



UNITED NATIONS
UNIVERSITY

UNU-IAS

Institute for the Advanced Study
of Sustainability

www.irdnc.org.na

**INTERNATIONAL SAVANNA FIRE MANAGEMENT INITIATIVE
SOUTHERN AFRICA REGIONAL WORKSHOP
SWAKOPMUND SANDS HOTEL, NAMIBIA
4th & 5th DECEMBER 2014
WORKSHOP REPORT**

A. WELCOME TO THE WORKSHOP

1. Dr Margaret Jacobsohn, founder and consultant to Integrated Rural Development and Natural Resources (IRDNC) welcomed the participants to Namibia. She thanked everyone for making the effort to attend what she hoped would be a very interesting two days of valuable learning and exchange. Ms Jacobsohn further welcomed and introduced Ms Catherine Monagle of the United Nations University (UNU), the organisation who had convened the workshop as an activity of its International Savanna Fire Management Initiative.

Ms Jacobsohn acknowledged the attendance of delegates representing government, NGOs and academia from several Southern African nations including Angola, Botswana, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe. She also welcomed representatives from the Southern African Development Community (SADC), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Namibia, 321 Fire Mozambique, the United Nations Food and Agriculture Organization (FAO), the University of Lisbon and the Brazilian Institute of Environment and Renewable Natural Resources of the Brazilian Ministry of Environment (IBAMA). Joining from Australia were representatives from the Australian Government Department of the Environment, who are the funders of UNU's International Savanna Fire Management Initiative, Warddeken Land Management, the Darwin Centre for Bushfires Research and the Kimberley Land Council.

Ms Jacobsohn noted that several of these international delegates had just returned from a two-week learning exchange in Namibia and would share lessons learned later in the workshop programme.

2. Apologies were extended from delegates from South Africa, Madagascar and Malawi who were unable to travel at the last minute but who conveyed their best wishes for a successful workshop. The delegate from South Africa had provided a presentation that, in his absence, would be distributed to participants.
3. Dr Jacobsohn highlighted that the workshop would be of particular value because the exchange was from south to south and noted that many valuable lessons had already been shared during the learning exchange field trip that preceded the workshop. During their time in the field the participants concluded that this workshop was not just about emissions reductions but also about fire management supporting the natural systems on which sustainable livelihoods rely. Thus the workshop title could be thought of as: *“Can sustainable livelihoods in fire prone settings benefit through savanna burning projects that deliver measurable greenhouse emissions reductions?”* Because the focus is on livelihood opportunities, community conservation and sustainable conservation, this workshop has a very different take from more conventional fire management workshops that have been held in the past.
4. Ms Catherine Monagle, Senior Fellow at UNU welcomed the workshop participants. She noted that she had been part of the very worthwhile and informative, two-week learning exchange focused on the Zambezi and Etosha regions of Namibia, and extended thanks to Dr Jacobsohn, Mr Garth Owen Smith and Mr Robin Beatty for all the hard work that went into the preparation and execution of the exchange. She also acknowledge her colleague, Mr. Sam Johnston, the head of the UNU-IAS Traditional Knowledge Initiative, was unable to attend as he was discussing these fire management issues and opportunities at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties currently taking place in Lima Peru, but who had sent his best wishes to the workshop participants.
5. All participants briefly introduced themselves. The list of participants is attached as Appendix A.

B. ORGANIZATIONAL MATTERS

6. The meeting was co-chaired by Dr Jacobsohn and Ms Monagle.
7. Ms Monagle explained the aim and format of the workshop, which would proceed according to the Agenda (attached to this report as Appendix B). The aims of the workshop and preceding learning exchange were to raise Southern Africa’s awareness of Australia’s experience fire management and to explore the feasibility of the approach as a tool for emissions reductions, biodiversity protection and sustainable livelihoods for indigenous and local communities in fire dependent landscapes in the Southern African region. Presenters were asked for and granted permission for their presentations to be later shared with

participants.

C. INTRODUCTION TO THE WORKSHOP

8. Ms Monagle opened the workshop by outlining how the workshop came to be and provided background on the International Savanna Fire Management Initiative. The Initiative is exploring how sustainable livelihoods can be reinforced through integrated fire management that draws from traditional fire management fire and the application of emissions abatement burning methodologies, leading to emissions reductions, biodiversity protection and sustainable livelihoods opportunities.

Ms Monagle noted that globally savannas constitute one of the most fire prone ecosystems on earth and contribute significant greenhouse gas emissions globally, yet relatively little attention has been given to them, relative to tropical rain forests, as a biome with globally significant mitigation potential. She further noted that the north Australian experience has shown that the strategic reintroduction of traditional, early dry season burning practices can reduce greenhouse gas emissions by more than 30% compared to late season wild fires, while supporting biodiversity from destructive wildfires and creating meaningful employment and income opportunities for Indigenous communities in remote settings. It had become apparent to fire experts and to UNU that the conditions required to establish such projects were unlikely to be unique to Australia, given the similar landscapes and histories of traditional use of fire among savanna landscapes around the world, including across Australia, Asia, Southern Africa and South America. The aim of the International Savanna Fire Management Initiative is to explore further this potential.

9. Ms Monagle noted that while in the past there have been a number of fire management workshops and initiatives, the key difference of the UNU's International Savanna Fire Management Initiative was its focus on traditional knowledge and the use of robust methodologies to quantify emission reductions.
10. The main aim of the workshop was to share lessons learnt of the Australian experience with other governments, traditional communities, practitioners in the field and the private sector, in order to raise awareness of the global trends and opportunities, the potential for other regions to benefit from the approaches and lessons learned in Australia, and what it would take to implement such approaches on the ground.

D. BACKGROUND ON THE INTERNATIONAL SAVANNA FIRE MANAGEMENT INITIATIVE

11. Ms Monagle provided further background on the International Savanna Fire Management Initiative, a two-year initiative of the UNU funded by the Australian Government, Department of Environment. Mr Simon Pollock of the Department of Environment was attending the workshop and would later provide information on the current Australian policy environment.

12. The International Savanna Fire Management Initiative has three main elements:

- a) Raising awareness of the Australian experience internationally;
- b) Developing a knowledge base to create a better understanding of the potential of emissions abatement fire management in fire dependent landscapes globally, including through regional feasibility assessments in each of the three key savanna regions. These would explore where fire management that draws from traditional knowledge and applies emissions abatement methodologies would be scientifically applicable, as well as the preconditions that would need to be in place for governments and communities to initiate emission abatement fire management projects;
- c) Linking interested communities and governments with international experts, raising awareness amongst the international policy and donor community and exploring demand side dynamics.

