# LESOTHO HIGHLANDS WATER PROJECT (LHWP)

# LHDA ENVIRONMENTAL POLICY

Final

May 2016

Lesotho Highlands Development Authority Lesotho Highlands Water Commission

# **ENVIRONMENTAL POLICY STATEMENT**

The Lesotho Highlands Development Authority (LHDA) is committed to continuous improvement in environmental performance and to ensuring the principle of sustainable development is embedded in all its activities. LHDA expects all its employees, consultants and contractors to do the same. This Policy shall be used as a tool in decision-making to inform priorities, maintain standards and ensure clarity amongst staff, project partners and the general public. Through this Environmental Policy Statement, LHDA acknowledges its responsibility to consider and protect the environment, both natural and social, within which it operates.

In terms of this Statement, LHDA is committed to:

- Comply with environmental legislation, International Safeguards, internal LHDA directives, the LHDA Order of 1986, the LHWP Treaty and the Phase II Agreement;
- Systematic assessment of significant environmental and social impacts and risks associated with LHDA activities;
- Avoid, minimise and mitigate significant impacts and risks through environmental and social management and action plans, monitoring plans and audits;
- Adopt an integrated waste management approach that extends over the entire waste cycle and addresses the generation; storage; reuse, recycling and recovery; treatment and final disposal of waste;
- · Implement social development initiatives in project-affected communities; and
- Undertake long-term and transparent engagement and partnerships with stakeholders.

The Policy will be disseminated to all employees, consultants and contractors, and to the general public and revised on an as-needed basis.

As the Chief Executive Officer of LHDA, I am determined to provide the leadership and resources to ensure that these commitments are fully integrated throughout the Company operations.

Signed:

CEO of LHDA 24/06/2016

# **TABLE OF CONTENTS**

ABBREVIATIONS			
GL	OSSAI	RY OF TERMS	4
1	INTRODUCTION		6
	1.1	BACKGROUND	е
		RATIONALE FOR AN ENVIRONMENTAL POLICY	
2		PE	
		ZONE ONE	
		ZONE TWO	
	2.3	ZONE THREE	7
3		DING PRINCIPLES AND OBJECTIVES	
4	REGULATORY FRAMEWORK		
		TREATY ON LESOTHO HIGHLANDS WATER PROJECT (1986)	
	4.2	AGREEMENT ON PHASE II OF THE LESOTHO HIGHLANDS WATER PROJECT (2011)	8
	4.3	LHDA ORDER (1986) AS AMENDED IN 2000	9
	4.4	CONSTITUTION OF LESOTHO (1993)	9
	4.5	ENVIRONMENT ACT OF 2008 (ACT 10 OF 2008)	9
		WATER ACT OF 2008 (ACT 15 OF 2008)	
	4.7	MULTILATERAL ENVIRONMENTAL AGREEMENTS	10
	4.8	MALOTI MINNOW CONSERVATION POLICY	10
	4.9	REGULATIONS FOR MANAGEMENT OF FRESH WATER AQUACULTURE IN LHWP RESERVO	DIRS
	4.10	LHDA INSTREAM FLOW REQUIREMENTS POLICY	11
		LHDA COMPENSATION POLICIES	
5		IRONMENTAL POLICY COMMITMENTS	
6	ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENTS		
	6.1	BASELINE SURVEYS	
	6.2	ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENTS	
7	ENV	IRONMENTAL AND SOCIAL MANAGEMENT, ACTION AND MONITORING PLANS	
	7.1	CONSTRUCTION PHASE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS	
	7.2	ENVIRONMENTAL ACTION PLANS	
	7.3	ENVIRONMENTAL EDUCATION AND AWARENESS	
	7.4	ENVIRONMENTAL MONITORING AND AUDITING	
8	SOCI	AL DEVELOPMENT INITIATIVES	
9	STAKEHOLDER ENGAGEMENT		
10		EW, REVISE AND DISSEMINATE POLICY	

