrence of wildland fires, and the area burned, in various ways that involve weather conditions conducive to combustion, fuels to burn and ignition agents. The wildland fire situation has worsened significantly across South Africa during the past several years. There have been major and catastrophic fires in many areas. Land use patterns are also changing rapidly under the influence of diverse factors, including the expansion of towns and cities, causing an expanding Wildland Urban Interface (WUI), and exposing more assets to the hazard of wildland fires.

The Fynbos Biome is identified in South Africa's Initial National Communication (INC, 2003) as the most vulnerable region in the country with respect to disaster risks from wildland fire due to patterns of urbanization, agriculture and potential impacts upon water catchment areas. Project activities are thus spatially focused in the Fynbos Biome.

The project was designed to develop the adaptive capacity of: (i) Fire Protection Associations (FPAs); (ii) the individual members of these FPAs; and (iii) communities at risk in the WUI, to more effectively manage the risks associated with an anticipated increase in impacts of climate-induced wildland fires in the Fynbos Biome.

This adaptive capacity is designed to be improved, as a result of the following suite of complementary project interventions: (i) expanding FPAs across the landscape, and rationalising their configuration and governance arrangements; (ii) adopting Integrated Fire Management (IFM) as a strategic adaptation approach to the increase in, and impacts of, climate-induced wildland fires; (iii) equipping, resourcing, staffing, financing and training of FPAs and FPA members to implement IFM ; (iv) improving the quality of weather data, fire danger forecasting, early fire detection information and fire spread models; (v) mapping of annual pre-fire season risks to facilitate the implementation of mitigation measures to reduce environmental, social and economic risks ; (vi) developing and implementing a suite of incentives to encourage a behavioural change in landowners and communities at risk; and (vii) improving the information and decision-support tools required to support the implementation of IFM.

The project's objective is to develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks. The project has three outcomes – along with their associated outputs and activities - which will contribute towards achieving the project objective.

These are-

Outcome 1: Capacity built at local level to manage increased incidence and extent of fires;

Outcome 2: Decision-support and risk management systems for fire management improved; and

Outcome 3: Innovative risk reduction interventions implemented.

3. OBJECTIVES AND SCOPE OF THIS TERMINAL EVALUATION (TE)

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The project performance will be measured based on the indicators of the project's logical framework (see Annex 1).

The Terminal Evaluation must provide evidence-based information that is credible, reliable and useful. The consultant is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The consultant is expected to conduct field missions to the Fynbos Biome, including the following project sites

Greater Cederberg FPA, Overberg District, Southern Cape FPA, Cape Winelands District and Cape Peninsula FPA. Interviews will be held with the following organizations and individuals at a minimum:

1. UNDP staff who carry out implementing responsibilities;
2. Executing agencies (including but not limited to staff of the project management unit, senior officials and task team/ component leaders, some authorities, key experts and consultants in the subject area);
3. The Project Board members;
4. Project stakeholders and intended beneficiaries; including landowners, local government and local communities.

An evaluation consultant will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, progress reports, minutes of Project Board meetings, project files, national strategic and legal documents, and any other materials that the consultant considers useful for this evidence-based review. A list of documents that the project team and UNDP Country Office will provide to the consultant is included in Annex 2 of this Terms of Reference.

4. EVALUATION APPROACH AND METHOD

An overall approach and method for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The reviewer is expected to frame the evaluation effort using the criteria of relevance, effectiveness, efficiency, sustainability, and impact, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (see Annex 3). The reviewer is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The reviewer is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see Annex 1), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The review will at a minimum cover the criteria of: relevance, effectiveness, efficiency, sustainability and impact. Ratings must be provided on the following performance criteria. The competed table must be included in the evaluation executive summary. The obligatory rating scales are included in TOR Annex 4. A useful table to include in the evaluation report is set out below.

