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# Abbreviation and Acronyms

## Acronyms

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BOD</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>COD</td>
<td>Chemical Oxygen Demand</td>
</tr>
<tr>
<td>DMC</td>
<td>Diamond Mining Company</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EMA</td>
<td>Environmental Management Agency</td>
</tr>
<tr>
<td>EMAL</td>
<td>Environmental Management Agency Laboratory</td>
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<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
</tr>
<tr>
<td>EP</td>
<td>Environmental Protection</td>
</tr>
<tr>
<td>HDPE</td>
<td>High Density Polythene Ethylene</td>
</tr>
<tr>
<td>ISO</td>
<td>International Standard Organisation</td>
</tr>
<tr>
<td>NTU</td>
<td>Nephelometric Turbidity Units</td>
</tr>
<tr>
<td>PEM</td>
<td>Provincial Environmental Manager</td>
</tr>
<tr>
<td>SADCAS</td>
<td>Southern African Development Community Accreditation Service</td>
</tr>
<tr>
<td>SBC</td>
<td>Stream Bank Cultivation</td>
</tr>
<tr>
<td>TDS</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>TSS</td>
<td>Total Suspended Solid</td>
</tr>
<tr>
<td>UMP</td>
<td>Uzumba Maramba Pfungwe</td>
</tr>
<tr>
<td>ZIMASCO</td>
<td>Zimbabwe Mining and Alloy Smelting Company</td>
</tr>
<tr>
<td>ZIMASSET</td>
<td>Zimbabwe Agenda for Sustainable Socio-Economic Transformation</td>
</tr>
<tr>
<td>ZRP</td>
<td>Zimbabwe Republic Police</td>
</tr>
</tbody>
</table>
Letter of Presentation

The Environmental Management Agency
12th Floor, Kaguvi Building
Box 7753
Causeway
Harare

The Honourable Minister of Environment, Water and Climate
12th Floor, Kaguvi Building
P Bag 7753
Causeway
Harare

Dear Sir

Presentation of Environmental Management Agency Annual Report: 2014

It is my great pleasure to present to you, Honourable Minister, the Environmental Management Agency’s 2014 Annual Report. This is in compliance with the requirements of Section (39) of The Environmental Management Act [Chapter 20:27] and Section (44) of the Audit and Exchequer Act (Chapter 22:03).

Thank you,

Professor S. Mpepereki
Chairman – Environment Management Board
Members of the Environment Management Board

Prof. S. Mpepereki
(Board Chairperson)

Mr. I.D. Kunene
(Board Member)

Mr. A. Mlalazi
(Board Member)

Mr. F.F. Moyo
(Board Member)

Mr. D. Marongwe
(Board Member)

Mrs. F. Mutepfa
(Board Member)

Mrs. C.H. Muchatuta
(Board Member)

Ms. N. Saungweme
(Board Member)
2014 Management Team

Senior Management
Mrs. M.D. Chasi Director General
Mrs. P. Shoko Director- Environmental Protection
Mr. A. Chigona Director- Environmental Management Services

Middle Management
Mr. T. Mugugu Human Resources Manager
Mr. J. Bondera Acting Finance and Administration Manager
Miss D. Magwada EIA and Ecosystems Protection Manager
Mrs. S. Yomisi Environmental Quality Manager
Mrs. A. Nyahuye Environmental Planning and Monitoring Manager
Mr. S. Kangata Environmental Education and Publicity Manager

Provincial Managers
Mr. B. Basera Midlands
Mr. M. Muusha Masvingo
Ms. J. Mavu Mashonaland East
Ms. C. Mpofu-Zuze Matabeleland North
Mrs. S. Ndlovu Matabeleland South
Mrs. E. Mutepfa Mashonaland West
Mr. K. Chitotombe Manicaland
Mr. R. Rwafa Mashonaland Central
The Environmental Management Agency (EMA) remained resolute in the implementation of its mandate of regulating, monitoring and supporting the sustainable utilisation of the natural resources and protection of the environment. The environment is exposed to drivers and pressures that are chiefly caused by human activities. As the country’s population increases, it is associated with demand for resources resulting in pressure on the environment. The nation faced environmental challenges which included veld fires; deforestation; alluvial and reef mineral mining; pollution of the land, water and air; urban expansion; commercial crop production and livestock rearing among other factors. This has negatively affected the environment leading to degradation of ecosystems.

The Agency monitored all new and existing developments, industrial processes, projects and activities to ensure compliance with environmental laws and regulations. This was done in line with the Agency’s goal to achieve a clean, safe and healthy environment for all citizens, as well as the Zimbabwe Agenda for Sustainable Socio Economic Transformation (ZimASSET) environmental priorities on proper waste management and control of veld fires and pollution.

Of concern, was improper waste management, both solid and liquid effluent by local authorities, industries and miners leading to pollution of surface and ground water resources to the detriment of the nation. There was significant evidence that the country’s ambient water was contaminated. This phenomena was observed through the environmental monitoring, where ambient water quality assessments and surveillance of riverine ecosystems showed signs of degradation. The observation prompted a Cabinet response, directing all companies and firms to discontinue operating unless they put in place effluent pre-treatment facilities in place to prevent pollution.

Although it was evident that the environment was under immense pressure from human livelihood options, there was positive response from various stakeholders in a bid to redress the situation. A number of stakeholders undertook environmentally friendly activities, complementing government efforts to reduce the degradation of ecosystem. Non-Governmental Organisations, Faith Based Organisations, academic institutions, Industries and associations amongst others have been working in raising public awareness on the need for good environmental stewardship. I also acknowledge the role played by fellow government arms such as the Zimbabwe Republic Police, Traditional Leaders and the general public for working in partnership with the Agency in the protection of the environment.

I take this opportunity to thank the Honourable Minister of Environment, Water and Climate for providing leadership, guidance and support to the Environment Management Board. I appreciate the support extended by the Secretary for Environment, Water and Climate and his staff as well as the Director General for EMA staff for their diligence and hard work in protecting the environment for the benefit of present and future generations.

Professor Sheunesu Mpepereki
Environment Management Board
Director General’s Report

This report details the work done by the Environmental Management Agency (EMA) in the year 2014, in the environmental thematic areas of pollution control, management of hazardous substances and hazardous waste, Environmental Impact Assessment (EIA) and Ecosystems Protection, Air Quality, and Laboratory Analytical Services. The Agency focused on the regulatory, monitoring, extension and awareness strategies to manage the environment with everyone’s participation.

During the year, a total of 67,165 inspections were conducted nationwide on water and waste effluent, air quality, Environmental Impact Assessment and ecosystems protection as well as hazardous substances handling facilities to ascertain the level of environmental compliance. The monitoring functions were further augmented by the laboratory sample analysis by the Environmental Management Agency Laboratory (EMAL) that received a total of 6,217 samples, which was a 27% increase as compared to 2013.

The Agency made notable achievements in environmental law compliance and improved environmental stewardship. However, the failing sewage reticulation infrastructure, inconsistent collection of solid waste by most local authorities, land degradation from mining including small scale artisanal miners; infrastructural development on sensitive ecosystems and illegal sand and clay abstraction to support the construction were challenges in the year. The Agency witnessed a 30% decrease in the number of spillages from 27 in 2013 to 19 in 2014, an indication of the impact of training, awareness and knowledge imparted to users of chemicals.

Despite the several efforts through education and awareness raising, stakeholder engagement, capacity building programmes, the annual hectarage destroyed by veld fires remained high and cause for concern. A total of 1,653,822 hectares were destroyed and in the process environment, life and property were affected. A total of twelve (12) human lives were lost due to veld fires.

I would like to thank all stakeholders working together with EMA for supporting our initiatives in awareness and empowerment programmes for improved environmental stewardship. It is my hope that through our continued partnership, we will achieve an environmental degradation neutrality, when we can ameliorate of the negative environmental impacts that arise from our livelihood related activities. Let us remain united and save the environment for the future generations. Lastly, I thank the staff of the Agency for their unwavering dedication to duty throughout the year.

M.D. Chasi
Director General – Environmental Management Agency
The Environmental Management Agency is mandated to ensure the sustainable management of natural resources, protection of the environment, as well as coming up with plans for prevention of pollution and environmental degradation awareness. During the reporting period, extensive, compliance inspections, environmental education and awareness campaigns, empowerment and capacity building programmes were implemented to achieve the mandate and goals of the Agency.