#### **ABBREVIATIONS**

DoE - Department of Environment

DWA - Department of Water Affairs

EAP - Environmental Action Plan

ECO - Environmental Control Officer

EFR - Environmental Flow Requirements

EIS - Environmental Impact Statement

EMP - Environmental Management Plan

EMS - Environmental Management System

ESIA - Environmental and Social Impact Assessment

ESMP - Environmental and Social Management Plan

GOL - Government of Lesotho

ICM - Integrated Catchment Management Plan

IUCN - International Union for Conservation of Nature

KPI - Key Performance Indicators

LBT - Lesotho Biodiversity Trust

LHDA - Lesotho Highlands Development Authority

LHWC - Lesotho Highlands Water Commission

LHWP - Lesotho Highlands Water Project

M&E - Monitoring and Evaluation

RAP - Resettlement Action Plan

#### **GLOSSARY OF TERMS**

**Environment** – In its broadest sense, the word environment embraces the conditions and / or influences under which any individual or thing exists, lives or develops. These include the following categories of conditions and influences:

'The natural environment including renewable and non-renewable natural resources such as air, water, land and all forms of life;

The social, political, cultural, economic and working conditions that affect the nature of an individual or community; and

Natural and man-made spatial surroundings, including urban and rural landscapes and ecosystems and those qualities that contribute to their value.

**Environmental Aspect** – An element of an organisation's activities, products or services that may interact with the environment.

**Environmental Flow Requirements** – Environmental flow requirements (EFR) refer to the amount, quality and timing of water released through or over dams and associated structures to meet riverine ecosystem and social needs in the reaches downstream of dams.

**Environmental and Social Audit** – A systematic, documented, regular and objective evaluation to see how well an organisation or facility is operating in terms of its Environmental and Social Management System and is complying with statutory requirements and the organisation's environmental and social policy.

**Environmental and Social Impact** – Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental and social activities.

**Environmental and Social Impact Assessment (ESIA)** – The independent investigations conducted and ESIA reports compiled by a consultant/s for the various components or activities of the LHWP in compliance with the environmental legal requirements of the Environment Act (Act No. 10 of 2008).

**Environmental Manager (EM)** – The person appointed by the LHDA during the construction phase of the project, who shall be responsible for undertaking site inspections to monitor and report on compliance with the construction phase environmental and social specifications of an Environmental Management Plan.

**Environmental Management Plan (EMP)** – A document approved by the Department of Environment (DoE) and prepared by the consultants to the LHDA, which governs the management of the environmental and social impacts of the LHWP, including the management and mitigation plans.

**Instream Flow Requirements (IFR)** - Instream flow requirements (IFR) refers to the amount, quality and timing of water released through or over dams and associated structures to meet riverine ecosystem and social needs in the reaches downstream of dams. (The term IFR has been replaced by EFR in this Policy).

**Local Catchment** – is the localised catchment basin within a larger catchment area that collects water by natural landscape into the main LHWP inflow rivers and the dams.

Management and Mitigation Plans - The detailed plans developed by the Contractor or Consultant in terms of the identified impacts, in order to avoid, mitigate

and manage the impacts of the construction, operation and maintenance of the LHWP on the affected social, cultural, heritage and environmental resources.

Medicinal Plants - Naturally growing plants that are used for medicinal purposes.

**Phase II** - The programme of developments for Phase II of the LHWP that is approved in terms of Part VIII of the LHDA Order of 1986, as Amended.

Physical Cultural Property – Material fixed assets such as sites and structures of archaeological, palaeontological, historical, architectural, or religious significance, and natural sites with cultural value.

Project Proponent - The Lesotho Highlands Development Authority.

**Significant impact** - A significant (environmental or social) impact is an impact which is important or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value and quality of the environment which is impacted and upon the intensity, duration, magnitude and geographic extent of the impacts.

**Sustainable** - In relation to the use of a biological resource, means the use of such resource in a way and at a rate that would not lead to its long-term decline, would not disrupt the ecological integrity of the ecosystem in which it occurs and would ensure its continued use to meet the needs and aspirations of present and future generations.

**Sustainable development** - Development that meets the needs of the present while not compromising the needs of future generations. The concept of sustainable development emphasises the need to integrate environmental management and economic development in order to maintain and improve quality of life.

