



**Southern Africa Fire Network (SAFNet):** A framework for exchange of information and capacity building on fire management.

**Goal:** To foster more effective and appropriate fire management policies and practices in Southern Africa through the use of remote sensing, GIS and other geo-spatial information technologies.

<http://www.safnet.co.za/>

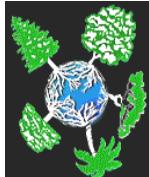
## The 7th SOUTHERN AFRICA FIRE NETWORK (SAFNet) WORKSHOP

Caprivi, Namibia: 22-26<sup>th</sup> September 2008

### Towards Effective Regional Fire Management, Policies and Operations status

## CONFERENCE REPORT

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## **Acknowledgements**

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The local cost of the workshop was provided for by the host country, Namibia.

On behalf of the SAFNet membership, the local organizing team of Helena Lutombi, Ester Kwani and Vetuundja Kazapua would like to be thanked for the handling of the logistics and organization of the workshop. A number of delegates were either fully or partially sponsored by their individual Government Departments to attend and participate in the workshop.

Thank the individuals that compiled and commented on this report, especially David Roy Anja Hoffmann and Minnie Wong who reported on the training session that they undertook.



Group photo of the delegates that attended the SAFNet conference in Caprivi, Namibia from the 22-26<sup>th</sup> September 2008.

## **Introduction**

The Southern Africa Fire Network (SAFNet) held its seventh workshop in Caprivi, Namibia from the 22<sup>nd</sup> to 24<sup>th</sup> September 2008. The theme of the workshop was “Towards Effective Regional Fire Management, Policies and Operations status” (Appendix I – Workshop Agenda). The workshop was attended by approximately 60 delegates, representing 9 countries (Botswana, Malawi, Mozambique, Namibia, South Africa, Swaziland, Uganda, United States of America and Zambia). Delegates were from a range of departments, ranging from Governmental (Policy issues) to Conservation and Research (Appendix II – Attendance List).

The 4 day workshop comprised of two days of presentation that were delivered under the following session themes, (Fire information systems & Data Products for operational fire strategies, Reports on past meetings, Fire – Pattern, Process, Drivers and Consequences , Fire management and policy, Fire Proposals and Participatory Community Fire Management), 2 half day training sessions that covered the following skills (Landsat Burned Area Mapping Training and MODIS Active detection) and a half day fire Demonstration in the form of a field trip to a community fire management area in Caprivi).

# Training Sessions

## Session 1 - Landsat burned area mapping Training

### Delivered by David P. Roy

**Rationale:** In many parts of southern Africa burned areas occur at the Landsat 30m scale and consequently coarser spatial resolution satellite data are less reliable for development of regional/national burned area maps and inventories. Until recently, Landsat data have cost \$US 600 per acquisition which has precluded regional/national scale Landsat burned area mapping. The recent 2008 free USGS Landsat data policy has removed this data cost constraint. However, a reliable and relatively simple mapping methodology is not widely available except in the recent remote sensing literature. For these reasons, training to map burned areas using Landsat data was delivered at the 7th Southern Africa Fire Network (SAFNet) Workshop.

**Overview:** The training was delivered to 16 participants in a 4 hour session using approximately 10 Windows computers. The training was by hands on computer experience using sample multi-temporal Landsat satellite data and following a 51 page training package developed specifically for the workshop.

An outline of the training package and approach and the recent 2008 free U.S. Landsat ETM+ data policy was presented. The difficulties of mapping burned areas using satellite data were overviewed; mapping is complex because the spectral signature of burned vegetation varies as a function of factors including the fire behavior, the pre-fire surface properties, and the time since burning. In addition, burned areas may be confused spectrally with phenomena such as water bodies, cloud and relief shadow. Training on how to handle the missing ETM+ data (due to the Landsat ETM+ sensor SLC-off problem present in all post May 2003 acquisitions) was also provided.

**Approach:** The training focus was on the generation of vector files of “burned area”, “mapped region”, and “not mapped regions”. The methodology requires two relatively cloud-free Landsat acquisitions over the same area sensed before and after the fire, and ENVI software running on a laptop or other computer (other software may be used but the training material was specific to the ENVI package), and some contextual knowledge of the area being mapped.

