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Foreword



Preventing ecological degradation is key to securing ecologically sustainable development. In Zimbabwe, as is the case for much of sub-Saharan Africa, fire is among the most common drivers of ecological degradation. If natural or controlled, these fires have been known for years to be beneficial in our savannah ecosystems as a management tool. However, substantial unwarranted and uncontrolled burning does occur throughout the country each year. Between 2001 and 2009 about 400,000 to 1 million hectares of savannah grasslands and forest plantations were burnt. Such scale of burning has potential to affect the climate, rainfall patterns and destroy the soil. Forest plantations destroyed by fire in 2009 alone had an estimated value of US\$120 million.

In the year 2006, my Ministry of Environment and Natural Resources Management crafted the National Fire Strategy and Implementation Plan document. Subsequently, Government gazetted the Fire regulatory instrument, the Environmental Management (Environmental Impact Assessment and Ecosystems Protection) regulations, Statutory Instrument 7 of 2007. The Environmental Management Agency coordinates a multi-stakeholder process in fire management and protection in the country through established Environmental Fire Committees at national, provincial, district, ward and village levels.

To mitigate the impact of fires, EMA interventions at local level included mobilisation and training of fire fighting teams as well as community based fire management pilot projects implemented in

partnership with the Forestry Commission and the Food and Agricultural Organisation. This led to positive results as shown by the negative correlation between fire incidences and hectare burnt in project areas. Despite all these efforts, in general, the response to fire incidences by the public has not been satisfactory. Property owners have failed to take heed of the need to protect their property through the construction of standard fireguards and mobilising fire fighting teams in their communities. In most cases, people watched as large tracks of forests, grassland and wildlife were burnt to ashes to the detriment effect of socio-economic development and sustainable livelihoods.

This fire report gives an opportunity to all Zimbabweans to see the dangers that come with poor fire management. Through this report, the Ministry of Environment and Natural Resources Management calls upon all key stakeholders that include local authorities, traditional leadership, law enforcement agencies, the judiciary sector, ministries, political leadership, civic society, communities and the public in general to take an active role to combat this disaster. It is everyone's responsibility to put out fires. I am appealing for safeguarding of life, property and natural resources through prevention, detection, control, restriction and suppression of fire in forest and all other vegetation in our communities. Law enforcement should be the last resort if each Zimbabwean plays a role in fire prevention.

Hon.F.D.C. Nhema (M.P)

Minister of Environment and Natural Resources Management.