**Target** – The detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental and social objectives and that needs to be set and met in order to achieve the environmental and social objectives of the LHWP.

**Zone One** - the portion of the reservoir areas that will be inundated and where some resources will be completely lost.

**Zone Two** – the local catchment area above the reservoirs and the area beyond the local catchment.

**Zone Three** – the riparian areas downstream of the LHWP dams up to the point where the Senqu River crosses the border between the Kingdom of Lesotho and the Republic of South Africa

#### 1 INTRODUCTION

#### 1.1 BACKGROUND

The Lesotho Highlands Water Project (LHWP) is a multi-billion Maloti/Rand binational project, which was established by the Treaty of 1986 signed between the governments of the Kingdom of Lesotho and the Republic of South Africa. The LHWP includes large-scale civil engineering, socio-economic and environmental components. The LHWP harnesses the water resources of the Highlands of Lesotho through the construction of a series of dams and tunnels for the mutual benefit of the Kingdom of Lesotho and the Republic of South Africa. Phase I was completed in 2003 and Phase II is currently underway.

Phase IA of the LHWP comprised the construction of Katse Dam; the concrete-lined transfer tunnel through which water flows under gravity to the 'Muela Hydro-Power Station; the 'Muela Dam; and the delivery tunnel through which the water discharges into the Ash River, north of Clarens in South Africa.

Phase IB comprised the construction of Mohale Dam and a concrete-lined gravity tunnel connecting the Mohale Reservoir with the Katse Reservoir. An additional component of Phase IB was the 19 metre high Matsoku Diversion Weir and interconnecting tunnel to transfer water from the Matsoku valley to the Katse Reservoir.

Phase II of the LHWP entails a water transfer component and a hydropower generation component. The water transfer component comprises the construction of a concrete-faced rockfill Dam at Polihali, downstream of the confluence of Khubelu and Senqu Rivers, and a tunnel that will connect Polihali Reservoir to the Katse Reservoir. Other Phase II activities include the establishment of advance infrastructure (roads, camps, power line, telecommunication system, etc.), and the implementation of environmental and social impact management measures. The hydropower component will comprise the construction of a hydro-electric pumped storage scheme in Lesotho.

#### 1.2 RATIONALE FOR AN ENVIRONMENTAL POLICY

The Environmental Policy provides a structured framework for the management of environmental resources within the LHWP catchment areas in a sustainable manner that complies with the requirements of environmental legislation, World Bank International Safeguards, International Best Practices, internal Lesotho Highlands Development Authority (LHDA) directives, the LHWP Treaty and the LHDA Order.

LHDA is mandated by both the LHWP Treaty and the LHDA Order of 1986 to ensure the appropriate management of natural resources within catchments that are affected by the Project. In particular, Articles 7 (22) and 15 of the Treaty provide the mandate of LHDA and that of the two governments in terms of conservation, biodiversity aspects, respect and fair compensation for affected people, livelihood restoration and the development of sustainable livelihood activities in catchments affected by the LHWP. These articles also make provision for the measures to be taken to ensure that the LHWP is implemented, operated and maintained, taking into account the already existing state of the environment and its inhabitants.

6

## 2 SCOPE

This Environment Policy is applicable to both Phase I and Phase II of the LHWP and takes environmental norms and standards into account. For management purposes, the LHDA has identified three distinct zones that warrant different approaches:

#### 2.1 ZONE ONE

Zone 1 is the portion of the reservoir area that will be inundated and where some resources will be completely lost. New opportunities may be created in this Zone both prior to and post inundation, e.g. water delivery, hydro-power generation and aquaculture projects.

LHDA commits to use the new opportunities to generate benefits, the value of which should exceed the losses. LHDA shall develop and implement specific initiatives based on the principle of sustainability to achieve its commitments. Such initiatives shall include Resettlement Action Plans (RAPs), Livelihood Restoration Initiatives, Environmental Management and Monitoring Plans, Integrated Catchment Management (ICM) Plans, Cultural Heritage Management Plans and Biodiversity Management Plans.