This report outlines the achievements of the Agency resulting from activities carried out in 2014. The financial accounts certified by the Comptroller and Auditor General and the Human Resources report are also presented. The impact of the Agency’s annual work programme for 2014 was further enhanced through the co-operation and collaboration from local, regional, international and multi-lateral partnership activities and programmes. The first section of the report is the introductory chapter, followed by the environmental monitoring and law enforcement activities carried out to address the major drivers to land degradation and pollution. The second section includes environmental education and awareness initiatives, institutional capacity strengthening, stakeholder initiated environmental projects and Local Environment Action Plans (LEAP) for improved environmental stewardship.

Routine ambient water monitoring activities from the 357 sampling points on monthly basis by the Agency indicated that the major drivers of water pollution continued to emanate from discharge of untreated or partially treated industrial effluent, raw sewage and mining activities. It was established that traces of hexavalent chromium six (Cr⁶⁺) were recorded from tannery industries and Chromium mining areas. This is mainly because of the use of chromium in leather processing. Rivers that passed through urban centres had high phosphate levels while rivers that passed through mining areas had high levels of iron, turbidity, total dissolved solids and total suspended solids.

Air pollution arising from vehicle exhaust fumes, power generation from fossil fuels, veld fires, industrial emissions and solid waste burning especially bins in urban areas were of concern.

The major land degradation drivers were veld fires, tree cutting for tobacco curing and commercialisation of firewood, sand and clay abstraction for construction and mining operations. Large scale alluvial mining resulted in biodiversity loss, water pollution, river diversion, and river bed and bank destruction among other challenges.

The country faced solid waste management challenges due to rapid urbanisation, sprouting illegal settlements, expansion of residential and informal industrial areas as well as changing consumption patterns which outpaced available services. The absence of requisite infrastructure and services to frequently collect and safely dispose of waste led to the proliferation of litter, illegal waste dumps and raw sewage discharge challenges.

Extensive environmental awareness and education campaign strategies were designed and implemented in response to each of the above environmental challenges mentioned. The Agency worked in close partnership and cooperation with stakeholders that included: the Zimbabwe Republic Police (ZRP), Local Authorities, Government Departments, Zimbabwe Revenue Authority (ZIMRA), Zimbabwe Prison Services (ZPS), Traditional Leaders, Civic Society, Private Sector, communities, schools, churches and the general public. Capacity building and empowerment programmes through community projects improved environmental stewardship. Environmental law enforcement was employed as the last resort to encourage compliance with environmental laws.
2.0 Pollution Control

Investing in a healthy environment is investing in the health and well-being of current and future generations. Healthy ecosystems are primarily important through a common understanding that a healthy environment is integral to the full enjoyment of basic human rights, including the rights to a clean safe and healthy environment and the general quality of life.

2.1 WATER POLLUTION

2.1.1 Drivers of Water Pollution
In the year under review, poor effluent management by local authorities remained a challenge as it reduced water quality in urban areas, growth points and rural service centres with notable implications on public health. Failing sewage reticulation infrastructure of most local authorities resulted in the discharge of raw and partially treated effluent into the country’s water bodies and the subsequent eutrophication, proliferation of water weeds such as hyacinth and reduced water quality.

Water pollution has a known history of causing health related short or long term impacts such as diarrhoea and cancer. It was established during the course of the year that the levels of Chromium six hexavalent (Cr6+) in Umguza River, Matabeleland North province was higher than the permissible limit. This was attributed to the tannery companies within Bulawayo Metropolitan. Downstream of Umguza River, a total of nine (9) drinking water sources that included boreholes and wells were condemned and rendered unsafe for drinking by the Cabinet Committee on Pollution. Chromium six hexavalent (Cr6+) is cancer causing (carcinogenic) and poses serious risk to human health.

2.1.2 Water Pollution Monitoring and Licencing
In order to control the quality of the country’s water resources, a total of 3,520 effluent discharge quality compliance inspections were conducted throughout the country to establish the extent of pollution. This resulted in the issuance of 379 licences which was a 40.3% increase in the licences issued compared to the previous year. The majority of the licences processed were in the blue class (47%) followed by the yellow class (32%). The blue class category is the desirable discharge licence category that poses less harm to human health and ecosystems functioning.

2.1.3 The Agency’s Responses to Water Pollution from Raw Sewage Discharge
Inspections conducted revealed that 68% of the companies did not have operational pre-treatment effluent facilities in place. An operation to enforce the installation of effluent pre-treatment facilities was conducted on municipalities and industries across the country. These included electroplating companies, chemical industries, abattoirs, funeral parlours, service stations car washes and garages.

Pollution emanating from municipal sewer treatment facilities resulted in the Agency strengthening its engagement with local authorities on prioritising and improving water and sanitation services in the year under review. Fourteen (14) local authorities benefited from the UNICEF small towns Water Sanitation and Hygiene (WASH) project for water and sewer rehabilitation. These were: Bindura, Chipinge, Chiredzi, Chivhu, Gwanda, Gokwe, Hwange, Karoi, Mutoko, Mwurwi, Plumtree, Rusape, Shurugwi and Zvishavane. Seven (7) of these local authorities had since begun implementing sewer rehabilitation works by the second quarter of the year.

Furthermore, Harare, Kwekwe, Chitungwiza, Chegutu and Masvingo received funding for similar projects from the African Development Bank. Although an improvement on the quality of effluent from the municipal sewer treatment facilities was anticipated, concern remained on the design capacities considering the continued urban population growth. The projects focused on rehabilitation rather than sewer upgrades. Table 2.1 shows the percentage rehabilitation progress on sewer treatment plants. Similarly box 1 shows the rehabilitation works in Chitungwiza while Box 2 and 3 work done in Bulawayo and Norton.
Table 2.1 Percentage Rehabilitation Progress on Treatment Plants under the reporting period

<table>
<thead>
<tr>
<th>Local Authority/Sewage facility</th>
<th>Rehabilitation progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chiredzi, Zaka, Gwanda, Matobo, Plumtree, Karoi, Bindura, Beitbridge</td>
<td>100%</td>
</tr>
<tr>
<td>Chegutu</td>
<td>80%</td>
</tr>
<tr>
<td>Masvingo, Rusape &amp; Harare-Firle STP</td>
<td>60%</td>
</tr>
<tr>
<td>Chitungwiza</td>
<td>70%</td>
</tr>
<tr>
<td>Marondera</td>
<td>50%</td>
</tr>
<tr>
<td>Vic Falls</td>
<td>10%</td>
</tr>
<tr>
<td>Kwekwe &amp; Harare- Crowborough</td>
<td>40%</td>
</tr>
</tbody>
</table>

Box 1: Chitungwiza Municipality efforts in sewer rehabilitation works
Follow up on Chitungwiza Municipality sewer rehabilitation works indicated notable progress where a test run was conducted at the rehabilitated treatment plant. The rehabilitated system reduced the pollution of Nyatsime River as the treated sewage no longer discharged directly into the river, instead was being pumped to Imbwa Farm for irrigation purposes.

Plate 2.1 & 2.2: Effluent channeled to the Pump house from ponds at Chitungwiza sewage

Box 2: Bulawayo City Council
Bulawayo City discharged an estimated 48.9 mega litres of raw and partially treated sewer daily into Umguza River. A survey conducted by the Agency revealed that Bulawayo city contributed over 60% to the pollution of Umguza River due to the broken down sewer infrastructure which included non-functional treatment plants and pump stations, collapsed sewer pipes and blocked manholes. Out of a total of 10 sewer treatment plants only 8 were noted to be partially operating. Eleven (11) out of 16 pump stations were operational while the rest were discharging raw sewer into the environment. In an attempt to comply with orders served by the Agency, the local authority embarked on sewer pipe replacement exercise in Cowdry Park area. Plate 2.3 refers.
Compliance to environmental standards in the mining sector is key to environmental management. An improvement in the effluent management practices was recorded in the mining sector particularly in the Midlands Province where a total of 23 mineral ore milling companies constructed lined effluent settling ponds. Table 2.2 shows the companies that complied with the orders to line their mining dumps while box 2.4 illustrates the Mimosa model lined slimes dam Plates 5 and 6 show newly constructed settling ponds at St Impali 16 and Chiponda Mine in the Midlands Province.