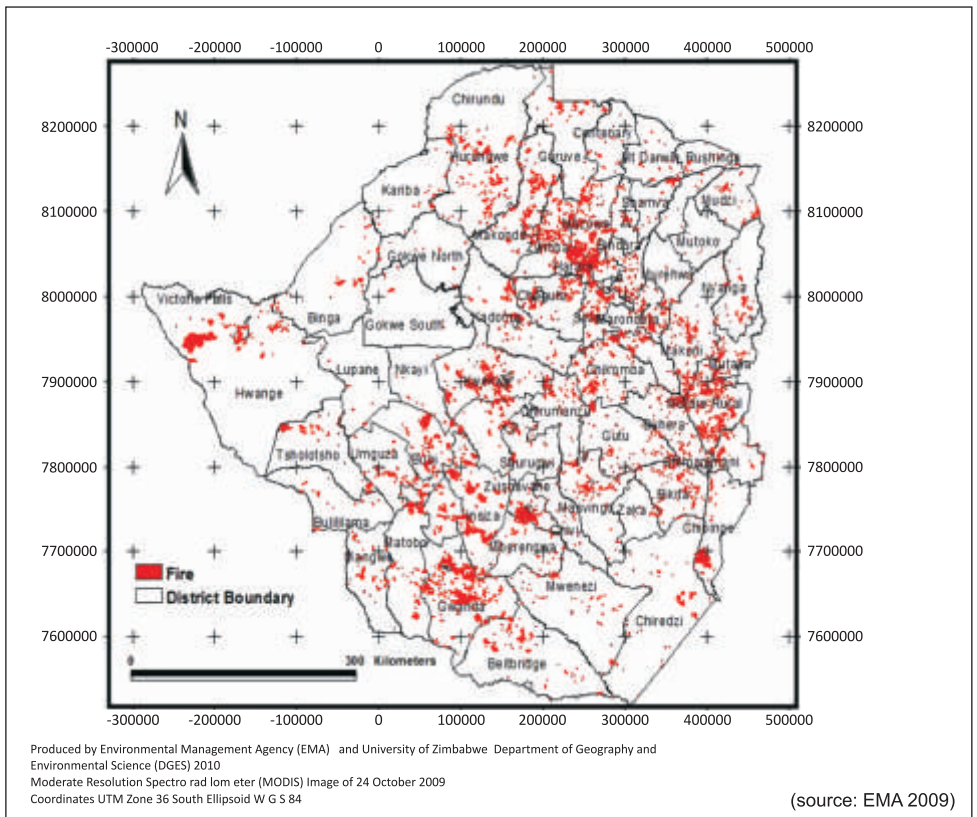
1.INTRODUCTION

The report gives a summary of the fire incidences, hectares of land burnt, lives lost, infrastructure destroyed, vegetation lost (grazing land), plantations and arable land. Comparative data on fires since 2001 is presented in the report. The trend indicates that areas affected by fires have doubled during the nine year period. An overview of the relationship between fire, land degradation, climate change and poverty is also given.

2. NATIONAL FIRE COVERAGE

In 2009, there were 7 409 fire incidences country wide that destroyed 950 905.22 ha (Illustrated in Map 1). This was more than double the hectrage lost to fires in 2001, figure 1 refers. Further detail is given in Appendix 1.