13. Ms Monagle noted that the Initiative is governed by a Project Governance Committee comprised of the project team and the project donor, the Australian Government Department of Environment. A Project Advisory Committee provided expert support to the Initiative. Two members of the Project Advisory Committee, Professor Jeremy Russell-Smith of the Darwin Centre for Bushfires Research, and Mr Pieter van Lierop of the UN FAO were attending the workshop. Other members of the Advisory Committee were Mr Joe Morrison of the Northern Land Council Australia, and Ms Victoria Tauli-Corpuz, the UN Special Rapporteur on the Rights of Indigenous Peoples.

14. Further details about the Initiative's past and upcoming activities were presented by Ms Monagle. Participants of the workshop were invited to become more involved in the initiative by participating in the regional assessment for Southern Africa and contributing relevant information and literature on traditional knowledge and fire management.

E. AUSTRALIAN VIDEO BRIEF OF THE NORTHERN AUSTRALIA CARBON ABATEMENT-FIRE MANAGEMENT PROJECT

15. Ms Monagle presented a video brief produced by UNU about fire management in the north of Australia that had been produced by the UNU. The documentary is available via the website: <http://ourworld.unu.edu/en/fighting-carbon-with-fire>.

16. Ms Monagle outlined that additional video briefs are being produced as part of the Initiative, and that the Namibian learning exchange and current workshop had and would be filmed. Andrew Botelle of MaMoKoBo Video & Research would be filming the workshop and interviewing participants. Consent releases would be sought from participants appearing, prior to release of any film materials. Participants were given the option of opting out of the filming process.

F. THE AUSTRALIAN EXPERIENCE

17. Prof Jeremy Russell-Smith from the Darwin Centre for Bushfires Research and Charles Darwin University provided background to the experience of fire management in the north of Australia. In this region, traditional knowledge had been combined with scientific expertise toward creation of recognised carbon abatement methodologies. Indigenous communities and other landholders under Australia's carbon pricing mechanism had been able to trade in the offsets market given the emissions reduction generated through early dry season, low intensity burning. He described the WALFA project in which an indigenous community is managing fire in their ancestral lands in West Arnhem Land after securing a long-term emissions abatement contract with the company Conoco Philips. In that region there are few other economic opportunities. The information required and the abatement methodology used to develop the project baseline and calculate carbon emissions was explained. Tools required for effective implementation (e.g. helicopters, validity of data underpinning maps and proactive people on the ground) were also highlighted.
18. Prof Russell-Smith further addressed participants questions relating to the range of fire projects and land tenure arrangements in the north of Australia, as well as technical questions pertaining to the classification of the severity and intensity of fires, noting that severity was linked to scorch height, and the role of intensity classes. Prof. Russell-Smith also answered questions relating to rainfall gradients and the Australian savanna burning methodology, noting that the reasons for a cut off below 600mm annual rainfall in the Australian context may or may not apply in a Southern African context, depending on vegetation. Prof. Russell-Smith also answered questions about the problem of Southern African grasses, particularly *Andropogon gayanus* contributing to high fuel loads in Australia. Responding to questions about the scale of fires in Australia as opposed to Africa, Dr. Russell-Smith noted that larger parts of Africa are more intensively settled than most parts of northern and western Australia, where there are very few people to manage vast areas. Dr. Russell-Smith also noted that global estimates are that approximately 2/3rds of savanna fire emissions come from Africa – because more people are burning with much of this being from destructive late season burns.
19. Addressing a question about the difference in fire management between indigenous lands and national parks, Dr Russell-Smith noted the example of Kakadu National Park which is adjacent to Arnhem land, noting that the indigenous owned land fire regimes were better managed, and noting that the indigenous people, who are supposed to help manage Kakadu are not happy with the way the fire management is being done in the National Park and want it changed. The fundamental difference is that the National Park is generally managed by staff employed by government in contrast to Arnhem Land where local people are managing their own lands.

20. Discussion also took place on how early burning strategy affects tree and animal species and overall diversity with note of the need to understand in Africa the effect that burning has on grasses, trees and animals. Participants noted that large, late season destructive wildfires were not good for anything and certainly not for plants, woody trees, or animals, especially if vast areas burn. They were also not good for erosion, water quality, and greenhouse gas emissions. Participants noted the importance of needing to move away from fire regimes dominated by late season burns.
21. On the question of the use of land in the north of Australia Prof. Russell-Smith noted the extensive pastoral industry. He noted that industry recognised more and more that proper fire management will improve productivity of the area for cattle production and that the income derived from burning also compliments the economy. He noted fire management is an essential part of pastoral management in Australia and also that it is feasible in Africa to use fire within landscapes to optimise food production for wildlife.
22. Mr. Simon Pollock from the Australian Government's Department of Environment spoke on Australian climate change policy and recent changes, noting the role of reverse bidding in the new system. Mr. Pollock emphasised the value of engaging with ministries and governments even if emission abatement fire management initiatives are voluntary because it is important to ensure political level awareness of what is taking place on the ground. An emphasis on good communication to ensure that the benefits are shared with as greater audience as possible is also valuable. Mr Pollock also highlighted that strength of the WALFA project was its strong social component and indicated that he would be interested to hear the African participants' perspectives on the relative importance of financial benefits and other incentives for local communities.
23. Mr Nigel Gellar, Arnhem Land Traditional Owner and a senior ranger coordinator, Mr. Dean Yibarbuk, Arnhem Land Traditional Owner and indigenous fire ecologist and Mr. Shaun Ansell, CEO of Warddeken Land Management, presented their specific experiences from implementing an integrated early burning fire management programme in the Warddeken Indigenous Protected Area within West Arnhem Land known as the WALFA project.
24. Mr Dean Yibarbuk explained how, in the past the indigenous communities living in the area managed fire for numerous reasons, as well as the factors that had contributed to the more recent wildfire regime, namely traditional peoples leaving their lands, and the negative impacts this had had.
25. Mr Nigel Gellar outlined the problems that the indigenous communities are faced with today in managing the land and the process that was taken to re-establish a traditional fire burning regime. He outlined that the existing programme is based on a strong consultative planning foundation, and includes the use of both local manpower and the use of helicopters, as the areas under management are so huge and remote.