Rating Project Performance		
Criteria	**Rating**	**Comments**
Monitoring and Evaluation: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory, (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
Overall quality of M&E	(rate 6 pt. scale)	
M&E design at entry/project start up	(rate 6 pt. scale)	
M&E Plan Implementation	(rate 6 pt. scale)	
IA & EA Execution: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		

Overall Quality of Project Implementation/Execution	(rate 6 pt. scale)	
Quality of Implementing Agency (IA) Implementation	(rate 6 pt. scale)	
Quality of Executing Agency (EA) Execution	(rate 6 pt. scale	
Outcomes Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
Overall Quality of Project Outcomes	(rate 6 pt. scale)	
Relevance: relevant (R) or not relevant (NR)	(rate 2pt. scale)	
Effectiveness	(rate 6 pt. scale)	
Efficiency	(rate 6 pt. scale)	
Sustainability: Likely (L); Moderately Likely (ML); Moderately Unlikely (MU); Unlikely (U)		
Overall likelihood of Sustainability	(rate 4pt. scale)	
Financial resources	(rate 4pt. scale)	
Socio-economic	(rate 4pt. scale)	
Institutional framework and governance	(rate 4pt. scale)	
Environmental	(rate 4pt. scale)	
Impact: Significant (S), Minimal (M), Negligible (N)		
Environmental Status Improvement	(rate 3 pt. scale)	
Environmental Stress Reduction	(rate 3 pt. scale)	
Progress towards stress/status change	(rate 3 pt. scale)	
Overall Project Results	(rate 6 pt. scale)	

PROJECT FINANCE / CO-FINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The reviewer(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	**UNDP own financing (mill. US$)**	**Government (mill. US$)**	**Partner Agency (mill. US$)**	**Total (mill. US$)**

	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								
Loans/Concessions								
▪ In-kind support								
▪ Other								
Totals								

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender to the extent that the project was intended to do so.

IMPACT

The evaluator will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, or c) demonstrated progress towards these impact achievements.

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of conclusions, recommendations and lessons.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this review resides with the UNDP Country Office (UNDP CO) in Pretoria, South Africa. The UNDP CO will contract the consultant and ensure the timely provision of per diems and travel arrangements within the country for the consultant. The FynbosFire project team will be responsible for liaising with the consultant to set up stakeholder interviews arrange field visits with missions to the Eastern and Western Cape. .

EVALUATION TIMEFRAME

The total duration of the evaluation will be approximately 25 days according to the following proposed plan:

Activity	Timing	Anticipated Completion Date (approx. dates)
Preparation (Inception phase, desk top review and the submission of the inception report)	5 days	The week of 8 February 2016
Evaluation Mission	10 days	15 – 26 February 2016
Draft Evaluation Report	8 days	29 Feb-11 March 2016
Final Report	2 days	2-3 April 2016

5. TERMINAL EVALUATION DELIVERABLES

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluation consultant clarifies timing and method of review, proposes the timeline of the review process, including the proposed field mission itinerary developed in consultation with the Project Management Unit	Two week after the contract signature. No later than 1 week before the review mission	Evaluation consultant submits to UNDP (Country Office and Regional Technical Advisor) with PMU in copy. PMU is expected to provide support to the consultant to develop the mission itinerary and schedule interviews to ensure the maximum exposure of the consultant to the project.
Presentation	Initial Findings	End of review mission	To project management and UNDP (Country Office and RTA)
Draft Report	Full report (as template in annex 6) with annexes	Within 2 weeks of the review mission	Sent to UNDP (CO & RTA), PMU, GEF OFP, and all other stakeholders interviewed/contacted for their review and comments Evaluation consultant will receive any comments directly from stakeholders for his/her consideration.
Final Report	Revised report, with audit trail detailing how all received comment have (and have not) been addressed in the final review report.	Within 1 week of receiving comments on draft	Sent to UNDP CO.

6. REQUIRED QUALIFICATIONS AND EXPERIENCE

One independent reviewer will conduct the evaluation. The consultant will not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities. The consultant should have prior experience in reviewing or evaluating similar projects. Experience with GEF financed projects is an advantage.