#### 2.2 ZONE TWO

Zone 2 is the local catchment area above the reservoirs and the area beyond the local catchment. The initiatives described for Zone 1 are also likely to be implemented in the Zone 2 local catchment area, *i.e.* RAPs, Livelihood Restoration Initiatives, ICM plans, Cultural Heritage Management Plans and Biodiversity Management Plans.

The area beyond the local catchment is under the Government of Lesotho's jurisdiction. LHDA commits to liaising with the relevant government ministries. This is in line with its stakeholder communication commitment (see Section 9) as some of the initiatives, *i.e.* the Biodiversity Management Plan that may include the protection of the certain species, *e.g.* Spiral Aloe, Bearded Vulture and the Maloti Minnow etc., shall extend into this area.

#### 2.3 ZONE THREE

Zone 3 includes the riparian areas downstream of the LHWP dams up to the point where the Senqu River crosses the border between Lesotho and the Republic of South Africa.

Initiatives in Zone 3 will include the implementation of the LHDA <sup>1</sup>Instream Flow Requirements (IFR) Policy that involves releasing the requisite environmental flows from the dams; water quality and quantity monitoring and bio-monitoring.

<sup>&</sup>lt;sup>1</sup> The term Instream Flow Requirements has been replaced by Environmental Flow Requirements (EFR) and the term EFR will be used going forward.

# 3 GUIDING PRINCIPLES AND OBJECTIVES

This Policy is guided by the following principles:

- Promotion of environmental sustainability through the protection, conservation and restoration of the natural environment;
- Systematic assessment of significant environmental and social impacts and risks from the initial planning stages of the project through to the implementation / operational phase;
- A long-term, transparent and participatory stakeholder consultation approach; and
- Ongoing improvement in environmental performance and compliance by addressing issues identified during environmental monitoring and audits.

The overall objective of the Environmental Policy is to ensure that the LHWP is implemented in an environmentally sensitive, socially responsible and sustainable manner.

## 4 REGULATORY FRAMEWORK

LHDA shall implement this Policy while complying with all relevant legislation and policies.

# 4.1 TREATY ON LESOTHO HIGHLANDS WATER PROJECT (1986)

The Treaty requires both governments to take all reasonable measures to ensure that the LHWP is implemented and operated in full recognition of the existing quality of the environment and the need for its conservation.

In compliance with the Treaty requirements, LHDA shall develop Environmental and Social Management Plans (ESMPs) and Action Plans with the purpose of enhancing the positive and mitigating the negative significant impacts. The ESMPs shall focus on soil and water conservation initiatives; raising environmental awareness and training in communities within the project area; preservation, conservation and monitoring of terrestrial and aquatic biodiversity (faunal and floral species); preservation and conservation of cultural heritage resources, including archaeological sites; and implementing an EFR management plan in respect of water quantity and quality downstream of the Dams.

LHDA will assess and address significant social impacts arising from the project, primarily through avoidance, minimisation and compensation. Unavoidable significant social impacts shall be mitigated in a fair and equitable manner through implementation of RAPs, which may include resettlement, livelihood restoration and other forms of compensation. These plans will include on-going monitoring, evaluation and auditing to determine the success of these mitigation measures and to identify additional remedial actions that may be required.

# 4.2 AGREEMENT ON PHASE II OF THE LESOTHO HIGHLANDS WATER PROJECT (2011)

The Phase II Agreement states that measures to mitigate the significant impacts of the project on all components of the environment shall be implemented. The full

extent of the mitigation measures required shall be agreed by the Parties based on, inter alia, baseline studies and environmental and social impacts assessments (ESIAs) to be undertaken during Phase II implementation.

# 4.3 LHDA ORDER (1986) AS AMENDED IN 2000

The LHDA Order of 1986, as Amended in 2000, establishes the Lesotho Highlands Development Authority (LHDA) and enables it to implement the LHWP:

Section 44(2) of the Order states that LHDA will 'ensure that as far as reasonably possible the standard of living and the income of persons displaced by the construction of an approved scheme shall not be reduced from the standard of living and the income existing prior to the displacement of such persons'.

# 4.4 CONSTITUTION OF LESOTHO (1993)

Section 36 of the Constitution of Lesotho makes provision for the protection of the environment:

Lesotho shall adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of present and future generations and shall endeavour to assure to all citizens a sound and safe environment adequate for their health and well-being.