The training was broken into 11 steps:

**STEP 1:** Examine Landsat filenames, Start ENVI

**STEP 2:** Load Landsat data

**STEP 3:** Create band ratio images

**STEP 4:** Collect GCPs used to coregister the Landsat data

**STEP 5:** Coregister the Landsat data

**STEP 6:** Make a band ratio temporal difference image

**STEP 7:** Prepare for mapping

**STEP 8:** Create “burned area”, “mapped region”, “not mapped due to cloud”, “not mapped due to cloud shadow” vectors

**STEP 9:** Save the vectors to file

**STEP 10:** Handling missing data and the ETM+ SLC-off problem

**STPE 11:** Final Check

**Training Package:** A copy of the training package was distributed on DVD to the trainees. The package contained:

- SAFNET\_Training\_Presentation.pps – a power point format of the training presentation (51 slides with text, illustrative graphics and screen grabs of each step).
- SAFNET\_Training\_Presentation.pdf – a PDF format of the training presentation
- Sample multi-temporal southern African Landsat ETM+ GeoTiff format satellite data
  - P175R071\_20000901 (Western Province, Zambia)
  - P175R071\_20000816 (Western Province, Zambia)
  - P169R069\_10092000 (Zambia-Malawi)
  - P169R069\_09072000 (Zambia-Malawi)
  - P174R072\_09142007 (Caprivi Strip, SLC-off)
  - P174R072\_08292007 (Caprivi Strip, SLC-off)

**Conclusion:** The training was successful in raising awareness and introducing the mapping approach, and was expected by the SAFNet trainees to be useful for later implementation at their institutions following the DVD training package.

Some SAFNet trainees expressed reservations about

- being able to obtain sufficient Landsat ETM+ data (primarily due to poor internet connectivity from southern Africa to the USGS Landsat distribution site)
- the cost of obtaining the ENVI software (although other software may be used, the training material was specific to the ENVI package)

Some SAFNet trainees would had benefited from prior training on

- the concepts of displaying and manipulating satellite data
- the Windows operating system (e.g., icon opening and closing, mouse button clicking, folder structure, file naming conventions, running more than one Windows program simultaneously)

These issues have been expressed at previous SAFNet meetings and are well documented, for example, see Trigg, S.N and Roy D.P., 2007, A focus group study of factors that promote and constrain the use of satellite derived fire products by resource managers in southern Africa, *Journal of Environmental Management*, 82:95-110.

Despite these issues the training was a valuable exercise and could be developed further. A longer training session would have been more appropriate for the less experienced participants and perhaps also for several of the expert participants who had insufficient time to reach Step 10, concerned with handling the SLC-off ETM+ data.

The Namibian meeting organizers are thanked for assisting with ENVI and Adobe software installation and for provision of the training computers, Minnie Wong and Anja Hoffmann are also thanked for their help during the training session.

**Session 2 - Fire Information for operational fire management purpose derived from Aqua-Terra MODIS: Use of MODIS data for daily fire management.**

**Delivered by Anja Hoffmann and Minnie Wong**



## Rationale

Fire management activities are concerned with the protection of people, property and range and forest areas from unwanted fires. It is also concerned with the use of fire as a land management tool. Holistic fire management, involving various stakeholders to implement the necessary technical, logistical, operational and social programs, is based on five principal components: analysis, prevention, preparedness, suppression and restoration. Information is the glue that links each element and makes them interdependent.

For preparedness and suppression efforts it is important to know where and when most fires start. However lack of available information concerning number, place, size, location, influence of weather, fuel characteristics and causes of fire contributes strongly to an incomplete understanding of fire and its causes. To prevent fires, those concerned must know who or what starts the fires and why. Analysis of data is essential to define the problem to then clearly address it effectively and using resources most efficiently.

The data needed are simple and relatively straightforward to collect: consistently collected data over time will help to better understand the fire problem. The data will allow better management of fire by concentrating resources for prevention, suppression and recovery where fires are most problematic. Well-collected simple data can identify the geographic focus, the major land uses affected by fire and the key fire users and the timing of fires. This supports the development of focused options to manage and prevent unwanted fires.