The evaluator must present the following qualifications:

- Masters Degree with minimum 10 years of relevant professional experience;
- Solid understanding and proven record of project and project cycle management and application of adaptive management;
- Demonstrable analytical skills;
- Previous experience with results-based monitoring and evidence-based evaluation;
- Experience in applying SMART indicators and strong competency in Logframe approach;
- Knowledge of UNDP and GEF, in particular UNDP programming in South Africa and GEF Biodiversity strategies;
- Project evaluation experiences of UNDP project in general and financed by GEF in particular will be considered a strong advantage;
- Technical knowledge in the targeted focal area(s), including Biodiversity;
- Excellent English writing skills, ability to communicate complex, technical information to technical and general audiences in a clear manner both orally and in writing, ability to communicate with different stakeholders with various perspectives and views in a construction manner;
- Experience working in Africa. Experience in South Africa would be an advantage.

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex 5) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'.

7. PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
10%	At submission and approval of inception report
40%	Following submission and approval of the 1ST draft terminal evaluation report
50%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

8. APPLICATION PROCESS

All applications including P11 form, CV, technical and financial proposals should be submitted by email at following address ONLY: procurement.za@undp.org by 05th February 2016. Incomplete applications will be excluded from further consideration.

Recommended Presentation of Proposal: Introduction about the consultant/CV; Proposed methodology and workplan; Financial proposal, including proposed fee and all other travel related costs (such as flight ticket, per diem, etc). Submission form attached.

Criteria for Evaluation of Proposal: The selection will be made based on the educational background and experience on similar assignments. The contract will be awarded to a least costly technically qualified proposal. Whereas the technical minimum points is 70%.

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

Annex 1: FYNBOS Project logframe

This project will contribute to achieving the following Outcome as defined in the CP: Enhanced delivery of basic services through improved governance and planning capacities at the provincial and local levels (Energy and environment for sustainable development)
Country Programme Outcome Indicators: Enhanced planning capacity of provinces & district municipalities to deliver services; Enhanced involvement of local communities in MDG-based integrated development planning
Primary applicable Key Environment and Sustainable Development Key Result Area: Promote climate change adaptation
Applicable GEF SCCF Goal: Support developing countries to become climate resilient by promoting both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions
Applicable GEF Expected Impact: Reduced absolute economic losses at country level due to climate change, including variability
Applicable GEF Impact Indicator: Economic loss trend over a project period and beyond due to climate change, including variability

	Indicator	Baseline	Target/s (End of Project)	Source of verification	Risks and Assumptions
Project Objective Develop and implement integrated disaster risk management strategies to address climate change-induced fire hazards and risks.	Increased number and extent (ha) of non-damaging wildfires (i.e. 'minor' and 'insignificant' fires, as described in section 2.5) per annum in the Fynbos Biome[1] and Decreased number and extent (ha) of damaging veld fires (i.e. damaging and catastrophic fires, as described in section 2.5) per annum in the Fynbos Biome	**Non-Damaging veld fires** **Area (ha)**: 145,200; **No.**: 1,580 **Catastrophic fires** **Area (ha)**: 74,800; **No.**: 420 Based on the 5-year average of 2000 fires/annum covering an area of 220,000ha/annum. (the baseline info)	**Non-Damaging veld fires** **Area (ha)**: >165,000; **No.**: >1,700 **Catastrophic fires** **Area (ha)**: <52,500 (or 30% reduction); **No.**: <300 (or 30% decrease) The total areas burned (by non-damaging and damaging combined) might not show a significant reduction by the end of the project implementation; however, the socioeconomic consequences left by non-damaging veld fire and those by catastrophic fires are significantly different[2].	National Veldfire Information System AFIS records FPA/UFPA Fire reports	**Assumptions:** - WoF and WfW continues to receive adequate EPWP funding to maintain or increase its current capacity in IFM and invasive alien plant control respectively - Fire-prone developments in the WUI do not significantly increase in number and extent - The number of days where the risks of fire (as measured by the Fire Danger Index) are dangerously high follow the predicted climate trends **Risks:** - Failure to contain the spread of flammable woody invasive species adds to fuel loads - Municipalities fail to adopt a more proactive approach to wildland fire risk mitigation and pre-fire season preparedness - The financial allocation of public resources for IFM in wildland areas is incrementally reduced - Communities living in the WUI fail to cooperate in wildfire protection measures

[1] Where the 5-year average for the baseline is 2000 fires/annum covering an area of 220,000ha/annum.