# 4.5 ENVIRONMENT ACT OF 2008 (ACT 10 OF 2008)

The Environmental Act of 2008 (Act 10 of 2008) provides for every person living in Lesotho to have a right to a clean and healthy environment and imposes on them a duty to protect and enhance the environment. Environmental planning, ESIA and monitoring and auditing are tools for ensuring sound management of the environment. The 'Polluter-Pays' Principle and Public Participation are enshrined in the Act, which also provides for environmental management within specific habitats, the management of rangelands, land use planning, protection of natural heritage sites, protection of natural environmental areas, minimisation and safe disposal of all waste generated and management of dangerous and hazardous materials.

# 4.6 WATER ACT OF 2008 (ACT 15 OF 2008)

The Water Act of 2008 (Act 15 of 2008) regulates the development and management of water resources and makes provision for water use and pollution control within the catchment areas of the LHWP.

Section 3 (Principles) states that 'the following principles should be given effect for the effective management, conservation and protection of water resources':

- Integrated water resources management;
- Precautionary principle; and
- Polluter pays principle.

Section 20 (Water Use Permit) states that 'no person shall engage in an activity of using or abstracting water without a water use permit';

Section 21 (Construction Permit) states that 'no person shall engage in waterworks activities without a construction permit'; and

Section 26 (Pollution Control) states that 'every person has an obligation to prevent pollution of water resources from occurring. Where pollution occurs or is likely to occur as a result of activities on land, the person who owns, controls, occupies or uses the land in question shall be responsible for taking measures to prevent such pollution from occurring or continuing'.

# 4.7 MULTILATERAL ENVIRONMENTAL AGREEMENTS

Lesotho has ratified a number of Multilateral Environmental Agreements, Conventions and Protocols that guide environmental management and these include but are not limited to:

- United Nations Convention on Biological Diversity (UNCBD);
- United Nations Framework Convention on Climate Change (UNFCCC);
- Montreal Protocol for the Protection of the Ozone Layer;
- Cartagena Protocol on Biosafety; and
- Basel Convention on Trans-boundary Movement on Hazardous Waste and Disposal.

# 4.8 MALOTI MINNOW CONSERVATION POLICY

The Maloti Minnow (*Pseudobarbus quathlambae*) is a fish species endemic to the LHWP catchment area. It is listed by the International Union for Conservation of Nature (IUCN) as Endangered<sup>2</sup> (<a href="http://www.iucnredlist.org">http://www.iucnredlist.org</a>, accessed 22 September 2015). The development of the Maloti Minnow Conservation Policy by the LHDA has led to the development of necessary interventions and appropriate actions that aim to ensure the continued survival of naturally occurring populations of Maloti Minnow in Lesotho.

# 4.9 REGULATIONS FOR MANAGEMENT OF FRESH WATER AQUACULTURE IN LHWP RESERVOIRS

The purpose of the Fresh Water Aquaculture Regulations published in terms of Section 59 of the LHDA Order of 1986 is to:

- Regulate the sustainable development and growth of an aquaculture industry in LHWP waters;
- Establish the Aquaculture Regulator;
- Create a framework for the allocation of aquaculture licences;
- Prescribe measures to facilitate the orderly development of sustainable commercial aquaculture in and ensure the ecological integrity of Lesotho's vital fresh water bodies;
- Prescribe fees and levies for the undertaking of commercial aquaculture;
- Establish a framework to support local community beneficiation from commercial aquaculture investments;
- Determine guidelines for the conducting of ESIAs in terms of the Environment Act of 2008; and

<sup>&</sup>lt;sup>2</sup> Citation: Swartz, E. 2007. Pseudobarbus quathlambae. The IUCN Red List of Threatened Species. 2007: e.T18475A8326461. <a href="http://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T18475A8326461.en">http://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T18475A8326461.en</a>. Copyright: © 2015 International Union for Conservation of Nature and Natural Resources

 Prescribe matters ancillary to the regulation of fresh water aquaculture in the LHWP area.