Most countries in Southern Africa lack data bases on fire events and often have no means of regular aerial or ground surveillance in place to collect consistent data over time hence fire management efforts are inadequately guided and implemented.

In such circumstances, the MODIS active fire data and subset images are useful for gaining a better understanding of fire events and providing data to help answer the following questions:

- When did the fire start?
- Where did the fire start?
- When did the fire finish?
- How large is the area burnt?

- What kind of vegetation burnt (in conjunction with available secondary data)?

Such data provides a major basis for analysing the fire “problem” and defining important parameters of the existing fire regimes in countries of Southern Africa. Furthermore analysing the historical fire data in relation to land mark features and boundaries gives information on the origin of the fires and subsequently current and future fire risk. It also raises the level of awareness regarding fire occurrence and the likely ecological and economic impacts. Such information can be a major stepping stone in seeking political will and funding for the necessary development of operational fire management organizations that not only focuses on (ad hoc) fire suppression but equally on prevention efforts that involve community participation.

## **Overall Objective**

To provide a training session on the use of MODIS data for operational fire management, supporting elements of prevention and suppression efforts.

### ***Specific objectives***

- To introduce the use of MODIS data for daily, monthly, yearly fire detection and monitoring.
- To introduce the use of historical MODIS fire data to derive simple fire regime parameters of frequency and seasonality.
- To assess burned area with MODIS subset images.

## **Methodology**

- Application training on how to derive seasonality, frequency, report sheets on where, when how long, how much has been burning by using ArcView 3.3 and simple Microsoft Excel (graphs of fire seasonality, polygon drawing of burned scars editing of tables etc.)
- Work sessions, presentations and panel discussions

## **Training sessions**

Each attending country had the MODIS active fire data set from 2001-2007 (2008) as GIS layers (shape file) and access to MODIS image subsets. Country layers are provided with ESRI. The training sessions have been divided in to six components. Handouts were provided for each session.

Training session 1	How to access the various fire products. Exercise in downloading the following products and loading them in ArcView i) a shape file, ii) a text file from the FTP site, ii) a MODIS subset image	30 mins
Training session 2	Map production of 2001 -2007 fire events	1-2 hours
Training session 3	Fire event activity from 2001 – 2007, graphical display and Fire seasonality from 2001 – 2007, graphical display (Excel based), monthly fire activity	2 hours
Training session 4	On screen delineation of fire affected areas from 7,2,1/250m images and area calculations	3 hours

Participants appeared to have found the training sessions to be useful and were quite interested in determining the fire seasonality by year and by month, as it provided a better visual idea of when fires occur and what months/years have more fires than others. The participants also found it very useful to be able to delineate burned area using the 7-2-1 MODIS 250m images and to calculate the area of the burn.

### Work sessions

The training session wrapped up with a work group session that explored what participants see as the main opportunities and challenges in applying what they have learned in the training session.

Work group 1	Collecting starting points of how to integrate the use of MODIS data in the existing system/organizations of the participant's countries with regard to organizational/institutional aspects, technical aspects, future training needed and cooperation fields. What are the opportunities and obstacles?
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Due to time constraint the workgroup was held more as discussion. In the following is a summary of comments and suggestions made by the participants:

- They may learn skills at trainings and meetings, but when they try to apply what they have learned at work, they sometimes get stuck and cannot find help i.e. if the organization changes. Participants are interested in a forum for communication outside of meetings.
- Training focuses more on GIS rather than remote sensing. Why do they not focus more on remote sensing eg. How to process imagery? How to use

Landsat data? Supervised classifications? They are interested in having basic remote sensing training sessions provided at workshops.