[2] To track the effectiveness of the project intervention by various socioeconomic impacts associated with the fires, the project will develop an appropriate indicator during the inception phase through further stakeholder consultation. (e.g., recovery costs from a fire incident, etc.)

Outcome 1 Capacity built at local level to manage increased incidence and extent of fires	**Outputs:** 1.1 Reconfiguration and governance options for FPAs are assessed and tested 1.2 Management capabilities of FPAs strengthened 1.3 Skills and competency levels of FPA members in IFM developed 1.4 Financial sustainability of FPAs enhanced				
	Number of FPAs[3] integrated into, and aligned with, the affected municipal structures (including the municipal land use planning, fire brigade and disaster management services).	1	>6	Annual performance audit of FPAs in the Fynbos Biome Municipal IDPs	**Assumptions:** - FPAs continue to be endorsed by government as an appropriate institutional structure to promote a partnership approach in reducing the frequency and severity of wildland fires - DAFF develops the capacity to fulfil a regulatory and oversight function to FPAs **Risks:** - Municipalities fail to adopt a more proactive approach to wildland fire risk mitigation and pre-fire season preparedness - Private landowners do not register as members of FPAs and/or do not participate in the planning and implementation of preventative wildland fire measures in FPAs - The financial allocation of public resources for IFM in wildland areas is incrementally reduced
	Number of FPAs with the adaptive capacity[4] to effectively manage the risks associated with climate-induced fires	0	>6	Annual performance audit of FPAs in the Fynbos Biome	
	Number of wildland fire management staff completing specialized training and/or skills development in adaptation-related fire management technologies	0	>30 (short courses) >4 (full-time courses)	Training reports of fire management agencies. Project implementation reports.	
	Number of FPAs with adequate sustainable financing sources[5] to mitigate the increasing risk of wildfires as a consequence of climate change	1	>6	Annual performance audit of FPAs in the Fynbos Biome	

[3] Reference to FPAs in the PRF only refers to those FPAs located in the Fynbos Biome.

[4] This 'adaptive capacity' is assessed in terms of the following criteria: formally registered with DAFF; minimum staffing complement in place; FPA linked to a FDCC; minimum communications infrastructure and equipment in place; functioning management structure; Integrated Fire Management Strategy adopted; FPA rules and regulations adopted and audited; annual pre-fire season risk assessment undertaken; weather and fire danger forecasts disseminated to members daily; and annual pre-fire season planning and implementation of fire management measures.

[5] This will be determined by the ability of each FPA to sustain its minimum capacity (including regulatory, administrative, planning, communications, staffing, infrastructure and equipment) requirements.

<table>
<tr><td rowspan="8">Outcome 2

Decision-support and risk management systems for fire management improved</td><td colspan="5">Outputs:
2.1 Key fire management information collated and managed
2.2 Improved weather data used to develop and distribute locally relevant fire danger indices
2.3 Decision-support tools developed for FPAs
2.4 Wildland fire behavior modeling improves fire danger forecasting
2.5 Climate-change induced wildfire risk levels defined at local landscape scale
2.6 Wildland fire hazard assessments of ‘communities at risk’ in WUI undertaken, and risk management measures developed</td></tr>
<tr><td>Number of FPAs with functional, populated (i.e. data) and networked AFIS field terminals</td><td>0</td><td>6</td><td>Annual FPA performance audits</td><td rowspan="6">Assumptions:
– The NVIS is established and operational
– FPAs adopt the AFIS as an ‘industry standard’
- Relevant spatial and temporal data is available for undertaking fire risk assessments at both the landscape (FPA) and WUI scale
- Municipal disaster management plans have a specific section focused on fire risk management