26. Mr Shaun Ansell reiterated how fire had shaped the Australian landscape and how in turn the landscape shaped the practices of its people. He demonstrated how effective the early burning fire management programme has been in their project area, not only in reducing emissions, but in reducing the frequency of wildfires and in increasing the productivity and biodiversity of the savanna, on which Mr Yibarbuk and Mr Gellar's families and their wider community depend. In addition, the emissions abatement contract, which has been set up with Conoco Philips currently supports five indigenous ranger groups (who manage an area of 2.5 million ha) and employs 240 local people. This is significant because previously abandoned land had been resettled in an area with few other income generating industries. The project has also tested a methodology that can be replicated. Currently 10 million hectares could potentially be managed under an emissions abatement fire management approach.
27. Participants directed questions to Mr Gellar, Mr Yibarbuk and Mr Ansell and engaged in discussions on the topics presented.
28. Participants, noting that late season fires in the WALFA project area are being contained by early burns, asked for elaboration. The presenters noted that fires rarely come in from the east driven by the winds. They set fires up to ensure that wildfires originating outside of the project area, on tracts not being managed and do not run wild through relevant areas. They noted they still have to fight wildfires, but that effort is greatly helped by having patches in place.
29. In responding to questions on how they decide where to burn, the presenters noted that before people left the landscape there were lots of them and they communicated regularly with each other to ensure that timing and location of burns were managed to ensure that important areas were protected. Today they use people's knowledge of the landscape to plan burns – using natural features such as creek and cliffs to provide natural limits. In general, they noted there is no or limited access to the areas they manage, so they cannot use physical breaks created with equipment such as graders. They noted that no people have ever been killed by fire managed in this way.
30. An observation was made that, in Namibia, in many areas the policy is to contain fires with physical breaks. However, because equipment such as graders are often not available the breaks are not done and this exacerbates the wildfire problem.
31. Participants and presenters discussed the incentives for local communities to manage these fires. The presenters noted that a large proportion of people receive direct employment and therefore receive a monetary benefit. In addition, there is a small monetary incentive fed back into the community to support the burning initiative. However, they noted fire management is not a new thing that is being imposed on people. Traditionally people had a responsibility to manage their land. What they are doing is

giving them the support (resources and tools) to manage their land as they did before they were forced by external influences to abandon the land, and again to live off and manage their land. Unlike large parts of Africa, the people in this region were always hunters and gatherers. They never practised agriculture, but farmed the landscape using fire to enhance what was already there.

32. Participants requested insight into the role of carbon emissions trading as an incentive, noting perceived issues with sustainability, for example, noting that in the context of a charcoal stove project in Tanzania carbon credits linked to it but the carbon prices are going down, thus the sustainability of the project is threatened. The presenters noted that the WALFA project was established with a private company (Conoco Phillips), who have a large gas plant in Darwin. They were required to produce a carbon offset as part of their environmental impact process, i.e. pursuant to a regulatory requirement. A 17 year agreement was drawn up (2006-2023) based on a set price per tonne of carbon abated (10 dollars per tonne of emissions reduced, with inflation built in). Thus sustainability into the project has been built into this project, by brokering a price that was sustainable. The other projects being developed in Australia that trade in offsets in the market are not as secure as the WALFA model. Participants noted the importance of sustainability in financing fire management, noting it is essential it is not done just to gain money from carbon credits, but for the more fundamental reason to support the health of landscapes that people depend on for sustainable livelihoods. Funds acquired from carbon abatement activities should be considered a way of adding benefit and helping to support fire management that should be done anyway.
33. On the operational question of how do the rangers know how much to burn, the presenters noted that a combination of walking the land and surveying areas by helicopter is used. The eastern area is surveyed using helicopters. The western section is investigated by driving and walking. Then they discuss what resources are available and where should burning occur in a number of pre-season fire meetings, in which everyone is invited to participate. All the families know what resources are important to them for both environmental and spiritual reasons. Families participate in managing the fires and we communicate with them to determine when we have burnt enough. It is an adaptive and iterative process. Our main goal is to ensure that the eastern border is burnt to prevent wild fires invading our country.
34. The presenters noted that burning can be expensive. They noted that while helicopters are expensive in that part of Australia they are still the most cost effective way to burn such a vast area because there are just not enough people on the land to replace helicopters. They have found that if many local people participate then the overall cost goes down not because it delivers cheaper burns but better burns. They are increasing the number of local

people involved every year and the people complement what the helicopter can do.

35. Clarifying the source of the \$1.4 million income the presenters noted it is specifically from the agreement with Conoco Phillips and is specifically for carbon abatement fire management. WALFA works with other landowners and the government to secure additional funding. The carbon abatement fire management project is not the only project happening in the area. It does not stop other people undertaking other initiatives, e.g. tourism, safari hunting, water buffalo harvest, running cattle. In fact they have found that good fire management actually encourages other land uses.
36. Responding to questions about the number of people in the project area the presenters noted that it is highly variable. There are several small community nodes but people move throughout the year between these nodes and larger centres. They noted that Australia is very sparsely populated 1.7million square kilometres = 200,000 people.
37. Participants noted that some countries in Southern Africa differ from Australia in that Australia recognises indigenous people and their right to manage their own land, whereas some Southern African countries do not. This means work is still needed at the political level, before an initiative like this would be able to be implemented in some places. However, presenters noted that the annual fee for service basis of the way examples in Australia have worked means that it may not be necessary that Indigenous communities own the land, but they have the right or permission to manage it, on an annual fee for service basis. This overcomes a lot of the problems associated the schemes such as REDD+ that also raise issues of permanency.
38. Participants also observed that another question to think about is to what extent the indigenous people in question have embraced the monetary system. If they have not, how should they use the money they earn? Maybe they just want to live on the land.
39. Participants also noted that it would also be very interesting, from an academic perspective, to know more about the evolution of fire management, how it has changed over time, in response to different political pressures and land use approaches and as well as to environmental changes.
40. Ms Emily Gerrard a senior associate at Allens, an Australian law firm presented next on projects in the Kimberley region. One of Ms Gerrard's areas of expertise is Native Title Law. She explained that the project, on which she has been working in the Kimberley in the north-west of Australia, demonstrates how, once the native title rights and interests of indigenous people are recognised, people can gain benefits from carbon farming, and that Kimberley Traditional Owners had participated in Australia's Carbon Farming Initiative. Ms Gerrard emphasised that she cannot speak for the indigenous people in the Kimberly area, with whom she has been working, but that they but have given her permission to speak

about the project. Like the Warddeken project, fire management projects in the Kimberly region use the same carbon emissions methodology. Currently thirteen ranger groups have been established to manage both the land and biodiversity. Four of these groups are involved in the management of a 32000 km² fire abatement project. In 2013, working together, they were able to generate credits worth three million AUD. For the Willigen groups this was significant as it is their main form of income. Other families in the region have a few other economic activities. Unlike the WALFA project, this initiative did not come about from an environmental approval process. It is a market driven initiative from the community, based on Native Title (a right that has not really been used in the past). In exercising these rights and interests, these indigenous communities have the potential to manage the land so that it can derive an economic benefit. Ms Gerrard emphasised that carbon abatement is only one tool as part of integrated land management. For it to work, a sound legal and policy regime is important because it attracts private investment and good governance is a critical component.