- SAFNet should provide for more training, especially derived from user requests.
- Suggestion to set up a group page for SAFNet members (e.g. Yahoo Groups) for discussions and questions, and especially for technical questions.
- Who uses the data that the agencies produce? Has map production proved to be useful? Mozambique has a method of selling their paper maps especially to the private sector. But they also will give out PDF versions to other people and they can print it themselves (provided access to a plotter). Other countries have difficulty getting the information out to other departments and stakeholders.
- Countries/government agencies need to start a process to disseminate information, but there will be a backlash! Educate stakeholders in how it can be used and what are its limitations. Get stakeholders to understand fire is very important.
- Suggestion to create monthly fire/burn summary reports to disseminate to other in-country departments to publicize what they do within the government as well as with other countries.
- There is a strong interest in determining burned area extent and the size of the burned area – this takes time to digitize and equipment, which many departments do not have.
- Participants agreed that imagery is difficult to download if the internet is not good or the electricity supply is not stable. They need to be able to retrieve imagery in a reliable manner.
- Suggestion for data reception, via email? But a better method would be to set up a FTP download. Botswana (Anja Hoffmann) can provide the ftp script to schedule ftp downloads to other countries.

## **Field Trip**

Mid-morning on the 25<sup>th</sup> of September 2008 participants from the workshop undertook a field trip to look at different communal burning strategies within an active fire management site. A fire demonstration on a very small scale (50 x 50m) was planned. The reason for the small area that was burnt was due to it being late in the burning season and we wanted to prevent a runaway fire. The fire demonstration was located in a Fire Management Area that has been active for at least 2 years. The experimental area was divided up using fire breaks, resulting in approximately 6 little plots to demonstrate different burning techniques.

Equipment that was available included a bakkie with a fire skid unit (Figure 1), drip torches (Figure 2) and 20L water knapsacks (Figure 3). Miss Govender also demonstrated on the Kestral a hand held weather station could assist in providing on site weather data to fire managers. Data such as air temperature, wind speed and relative humidity is crucial in observing the fire behavior (Figure 4). The Caprivi Fire Facilitator Harry Sauzuo, Robin Beaty and the Fire Management Committee of the area (4 people) coordinated the afternoon's demonstration.

Types of fires that were demonstrated included a perimeter burn on one of the small plots. These are fires that are lit from the boundary of the block (Figure 5). The different types of fires, namely a back fire (fires that burn against the wind with smaller flame heights) (Figure 6) and a head fire (fire that burns with the wind with large flame heights) (Figure 7).



Figure 1: The bakkie with the tank that house the water.



Figure 2: One of the members from the community fire management area holding a drip torch.



Figure 3: Vetuundja Kazapua from Namibia holding a water knapsack.



Figure 4: Navashni Govender demonstrating how the Kestral, a hand held weather station works in the field.



Figure 5: A member of the community fire team lighting a fire along the border of the block (a perimeter burn).



Figure 6: A back fire is a fire that burns against the wind. Smaller flame heights are recorded.

Figure 7: A head fire is a fire that burns with the wind resulting in larger flame heights.

## Conclusion

At this meeting it was noted that the coordinator of SAFNet, Dr Pauline Dube was leaving and therefore there was much discussion surrounding the governance of the network and the need to elect a new coordinator.

An open discussion where all views were taken on board and recorded was held on Monday the 22<sup>nd</sup> of September 2008.

The following comments were noted:

- Ideally try and get a coordinator/champion, percentage of time underwritten in support of network
- To look for a host institution (office space, fax, tel.), preferably one that has a stake in the network function & outputs
- Identify champions (4) in place of a single coordinator
- Recognised as a good intermediate solution
- Previous SAFNet experience is important for continuity
- Discussions around membership e.g. institutions vs individuals institutions provide a solid basis but less flexibility, duplication of RS/GIS roles across institutions
- Recognise the difficulty to maintain momentum of membership

- Recognise that seed funding continuity cannot be guaranteed
- Suggested improvements to the network included:
- A data base of individuals & institutions
- Look to related/sister networks e.g. AFRIFIRENet
- SAFNet does not have a constitution, therefore all coordination is through the steering committee and the country contact point.
- SAFNet is a voluntary network.

On Tuesday the 23<sup>rd</sup> of September 2008, discussions continued and delegates attempted to find a way forward.

It was agreed that a 4 member steering committee instead of a single coordinator to share the workload would be an ideal interim solution.