Map 1: Veldt Fire Incidences by 24 October 2009



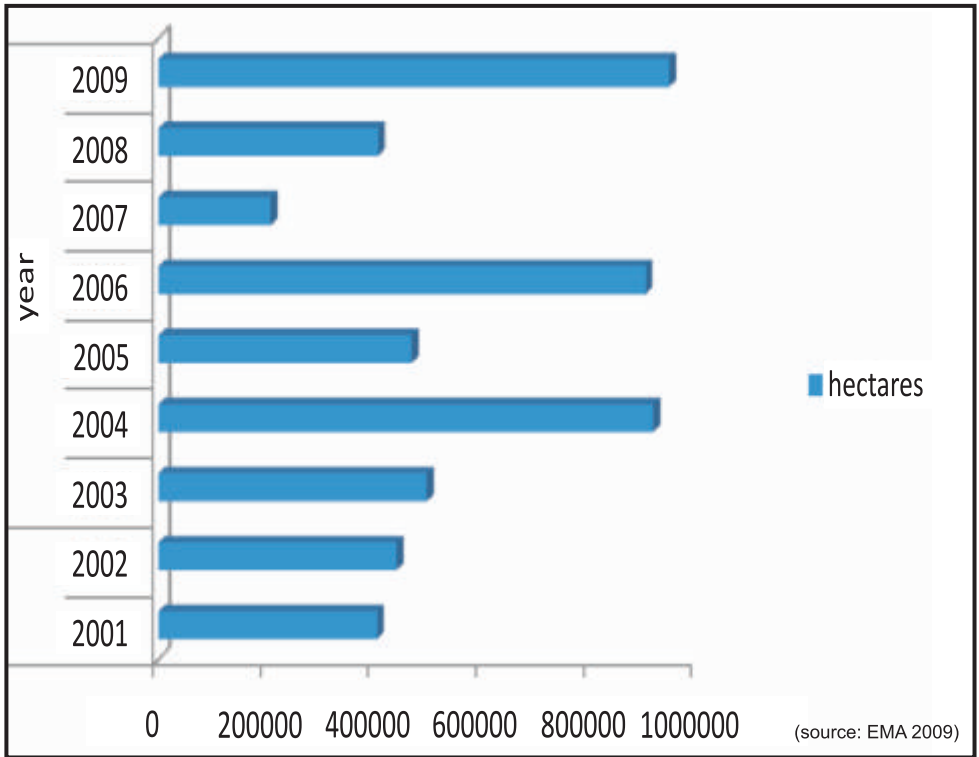


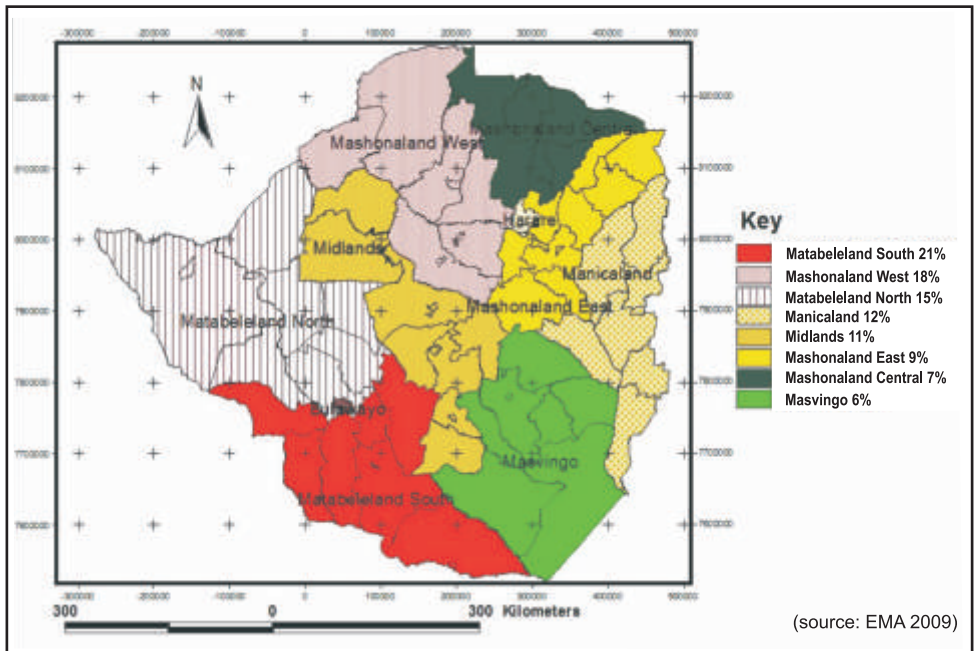
Figure 1: Annual Hectrage lost to veldt fires 2001-2009

The year 2007 had the highest number of fire incidences but had the lowest hectrage lost to veldt fires where 210 000 hectares were lost. This coincided with the period that the Environmental Management Agency reacted by forming fire fighting teams in all provinces. Efforts are still being made to ensure that all districts down to the ward and village level have fire fighting brigades/ teams in place, to ensure readiness and preparedness to put out fires.

3: PROVINCIAL FIRE COVERAGE

An assessment of fire damage throughout the country showed that Matebeleland South suffered the largest impact as a result of veldt fires in 2009, with 21% of total area being destroyed. The least affected province was Harare Metropolitan which recorded 1% damage of its total area. Map 2 shows provincial percentage area lost to veldt fires in 2009.

Map 2: Provincial percentage area lost to veldt fires 2009



(source: EMA 2009)



(source: EMA 2009)

Figure 2: Total area destroyed by veldt fires in 2009 by province.

4. LIVES LOST AND DAMAGE TO INFRASTRUCTURE

In the year 2009 ten(10) lives were lost due to veldt fires. A total of 26 people were killed in blazes in the period between 2001 and 2009. The most vulnerable were children, old people, and nursing mothers, who failed to negotiate their way out of veldt fires. A total of seven(7) children perished in an inferno arising from an uncontrolled veldt fire in Insiza in the year 2005. The trend over the past 5 years shows that the number of lives lost to veldt fires is increasing (figure 3).

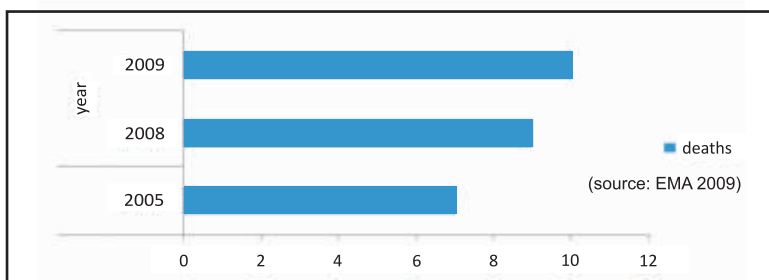
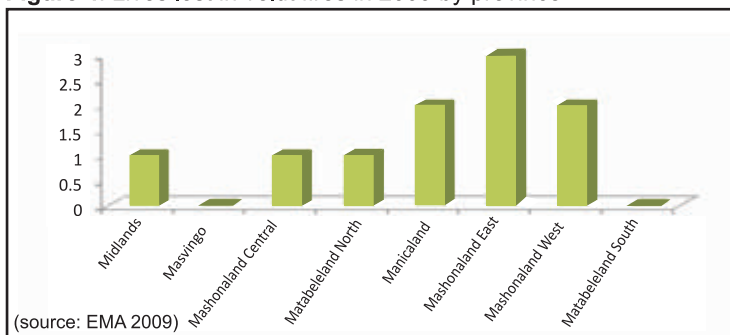


Figure 3: Trend of lives lost to veldt fires for the period 2005-2009.

The provincial overview in 2009 shows that Mashonaland East had the highest mortality with three (3) fatalities being recorded as shown in figure 4. There were no casualties in Masvingo and Matabeleland South.

Figure 4: Lives lost in veldt fires in 2009 by province.