G. FIRE MANAGEMENT IN BRAZIL

41. Mr Rodrigo Falleiro of the National Centre for Burns and Wildfires within the Brazilian Institute for Environment explained that in the Brazilian savannas (Cerrado) poor, rural communities live on the land, having been allocated parcels of land. Wildfires are a big and very serious problem in Brazil and fire suppression and fire fighting strategies have not worked. However, in 2012 fire management policy changed. It now recognises the importance of fire in the savanna and recently an early burn programme was initiated. The result is that in 2014 the Ministry spent less money on the management of wildfires than in previous years. Mr Falleiro indicated that the government does engage to some extent with indigenous people, in an effort to understand what resources are important to communities. He also said that whilst Brazil recognises the opportunity for carbon credits in savannas, nothing has been done about this to date.
42. Participants asked questions of Mr Falleiro and participated in discussion of the topics presented. Noting that in the example provided the starting point of when to burn is directly related to fauna and flora that are important to people, participants asked how this links to ecosystem health. If the focus is on biotic resources that are important to people, what happens to those resources that underpin ecosystem functioning? In Brazil a difference is made between indigenous lands and national parks. Indigenous land is managed for people and parks for the environment. In the indigenous lands it would be difficult to convince people to be interested in conservation of environmental resources if they could not see the benefit it had to their livelihoods. This was compared with the situation in Australia, where there is no difference between best land practice and interest of traditional people. The people modified the landscape. If they manage it properly then they and the

ecosystem are healthy. WALFA and other carbon abatement-fire management initiatives were not imposed on the indigenous people by government.

43. Questioned as to how much of the Cerrado's two million square kilometres was still in a natural state, and able to provide opportunities for carbon-offset projects the suggestion was made this is likely to be around 30%. However, no carbon offsetting schemes for savanna fire management were in place in Brazil as yet, nor had specific research been done on this. Participants noted that typically projects under the Kyoto regime have focussed on hydro and renewable energy to reduce emissions but in Australia the role that fire management in savanna can play in reducing green house gases had been recognised. This was not yet the case in Brazil that has focused on sequestration and deforestation.
44. Asked whether the change in legislation on controlled burning was a response to the changes in wildfires or other legislation Mr Falleiro suggested it was not in response to a catastrophic event but due to continued pressure from farmers who use fire to prepare the land or to harvest the crops. They were all in an illegal situation because they were using fire to manage their lands, whilst the legal situation was to prevent the use of fire.
45. On the question of whether there is a relationship between savanna fire management and protection of the Amazon rainforest Mr Fallerio noted that any benefits to the Amazon arising from savanna fire management initiatives will be indirect. Participants noted the role that fire plays in protecting rainforest fragments by managing fire at their margins has been recognised in other contexts.

H. FIRE MANAGEMENT OPERATIONS AND LESSONS FROM THE LEARNING EXCHANGE

46. Mr Robin Beatty of 321 Fire presented the lessons learned from the Namibian learning exchange on behalf of the learning exchange participants. It was noted that in gathering lessons during the exchange, participants had considered the same key questions that each of the country presenters had been asked to consider, namely:

Are you able to identify sites where emissions abatement, methodology based savanna fire management might be applicable in your country/region?

For those sites, can you describe:

- a. Traditional knowledge and livelihoods
 - i. Any relevant traditional knowledge related to fire management/natural resource management?
 - ii. Relationship between fire and community livelihoods?
 - iii. Are communities interested in savanna fire management?
- b. Legislation, policy, practice and community governance
 - i. Is there a legislative framework that enables savanna fire management?

- ii. Does policy and legislation reflect what actually happens on the ground?
What does happen on the ground?
 - iii. Is savanna fire management situated within a broader landscape management perspective?
 - iv. Are there robust community governance structures in place?
 - c. Scientific and technical expertise
 - i. Remote sensing technology and expertise?
 - ii. Other expertise and skills (i.e. natural resource management, biodiversity, fire ecology, governance)?
47. Useful mutual lessons and insights were learned during the 2014 Australian-African fire learning exchange that took place from 24 November – 3 December 2014 in Namibia.
48. As for the workshop, the learning exchange was hosted by IRDNC and the UNU-IAS Traditional Knowledge Initiative (TKI).
49. Eight international specialists and filmmaker Andrew Botelle flew to north-eastern Namibia for the field trip, which was facilitated, by Garth Owen-Smith, Robin Beatty and Dr Margaret Jacobsohn, with IRDNC Zambezi office senior staff support.
50. The learning exchange focused on savanna burning practices in communal conservancies¹ - Wuparo, Mashi and Mayuni conservancies plus the Karamacan Resident's Trust - and the three National Parks in the far north-east of Namibia, as well as Etosha National Park in the north-central region. The itinerary is attached (Appendix C). The team met with more than 50 conservancy members, Forestry Directorate and Ministry of Environment and Tourism staff at meetings and informal exchanges arranged and facilitated by IRDNC. The history of burning and current fire strategy and challenges in the vast Etosha Park, one of the largest savanna conservation areas in Africa, was outlined and discussed at a meeting at the Etosha Ecological Research Institute. The park is buffered by communal conservancies and commercial farms.
51. The aim of the learning exchange was to enable the international experts to have a first hand look at the local fire context and to bring an informed perspective on the similarities and differences in the fire management challenges and opportunities in Southern Africa in comparison to other regions. The exchange was to also feed into development of a regional assessment of the feasibility of methodology based fire management in the region.
52. Reflecting both on lessons learnt during the exchange as well as from several years working with traditional rural communities and applying early, dry burning practices in

¹ Namibia's conservancies are legally constituted democratic management bodies run by communities for the development of residents and the sustainable use of wildlife and tourism. They have also provided forums where services and developments can be channelled and integrated, as well as promoting improved management of other valuable natural resources.

Southern Africa and other savanna regions across the globe, with particular emphasis on the Namibian experience in Caprivi (now called the Zambezi Region), Mr Beatty outlined the conclusions under the key questions considered.