2.1.4 Water Pollution from Mining Operations
Compliance to environmental standards in the mining sector is key to environmental management. An improvement in the effluent management practices was recorded in the mining sector particularly in the Midlands Province where a total of 23 mineral ore milling companies constructed lined effluent settling ponds. Table 2.2 shows the companies that complied with the orders to line their mining dumps while box 2.4 illustrates the Mimosa model lined slimes dam Plates 5 and 6 show newly constructed settling ponds at St Impali 16 and Chiponda Mine in the Midlands Province.
Table 2.2: Mining companies with lined dumps in the Midlands province

<table>
<thead>
<tr>
<th>Town</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mberengwa</td>
<td>Berea 29 Mine, Eboir Mine Rip, Top 9 Mine, Call 12 Mine, Chiponda Mining Aqua 32 mine and Kenzie 18 mine</td>
</tr>
<tr>
<td>Zvishavane</td>
<td>Canada 64 Mine, Sydster 32 Mine, Siboza 7 Mine and Nipo Mill</td>
</tr>
<tr>
<td>Kwekwe</td>
<td>Bako Blue Mine, Drome 74 Mine, Comet 32 Mine, Ivanhoe 7 Mine and Given Gold Mine</td>
</tr>
<tr>
<td>Gweru</td>
<td>Northampton 20 Mine, Sino Zim and Arizona Blue Mine</td>
</tr>
<tr>
<td>Shurugwi</td>
<td>Manstar Mine, Pompii Mine, Rolley 89 Mine and Impali 16 Mine</td>
</tr>
</tbody>
</table>

Plate 2.5: Newly constructed settling ponds at Chiponda mine Midlands Province 15/4/2014

Plate 2.6: Effluent return sumps St Impali 16 in Shurugwi, Midlands Province (20/2/14)

Box 2.4: Mimosa Mine; A model lined slimes dam

Mimosa Mine’s landfill constructed in accordance with the provisions of the law. The landfill with a lifespan of 20 years is lined with High Density Polyethylene (HDPE) and 30cm compacted gravel on top and below HDPE lining. The area is fenced off and manned 24 hours by a security guard. Three monitoring boreholes as leachate collection points were drilled.

Plate 2.7: A newly constructed domestic landfill for Mimosa Mine 10/09/14
2.2 LAND POLLUTION CONTROL

Improper solid waste management resulted in land pollution in the country’s urban areas, growth points and rural service centres. The major drivers of improper solid waste management were mainly inconsistent refuse collection by local authorities and shortage of bins. In response to the inconsistent collection of waste, local residents resorted to open burning of waste causing air pollution as well as waste burying in back yard pits. The uncollected waste also found its way to the storm water drains in and around the cities.

2.2.1. Responses to Improper Solid Waste Management

In response to improper solid waste management challenges, a total of 4,213 solid waste inspections were conducted countrywide leading to the issuance of 392 tickets and 51 environmental protection orders. Of the 940 illegal dumps mapped, 415 dumps of approximately 6300m$^3$ were cleared, Plate 2.8 shows community efforts in clearing illegal dumps in Warren Park. Despite the removal of the dumps, these continued to resurface and the Agency has engaged the local authority and residents to ensure sustainability in waste management. Bulawayo City experienced illegal dumping by residents especially in Makokoba residential area. Dumping was prominent along Luveve Road near Renkini long distance bus terminus. This prompted joint law enforcement operations with ZRP and anti-litter campaigns which resulted in the clearing of a 78.409 km stretch of storm drains by community groups and 8.159 km by Council teams. Chitungwiza Town Council on the other hand, cleared a total of 2.3 km stretch of storm drains.

Similar interventions were implemented in Bulawayo and Chitungwiza where the local authority managed to clear storm drains before the rains.

Plate 2.8 Before: Pfukwa Shops, Warren Park in Harare; 24/01/14
Plate 2.9 After: Pfukwa Shops, 28/01/14
Plate 2.10: Municipality workers refurbishing a storm drain in Manyame Park 10/10/14.
2.2.2. Community Based Waste Management Projects
The Agency supported 10 Community Based Organisations (CBOs) from Harare, Masvingo, Mutare, Chegutu and Norton to increase community and public participation in waste management programs. The CBOs received push carts for transporting waste to sorting sites, Plates 2.11 and 2.12 refer. Community Based Organisations were involved in environmental awareness, clean-up activities, collection of recyclables for sale to recycling companies, making of petroleum products such as floor polish and candles from plastic, composting, establishment of nurseries, and artefacts making as major initiatives.

2.3. HAZARDOUS SUBSTANCES MONITORING AND CONTROL
The exposure to hazardous substances through storage, transportation and usage by the public is monitored by the Agency to minimise contact with people and the environment. In the year 2014, a total of 19 hazardous spillage incidences were recorded within industrial and mining areas as well as along the country’s major highways. An estimated 4,236 m² of land was affected by accidental hazardous substances spillages but cleaned up and rehabilitated timeously by the Agency. (Refer to plates 2:13 and 2:14.). The nature and types of the substances that were spilled includes sulphur, palm oil, sodium cyanide, diesel, caustic soda and urea.
2.3.1 Cyanide Poisoning If Elephants In Hwange National Park

The Agency decontaminated 17 sites in Hwange National Park after six (6) elephants were poisoned using cyanide salts. Plate 2.15 refers

Plate 2:15: An elephant which died after licking a poisoned salt lick in Liyasha west -15/09/2014

2.3.2 Responses to Hazardous Substances Spillages

The Agency conducted a total of 55 596 inspections during the period under review; 52 699 border post inspections and 2 897 routine inland and roadblock inspections. The inspections resulted in 369 tickets being issued, 136 orders served and 2 754 licences issued, figure 2.1 and 2.2 illustrate. A gradual increase in amber licence category for storage and sale in the petroleum distillate sector for service stations and fuel transporters was noted. Box 2.6 illustrates the marked improvement in the petroleum distillate sector. This followed an intensive Cabinet Committee on Pollution Directive to ensure all industries operated within the acceptable standards.

Figure 2.1: Distribution of Hazardous licences by type

Figure 2.2 Distribution of Hazardous licences by class
Box 2.6: Hazardous Substance Handling In Service Stations and Mines

The Agency targeted fuel service stations and mines in the handling of hazardous substances. The thrust on service stations was to assess the pollution issues, perform integrity test and evaluate safe handling and storage of petroleum products as well as ensuring that pollution abatement measures are put in place to prevent pollution. The major abatement activities included installation of oil/silt interceptors and cut-off trenches. At gold milling stations, the thrust was to ascertain safe handling, use and storage of hazardous substances. A significant number of milling stations were requested to put in place proper storage facilities for chemicals and line slimes dump. Twenty-three (23) were in Midlands Province.

Plate 2:15: Compliance at Mac Morgans Service Station to an order served for installation of an Oil Separator 20/10/14.

2.4 AIR POLLUTION CONTROL

Air pollution is caused by harmful particulates and gases, released in high quantities into the air. These pollutants cause diseases and death to humans, damage to other living organisms such as animals and food crops, and harm the ecosystems. In Zimbabwe, the burning of fossil fuels to produce electricity and to power vehicles, mining, industrial activities were the major contributors to the country’s air pollution. Inspections conducted to monitor air emissions discharge points across the country resulted in the issuance of 58 tickets and serving of 13 environmental protection orders. This was accompanied by intensive awareness campaigns on the dangers of atmospheric air pollution.

2.4.1 Licensing

A total of 1 569 licences for air emissions were issued and 85% of these were in the blue category which is a safe class acceptable for human health. Case studies of improved compliance in selected industrial premises is illustrated in Box 2.7 on Vumbachikwe Mine.

![Air Emission Licences Issued in 2014](image)

Figure 2:3: Classes of Air Emissions Licences Issued In 2014
Box 2.7 Case of Vumbachikwe Mine

Vumbachikwe Mine was served with an order to cease operations on 19 March 2014 due to excessive dust emanating from their crushing and conveyor systems. Dust concentrations with minimum values of 2.547 mg/m³ and a peak value of 25.57 mg/m³ were recorded. The emissions were on average above the blue class emission limit value of 10 mg/m³. After the Agency's intervention, key to note was the installation of an extraction fan as well as spray jets and the revamped dust collection systems. See plates 2.17 and 2.18.