5. HECTARES OF LAND BURNT AND AFFECTED LAND USES

Zimbabwe covers 39 075 700 hectares of land and a total of 950 905 hectares of land was destroyed by fire in 2009, and plantations with an estimated value of \$ US 120 million were destroyed in the same year. The greatest fire damage was recorded in Gwanda district with a total of 72 272 hectares being lost to fires. Appendix 3 gives detail of the impact of veldt fires by district. Figure 5 below illustrates percentage of total area destroyed by fire in each province in 2009.

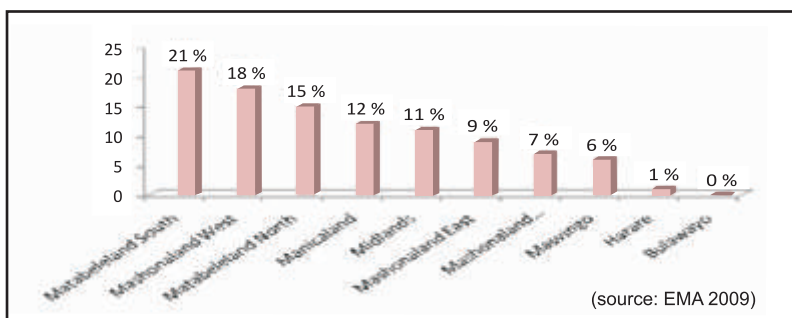


Figure 5: Percentage of land lost to fires per province in 2009

5:1 HECTRAGE LOST TO FIRES DURING THE PERIOD 2001-2009 IN HECTARES.

On average the trend is indicating that area lost to veldt fires is increasing each year with the highest destruction being in 2009 as indicated in (figure 6).

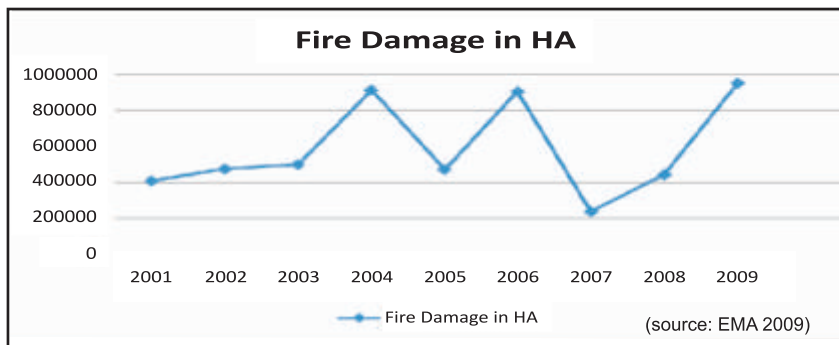


Figure 6: Hectrage lost to fires during the period 2001-2009.

6. THE IMPACT OF FIRES ON LIVELIHOODS AND ECOSYSTEMS.

The poverty-environment nexus reflects that the majority of disadvantaged people depend directly on the productivity of the environment for their livelihoods. The rural poor depend on agriculture and the extraction of natural resources from their environment (food, fodder, fibre, fuel wood, timber, and medicinal plants) for little more than the cost of their time and labour. Most of these natural products are extracted from communal resources. Almost every survey of rural livelihoods carried out in Zimbabwe has shown that poorer households depend on natural resource extraction to a much greater extent than the relatively wealthier households. Moreover, this dependence increases during times of stress, for example in years of drought when agriculture fails, or in times of economic hardship when income in the form of remittances from relatives in employment is reduced. The country's forest resources cover approximately 66 percent of the total land area. Like many other countries in sub-Saharan Africa, forest stocks generate a wide range of timber, non-timber products, ecosystems goods and services directly and indirectly benefiting the population. As such fires are a major threat to the survival of the poorer households as they destroy the ecosystems livelihood resource base.

Fires Cause Land Degradation

Fire destroys vegetation and crop residues that reduce the impact of raindrops and runoff on the soil surface, this leads to destabilization of soils resulting in higher rates of soil erosion and land degradation. Soil fertility is quickly lost leading to reduced crop yield and livestock carrying capacities. This affects the more vulnerable members of the community and triggers the environment-poverty nexus.

7. CLIMATE CHANGE AND FIRE

Fires contribute to climate change when trees and vegetation which act as carbon sinks are burnt and at the same time contributing to the release of green house gases such as carbon dioxide. Fires have also been correlated with higher incidences of droughts. Zimbabwe has experienced six of the warmest years in the past 100 years.

Beitbridge, Harare and Bulawayo weather stations have observed an increase in highest daily minimum temperatures and a 2 degree celsius increase in the highest daily maximum temperatures in the last century.