Risks:
- Failure to contain the spread of flammable woody invasive species adds to fuel loads
- Municipalities fail to adopt a more proactive approach to wildland fire risk mitigation and pre-fire season preparedness
- Private landowners do not register as members of FPAs and/or do not participate in the planning and implementation of preventative wildland fire measures in FPAs
- The financial allocation of public resources for IFM in wildland areas is incrementally reduced
- Communities living in the WUI fail to cooperate in wildfire protection measures</td></tr>
<tr><td>Coverage (ha) of area where fires are detected, profiled (for risk) and tracked by the FPA AFIS field terminals</td><td>0 ha</td><td>>4 million ha</td><td>NVIS
National AFIS and AFIS Field terminal data
Fire Reports</td></tr>
<tr><td>Number of AWSs recording local weather conditions under a changing climate regime in the high altitude mountain areas of the Fynbos Biome</td><td><10</td><td>>50</td><td>Project implementation reports
AFIS field terminals weather data history</td></tr>
<tr><td>Average percentage (across all FPAs) of FPA members receiving localised daily fire danger forecasts</td><td><5%</td><td>>80%</td><td>Annual performance audit of FPAs in the Fynbos Biome</td></tr>
<tr><td>Extent (ha) of the Fynbos Biome with a local landscape level wildfire risk rating that integrates climate change scenarios into the risk assessment</td><td>~0ha</td><td>>3 million ha</td><td>FPA risk assessment maps</td></tr>
<tr><td>Number of municipalities (local, district and metropolitan) with climate-based fire risk information for wildlands integrated into the municipal disaster management plans.</td><td>0</td><td>>6</td><td>Municipal IDPs
Municipal Disaster Management Plans</td></tr>
</table>

Outcome 3 Innovative risk reduction interventions implemented	**Outputs:** 3.1 A suite of incentives to encourage implementation of IFM measures developed 3.2 Wildland fire extension programme piloted in FPAs 3.3 Fire and insurance scheme developed 3.4 Cost-effectiveness of different fuel management measures in the WUI assessed				
	Percentage of landowners in the demonstration areas (Southern Cape FPA and Cedarberg FPA) that are paid up members of the FPA, and conform with the FPA rules and regulations	<20%	>60%	Annual FPA performance audits	**Assumptions:** - The development of fire insurance products for FPA members and 'communities at risk' is a viable investment for the insurance industry - FPA members and communities living in the WUI will respond positively to the suite of incentives developed by the project **Risks:** - Failure to contain the spread of flammable woody invasive species adds to fuel loads - Municipalities fail to adopt a more proactive approach to wildland fire risk mitigation and pre-fire season preparedness - Private landowners do not register as members of FPAs and/or do not participate in the planning and implementation of preventative wildland fire measures in FPAs - The financial allocation of public resources for IFM in wildland areas is incrementally reduced - Communities living in the WUI fail to cooperate in wildfire protection measures
	Number of private landowners in FPAs instituting proactive risk management measures in response to insurance-based incentives	<10 (est.)	>100	Survey of private landowners in FPAs Insurance industry reports	
	Number of households in the targeted WUI areas that have an improved resilience to outbreaks of climate-induced wildfires	0	>2500	Project implementation reports Insurance industry reports	

Annex 2: List of Documents

1. Project Document
2. Project implementation reports (APR/PIR's)
3. Quarterly progress reports and work plans of the various implementation task teams
4. Project budget and financial data
5. Audit reports
6. The Mission Reports and Lessons learnt study
7. M&E Operational Guidelines, all monitoring reports prepared by the project
8. Financial and Administration guidelines
9. Midterm Review (MTR) report
10. List of contact deails for project staff, key project stakeholders, including Project Board and other partners to be consulted

The following documents will also be available:

11. Project operational guidelines, manuals and systems
12. Minutes of FYNBOS Meetings
13. Minutes of the FYNBOS Project Steering Committee Meetings
14. Maps (included in the Project document)
15. The GEF Completion Report guidelines; and
16. UNDP Monitoring and Evaluation Frameworks
17. UNDP Development Assistance Framework (UNDAF)
18. UNDP Country Programme Document (CPD)
19. UNDP Country Programme Action Plan (CPAP)
20. GEF focal area strategic program objectives

Annex 3: Evaluation Questions

This Evaluation Criteria Matrix must be fully completed/amended by the consultant and included in the TE inception report and as an Annex to the TE report.