The following people were elected: Mr. Joaquim Macuacua ([aa182877@yahoo.com.br](mailto:aa182877@yahoo.com.br)) from Mozambique, Mr. Mdumiseni Dlamini ([mwdlamini@gmail.com](mailto:mwdlamini@gmail.com)) from Swaziland, Miss Navashni Govender ([navashnig@sanparks.org](mailto:navashnig@sanparks.org)) and Mr. Philip Frost ([PFrost@csir.co.za](mailto:PFrost@csir.co.za)) from South Africa have formed this 4 member interim steering committee of the network, until the next meeting in 2 years time.

Formal proposal to accept the 4 steering committee members was forward by Val Charlton from South Africa and seconded by David Nagoma from Malawi and accepted by all

**The aim for the steering committee for the next 2 years (until the next SAFNet meeting) is to:**

- Increase awareness between members and the steering committee.
- Increase awareness of SAFNet within SADC and internationally.

**This would be achieved by:**

- Establishment of a member database (individuals and institutions).
- Update the website (comments encouraged), hosted by CSIR.
- Design and distribute a new SAFNet information flyer (electronic)
- Have a SAFNet email that the 4 steering committee members should read and members post to
- 

Proposal for venues for the next SAFNet meeting was given

- Lesotho, Maluti - Drakensburg Park – Navashni Govender to follow up on.
- Tentative dates – September/ November 2010

The Director of Forestry, Namibia Mr Joseph Hailwa formally closed the workshop at an evening dinner on the 25<sup>th</sup> September 2008.

## Appendix I

## Workshop Agenda

**Arrival: Sunday 21<sup>st</sup> September 2008**

**Registration 4pm – 5pm:** Ministry Of Gender Equality and Child Welfare,  
- Katima Mulilo, Caprivi Namibia

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### **DAY 1: Monday, 22 September 2008**

**Venue:** Ministry Of Gender Equality and Child Welfare, Katima Mulilo, Caprivi

08:00 – 09:00 Registration of Participants continues

09:00 – 10:30 Welcome Address

Chair- *Mr. Joseph Hailwa*, Director of Forestry,

Welcome Remarks – *Mr Leonard Mwiilima*, Governor of Caprivi

The Southern Africa Fire Network ( SAFNet) - *Mduduza Gamedze*, Swaziland

Meteorological Services

Opening of the Workshop- *Honourable John Mutorwa*, The Minister of Agriculture  
Water and Forestry

Participants Self – Introduction

Meeting Logistics: *Esther Kamwi*

### **10:00-10:30: Coffee Break & Group Photograph**

*Special session*

Chair - *Mduduza Gamedze*, Swaziland Meteorological Services

10:30 -10:50: The Global Observation of forest Cover-Land Cover Dynamics Fire Project  
How does SAFNet fit in – *David Roy*, South Dakota State University

11:10-11:30: Cross Border Fire Management in the SADC Region – *Nyambe Nyambe*  
and *Moses Chakanga* - Natural Resource & Environment & Sustainable  
Development, SADC

*Discussion*

## **Session 1: Fire information systems & Data Products for operational fire strategies**

Chair: *Mdumiseni Dlamini – Swaziland*

11:45 - 12:10: Status of the Fire Information for Resource Management System (FIRMS) - *D. Davies, M. Wong, C. Justice*, University of Maryland

12:10 – 12:40: Creating a wild fire information database for practical use in developing countries - *A.A. Hoffmann, C. Lai2, D. Davies & M. Wong*, Department of Forestry and Rangelands, Botswana and University of Maryland.

### *Discussion*

#### **12:50 – 13:50 Lunch Break**

13:50 – 14:20: Southern Africa Validation Of The MODIS, L3JRC And GlobCarbon Burned Area Products. *D.P. Roy* South Dakota State University *L. Boschetti* and *C.O. Justice*, University of Maryland

14:20 – 14:50: GEONETCast as an alert system within DRM in Africa The AIDA project - *Philip Frost*, CSR South Africa

14:50 - 1520: The first use of the MODIS Rapid Response fire alert system on Mount Mulanje in Malawi. *David Nangoma*, Mulanje Mountain Conservation Trust and *Julian Bayliss*, Wildlife Conservation Society