53. From the outset it was stressed that this technique is not useful everywhere, so it is important to explore where it has greatest applicability. The group felt that the Zambezi region has the potential to be a good pilot site for an early burning emission abatement project because this is where rural communities are living and keen to practice traditional fire burning practices, where communal conservancies have been established, from which communities are already deriving benefits and where there is a history of annual high fire burning frequencies, particularly late season fires.
54. Better empirical evidence is still required to establish whether or not the fire management program that rural communities wish to impose (i.e. in order to improve veld productivity for livestock and biodiversity) will deliver significant greenhouse gas emission abatement. There is evidence suggesting that it will (based on an early burning initiative carried out from 2005 to 2010) but the precise calculations have not been made.
55. It is at this stage not known which private enterprises might be interested in engaging in a project of this nature, however the willingness and eagerness of the communities in terms of wanting fire management to be resourced given the importance of fire in supporting existing local livelihoods, together with the good policy understanding and support of government and the parks systems suggest that Zambezi could be a good pilot in the broader region and that financing should be explored. The demand for fire management is already there, and communities are just looking for a way to finance fire management sustainably.

I. THE ROLE OF REMOTE SENSING IN FIRE MANAGEMENT

56. Prof Jose Pereira from the University of Lisbon's School of Agriculture spoke on the role of remote sensing for methodology based emissions reduction fire management, with the aim of stimulating discussion and questions from participants.
57. Prof. Pereira noted that whilst all presentations to date have shown that remote sensing is used, the nature of these traditional early burning/carbon abatement initiatives is sufficiently different that the data available is not always ideal. There is a strong need to improve the collection, gathering and analysis of information so that managers on the ground can better understand and quantify the temporal nature of fires, their frequency, size, and spatial characteristics. A lot of the prior work on remote sensing was more geared to the concerns of the developed countries, with a focus on fire suppression and frequency. In this workshop we are far more concerned about management of fire. So concepts and techniques may need to be adapted to suit the context.

58. In addition, we need to understand what data is available and what can we do with it. This is especially important when establishing a baseline (especially in developing countries where no monitoring has been done). Remote data can be used but we need to be wary. The products that are developed at the global scale are suitable at the global scale but may not be appropriate at the regional level where people are managing the landscape. The good news is that there is some regional data available and it can be re-analyzed. Tools can also be developed for monitoring fire management practices into the future. So it is possible to find the data to assist to in quantifying emissions and abatement objectives.
59. Prof Pereira acknowledged that several of the people in this workshop were involved in remote sensing activities in support of managing the landscape and opened the floor to discussion, asking *“How do you envisage remote sensing being used to obtain improved fire managed capabilities. What are some of the local issue identified, lessons learnt, and observations”?*
60. There was consensus that remote sensing is an integral tool of fire management and that the issue is not if remote sensing should be used but how and when. To be a worthwhile implementation tool (versus just a planning tool) it is critical that the data is readily accessible to the coordinators on the ground and that the information is presented a way that is easy to understand and use. Coordinators also need confidence that the information they are downloading is up to date.
61. All of the countries represented at the workshop have access to remote sensing data in at least one, but often more than one Ministry and SADC has a large archive of remote sensing data of which fire related data is a part. All SADC countries have access to AMSED and MODIS software, which allows users to receive daily data on the location of fires (hot fires/wildfires primarily). Most departments use this information to develop bulletins or information briefs that are distributed to interested and affected parties. Most Forestry Departments indicated that they also develop monthly and annual forest fire maps at a country scale. Limitations to the optimal use of remote sensing imagery within the Government departments include shortages of computers, GIS and other image processing software, insufficient capacity within departments to utilise the data effectively, brain drain and lack of institutional memory, which hampers long term effectiveness of such tools unless on-going capacity building is taking place.
62. Prof. Pereira asked if anyone from forestry or environment departments had ever received feedback from people receiving the fire bulletins, indicating how it is used and if it is of benefit? It was recognised that bulletins are helpful because they show what areas have been burnt but the data does not easily detect early dry season burns. There is a need to develop new or make a shift in the algorithms that are being used to meet fire management needs. To adapt to cool early burns the remote sensing industry needs to adapt their

products to detect these different kinds of fires. Other participants indicated that remote sensing fire maps and bulletins have also helped to identify poaching activities.

63. Remote sensing is of particular value in large, remote parks that are understaffed. Without remote sensing, managers of these national parks would have very little idea of what was happening on the ground. The difficulty, however, is disseminating information or acting on it because in many cases there is no capacity to respond to fires, even if the information is forthcoming.

64. Prof Pereira brought the discussion to a close by confirming that the whole trip has been immensely informative not only in terms of the landscape, environment and fire characteristics of the region but also in how people are using remote sensing and their awareness of the potential of using the data. He concluded that his only wish is that the remote sensing fraternity do not develop improved information that, for one reason or the other cannot reach the ground and provide management benefits. He has heard how important it is that the developers know what the practitioners working on the ground want and need.

J. KEY QUESTIONS AND GUIDANCE FOR COUNTRY/REGIONAL/ORGANISATION SUMMARY PRESENTATIONS

65. Ms Catherine Monagle of UNU thanked all presenters for their insightful presentations and participation in the discussion and reviewed the desired focus and scope of the presentations for day two of the workshop, noting again the key questions to be considered and encouraging presenters to be brief and to leave enough time for discussion. She also requested that if any country would like to have more than one presentation that could be accommodated.

66. In recognition that a great deal of information had been presented and that everyone came with different substantive background and experience, that if anyone had specific questions or issues that has not been clearly addressed or understood, to please bring this to her attention so that she has an opportunity to work with the presenters to provide additional information or clarify the following day, thus ensuring that everyone obtains maximum benefit from this exchange.

K. COUNTRY/REGIONAL/ORGANISATION SUMMARIES

67. Dr Margaret Jacobsohn and Ms Catherine Monagle facilitated the Country/Regional/Organisation summaries. Participants had earlier been requested to compile short presentations to share their interest and knowledge in fire management, traditional knowledge and emissions abatement from the perspective of their country, region or organization. Each presentation was to be a maximum of ten minutes, Participants were asked to base their talk on the key questions that were outlined above.

68. Presentations were given by:

- SADC
- Angola
- Botswana
- Madagascar
- Malawi
- Mozambique
- Namibia
- Tanzania
- Zambia
- Zimbabwe
- Environment Africa
- UN FAO

69. These presentations have been included in the compilation of presentations circulated to participants and are otherwise available from the UNU.

70. While there was no South African government representation at the workshop owing to the South African representative having to withdraw at the last moment, that delegate, Mr A.R. Madula, provided a presentation and asked for it to be presented on his behalf. This was done by Ms Catherine Monagle of UNU. The South African presentation has also been included in the compilation of presentations circulated to participants. In addition, Ms Monagle asked Mr Roger Collinson of Etosha National Park who also had prior knowledge of fire management in South Africa to provide additional comment based on his knowledge of fire management histories in South Africa.