Mid season dry spells are increasing. Rainfall has declined by 8 percent globally but there has been a 15 percent decrease in southern Africa. Zimbabwe's economy is firmly anchored in agriculture, which is sustaining 80 percent of the population and climate change, will undoubtedly disturb the country's economy. In terms of available water resources the country is currently categorised as vulnerable. In less than 15 years the country will be experiencing serious water problems if the continent's predicted temperature increase of between two and four degrees celsius remains a reality. If fires are to continue unabated, Zimbabwe will contribute to climate change and will experience more incidences of droughts resulting in severe water scarcity in the future.

8. ENVIRONMENTAL MANAGEMENT AGENCY INTERVENTIONS TOWARDS COMBATING WILD UNCONTROLLED FIRES.

8.1 AWARENESS RAISING

In 2006, the Minister of Environment and Natural Resources Management and the implementing arm, EMA launched the first national fire week commemorations during the second week of May to mark the beginning of the fire season that has now become an annual national awareness campaign. Each year all provinces and districts engage in activities that raise awareness on the importance of conserving our environment and sustainably utilising natural resources and the dangers of veldt fires during the national fire week. In May 2009 an estimated audience of over 4000 was reached in the fire season launch events that filtered to district level.

*'Part of the audience at
The Fire Awareness
Campaign in ward 11
Chikomba district'*



During the fire season (May to Oct) a total of 253 fire awareness meetings were held to raise awareness on fire issues as illustrated in figure 10. Approximately 24 491 people, mainly farmers and school children attended the meetings and workshops. A total of 123 fire fighting teams were established and trained throughout the country. Each committee was equipped through a program initiated by the Agency where fire fighting equipment consisting of fire beaters and knapsack sprayers were issued per team for extinguishing fires. A total number of 96 demonstrations on fire guard construction and fire fighting techniques were conducted as shown in picture .



A fire fighting committee, demonstrating how to put out a fire in Mashonaland West Province.

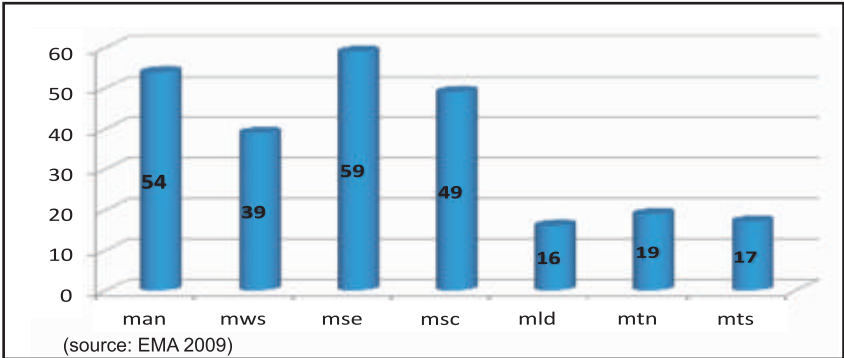


Figure 10: Awareness meetings by province (2009)

- Manicaland- **man**
- Masvingo- **mws**
- Mashonaland East- **mse**
- Mashonaland Central- **msc**
- Midlands- **mlt**
- Matabeleland North- **mtm**
- Matabeleland South- **mts**

All provinces, districts and some communities held environmental awareness meetings on fires. Mashonaland East Province had the highest number of campaigns

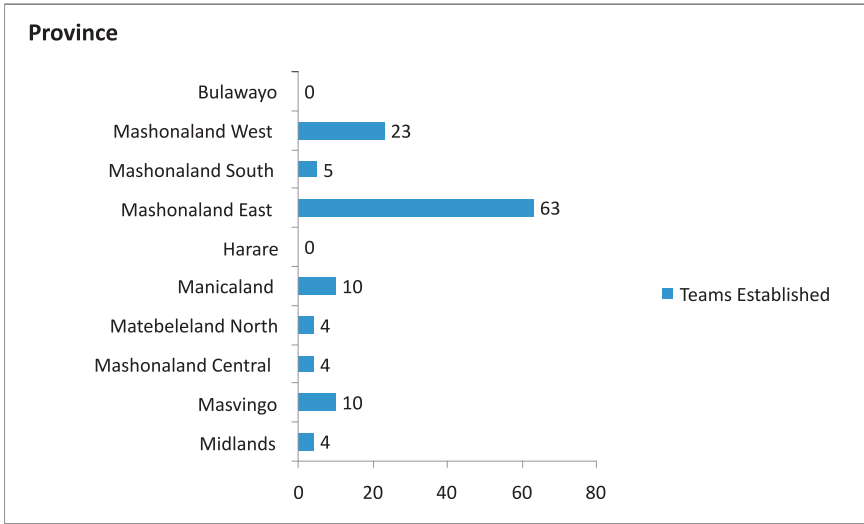


Fig 11: Number of Established Fire Management Committees.