### *Discussion*

#### **15:30 – 15:45: Tea Break**

## **15: 45 – 16:15: Reports on past meetings**

Chair – Joaquim Macuacua, National Directorate of Land and Forest, Mozambique

1. 4th International Wildland Conference in Seville, Spain, May 2007 - *Esther Kanwi*, Namibia
2. West Africa Regional Network (WARN) & The Fire Early Warning Systems For Africa. Workshop Ghana, November 2007 – *Mduduzi S. Gamedze*, Swaziland
3. Advances in Operational Weather Systems For Fire Danger Rating. Edmonton, Canada, July, 2008 - *Chuki .A. Sangalugembe*, Tanzania Meteorological Agency - *Chelestino Balama*, Tanzania Forest Research Institute
4. Report on the Upcoming Jena GOFC-GOLD Land Cover workshop – *Mdumiseni Dlamini*, - Swaziland

## **16:15 – 17:30: Southern Africa Fire Network**

Chair – Joaquim Macaucua, National Directorate of Land and Forest Mozambique

Running the network: Network continuity and Governance – *David Roy*  
Governance  
Finance  
Website  
Next SAFNet meeting – focus area, venue, tentative dates  
Action items

**End of DAY 1: Reception!!!!**

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## **DAY 2: Tuesday 23<sup>rd</sup> September 2008**

08:00 – 08:30: The SADC Regional Remote Sensing Unit – *Blessing Siwela*, SADC  
Remote Sensing Unit

### **Session 3: Fire – Pattern, Process, Drivers and Consequences**

Chair- Minnie Wong, University of Maryland, USA

08:30 – 09:00: Fire management trial: A case of Makambu woodlands, Namibia - *Lisias Tjeripo Tjaveondja*, National Forestry Research Centre

09:00 – 09:30: The spatial patterns and seasonality of vegetation fires in Swaziland  
*Wisdom M. Dlamini*- Swaziland National Trust Commission

09:30 – 10:00: Defining A Fire Year For Reporting And Analysis Of Global Inter-Annual  
Fire Variability. *Luigi Boschetti*, University of Maryland and *David P. Roy*, South Dakota State University

10:00 – 10:20: Using Remotely Sensed Data to Asses Landscape Post Fire Recovery in  
The Limpopo Basin of Botswana. *John Molefe*, University of Botswana

*General Discussion: Session 3*

**10:30 – 10:45: Tea Break**

Chair – David Roy, University of South Dakota, USA

10:45 – 11:15: Climate Change and Wildland Fires in Mozambique, *Anja A. Hoffmann, Jo-Ellen Parry, Carla Cuambe, Dominick Kwesha and Washington Zhakata*

### *General Discussion -Session 3*

### **Special Session**

Chair – Mduduzi Gamedze, Swaziland

12:25 – 12:45: Namibian Forest Fire Synopsis: A Namibian Context 2006 - 2007  
*Priscilla Haindongo, Paulus Shikongo & Vetuundja Kazapua*, Directorate of Forestry National Remote Sensing Center

### **1245 – 1345: Lunch Break**

13:45 – 14:15: Introduction presentation: Landsat Burned Area training, rationale and overview – *David Roy*

14:15 – 15:45: Landsat Burned Area Training

### **15:45 – 16:00: Tea Break**

16:00 – 17:45: Landsat Burned Area Training

### **End of DAY 2:**

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### **Day 3: Wednesday 24<sup>th</sup> September 2008**

#### ***Special session:***

Chair - Vetuundja Kazapua - Namibia

08:00 – 08:30: Fire information systems for operational fire strategies in Uganda - *Aggrey Rwetsiba - Uganda Wildlife Authority*

#### **Session 4: Fire management and policy**

Chair- David Nangoma, Malawi

09:00 – 09:30: Integrated Fire Management and Fire Statistics, *Malcom Procter*, DWAF,  
South Africa

10:00 – 10:30: Environmental Applications Of Remote Sensing - *Oliver Mudenda*,  
Zambia Meteorological Department

#### **10:30 – 10:45: Tea Break**

10:45 – 11:15: Wildfire and Rural Communities - *Malcolm Procter*, DWAF, South  
Africa