# 4.10 LHDA INSTREAM FLOW REQUIREMENTS POLICY

The LHDA Instream Flow Requirements (IFR) Policy, henceforth to be referred to as the LHDA Environmental Flow Requirements Policy (EFR) aims to ensure that sufficient water is released downstream of the LHWP dams so as to sustain riverine ecosystems and to meet the needs of communities. Impacts on communities downstream of the Polihali Reservoir up to the confluence of the Senqu and 'Malibamatso Rivers caused by reduced river flows will be mitigated through measures developed as part of the Project's Phase II EFR programme

# 4.11 LHDA COMPENSATION POLICIES

Economic and physical displacement of people affected by the LHWP are addressed through the Phase I and Phase II Compensation Policies. The objective of the Phase I and Phase II Compensation Policies is to ensure that the LHWP complies with all legal obligations through the design and implementation of resettlement programmes that give affected persons the opportunity to at least restore their livelihoods and standards of living. The Policies promote the participatory design of compensation, resettlement and livelihood restoration measures for both directly affected and host communities.

## 5 ENVIRONMENTAL POLICY COMMITMENTS

The Environmental Policy commitments shall be used to inform decision-making with regards to determining priorities, maintaining standards and ensuring clarity amongst staff, project partners and the general public. The Environmental Policy commitments include the following:

- Comply with environmental legislation, International Safeguards, internal LHDA directives, the LHDA Order of 1986 and with the LHWP Treaty;
- Systematic assessment of significant environmental and social impacts and risks associated with LHWP activities;
- Avoid, minimise and mitigate significant impacts and risks through the development and implementation of ESMPs, monitoring plans and audits;
- Adopt an integrated waste management approach that extends over the entire waste cycle and addresses the generation; storage; reuse, recycling and recovery; treatment and final disposal of waste;
- Implement social development initiatives in project-affected communities; and
- Undertake long-term and transparent engagement and partnerships with stakeholders.

The Policy will be disseminated to all employees, consultants and contractors, and to the general public and reviewed and revised on an as-needed basis.

# 6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENTS

The risk of failing to identify an environmental consequence of LHDA activities shall be avoided, or at least minimized, by undertaking ESIAs which cover all the components of the environment and at the appropriate level of detail. LHDA shall meet its commitment to systematically assess environmental and social impacts and risks by undertaking the following activities, amongst others:

- Baseline surveys to provide a pre-impoundment and pre-project inventory of all the components of the environment, e.g. biophysical, social, cultural heritage, and economic;
- Environmental and Social Impact Assessments (ESIAs) prior to the commencement of any activities on the ground; and
- Developing and implementing Environmental and Social Management Plans (ESMPs), monitoring plans and undertaking audits.

#### 6.1 BASELINE SURVEYS

LHDA shall undertake baseline surveys of the areas affected by the project to provide a pre-impoundment inventory of aspects such as flora and fauna, villagers and their land-use activities, cultural heritage resources, EFR, and water quality and quantity. Baseline surveys shall be designed to provide a reference base for assessing and managing significant impacts resulting from the LHWP and for developing monitoring and evaluation plans.

# 6.2 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENTS

LHDA shall undertake ESIAs in terms of the requirements of the Environmental Act of 2008, the aim of which is to identify significant impacts and develop adequate management measures. Significant environmental impacts may typically include the following:

- · Loss of cultivation land, rangeland and other natural resources;
- Catchment degradation through the increase in grazing pressures resulting in a reduction in arable and grazing land;
- Reduction in flows in rivers downstream of major dams;
- · Reduction in biological diversity;
- · Resettlement of households out of areas affected by the project; and
- Loss of cultural heritage resources in affected areas.

# 7 ENVIRONMENTAL AND SOCIAL MANAGEMENT, ACTION AND MONITORING PLANS

Potentially significant impacts that may arise as a consequence of LHDA operations shall be prevented, minimised and managed through the development and implementation of ESMPs, Environmental Action Plans and monitoring plans.

# 7.1 CONSTRUCTION PHASE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

For construction-related activities, service providers will be required to develop a construction-specific ESMP in compliance with the requirements of the Environment Act of 2008 (Section 26).