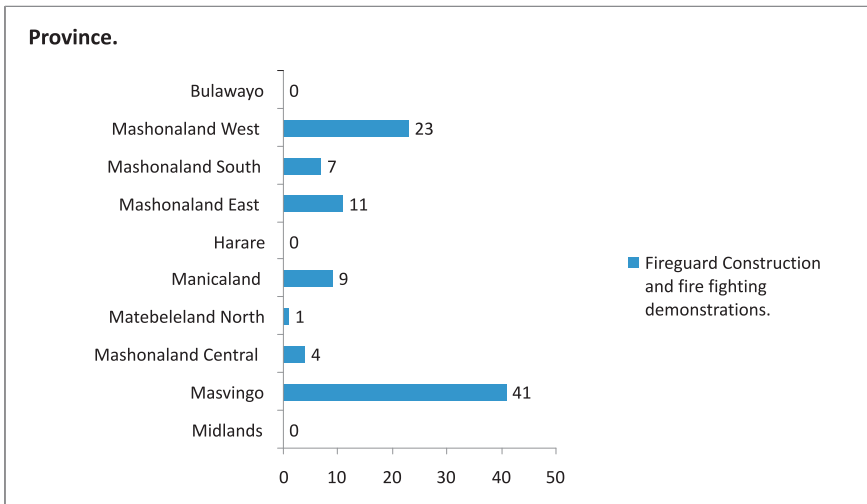


Fig 12: Number of fireguard construction demonstrations.

In addition to the training of committees, the Agency is working hard to create awareness for all Zimbabweans through the electronic and print media. The Agency creates awareness through programmes that include special features on the main news and radio talk shows.

8.2 EMPOWERMENT OF LOCAL AUTHORITIES, TRADITIONAL LEADERS AND COMMUNITIES IN FIRE MANAGEMENT

Local authorities are empowered through the local environmental action planning programme. The Agency established and trained environmental committees and sub-committees in rural district councils on veldt fire management. Through these committees, ward and farm based fire fighting teams were subsequently established and trained. Working together with these committees the Agency is coming up with a new initiative of training ward based environmental monitors that are intended to strengthen the investigation, law enforcement and reporting system of these committees. The Agency strengthened the traditional leadership and their institutions through training and regular meetings on the potential of indigenous knowledge systems and traditional environmental law enforcement towards curbing uncontrolled veldt fires.



Chiefs attending a 'Fire awareness Campaign'

8.3 PARTNERSHIP WITH STAKEHOLDERS.

The Agency works closely with sister parastatals namely, Forestry Commission, Parks and Wildlife Authority and Allied Timbers in most of the fire management programmes. Partnerships are also established with Government ministries and departments such as Agritex, Ministry of Lands, Ministry of Local Government Urban and Rural Development, Department of Irrigation, Prisons and Urban Councils in particular their fire brigade subunits. Government departments have formed a fire fighting committee in all rural local authorities to forge a road map and in fire management programmes.

At national level an inter-ministerial committee on fire management is coordinated by the Ministry of Environment and Natural Resources Management.

8.4 PROGRAMMES

The Environmental Management Agency facilitates and promotes programmes that focus on improved sustainable livelihoods in particular that of vulnerable households. Given the widespread dependence of people in Zimbabwe on the environment, especially the rural poor, a range of programmes and activities have been undertaken over the years aimed at maintaining environmental productivity (with assumed positive impact on poverty). The Environmental Management Agency facilitated the drawing up of district and local level environmental action plans in 35 rural districts and 18 urban councils in Zimbabwe with the active participation of communities. The focus is on planning for environmental protection, however planners are encouraged to incorporate poverty alleviation initiatives in such plans. Currently the Agency, United Nations Development Programme and Global Environment Fund are carrying out a project and supporting communities in Chiredzi on how to adapt to climate change and the effects of droughts. Such special programmes intergrate, fire management issues in their implementation plans.

8.5 LEGAL FRAMEWORK

The legal framework under the Forest Act(Cap 19:05), Environmental Management Act (Cap: 20:27) and Statutory Instrument 7 of 2007 sections 19 to 22 incorporate provisions for the prosecution of offenders where the penalty varies from **level 1**(US\$5) up to **level 14** (US\$ 5 000) or 1 year imprisonment . However the general opinion is that the penalties are too lenient considering lives lost and the impact on the economy of the country to the extent that it is believed that fires are a national security threat issue.