71. Mr Collinson explained that in many ways the Republic of South Africa is very different to the other SADC countries attending the workshop. Large sections of the country are fynbos, succulent Karoo and Karoo, which are winter rainfall and arid landscapes. As we move east we find very modified grasslands. In these areas fire is no longer an issue because the area has become so altered by commercial agriculture and forestry. In the north-east of the country one starts finding intact bushveld savanna, most of which is private holdings. Communal land is restricted to the least productive areas. These areas are so overgrazed that there may be limited potential to apply traditional methods of veld management, including burning. There may be exceptions along the wild coast where there are some wild grasslands. Commercial cattle ranches and game farms are predominated

by an overwhelming paranoia about fire, with a strong culture of fire suppression. In the grasslands, where there is commercial cattle there is some burning. There is a deeply entrenched belief in RSA that burning can only take place after the first spring rains. So it may be difficult to bring new perspectives. Mr Collinson was no longer current with South African legislation but it is likely that the law permits burning in the high rainfall grasslands without permission as long as it is after the first spring rain, whilst burning in the drier savannas would only be permitted if special permission is granted. That information would need to be verified.

72. Areas that have potential for early burning fire management and emissions abatement are the National parks, of which the Kruger National Park (KNP) and a few in parks in Kwa-Zulu Natal protect savanna ecosystems. The KNP has a tremendous patch mosaic burning programme in place, underpinned by science. The implementation and monitoring is also brilliant. Unfortunately, within RSA, the potential for linking with communities may be low because of the extremely high densities of populations adjacent to park borders. There may be potential on the Mozambican side, as these boundaries are bordered by rural communities. It is these borders that are most vulnerable to Rhino poaching.

73. Themes emerging from the country/regional/organisation presentations for each of the key questions asked included the following observations:

74. *Are you able to identify sites where emissions abatement, methodology based savanna fire management might be applicable in your country/region?* Namibia identified potential sites for a carbon abatement-fire management project in conjunction with local communities. There is also potential in other countries, including Zambia, Zimbabwe and Angola, who are all located in close proximity to the Zambezi Region in Namibia, and have high fire frequency areas.

75. *Can you describe traditional knowledge and livelihoods taking place in the savannas, any relevant traditional knowledge related to fire management/natural resource management, relationship between fire and community livelihoods and communities interested in savanna fire management?* The presentations revealed a range of differences across the savannas of the region, as far as livelihoods and the use of traditional knowledge is concerned. In Zambia and Zimbabwe and Angola and Mozambique, rural people still depend heavily on the natural environment for a range resources including thatching grass, honey, mice and medicinal plants. Communities know where these resources are located in the landscape, manage the landscape to conserve these resources and would like to implement an integrated fire burning strategy that accommodates all of these resources. In other cases, for example, Botswana was described as not having a policy of indigenous people who are owners of the land and in some cases traditional communities have been moved out of the savannas and are not allowed to practice traditional livelihoods.

76. *Is there a legislative framework that enables savanna fire management, Does policy and legislation reflect what actually happens on the ground? What does happen on the ground and is savanna fire management situated within a broader landscape management perspective?* Whilst all of the presenters revealed fire related policy and legislation exists in their respective countries only the Namibian Ministry of Environment and Tourism, Brazil's Institute of Environment and the Kruger National Park in South Africa have policies and programmes in place that prescribe controlled burning, and these are recent. Other countries still have policies based on fire suppression, mechanical control (fire-breaks etc.) and managing wildfires on a reactive basis. What happens on the ground however does not always reflect the official policy and legislation.
77. *Are there robust community governance structures in place?* Namibia outlined that there are forest management committees in place that are legally recognised structures, and have the potential to work effectively. In Botswana there has been alienation of people from their resources and a loss of tribal leadership power, so establishing governance structures that are rooted in community structures would be more difficult to do in the short term and will require significant consultation.
78. *Scientific and technical expertise, Remote sensing technology and expertise, and other expertise and skills (i.e. natural resource management, biodiversity, fire ecology, governance)?* All SADC countries have at least one satellite dish and software to enable them to access remote sensing imagery on fires. They use this information to produce fire bulletins which are distributed to interested parties and to track and, if resources permit, to respond to wild fires. Across the board, participants reported inadequate resources (man power and equipment) to properly implement fire management programmes. Departments are lacking in technical expertise such as scientists and fire ecologists and capacity building is an on-going challenge. Most forest reserves and national parks are poorly manned on the ground, making it difficult for rangers to respond to fires. These are all areas where investments would need to be made.

L. TRENDS, CHALLENGES AND OPPORTUNITIES FOR FIRE MANAGEMENT IN SOUTHERN AFRICA

79. Facilitated by Ms Margaret Jacobsohn of IRDNC and Ms Catherine Monagle of UNU and drawing from the presentations, participants further discussed themes emerging from the summaries presented, which were then captured by the facilitators and note-takers and grouped into terminology, trends, challenges, opportunities and potential sites.
80. Terminology issues emerging suggested the importance of being clear and cautious how certain word and terms are used. Particular examples emerging were the classification of forests versus savanna, and the understanding of who falls under the term "Indigenous peoples".

81. On the issue of forests versus savannas it was noted that in most SADC countries the forestry department managing tree landscapes including savanna woodlands. However it was stressed that forests and woodlands are not the same thing. Some participants noted that they use the FAO definitions which define forests as having closed canopy at more than 10% and trees having the potential to grown more than 5m tall. Whilst in respect of this workshop it was accepted that forests and woodlands are the same thing, it is an important distinction to bear in mind as early, dry burning is advocated for savanna ecosystems and may not be always applicable for closed canopy forests, or at least the considerations and methodologies may differ.

82. On the issue of differentiating Indigenous peoples and local and rural communities it was raised that in Africa it is not always easy to distinguish who is indigenous because most of the people are. Ms Monagle of UNU described how such terminology debates had been dealt with in international processes such as the Convention on Biological Diversity and Declaration on the Rights of Indigenous Peoples, and suggested that for the context of fire management it was useful to not get bogged down in terminology and that the term Indigenous and local communities captured the diversity of the relevant groups, all of whom may have had a traditional use of and relationship with fire.

83. Trends identified by participants included the following:

- a. Despite most represented countries still having strong focus on fire suppression in their policies and legislation, there is gradual acceptance that these approaches are not managing wildfires effectively and that controlled early burning is important in savanna environments. Most countries recognised they are not enabling rural communities to use their traditional knowledge advantageously but that this is an important goal.
- b. There is political awareness of the gravity of fires and the need to manage them. However, there is a lack of political will, largely due to lack of awareness, to change the existing fire suppression policies, that were originally developed to protect property, for a controlled burning policy, that increases productivity of the savanna, increases biodiversity and greatly reduces the potential of wildfires.
- c. There is now a greater appreciation that our prolonged fire suppression policies have resulted in severe bush encroachment in the savannas of Southern Africa. This has been at the cost of biodiversity, including the species important for tourism. If the grass component is to be reintroduced, and open savanna woodlands re-created, active, early burning, needs to become the backbone of an integrated fire management policy.