Evaluative Criteria Questions	Indicators	Sources	Methodology
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•		•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

Annex 4: Terminal Evaluation Rating Scale

Ratings for Effectiveness, Efficiency, Overall Project Outcome Rating, M&E, IA & EA Execution	***Sustainability ratings:***	***Relevance ratings***
6. Highly Satisfactory (HS): no shortcomings 5. Satisfactory (S): minor shortcomings 4. Moderately Satisfactory (MS): moderate shortcomings 3. Moderately Unsatisfactory (MU): significant shortcomings 2. Unsatisfactory (U): major shortcomings 1. Highly Unsatisfactory (HU): severe shortcomings	4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks	2. Relevant (R) 1. Not relevant (NR)
Additional ratings where relevant: Not Applicable (N/A) Unable to Assess (U/A)		

Annex 5: Evaluation Consultant Code of Conduct and Agreement Form

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[6]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: _____

Name of Consultancy Organization (where relevant)**:** _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *place* on *date*

Signature: _____

[6] www.unevaluation.org/unegcodeofconduct

Annex 6: Table of Contents for the Terminal Evaluation Report

i. Opening page:
- Title of UNDP supported GEF financed project
- UNDP and GEF project ID#s
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- GEF Operational Program/Strategic Program
- Implementing Partner and other project partners
- Evaluation consultant name
- Acknowledgements

ii. Executive Summary
- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

iii. Acronyms and Abbreviations (See: UNDP Editorial Manual[7])

1. Introduction
- Purpose of the evaluation
- Scope & Methodology
- Structure of the evaluation report

2. Project description and development context
- Project start and duration
- Problems that the project sought to address
- Immediate and development objectives of the project
- Baseline Indicators established
- Main stakeholders
- Expected Results

3. Findings (In addition to a descriptive assessment, all criteria marked with (*) must be rated[8])

3.1 Project Design / Formulation
- Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
- Assumptions and Risks
- Lessons from other relevant projects (e.g., same focal area) incorporated into project design
- Planned stakeholder participation
- Replication approach
- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Management arrangements

[7] UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008

[8] See Annex 4 for rating scales.

3.2 Project Implementation

- Adaptive management (changes to the project design and project outputs during implementation)
- Partnership arrangements (with relevant stakeholders involved in the country/region)
- Feedback from M&E activities used for adaptive management
- Project Finance
- Monitoring and evaluation: design at entry (*), implementation (*), and overall assessment (*)
- Implementing Agency (UNDP) execution (*) and Executing Agency execution (*), overall project implementation/ execution (*), coordination, and operational issues

3.3 Project Results

- Overall results (attainment of objectives) (*)
- Relevance (*)
- Effectiveness (*)
- Efficiency (*)
- Country ownership
- Mainstreaming
- Sustainability: financial resources (*), socio-economic (*), institutional framework and governance (*), environmental (*), and overall likelihood (*)
- Impact

4. Conclusions, Recommendations & Lessons

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Best and worst practices in addressing issues relating to relevance, performance and success

5. Annexes

- ToR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Evaluation Question Matrix
- Questionnaire used and summary of results
- Evaluation Consultant Agreement Form
- Co-financing table (if not already included in the report)
- *Annexed in a separate file:* TE audit trail

Annex 7: TE Report audit trail

The following is a template for the evaluator to show how the received comments on the draft TE report have (or have not) been incorporated into the final TE report. This audit trail should be included as an annex in the final TE report.

To the comments received on (*date*) from the Terminal Evaluation of (*project name*) (UNDP *PIMS #)*

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution ("Author" column) and track change comment number ("#" column):