In 2009, a total of 2 547 orders for the construction of fire guards were served in all provinces as illustrated in figure 11. Further information on law enforcement on offenders is given in Appendix 2. In areas where farms were burnt land owners were issued with tickets proportionally in amount to the area burnt.



Figure 11: Distribution of fire related orders issued to farmers by province in 2009.

APPENDICES

Appendix 1: Fire incidences and percentage of provincial area burnt by fires from 2001-2009

Year	Number of Fire Incidences	Hactarage lost	Percentage of the country burnt%
2001	-	407 950	1.04
2002	-	444 037	1.13
2003	-	500 312	1.28
2004	-	921 193	2.56
2005	-	471 893	1.21
2006	-	906 802	2.32
2007	11 382	210 000	0.54
2008	3 080	410 000	1.04
2009	7 409	950 905.22	2.43

Appendix 2. National Summary of Veldt Fires by Province and action taken by EMA

Province	No. of Incidences	Area Affected (ha)	Extent of Damage	Action taken by EMA.
Midlnads	760	107	One life (Foxton Farm), Grazing area, 24 gardens (Lobolinko, Shurugwi), 3 huts (Worcestershire)	20 inspections, 2 tickets issued (\$540 fines assessed), 11 awareness meetings held.
Masvingo	1203	59 481	A house was burnt in Masvingo, 1 lodge in Save valley, 2 huts in Gutu 2ha sugar plantation and 1 hut, grazing area.	61 Orders were served and confirmed 112 inspections, 11 tickets valued at US\$1 880 and US\$215.00 was paid. 45 awareness meetings were done, 6 cases- efforts made to put out the fire
Mash Central	577	64 782	One death(Shamva), 1 school gutted Centenary), electricity power lines, 83ha gum plantation 15 huts, Maize crop destroyed- 35ha	1 arrested, 262 orders issued, 3 tickets (\$450 assessed fine)
Mat North	470	144 361	One life, 2 injured (Umguza), 27 goats burnt, lodge burnt (Sizinda), electricity poles, grazing	4people appeared in court, 2 inspections, 2 tickets issued, 8 cases- attempt to put out the fire
Manicaland	1588	112 221	Two lives (children in Makoni), 29 homes burnt, vegetation, gardens, 4 goats & 1 ox; 3,400ha timber plantation	69 inspections, 54 awareness meetings on fire management 17, cases- efforts to put out fires, 24 meetings held attended by 2,271 people,
Harare	57	3 738	One death in Gorormonzi, properties burnt in Seke and Zvimba Districts, 1 power station, vegetation in wetlands (Irvines)	92 inspections, 105 order served and confirmed , 45 tickets issued and assessed, fine of US\$10 030.00

Mash East	904	88 967	Three lives (Goromonzi), 2 houses & 3 huts burnt, 1 car burnt, property, agric inputs worth \$500	2 people tried at chief's court, 1 person tried at magistrate court, 30 inspections, 12 tickets (\$3,600 assessed fines), 172 orders issued, 65 fire fighting teams
Mat South	873	197 604	One farm house (Insiza) 1 Chalet (Umzingwane) Police station 4 properties were burnt in Insiza and Matobo	1 person jailed (2 years), 1 cautioned, 8 tried and acquitted, 27 Orders were served and 14 tickets were issued out valued at US\$1 370.00 US\$490 was paid. 11 awareness campaigns were done 2 on radio and 1 on ZBC and 2 on print media.
Mash West	961	170 629	1 life & 3 children injured (Hurungwe), 1 person injured, 302 Jatropha plants (Makonde), school orchard, grazing, 0.25ha gum plantation (Zvimba), 16 huts with property burnt (Chegutu) and 5 people severely burnt	157 inspections done 39 ticket issued, 69 orders issued One workshop was held with traditional leaders, 9 demonstrations, 12 fire fighting teams trained US\$3 440 was assessed and US1 720 was paid.
TOTAL	7409	950 905	10 lives lost	