Plate 2:16: Dust extraction system without dust collection bags at Vumbachikwe Mine - 19/3/14

Plate 2:17: Dust extraction system with filter bags installed at Vumbachikwe Mine - 19/7/14

2.4.2 Vehicle Emissions

The Agency conducted a survey to ascertain the prevalence of high emitting vehicles in Zimbabwe. Vehicles were sampled along the country's major highways in Midlands, Matabeleland North and South as well as Bulawayo Metropolitan Province.

A total of 1350 vehicles were inspected and 320 tickets issued. The tickets were issued for high emission levels of carbon monoxide and particulate matter. Non-compliance was mainly due to high carbon monoxide (CO) and particulate matter while sulphur dioxide (SO₂) levels were within limits in 99% of the cases. Plate 2.19

Plate 2:19: Emission testing of a highly emitting vehicle along the Gweru-Kwekwe highway (6/3/14)
3.0 Environmental Management Agency Laboratory (EMAL)

3.1 SAMPLE ANALYSIS
The period under review recorded a 27% increase in the number of samples due to increased environmental monitoring and inspections. The laboratory received 6,217 samples whose breakdown was microbiological analysis in water (328), chemical analysis in water (5,746) and soil samples (143). Fig 3.1 and 3.2 show the number of internal and external samples as well as the sources of the samples received by the laboratory during 2014. External samples constituted 14% while internal samples were 86%.

3.2 LABORATORY ACCREDITATION
The Environmental Management Agency Laboratory was assessed by Southern African Development Community Accreditation (SADCAS) during the course of the year for competence certification. All parameters applied for on the scope extension were recommended for accreditation. The parameters for chemistry were Chromium hexavalent, Iron, Manganese, Lead and Zinc in water and for microbiology were Escherichia coli, Total plate counts at 22 and 37º C and faecal streptococci in water.

3.3 DRINKING WATER SURVEILLANCE
Supply of safe drinking water is one of the major prerequisites for a healthy, clean and safe environment. The Agency conducted drinking water surveillance for boreholes, bulk water suppliers and bottled water in Harare. Parameters of concern in borehole water were faecal contamination, bacterial counts, iron and turbidity. These parameters were generally high in boreholes with iron castings (turbidity, iron) and low in areas rich in calcium and magnesium (total hardness). Fifteen borehole water points around Harare high density suburbs were established for continuous monitoring of underground water quality.
A total of 15 bottled water brands were collected and tested for microbiological contamination. Of these brands, 11 brands were bought from shops and seven brands from street vendors. Four (4) bottled water brands bought from street vendors had presence of total coliforms. To note is that Schweppes when bought from shops is consistently clean but from street vendors one finds it unclean. The reason may be due to repackaging by vendors. On the other hand, ZLG, Dairibord, Aqualite and Jojo brands found in the streets showed no total coliforms contamination. This was probably the use of licenced vendors to sell in the street while ZLG is cheaper at wholesale price so vendors make a profit.

Total coliforms indicate a high possibility of the presence of disease causing microorganisms (pathogens) in water. Bacterial counts are indicative of poor hygienic conditions and have no known health effect below 100 counts per millilitre, above this they become a concern.
4.0 Prevention of Land Degradation

Land degradation reduces the capacity of the land to produce goods and services such as providing nutrients for crops and livestock grazing, sequestering and storing carbon, safeguarding biodiversity and supporting water and nutrient cycles. The Agency carried out resource inventories for benchmarking land degradation in the country. Land degradation continued to be a topical issue mainly in the communal and resettlement areas. The major drivers were uncontrolled veld fires, unsustainable artisanal and large scale mining, soil erosion and deforestation while invasion by *Lantana camara*, loss of productive land, reduction in ground cover and species diversity were noted as the major indicators for land degradation.

4.1 MINING

Mining plays a major role in improving the country’s economy. It has significantly contributed to Zimbabwe’s Gross Domestic Product (GDP) from an average of 10.2% in 1990s to 19.9% in 2013 (Ministry of Mines and Mining Development, 2013). In spite of this growth, unsustainable mining practices have resulted in severe ecological damage to the environment and conflicts with communities living in mining areas. The worst affected catchments were Mazowe, Sanyati and Umzingwane with an affected area of 8 126.75 ha. (See Figure 4.1).

4.1.1. Alluvial Mining

The country was flooded with a new wave of mining where special grants were issued in sensitive riverine ecosystems. In response to unsustainable mining and its subsequent impacts, the Agency conducted 48 awareness meetings with small scale miners along Mazowe River for improved environmental stewardship in their operations and mapped the affected areas for informed decision making.
4.1.2. Responses to Land Degradation from Mining

Inspections and environmental audits were conducted to enforce compliance and reduce the impact of land degradation from mining. Environmental audits are a management tool comprising systematic, documented, periodic and objective evaluations intended to identify environmental compliance and management system implementation gaps, along with related corrective actions.

4.2 ENVIRONMENTAL IMPACT ASSESSMENT

In the year under review, the Agency conducted a total of 5,585 inspections and environmental audit programmes in chrome, gold and diamond mining companies, processing and manufacturing industries. While 477 prospectus and 253 EIA documents were submitted to the Agency for review resulting in 399 EIA licences issued to various proponents, 422 tickets and 215 orders were issued to proponents implementing prescribed projects in contravention of EIA regulations. Figure 4.3 shows the number of EIA documents submitted over the years.

![Graph of EIA documents submitted](image)

**Figure 4.3** Trends of new EIA documents for the period 2007 to 2014

4.2.1 EIA Compliance Status

An analysis in the EIA compliance status for the year is illustrated in figure 4.4. The Agency issued out orders which are a formal instruction to stakeholders on how economic viability can be balanced with social acceptability and environmentally friendly business conducted. Communities’ willingness to comply is higher through persuasive approaches rather than punitive approaches. Progressive rehabilitation was recommended. See Plates 4.1 and 4.2

![Graph of EIA compliance trends](image)

**Figure 4.4** EIA compliance trends analysis for the period 2010 to 2014
4.2.2 Sustainable Small Scale Artisanal Mining in Ingwizi, Mangwe District

The Agency established a pilot small scale miner’s programme in Ingwizi area of Mangwe District in Matabeleland South Province. The project was aimed at demonstrating the capacity of communities to organise themselves into mining co-operatives for sustainable mining while complimenting other traditional livelihoods such as agriculture and livestock production. Box 4.1 refers.

4.2.3 Dockets and Court Cases Opened

Environmental crime remains a low priority area by law enforcing agencies. The judgements passed remain a cause of concern as none punitive sentences were given and offenders continued to violate environmental regulations.

A total of 73 court cases were recorded during the period under review, 10 were for EIA and 63 were for ecosystems protection. Most of the cases for EIA were for implementing prescribed projects without EIA certificates while for ecosystems protection, veld fire cases dominated. On the case against Tasmines gold mining company the Agency appealed against the judgement that was passed by the magistrate court, the judgment clearly implied that the accused could continue with alluvial gold mining without an EIA certificate. In a different case in Midlands, Mr Maposa was acquitted for implementing prescribed projects without an EIA certificate of Ecosystems cases. The majority of the accused were convicted and sentenced to community service for periods ranging between 100 and 270 hours. These sentences remain less punitive causing people to continuously violate environmental regulations.
4.2.4 EIA and Ecosystems Protection Legal Framework
As a follow-up to the 2013 anti-alluvial mining operation that was held in October 2013, the Agency through the Ministry of Environment, Water and Climate gazetted a Statutory Instrument, Environmental Management (Control of Alluvial mining) Regulations, [SI 92] of 2014. The SI controls alluvial mining operations and it stipulates that such activities shall be done at least 200m from the river channel.

4.3 SAND AND CLAY ABSTRACTION
The demand for sand and clay in the construction industry in the country’s major towns and cities resulted in the extraction of sand and clay from undesignated abstraction points causing severe land degradation. During the period under review, the Agency issued a total of 351 sand and clay abstraction licences see figure 4.5. The Agency intensified operations by conducting joint operations with ZRP to curb illegal activities. Borrowdale Start in Sunray farm near Domboshava had approximately 5 138m² affected by sand abstraction. Other projects inspected included brick moulding companies such as Willdale Bricks, Prawell and Testram Cooperative. Rehabilitation was in progress at the time of inspection for most projects and a total of 150 560.2 m² was rehabilitated.