84. Challenges identified by participants included the following:

- a. There is a need to create a vision at a political level, so as to raise the importance of controlled fire burning and develop a strong commitment to this issue.
- b. Institutionalising and implementing controlled burning was noted as important. There is still a strong focus on suppression and physical control of fire. Policies and regulations need to be changed to create an enabling environment for controlled burning.
- c. Government departments and institutions are plagued by brain drain. Although this problem is not unique to fire management programmes, it still limits sustainability of these initiatives and is an on-going challenge.
- d. Fire management legislation is typically fragmented. There is a need to harmonise the approach, implementation and communication of fire management across government departments to improve effectiveness.
- e. There is a lack of capacity regarding carbon abatement, and limited awareness of what it means and what it can do.
- f. There is a challenge to develop sustainability through capacity building. The need to break out of the donor funded cycle was identified and this needs communities and institutions to own the problem. This will require engagement at all levels - within communities, local and national governmental departments, the public and at the political level to ensure that people understand the issues, want and support a sustainable fire management initiative.
- g. Local rural communities need to own the process if sustainability is to be realised. There is a need to fast track some of the benefits so as to motivate on-going involvement in controlled fire burning initiatives.
- h. There is a lack of networking amongst neighbouring countries in the context of fire management, however this will be important for cross border approaches to be successful.
- i. Fire ecologists and biologists might share different views and there is a need to bring them together to share ideas and discuss management approaches.
- j. It is difficult to decide if the rules of the game (policy and legislation) must change first, or if on the ground practices should change first. Maybe it is different in different contexts.
- k. Funding agencies are often not aligned with recipient's priorities. It is an on-going challenge to have programmes lead the donors and not have donors lead the programmes.

- i. We have a need to calculate and verify the applicability of controlled burning in Southern Africa and we need to calculate the costs and benefits of this approach so as to give it some economic weight. In particular, the cost of promoting fire suppression and managing wildfires, versus the cost of implementing controlled burning programmes would assist to make the case.
- m. There are inadequate skilled people involved in fire management in Southern Africa. We need to establish if universities, colleges etc. have adequate training facilities to develop the skills required to effectively manage Southern African ecosystems, including savannas.

85. Opportunities and recommendations for follow up action that should be pursued include the following:

- a. Sharing the findings of the Australian experience with a larger audience, to develop awareness of how carbon abatement programs might fund controlled fire management programs, and contribute towards sustainable livelihoods for some rural people.
- b. Sharing the message of this workshop to as many people before the next fire season. This can be done if punchy, concise information briefs are developed and shared with interested and affected parties, along with the UNU's Namibia and Australian video briefs.
- c. Establishing dialogues with international specialists interested in piloting a carbon abatement- fire management project or exploring issues around remote sensing, thus ensuring an on-going exchange of skills and knowledge.
- d. Investigating what other groups and international networks already exist and establish if it is possible to tap into these or if it is necessary to establish a new network.
- e. Developing an information base that will support the case of controlled fire burning, within the Southern Africa context, including through participating in the UNU regional assessment and contributing information resources.
- f. Exploring donor options and financial models (such as the Forest funding model in Tanzania), to understand the opportunities and constraints associated with the different options and investigate how one might create financing mechanism to support sustainable fire management in Southern African savannas.
- g. Developing a better understanding of the demand for carbon abatement credits in the SADC region and building awareness of the complete range of funding models for fire management activities - including public sector, philanthropic, direct private

sector investment, participation in carbon markets (both voluntary and compliance), in order to understand the advantages and disadvantages of each of these funding sources.

- h. Finding seed funding to support the development of one or two pilot carbon abatement-fire management project in the SADC region.
- i. Namibia could document and share the findings from the controlled fire management programmes it has run in the Zambezi Region and more recently, Etosha.
- j. Becoming an active voice for policy/legislative change, by taking the message home following the workshop and engaging in conversations with both the government and private sector, noting that passionate people can bring about change, even if it takes a long time.
- k. Thinking about potential pilot sites in participant's respective countries, noting that once a prospective site has been identified it becomes easier to understand community, institutional, legislative and technical needs and issues and to take appropriate action. Recognise and appreciate that changing entrenched beliefs and practices is not a fast process, so allocate realistic time frames for these initiatives.
- l. Improving available data to support countries to compile information on the cost of implementing a fire suppression / wild fire management approach in comparison to controlled burning.

86. In terms of potential sites for carbon abatement-fire management projects in the SADC region there was consensus, that the Zambezi Region in Namibia has great potential as a site for a carbon abatement-fire management project for the following reasons:

- Located in a high frequency, wild fire region;
- In close proximity to three other countries, so the project has the potential to be replicable;
- Rural communities living in the area, who are eager to practice traditional fire management practices;
- Controlled burning policy in place in National Parks;
- Community governance structures in place;
- Early burning fire management was successfully implemented for a few years in the early 2000s;
- Baseline information available.

87. A further idea would be to have three pilots (separate or linked) in three countries across the greater Zambezi area. This would strengthen cross border dialogue and has the potential to deliver powerful results for the area.

M. NEXT STEPS

88. Within the next two weeks the minutes, participation list, presentations and group photo would be distributed to participants.

89. The International Savanna Fire Management Initiative is conducting regional feasibility assessments and in the near future they will commence with the assessments for all the countries in Southern Africa to be led by Mr. Robin Beatty. In this regard everyone's presentations will feed into this assessment. Participants may be contacted by the authors of that assessment for further detail and insight into the context within the country they represent.

90. The video briefs to be released following the learning exchange will be available in the near future along with other savanna information resources. Participants will receive notification when these resources are available.

91. If participants have any literature that might be valuable (traditional knowledge, photographs, biodiversity and fire etc.) and are willing to share it, then please get in contact with the UNU as they are compiling such resources to make accessible to others as part of this knowledge sharing initiative.

L. CLOSING

92. Ms Catherine Monagle thanked all the delegates for attending the workshop and participating so actively and sharing of so much expertise and information. She extended special thanks to Dr Margaret Jacobsohn, Mr Garth Owen Smith and Mr Robin Beatty for the instrumental role they played in organising the workshop and helping participants to understanding the Southern African context, and to Mr Nigel Gellar and Mr Dean Yibarbuk for so willingly sharing their expertise, experience and perspective as Traditional Owners.