# 7.2 ENVIRONMENTAL ACTION PLANS

For post-construction activities, LHDA will facilitate the development of Environmental Action Plans including, but not limited to the following:

- Integrated Catchment Management (ICM) Plans that includes range management and conservation initiatives such as wetland protection and rehabilitation. Soil erosion is a major threat to exposed soils and various methods of prevention will be applied and their success monitored with the aim of preventing or, at least, slowing this destructive process;
- Biodiversity and Conservation Management Plans that address conservation of threatened and highly endangered fauna and flora species, e.g. Maloti minnow (Pseudobarbus quathlambae), Bearded Vulture (Gypaetus barbatus), and Spiral aloe (Aloe polyphylla);
- · Water Quality and Quantity Monitoring Plans;
- EFR Monitoring Plan; and
- Waste Management and Pollution Control Plans. Pollution will be avoided and any pollution incidents that occur on site must be brought to the attention of the LHDA staff to be remediated immediately.

# 7.3 ENVIRONMENTAL EDUCATION AND AWARENESS

LHDA is committed to undertaking environmental awareness training and education of its **employees**, supported by effective communication and recognition of their initiatives and achievements towards environmental improvement.

LHDA shall promote environmental education and awareness amongst *project-affected communities and the construction workforce* by imparting knowledge and skills on the sustainable management of the environment.

**Public** awareness and understanding of the importance of environmental protection, conservation and management to sustainable economic growth, and hence the quality of life, will be promoted by the LHDA, *inter alia* through education initiatives. Of particular importance in this regard is that the land subject to inundation in the basin of large dams will inevitably increase land use pressures, *e.g.* for livestock grazing, on the adjacent catchment areas which are already heavily utilized.

The following principles shall be adopted in enhancing public awareness through environmental education:

- Integration of environmental considerations into all project activities to raise environmental awareness;
- Improved environmental protection through public support and understanding of its significance; and
- Provide environmental education and public awareness programmes for persons and organizations whose activities may affect areas under the jurisdiction of the LHWP (Zone 1 and Zone 2, see Section 2).

#### 7.4 ENVIRONMENTAL MONITORING AND AUDITING

LHDA shall implement programmes for monitoring environmental change in its area of jurisdiction. Regular external environmental audits shall be undertaken to assess its performance against objectives and targets for outcomes, impacts and relevance

within the Project catchments. Monitoring outcomes and audit findings shall be used by LHDA to continually improve its environmental performance through the implementation and review of objectives, targets and effectiveness of environmental management interventions.

LHDA shall regularly provide to stakeholders, accurate environmental information and reports based on the outcome of monitoring and evaluation initiatives.

# 8 SOCIAL DEVELOPMENT INITIATIVES

Social development initiatives shall include the following:

- Resettlement Action Plans (RAPs) to address the economic and physical displacement impacts associated with Project implementation;
- Social Development Plans in communities affected by the LHWP including aspects such as improving water and sanitation (WATSAN) and rural electrification, and
- Cultural Heritage Management Plan.

## 9 STAKEHOLDER ENGAGEMENT

Stakeholder engagement guidelines shall be developed for the effective communication of the LHDA Environmental Policy to all stakeholders. All affected stakeholders will be well informed of LHWP development proposals and planned project activities and shall be empowered to contribute to the development of socially acceptable procedures and outcomes. Such initiatives will contribute to raising public awareness and promoting an understanding of the essential linkages between stakeholders, the environment and LHDA activities.

Community engagement initiatives shall include regular meetings with external stakeholders where the agenda shall include items focussing on environmental management. LHDA will respond promptly to concerns and requests for information and will fully investigate substantive complaints.

LHDA shall nurture constructive relations with organisations which are critical of its environmental performance.

# 10 REVIEW, REVISE AND DISSEMINATE POLICY

LHDA shall review and revise the Policy on an as-needed basis. The Policy shall be disseminated to stakeholders including affected communities, the public staff, contractors and consultants who shall be required to comply with this Policy. LHDA shall make other stakeholders, such as government departments, affected communities and the general public aware of the Policy.