4.4 DEFORESTATION
Deforestation is a major environmental issue in the country with indigenous wood finding its way to the markets for commercial distribution. The fire markets existence were due to the need for firewood as an energy source.

4.5 INVASIVE ALIEN SPECIES
Invasive alien species replace the native biodiversity and often affects community livelihoods through their encroachment into grazing and arable lands. Lantana camara is the most common terrestrial invasive alien species in the country. Figure 4.7 shows the spatial distribution of the weed in the country.
4.6 LAND RESTORATION PROGRAMMES: A CASE OF CHIREYA MISSION SURVEY

Zimbabwe is characterized by 10 soil groups (Department of Research and Specialist Services). Of the ten groups, sodic soils have proved to be a challenge in the country as there are no known recommendations of sustainable land management and rehabilitation. Sodic soils occupy an estimated 10% of the country’s land surface. In light of this, the Agency sought to establish strategies and methodologies for the management of gullies in sodic soils through a pilot project, the Hwange Sanyati Biological Corridor Project with support from the Global Environment Facility (GEF).

The Agency targeted districts worst affected with *Lantana camara* namely Zvimb, Chipinge, Bikita and Zaka Districts. The four districts established projects resulted in the clearing of 104.4ha of *lantana camara* infested land through the involvement of sub-catchment councils. Figure 4.8 below shows spatial distribution of *Lantana camara* in Zvimba district.

Figure 4.7: Spatial distribution of *Lantana camara*

Figure 4.8: *Lantana camara* in Zvimba District
On the other hand, the Agency commenced a soil erosion modelling study in the non-sodic soils. The study aims at estimating soil loss in the Manyame Catchment. Table 1 refers. The medium to severely eroded sites which constitute 17% of the Mazowe catchment were the priority areas for the Agency interventions.

A total of 1,653,822 hectares were burnt by veld fires in 2014 compared to 1,179,273 in 2013. There has generally been an upward trend in the magnitude of veld fires, although the year 2012 saw a decrease in the total area burnt; Figure refers. The most affected provinces in the year 2014 were Mashonaland West (534,137 ha), Matabeleland North (356,430 ha) and Midlands (269,375 ha). The country recorded the highest hectarage during the months of August and October when biomass was drying up and becoming more combustible. Property, plantations, agricultural produce, agricultural equipment and livestock worth US$240,275 was gutted by fires countrywide and 12 human lives were lost. Major causes of fire in the 2014 fire season were land clearing, arson, illegal mining, poaching and burning of waste.

### Table 4.1: Erosion Hazard in Manyame catchment

<table>
<thead>
<tr>
<th>Tonnes/Acre/year lost</th>
<th>Catchment %</th>
<th>Hazard classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.5</td>
<td>57.14</td>
<td>Low</td>
</tr>
<tr>
<td>0.5-1</td>
<td>14.10</td>
<td>Low</td>
</tr>
<tr>
<td>1-2</td>
<td>11.72</td>
<td>Low</td>
</tr>
<tr>
<td>2-5</td>
<td>9.99</td>
<td>Medium</td>
</tr>
<tr>
<td>5-10</td>
<td>4.10</td>
<td>Medium</td>
</tr>
<tr>
<td>10-20</td>
<td>1.94</td>
<td>High</td>
</tr>
<tr>
<td>20-30</td>
<td>0.52</td>
<td>High</td>
</tr>
<tr>
<td>30-50</td>
<td>0.31</td>
<td>Severe</td>
</tr>
<tr>
<td>&gt;50</td>
<td>0.19</td>
<td>Severe</td>
</tr>
</tbody>
</table>

4.7 VELD FIRE MONITORING
A total of 1,653,822 hectares were burnt by veld fires in 2014 compared to 1,179,273 in 2013. There has generally been an upward trend in the magnitude of veld fires, although the year 2012 saw a decrease in the total area burnt; Figure refers. The most affected provinces in the year 2014 were Mashonaland West (534,137 ha), Matabeleland North (356,430 ha) and Midlands (269,375 ha). The country recorded the highest hectarage during the months of August and October when biomass was drying up and becoming more combustible. Property, plantations, agricultural produce, agricultural equipment and livestock worth US$240,275 was gutted by fires countrywide and 12 human lives were lost. Major causes of fire in the 2014 fire season were land clearing, arson, illegal mining, poaching and burning of waste.
4.7.1 Interventions to Reduce Veld Fires
The Agency embarked on a number of awareness initiatives to reduce the impact of veld fires which included 173 fire indabas, 15 fireguard demonstration projects and the commemoration of the national fire week in most of the districts in the country. These interventions resulted in improved community participation in fire management and establishment of 1 096 firefighting committees. Fire analysis results indicated that Mashonaland Central and Mashonaland East provinces which embraced fire indaba concept recorded a decline in hectarage lost due to veld fires.

![Figure 4.10: Comparison of Area burnt from 2010 to 2014](image)

4.7.2 Law Enforcement for Veld Fire Management
Law enforcement of fire related legislation was conducted during the reporting period. A total of 1 436 orders were served on farmers to construct fireguards on their properties before the beginning of the fire season.

**Table 4.2: Fire orders and dockets adjoined issued in 2014**

<table>
<thead>
<tr>
<th>Province</th>
<th>Number of orders served</th>
<th>Number of Dockets opened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matabeleland North</td>
<td>112</td>
<td>32</td>
</tr>
<tr>
<td>Matabeleland South</td>
<td>168</td>
<td>45</td>
</tr>
<tr>
<td>Midlands</td>
<td>73</td>
<td>10</td>
</tr>
<tr>
<td>Mashonaland East</td>
<td>279</td>
<td>11</td>
</tr>
<tr>
<td>Mashonaland West</td>
<td>88</td>
<td>18</td>
</tr>
<tr>
<td>Mashonaland Central</td>
<td>47</td>
<td>53</td>
</tr>
<tr>
<td>Manicaland</td>
<td>615</td>
<td>15</td>
</tr>
<tr>
<td>Masvingo</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1 436</strong></td>
<td><strong>199</strong></td>
</tr>
</tbody>
</table>
5. Environmental Management Services

5.1 ENVIRONMENTAL AWARENESS PROGRAMMES
Education and awareness programmes centred on land degradation, pollution from partially treated or untreated industrial and municipal effluent discharge, improper solid waste management through littering and dumping, illegal mineral panning and veld fires. The Agency partnered with other Government Departments, and Non-Governmental Organisations (NGOs) in its environmental education programmes. The target groups were the general public, industry, bulk waste generating companies, mining companies, and local authorities. Box 5.1 gives a summary of the environmental education and awareness programmes conducted in 2014.

Box 5.1 Environmental Education and Awareness Programmes: Major Communication Highlights that reached an estimated 6.6 million people.

- 284 radio programmes broadcasted
- Broadcasted 113 television programs
- 34 media tours conducted with 96 articles published as a follow-up to the media tours.
- 461 print media articles were published in national and provincial newspapers.
- The EMA website recorded 156 feedback messages whilst the toll free line received 14,962 calls.
- Reached out to 6.6 million people through electronic and print media.
- Held 2,783 awareness programmes and 893 environmental school talk shows.
- Produced and disseminated 128,049 publicity materials in the form of booklets, posters, brochures, stickers, bandanas, t-shirts.
- Worked with 1,850 schools in EMA school’s projects and debates competition.
- Conducted 1,081 road shows and mobile awareness programs.
- Exhibited on 77 exhibition platforms.

5.1.1 Awareness on Solid Waste Management
In order to reduce land pollution and increase public awareness on sound solid waste management practices, a total of 333 stakeholders initiated Clean-up campaigns, attracting 23,084 participants were conducted. There was active participation of stakeholders such as members of the Defence forces, faith-based organisations, schools, colleges and the corporate world in anti-littering programs and initiatives. Such involvement demonstrated increased environmental stewardship by stakeholders promoting environmental sustainability.