93. Lastly Ms Monagle thanked Ms Florence Araes, who worked tirelessly on travel and accommodation arrangements for the workshop, Ms Angela Howells who assisted with the workshop coordination and Ms Michelle Pfaffenthaler for capturing the minutes.

94. Mr John Kasaona, Director of IRDNC delivered the closing speech for the workshop. He recognised the presence of the SADC delegate, SADC country representatives, NGO's, and indigenous elders from Australia. Mr Kasaona expressed that he was deeply honoured to be here with so many committed people. He recognised that whilst some participants are not fire experts, being African means we understand that fire has been with us since time immemorial, that we use fire for many different reasons, and that where fire is

not taking place – bush encroachment follows. He noted that Africa has always been called the fire continent yet ironically we do not seem to have the capacity and expertise to deal properly with fire, and there is a need to turn this around. During this workshop we learnt that fire is used for many purposes, that many SADC countries have fire management policies in place demonstrating that fire is recognised as an important issue. However, the management thereof is not optimal so we should approach our leaders to tell them that work is needed in this area. Mr Kasaona reminded the group that we should not be disconcerted if we do not get what we want straight away. This is something important for us but maybe not critical at the political level yet but it is our duty to convince them of the value that an integrated fire management programme can play. For Namibia and other SADC countries we have started a journey, lets move forward and take what we have learned here and make something of it.

95. Mr Kasaona thanked Dr Margaret Jacobsohn, Mr Garth Owen Smith, the UNU and the Australian Government, all of who made this workshop possible. We will be looking to you for future support and to continue working together.

96. The meeting closed at 5pm on the 5th December 2014.

APPENDIX A
PARTICIPANT CONTACT DETAILS

NAME	TITLE	ORGANISATION
ANGOLA		
Rodrigues Nanga	Mr	Institute of Forestry & Development, Ministry of Agriculture
Eugenio Da Silva	Mr	Institute of Forestry & Development, Ministry of Agriculture
AUSTRALIA		
Simon Pollock	Mr	Australian Department of the Environment
Emily Gerrard	Ms	Allens
Jeremy Russell-Smith	Prof	Charles Darwin University
Nigel Gellar	Mr	Warddeken Land Management Ltd
Shaun Ansell	Mr	Warddeken Land Management Ltd
Dean Yibarbuk	Mr	Warddeken Land Management Ltd
BRAZIL		
Rodrigo Falleiro	Mr	Brazilian Institute of Environment – IBAMA
BOTSWANA		
Jeremiah Moeng	Mr	Directorate of Forestry and Range Resources in the Ministry of Environment Wildlife and Tourism
Pauline Dube Opha	Dr	University of Botswana
MOZAMBIQUE		
Romana Bandeira		Eduardo Mondlane

		University
NAMIBIA		
Roger Collinson	Mr	Etosha National Park
Edward Muhoko	Mr	Ministry of Forestry, Windhoek
Jonas Mwiikinghi	Mr	Ministry of Forestry, Zambezi Region
Martin Kasaona	Mr	Ministry of Environment and tourism, Etosha National Park
Simon Mayes	Mr	Ministry of Environment and Tourism, NAMPARKS
Carolin Tischtau	Ms	GIZ
PORTUGAL		
Jose Pereira	Prof	University of Lisbon, School of Agriculture
TANZANIA		
Charles Ng'atigwa	Mr	Tanzania Forest Services Agency
ZAMBIA		
Gift Sikaundi	Mr	Zambia Environmental Management Agency
ZIMBABWE		
Stephen Zingwena	Mr	Forestry Commission
Ester Bhebhe	Ms	Environment Africa
SADC		
Moses Chakanga	Mr	SADC Secretariat
UNU		
Catherine Monagle	Ms	United Nations University
UN FAO		
Pieter van Lierop	Mr	United Nations Food and Agriculture Organisation

OTHER		
Andrew Botelle	Mr	MaMoKoBo Video & Research
Robin Beatty		321 Fire
Margaret Jacobsohn	Dr	IRDNC
Garth Owen-Smith	Mr	IRDNC
John K Kasaona	Mr	IRDNC
Michelle Pfaffenthaler	Ms	Secretariat
Florence Araes	Ms	Secretariat
Angela Howells	Ms	Secretariat

APPENDIX B



UNITED NATIONS
UNIVERSITY

UNU-IAS

Institute for the Advanced Study
of Sustainability

www.irdnc.org.na

International Savanna Fire Management Initiative Southern Africa Regional Workshop, Swakopmund Sands Hotel, Namibia

4th – 5th December 2014

AGENDA

DAY 1

9.00 Welcome (IRDNC/UNU)

9.30 Participant Introductions

10.00 The International Savanna Fire Management Initiative (UNU)

Presentation/Film Presentation
Questions & Discussion

10.40 COFFEE BREAK

11.00 Background to the Australian Experience
(Dr. Jeremy Russell-Smith, Simon Pollock (Government of Australia))

Presentations
Questions & Discussion

11.50 The Australian Experience – The WALFA Project
(Warddeken Land Management (Nigel Gellar, Dean Yibarbuk, Shaun Ansell))

Presentation
Questions & Discussion

12.20 The Australian Experience – The North Kimberley Fire Abatement Project
(Emily Gerrard, Allens/Kimberley Land Council)

12.40 Fire Management in the Cerrado, Brazil
(Rodrigo Falleiro, IBAMA Brazil)

Presentation
Questions & Discussion

- 13.00 LUNCH
- 14.00 Namibia Learning Exchange – Lessons Learned and Relevance to Wider Region
(Learning Exchange Participants)
- Presentation
 Questions & Discussion
- 14.45 Savanna Fire Management Operations in Practice
(321 Fire Mozambique, Wardekken Land Management)
- 15.30 COFFEE BREAK
- 15.50 Remote Sensing developments in Savanna Fire Management
(Dr. Jose Pereira, University of Lisbon)
- 16.20 Key Questions and Guidance for Country/Regional/Organisation Summary Presentations
- 17.30 CLOSE
- 19.00 Group Dinner

DAY 2

9.00 Country/Regional/Organisation Summaries

- SADC
- Angola
- Botswana
- Madagascar
- Malawi
- Mozambique
- Namibia
- South Africa
- Tanzania
- Zambia
- Zimbabwe
- Environment Africa
- FAO

11.00 COFFEE BREAK

11.30 Country/Regional/Organisation Summaries (cont.)

13.00 LUNCH

14.00 Savanna Fire Management in Southern Africa – Trends, Challenges and Opportunities

15.45 COFFEE BREAK

16.00 Savanna Fire Management in Southern Africa – Wrap Up

17.00 CLOSE