11:15 – 11:45: Community-based Fire Management in a Changing Climate: A Focus on  
Mozambique – *Orácio Pedro*- Mozambique

#### *Discussion*

#### **Special Session:**

Chair: *Navashni Govender*, Kruger National Park, South Africa

12:00 – 12:30: “UN Voluntary Fire Management Guidelines: Principles and Strategic  
Actions” *Alexander Held*, AFRIFIRENet, South Africa

#### *DISCUSSION*

#### **12:40 – 13:40: Lunch**

13:40 – 14:00: **Training Session II- Introduction:** Anja Hoffmann /Minnie Wong

14:00 – 15:30: Training Sessions – Anja/Minnie

#### **15:30 – 15:45: Tea Break**

15:45 – 18:00: Training sessions – Anja/Minnie

#### **End of DAY 3: GROUP DINNER**

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## **Day 4: 25<sup>th</sup> September 2008**

### **Session 5 – Fire Proposals**

Chair - *Anja A. Hoffmann*, Botswana

08:00 – 08:20: Designing a Fire Information System for Ngamiland District to facilitate fire risk mapping – *Esther N. Mosase*, Botswana

08:20 – 08:40: Fire Risk Assessment In Botswana Through Climate Modeling – *Sesafeleng Mosotho*, Botswana

### *Discussion*

#### **Special Session:**

Chair - *Anja A. Hoffmann*, Botswana

08:50 – 09:20: Prescribed burning in the Kruger National Park, South Africa -*Navashni Govender*, South Africa.

#### **Participatory Community Fire management**

Chair: *John Molefe*, University of Botswana

09:20 – 10:00: FireWise Communities, Val *Charlton*, Working on Fire, South Africa

10:00 – 10:30: Fire as a Resource - *Robin Beatty*, Caprivi Namibia

### *Discussion*

Chair: Esther Kanwi – Caprivi Regional Council

*Mr. Joseph S. Hailwa*, the Director of Forestry will be closing the conference.

### **10:30 – 10:45: Tea Break**

10:45 – 17:30: Field TRIP - controlled burning demonstration - *Robin Beatty* and *Navashni Govender*

### **End of DAY 4:**

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## Appendix II

### Participant List

Participants List: 7th SAFNet Conference: 22 -26th September 2008: Katima-Mulilo, Namibia						
No	Title	Name	Surname	Countries	Institutions	Email Address
1	Mr.	Philip	Frost	CSIR Meraka Pretoria	P.O. Box 0001, PTA	p.frost@csir.co.za
2	Miss.	Sesafeleng	Mosotho	UB, Botswana	P/Bag 0022, Gaborone	mosothos@mopipi.ub.bw
3	Mr.	David Nangoma	Nangoma	MMCT-Malawi	Box 139, Mulanje	davidnangoma@yahoo.com
4	Miss.	Anja	Hoffmann	Botswana - DFRR	P.O. Box 00420, Old Lobatse Road, Loapi House, Gaborone, Botswana	aahoffmann@email.de
5	Mr.	Aggrey	Rwetsiba	Uganda Wildlife	P.O. Box 3530, Kambala, Uganda	aggrey.rwetsiba@uwa.or.ug
6	Prof	David	Roy	USA	Geographic Scnince Centre of Excellence, Brookings, South Dakota, USA	david.roy@sdsstate.edu
7	Mr.	Wisdom M	Dlamini	Swaziland	Swaziland National Trust Commission, P.O. Box 100, Lobamba, Swaziland	mwdlamini@gmail.com
8	Miss.	Navashni	Govender	South African National Parks - Kruger	P/Bag X402, Skukuza, 1350 SA	navashnig@saparks.org
9	Mr.	Blessing	Siwela	Botwasa, SADC Secretariat	P. Bag 0095, Gaborone	BSiwela@sadc.int
10	Mr.	Moses	Chakanga	GTZ-SADC Gaborone	P/Bag 0095 Gab	mchakanga@sadc.int
11	Ms.	Charlton	Val	SA	Kirstenbosch Botanical Garden, Nwelandts 7700 Cape Town, SA	val@wofire.co.za
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