Figure 5.1: Dumpsite in Mbare, Harare before a clean-up campaign 19/09/14
Figure 5.2: Mbare, Harare after a clean-up conducted by EMA and City of Harare
5.1.2 ENVIRONMENTAL COMPETITIONS

5.1.2.1 National Schools Projects Competition
To increase environmental youth participation in resolving localised environmental challenges, the Agency carried out the National Schools Projects Competition which had 859 schools participating in environmental projects that included gulley reclamation, waste management, afforestation and wetland management. The competition helped to maintain clean environments within schools and increased pupils knowledge and participation in environmental programmes.

5.1.2.2 National Debate Competition
To complement the National Schools Projects Competition programme, the Agency introduced debate competitions for secondary schools. In 2014, a total of 720 schools participated in the National Schools Debate Competition which ran under the topic, "Prosecution and not environmental education is the best way to reduce veld fires in Zimbabwe". Mtshabezi High School and St Patricks High School both from the Southern Region emerged as the 2014 national winners in the affirmative and non-affirmative sides respectively.

5.1.3 Awareness Raising Through Environmental Exhibitions
The Agency in its quest to increase environmental awareness on topical environmental issues participated in 77 exhibitions, reaching out to 59 945 people. The exhibitions created a platform for the Agency to educate and encourage public participation in environmental management. This enabled direct feedback from clients and stakeholders.
5.1.4 Observance of Environmental Days
The Agency observed 8 environmental days which were World Wetlands Day (WWD), Africa Environment Day (AED), National Fire Week Launch, World Day to Combat Desertification, World Environment Day, World Earth Day, Clean Up Zimbabwe Campaign and National Tree Planting Day reaching out to 42,463 people. Commemorating environmental days changes communities' perceptions on the environment.

5.2 INSTITUTIONAL STRENGTHENING FOR IMPROVED ENVIRONMENTAL STEWARDSHIP
The Agency conducted stakeholder capacity building initiatives for improved environmental stewardship as well as creating an eco-conscious society in sustainable use of natural resources. A total of nine (9) stakeholder groups were trained and these included Environment Committees (8) Environment Subcommittees (40), Environment Monitors (176), Traditional Leaders (534), and Farmers (119), Miners (560), Fire Fighting Teams (276), Parliamentarians (51) and Local Authorities (10); Figures 5.5 and 5.6 refer. Major outputs and outcomes of the training included the establishment of village fire management committees, stakeholder participation in self-initiated environmental programs and increased reporting of environmental offences. Environment monitors submitted 173 reports and conducted 44 awareness meetings on fire management.
5.3 LOCAL ENVIRONMENT ACTION PLANNING (LEAP)

Section 95 of the Environmental Management Act (CAP 20: 27) provides for the production of Local Environment Action Plans by communities. In 2014, there was an improvement in the uptake of the Local Environment Action Planning Programme by Local Authorities.

A total of 10 local authorities were capacitated in environmental planning, these were Nkayi, Umguza, Bulilima, Mt Darwin, Makonde, Mangwe, Hwange, Plumtree, Kwekwe, and Beitbridge Town Councils. Nine (9) Local Authorities developed LEAP documents while five local authorities developed Ward Environment Action Plans (WEAPs) for priority wards. The produced plans were partially implemented through the establishment of 20 projects in areas of land rehabilitation, waste management, wetland restoration, beekeeping and weir dam construction. Plate 5.6 shows the participation of Zimbabwe Prison Services in solid waste management.

Plate 5.6: Zimbabwe Prison Services at a clean-up in Mt Darwin following the launch of LEAP programme in the district.

5.4 COMMUNITY INITIATED ENVIRONMENTAL PROJECTS IN PARTNERSHIP WITH THE AGENCY

The Agency supported 74 community projects in gully reclamation, wetland management and utilisation, *Lantana camara* eradication, waste management and small grains. Milestones were achieved in land restoration where 13 gully reclamation projects and a total of 104ha of *lantana camara* were cleared in Murewa, Shurugwi, Zaka and Gutu districts. An estimated 3 848 households benefited from land restoration projects through increased grazing and arable land and improved income from the sale of their produce.
5.4.1 Small Grain Projects

To protect rural communities against the devastating effects of climate change by broadening their livelihood options, the Agency supported 840 households in the 2013/2014 growing season. During the year, the supported farmers produced an average yield of 0.3 tonnes/ha of sorghum and 0.4 tonnes/ha of groundnuts. The Shurugwi project saw an increase in the number of beneficiaries from 200 to 400 while in Tsholotsho the number increased from 150 to 200 beneficiaries in the 2014/2015 farming season.
6.0 Human Resources Management

The Agency operated and achieved its goals under difficult conditions through prudent management of human resources. The Agency maintained a lean structure and prioritized the need to ensure that opportunities are created for staff to have fulfilling careers. Emphasis was also placed on performance management and the need to create industrial harmony.

6.1 RECRUITMENT AND TERMINATIONS

At the close of business in the year 2014, the Agency had a staff complement of 327 against a staff establishment of 480 posts as indicated in Table 1 below.

Table 1: Board Approved Staff Establishment

| Personnel Level | 1  | 2  | 3  | 4  | 5  | 6  | 1  | 2  | 3  | 4  | 5  | 6  | 1  | 2  | 3  | 4  | 5  | 6  | 1  | 2  | 3  | 4  | 5  | 6  |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| EMB Approved Posts (480) | 4  | 14 | 12 | 136| 215| 99 | 0  | 0  | 0  | 0  | 0  | 0  | 4  | 14 | 12 | 136| 215| 99 |
| Filled Posts (327) | 3  | 17 | 5  | 120| 87 | 95 | 0  | 0  | 0  | 0  | 0  | 0  | 3  | 17 | 5  | 120| 86 | 95 |
| Additional Posts approved | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| Vacancies (153) | 1  | -3 | 7  | 16 | 128| 4  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | -3 | 7  | 16 | 128| 4  |

KEY: 1 = Directorate; 2 = Managers; 3 = Principal Officers; 4 = Officers; 5 = Technicians; 6 = Office Assistants/General Hands

6.2 EMPLOYEE TRAINING AND DEVELOPMENT

The Agency focused on continuous training and development of staff through a number of initiatives including devoting a substantial budget allocation, partnerships with other strategic service providers, on-the-job and off-the-job training programmes. The Agency managed to retain key personnel with the right skills in strategic positions during the year under review. At any given time the Agency also engaged a maximum of 79 students from various tertiary educational institutions on work related learning programmes as EMA’s corporate responsibility. This initiative remains part of the Agency’s critical strategy to build future generations.

6.3 PERFORMANCE MANAGEMENT

The Agency endeavoured to fully implement the Result Based Management (RBM) System introduced in 2010 by the Government for State Enterprises and Parastatals (SEPs) to improve organisational performance. The Agency continued to provide training in Results Based Management (RBM) to all staff and ensure performance monitoring through functional performance contracts at all levels to include Board, Management and staff.

Recognizing EMA client needs, the Agency developed the Client Service Charter to communicate to clients and customers who EMA is and what services the Agency offers as required in the Result Based Performance Management system adopted by the Government of Zimbabwe.

6.4 LABOUR RELATIONS AND STAFF WELFARE

The Agency promotes a culture of employee engagement that supports performance and productivity. Management and staff worked well to ensure that a smooth and harmonious industrial environment prevail. Recognising the devastating effect of the HIV/ AIDS pandemic and the need for improved staff welfare the Agency developed the HIV/AIDS Policy, Occupational Health and Safety (OHS) Policy and the Appointment, Promotion and Advancement Procedures.
7.0 Finance

**Statement of Financial Position**

as at December 31, 2014

<table>
<thead>
<tr>
<th>Note</th>
<th>2014</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$</td>
<td>US$</td>
</tr>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Current Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>8 928 101</td>
<td>8 563 166</td>
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<tr>
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<tr>
<td>Current Assets</td>
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<tr>
<td>Inventories</td>
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<td>91 495</td>
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<tr>
<td>Trade and other receivables</td>
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<td>11 087 477</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>8 105 361</td>
<td>7 863 765</td>
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<tr>
<td>Prepayments</td>
<td>178 502</td>
<td>213 181</td>
</tr>
<tr>
<td></td>
<td>21 356 065</td>
<td>19 255 918</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 284 166</td>
<td>27 819 084</td>
</tr>
</tbody>
</table>

| **RESERVES AND LIABILITIES** | | |
| Reserves | | |
| Accumulated fund | 24 890 556 | 22 938 216 |
| Revaluation reserve | 2 115 590 | 2 115 590 |
| Capital reserve | 1 554 712 | 1 554 712 |
| | 28 560 858 | 26 608 518 |
| Non Current Liabilities | | |
| Deferred income | 90 000 | 90 000 |
| | 8 | |
| Current Liabilities | | |
| Trade and other payables | 814 378 | 489 334 |
| Provisions | 818 930 | 631 232 |
| | 1 633 308 | 1 120 566 |
| **TOTAL RESERVES AND LIABILITIES** | | |
| | 30 284 166 | 27 819 084 |