Appendix 3 : Hectrage lost to fires per district by 24 October 2009

District	Hectares Lost	District	Hectares Lost
Beitbridge	19379.065	Kwekwe Urban	170.645
Bikita	13022.078	Lupane	1431.429
Bindura	4106.741	Makonde	29930.214
Bindura Urban	163	Makoni	17395
Binga	9149	Marondera	13556
Bubi	31818	Marondera Urban	246
Buhera	13331	Masvingo	10820
Bulawayo	2426	Masvingo Urban	447
Bulililama	4011	Matobo	17421
Mangwe	9726	Mazowe	32716
Centenary	2709	Mberengwa	9007
Chegutu	15865	Mt Darwin	3282
Chegutu Urban	321	Mudzi	6488
Chikomba	27960	Murehwa	3120
Chimanimani	8853	Mutare Rural	37166
Chinhoyi	2632	Mutare Urban	927
Chipinge	20755	Mutasa	5560
Chiredzi l	2249	Mutoko	561
Chirumanzu	9976	Mwenezi	7783
Chitungwiza	1.5	Nkayi	2630
Chivi l	967	Norton	97

District	Hectares Lost	District	Hectares Lost
Gokwe North	2860	Nyanga	8089
Gokwe South	2195	Redcliffe	265
Goromonzi	9609	Rusape	141
Guruve	13682	Rushinga	2794
Gutu	11700	Ruwa Local Board	95
Gwanda	72272	Seke	17780
Gwanda Urban	234	Shamva	5327
Gweru Rural	12704	Shurugwi	5360
Gweru Urban	861	Tsholotsho	12394
Harare Rural	595	Umguza	17751
Harare Urban	3141	Umzingwane	12217
Hurungwe	33743	Uzumba Maramba Pfungwe	945
Hwange	62508	Zaka	1500
Hwange Urban	6677	Zvimba	64993
Hwedza	8601	Zvishavane	22024
Insiza	62340	Zvishavane Urban	351
Kadoma	16004		
Kadoma Urban	610		

Facts and Tips to prevent fires and loss of life

1. School Children

- Immediately report any fire incident to adults,
- Do not attempt to cross over fires, you will be burnt.
- Do not try to extinguish a veldt fire in the absence of adults.
- Never climb trees in the direction of a veldt fire. Run away from the direction in-which the veldt fire is spreading.
- Always runaway from the fire.

2. People waiting for buses

- Completely extinguish road side fires used to keep yourselves warm whilst waiting for transport/buses.
- Ensure that all the glowing splints and burning charcoal are completely extinguished using water or burying with moist soil.

3. Smokers

- Use ash trays to place cigarette stubs

4. Bee smokers/ Farmers

- Seek advice from Forestry Commission and EMA on better methods of honey extraction.
- Do not use open fires to smoke out bees.

5. Motorists

- Extinguish your cigarette stubs and use ashtrays to avoid veld fires.
- Stop and assist in putting out fire and always travel with a fire extinguisher/fire beater.
- Service your car's electrical system and tighten any loose mechanical parts such as the exhaust to avoid veldt fires emanating from sparks so created after getting in contact with the grass on the road servitude as you drive.
- Report veldt fires to the nearest police station or road block or EMA offices.

6. Traditional leaders

- Establish fire fighting teams to put off uncontrolled veldt fires in every village.
- Hold fire awareness campaign meetings with communities throughout the fire season
- Use cultural ways of punishing veldt fire offenders as a way of upholding norms and values of your areas.
- Keep a record of all veldt fires that occur in your areas.

7. Rural District Councils

- Establish an environmental committee to oversee environmental issues including veld fires
- Establish environmental sub –committees which are chaired by a councillor in a given ward or wards.
- Appoint an environmental monitor together with EMA, in each ward to monitor fire issues and identify offenders.
- Establish fighting teams in every ward through Environmental committees
- Report all veldt fire incidences within 7 days to the police, and Environmental Management Agency through Environmental committees and sub-committees.

8. Farmers/Property owners

- Construct standard fireguards which are at least 9m wide on boundaries and at least 4.5m wide for internal fire guards on your properties during the months of May and June every year before the fire season.
- Ensure your firefighting team is properly trained and equipped to put out fires.
- Neighbours should organise their firefighting teams to assist each other in the event of fire outbreaks.
- Keep bowers and knap sacks filled with water throughout the fire season.
- Keep fire fighting equipment and at an accessible central point.
- Inspect fireguards regularly to make sure that they are free of any material that burns.
- Report all fire incidences to the nearest ZRP or EMA offices within 7 days.

9. It is illegal to :

- Deliberately start open fires between 31 July and 31 October.
- Fail to put in-place a standard fireguard of at least 9 metres.
- Pass by or drive past a fire without stopping to assist in putting out the fire.
- Fail to report fire within 7 working days.

Fines of fire related offences go up to level 14 which is \$USD 5000.00

10. Every Zimbabwean :

- Plant trees to rehabilitate areas destroyed by fires.

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