23rd May, 2016

M.D. Chasi
(Director General)

23rd May, 2016

Professor S. Mpepereki
(Board Chairperson)
## Statement of Profit or Loss and Other Comprehensive Income

for the year ended December 31, 2014

<table>
<thead>
<tr>
<th>Note</th>
<th>Historical Cost</th>
<th>2014</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Note US$</td>
<td>US$</td>
<td>US$</td>
</tr>
<tr>
<td><strong>INCOME</strong></td>
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<td></td>
</tr>
<tr>
<td>Permit and license fees</td>
<td>42 862 897</td>
<td>20 389 742</td>
<td></td>
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<tr>
<td>Revenue grant</td>
<td>2 287 111</td>
<td>2 320 724</td>
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<tr>
<td>Other income</td>
<td>3 233 247</td>
<td>2 985 467</td>
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<tr>
<td><strong>EXPENDITURE</strong></td>
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<tr>
<td>Administration expenses</td>
<td>44 536 201</td>
<td>12 863 922</td>
<td></td>
</tr>
<tr>
<td>Other costs</td>
<td>1 894 714</td>
<td>1 507 785</td>
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<tr>
<td><strong>SURPLUS FOR THE YEAR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 952 340</td>
<td>11 324 226</td>
<td></td>
</tr>
<tr>
<td><strong>Other Comprehensive Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td><strong>TOTAL COMPREHENSIVE INCOME</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 952 340</td>
<td>11 324 226</td>
<td></td>
</tr>
</tbody>
</table>
### Statement of Changes in Reserves
for the year ended December 31, 2014

<table>
<thead>
<tr>
<th>Historical Cost</th>
<th>Accumulated Fund US$</th>
<th>Revaluation Reserve US$</th>
<th>Capital Reserve US$</th>
<th>Total US$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance as at January 1, 2013</strong></td>
<td>11,613,990</td>
<td>2,115,590</td>
<td>1,554,712</td>
<td>15,284,292</td>
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<tr>
<td>Surplus for the year</td>
<td>11,324,226</td>
<td>-</td>
<td>-</td>
<td>11,324,226</td>
</tr>
<tr>
<td><strong>Balance as at December 31, 2013</strong></td>
<td>22,938,216</td>
<td>2,115,590</td>
<td>1,554,712</td>
<td>26,608,518</td>
</tr>
<tr>
<td><strong>Balance as at January 1, 2014</strong></td>
<td>22,938,216</td>
<td>2,115,590</td>
<td>1,554,712</td>
<td>26,608,518</td>
</tr>
<tr>
<td>Surplus for the year</td>
<td>1,952,340</td>
<td>-</td>
<td>-</td>
<td>1,952,340</td>
</tr>
<tr>
<td><strong>Balance as at December 31, 2014</strong></td>
<td>24,890,556</td>
<td>2,115,590</td>
<td>1,554,712</td>
<td>28,560,858</td>
</tr>
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</table>
## Statement of Cash Flows
for the year ended December 31, 2014

<table>
<thead>
<tr>
<th>Note</th>
<th>Historical Cost</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2014 US$</td>
<td>2013 US$</td>
<td></td>
</tr>
<tr>
<td><strong>Cash flows from operating activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surplus for the year</td>
<td>1 535 865</td>
<td>1 854 223</td>
<td></td>
</tr>
<tr>
<td>Adjusted for:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest earned</td>
<td>1 952 340</td>
<td>11 324 226</td>
<td></td>
</tr>
<tr>
<td>Depreciation charge on property, plant and equipment</td>
<td>(405 078)</td>
<td>(508 178)</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>1 262 882</td>
<td>1 117 524</td>
<td></td>
</tr>
<tr>
<td>Loss on disposal</td>
<td>187 698</td>
<td>(111 818)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>71 530</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Operating profit before working capital changes</strong></td>
<td>3 069 372</td>
<td>11 821 754</td>
<td></td>
</tr>
<tr>
<td><strong>Working capital changes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Trade and other receivables</td>
<td>(1 533 507)</td>
<td>(9 967 531)</td>
<td></td>
</tr>
<tr>
<td>(Decrease)/Increase in prepayments</td>
<td>(1 439 209)</td>
<td>(10 230 121)</td>
<td></td>
</tr>
<tr>
<td>(Decrease)/Increase in Trade and other payables</td>
<td>34 679</td>
<td>(162 328)</td>
<td></td>
</tr>
<tr>
<td>Increase/(Decrease) in inventories</td>
<td>325 044</td>
<td>301 584</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(454 021)</td>
<td>123 334</td>
<td></td>
</tr>
<tr>
<td><strong>Cash flows from investing activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest received</td>
<td>1 294 269</td>
<td>86 470</td>
<td></td>
</tr>
<tr>
<td>Acquisition of property, plant and equipment</td>
<td>405 078</td>
<td>508 178</td>
<td></td>
</tr>
<tr>
<td>Proceeds from sale of property, plant and equipment</td>
<td>(1 723 653)</td>
<td>(421 900)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 306</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td><strong>Net increase in cash and cash equivalents</strong></td>
<td>241 596</td>
<td>1 940 693</td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents at beginning of the year</td>
<td>7 863 765</td>
<td>5 923 072</td>
<td></td>
</tr>
<tr>
<td><strong>Cash and cash equivalents at end of year</strong></td>
<td>8 105 361</td>
<td>7 863 765</td>
<td></td>
</tr>
</tbody>
</table>
Notes to the Financial Statements
for the year ended December 31, 2014

1. NATURE OF BUSINESS
The Environmental Management Agency was established in terms of the Environmental Management Act [Chapter 20:27]. Its core function is to manage and protect the environment.

2. BASIS OF PREPARATION

2.1 Statement of compliance
The financial statements for the year ended December 31, 2014, have been prepared in conformity with International Financial Reporting Standards (IFRS) promulgated by the International Accounting Standards Board (IASB), which includes standards and interpretations approved by the IASB as well as International Accounting Standards and International Financial Reporting Interpretations Committee (IFRIC).

2.2 Basis of measurement
The financial statements are based on the statutory records that are maintained under the historical cost basis. except for property, plant and equipment which is measured at revalued amounts.

2.3 Functional and presentation currency
These financial statements are presented in United States Dollar (US$) which is the Agency’s functional currency. All the financial information presented has been rounded to the nearest dollar.

2.4 Critical accounting judgments, assumptions and estimates
In preparing the financial statements, management is required to make judgments, estimates and assumptions that affect the amounts presented in the financial statements and related disclosures. Use of available information and the application of judgment are inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the financial statements. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected. Significant judgments include the following:

2.4.1 Useful lives and residual values of property, plant and equipment
The Agency assesses useful lives and residual values of property, plant and equipment each year taking into account past experience and technology changes. The depreciation rates are set out in note 3.1.2 and no changes to these useful lives have been considered necessary during the year.

2.4.2 Impairment and provisioning policies
At each statement of financial position date, the Agency reviews the carrying amount of its assets to determine whether there is an indication that those assets suffered any impairment. If any such indication exists, the recoverable amount of the assets is estimated in order to determine the extent of the impairment (if any). If the recoverable amount of an asset is estimated to be less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. Impairment is recognised as an expense immediately, unless the relevant asset is carried at a revalued amount, in which case the impairment is treated as a revaluation decrease.

In the event that, in the subsequent period, an asset that has been subject to an impairment loss is no longer considered to be impaired, the value is restored and the gain is recognised in the statement of comprehensive income. The restoration is limited to the value which would have been recorded had the impairment adjustment not taken place.

2.5 New and revised standards and interpretations
IFRS 9, as issued, reflects the first phase of the IASB’s work on the replacement of IAS 39 and applies to classification and measurement of financial assets and financial liabilities as defined in IAS 39. The standard
was initially effective for annual periods beginning on or after 1 January 2013, but Amendments to IFRS 9 Mandatory Effective Date of IFRS 9 and Transition Disclosures, issued in December 2011, moved the mandatory effective date to 1 January 2015.

IFRS 9 replaces the multiple classification and measurement models for financial assets in IAS 39 with a single model that has two classification categories: amortised cost and fair value.

IFRS 9 introduces new requirements for classifying and measuring financial assets as follows:

- Debt instruments meeting both a business model test and a cash flow characteristic test are measured at amortised cost (the use of the fair value is optional in some limited circumstances);
- Investment in equity instruments can be designated as fair value through other comprehensive income with only dividends being recognised in profit or loss;
- All other instruments (including all derivatives) are measured at fair value with changes recognised in the profit or loss, and
- The concept of embedded derivatives does not apply to financial assets within the scope of the standard and the entire instrument must be classified and measured in accordance with the above guidelines.


IAS 36, ‘Impairment of Assets’, was issued in May of 2013. This amendment was done to reduce the circumstances in which recoverable amount of assets or cash generating units is required to be disclosed. The amendment clarify the disclosures required and it introduces explicit requirement to disclose the discount rate used in determining impairment or reversals where recoverable amount is determined using a present value technique. The standard is applicable to periods beginning on or after 1 January 2014.

iii. **IFRIC Interpretation 21 Levies effective January 01, 2014**

(IFRIC 21 clarifies that an entity recognises a liability for a levy when the activity that triggers payment, as identified by the relevant legislation, occurs. For a levy that is triggered upon reaching a minimum threshold, the interpretation clarifies that no liability should be anticipated before the specified minimum threshold is reached.

The Agency does not expect that IFRIC 21 will have material financial impact in future financial statements.

3 **ACCOUNTING POLICIES**

The accounting policies applied in the preparation of these financial statements are consistent with those applied in the financial statements for the year ended December 31, 2013.

3.1 **Property, plant and equipment**

3.1.1 **Recognition and measurement**

Property, plant and equipment held for use in the supply of services or for administrative purposes, are stated at cost less accumulated depreciation and impairment losses.

3.1.2 **Depreciation**

Depreciation, which is calculated on the straight line basis, is provided to write off the cost less the estimated residual value of fixed assets over their estimated useful lives. The entity assesses useful life and residual values of property, plant and equipment each year taking into account past experiences and technological changes. No changes to these useful lives have been considered necessary for all other items of property, plant and equipment.
The rates applied per annum are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicles</td>
<td>20%</td>
</tr>
<tr>
<td>Buildings</td>
<td>2.5%</td>
</tr>
<tr>
<td>Office furniture &amp; Equipment</td>
<td>20%</td>
</tr>
<tr>
<td>Plant and Machinery</td>
<td>20%</td>
</tr>
<tr>
<td>Teaching Aids (Publicity)</td>
<td>20%</td>
</tr>
<tr>
<td>Computers</td>
<td>20%</td>
</tr>
</tbody>
</table>

3.1.3. Revaluation of property, plant and equipment
Revaluations are performed with sufficient regularity such that the carrying amounts do not differ materially from those that would be determined using fair values at the end of the reporting period.

Any revaluation increase arising on the revaluation of property, plant and equipment is recognised in other comprehensive income, except to the extent that it reverses a revaluation decrease for the same asset previously recognized in profit and loss, in which case the increase is credited to profit and loss to the extent of the decrease previously expensed. A decrease in the carrying amount arising on the revaluation of such property, plant and equipment is recognized in profit and loss to the extent that it exceeds the balance, if any, held in asset revaluation reserve relating to previous revaluation of the asset.

3.2. Inventory
Inventories are measured at the lower of cost and net realizable value. The cost of inventories is based on the first in first out method, and includes expenditure incurred in acquiring the inventories.

3.3. Grants and donations
Grants related to assets, including non-monetary grants at fair value, are presented in the statement of financial position as deferred income under non-current liabilities and are recognized as income on a systematic and rational basis over the useful life of the asset.

Grants related to income are credited to the statement of comprehensive income. Non-monetary grants are valued at nominal amounts based on management estimates.

3.4 Financial Instruments
Financial instruments are contracts that give rise to financial assets or financial liabilities. Financial assets and financial liabilities are recognized on the Agency’s statement of financial position when the Agency becomes a party to the contractual provisions of the instrument. These instruments are generally carried at their estimated carrying values.

Non-derivative financial instruments carried in the statement of financial position comprise: cash and cash equivalents, trade and other receivables, trade and other payables. These instruments are recognized initially at fair value plus any directly attributable transaction costs.

3.4.1 Financial assets

3.4.1.1 Cash and cash equivalents
Cash and cash equivalents comprise cash balances and call deposits (funds on placement) with maturities of three months or less from acquisition date that are subject to insignificant risk of changes in fair value, and are used by the Agency in the management of its short-term commitments.
3.4.1.2 Trade and other receivables

Trade and other receivables are measured at their cost less impairment losses. A provision for impairment of trade receivables is established when there is objective evidence that the Agency will not be able to collect all amounts due according to the original terms of receivables. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganization and default or delinquency in payments are considered indicators that the trade receivables are impaired. When a trade receivable is uncollectible, it is written off against the allowance for trade receivables. Subsequent recoveries of amounts previously written off are credited against the trade receivables impairment provision in profit or loss.

3.4.1.3 Impairment

A financial asset not classified at fair value through profit or loss is measured at each reporting date to determine whether there is objective evidence that it is impaired. A financial asset is impaired if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset, and that loss had an impact on the estimated future cash flows of that asset that can be estimated reliably.

Objective evidence that financial assets are impaired includes default or delinquency by the debtor, restructuring of an amount due to the Agency on terms that the Agency would not consider otherwise, indications that a debtor will enter bankruptcy, changes in the payment status, and disappearance of an active market for a security.

3.4.2 Financial liabilities

3.4.2.1 Liabilities and provisions

Provisions are recognized when the Agency has a present legal or constructive obligation as a result of past events and a reliable estimate to the amount of such obligation can be made. Obligations payable at the demand of the creditor or within one year of the reporting date are treated as current liabilities in the statement of financial position. Liabilities payable after one year from the reporting date are treated as non-current liabilities in the statement of financial position.

3.5 Revenue

The Agency measures its revenue at the fair value of the consideration received or receivable for rendering of service in the ordinary course of the Agency’s activities. Revenue is recognized when the amount can be reliably measured and it is probable that future economic benefits will now to the entity.

3.5.1 Permit and license fees

Regular permits and license fees are recognised on an accrual basis when it is highly probable that the project will be undertaken and that the permit or license fees will be honoured.

3.5.2 Non-committal fines and penalties

These relate to fines and penalties that have been raised by the Agency which are waiting final determination. These amounts are just disclosed in the financial statements.

3.6 Employment benefits

3.6.1 Defined contribution plan

A defined contribution plan is a post-employment benefit plan under which the Agency pays fixed contributions into separate entity and has no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution plans are recognised as an employee benefit expense in profit or loss in the period during which related services are rendered by employees. Employees are also members of the National Social Security Authority scheme to which the Agency contributions are limited to 3% of pensionable emoluments. All contributions are charged through the statement of profit/loss and other comprehensive income.
8.0 EMA in Pictures

The ward councillor Mrs. Chiota handing over a knapsack sprayer and 500ml dimethoate to Mr. Gumburai Coffee 18/6/14

The small grains project in Tsholotsho paid dividends to the community as a strategy to cope with drought 27/3/14

The Director General Mrs. D.M. Chasi highlighting on the essence of the mercury round table, at the Ministry of Environment, Water and Climate board room - 29/5/2014

The director EP Mrs. P. Shoko presenting on the Minamata Convention during the mercury round table at the Ministry of Environment, Water and Climate board room - 29/5/2014

Environment Minister, Hon S. Kasukuwere giving prizes to Ward Councillor during a National Fire Week Launch: 13/6/14

Environment Minister, Hon S. Kasukuwere giving prizes to Ward Councillor during National Fire Week Launch: 13/6/14