

THE LOWER USUTHU SMALLHOLDER IRRIGATION PROJECT (LUSIP)

CONTRACT: SWADE/0306



SCOPING REPORT FOR STRATEGIC ENVIRONMENTAL ASSESSMENT (StrEA)

Prepared by



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LIST OF ACRONYMS

Abbreviation	Meaning
AfDB	African Development Bank
CO ₂	Carbon Dioxide
CMP	Comprehensive Mitigation Plan
DWA	Department of Water Affairs
E	Emalangeni
EA	Environmental Assessment
ECC	Environmental Compliance certificate
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EU	European Union
GEF	Global Environment Facility
GIS	Geographical Information Systems
GOS	Government of Swaziland
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAP	Interested and Affected Parties
KDDP	Komati Downstream Development Project
LUSIP	Lower Usuthu Smallholder Irrigation Project
L/s	Liters per second
M	Metre
MOA	Ministry of Agriculture
NAS	National Adaptation Strategy
PDA	Project Development Area
PRSAP	Poverty Reduction Strategy and Action Programme
SEA	Swaziland Environment Authority
SEAP	Swaziland Environment Action Plan
SNL	Swazi Nation Land
StrEA	Strategic Environmental Assessment
SWADE	Swaziland Water and Agricultural Development Enterprise
TA	Traditional Authority
TDL	Title Deed Land

1. INTRODUCTION AND BACKGROUND

The Lower Usuthu Smallholder Irrigation Project (LUSIP) Area is situated in the south-eastern part of Swaziland, in the Lubombo Region. The larger LUSIP project area is found in the area between Siphofaneni, Big Bend and Nsoko, mainly on the southern side of the Usuthu area. The LUSIP involves the construction of three dams to form an off-river storage reservoir to impound 155 million cubic metres of water that will be diverted from wet season flood flows in the Lower Usuthu River. A main canal and distribution system has been and is being constructed, together with on-farm works, to irrigate a net 11,500 ha.

A phased development covers a Phase I of the project is nearing completion, and would develop a net area of 6,500 ha. Phase II implementation will extend the irrigated area by approximately 9,000 ha and planned to start from 2015. The objective of the project is to alleviate poverty in the project area by transforming the existing subsistence farmers into commercial farmers of irrigated lands producing cash crops (principally sugarcane). Phase I of LUSIP has about 2,600 beneficiary households (about 20,000 people) and Phase II will directly benefit a further 2,000 households (about 16,000 people) in the chiefdoms of Ngcamphalala, Mngometulu and Matsenjwa. The Government of Swaziland has identified the development of the smallholder agricultural sector as a main element in its policy of poverty alleviation in rural areas. The major constraint for the development of resources is the lack of irrigation water, as the dry season run-of-river flows have already been fully allocated to existing farmers. Currently, the main water infrastructure for LUSIP 1 is complete and operational. Chiefdom development plans established on a participatory basis with the community involved should guide further development efforts.

The LUSIP project originates from government policy. The targeting of poverty reduction is a key government policy objective articulated in the Poverty Reduction Strategy and Action Programme of 2007 (PRSAP), the Government Action Programme 2008-2013 and the government commitment to the UN Millennium Development Goals (MDG). The overriding assumptions of the PRSAP is that the Government will maintain macroeconomic stability and good governance; reducing vulnerability (especially to HIV/AIDS); human capital development; broad-based participation for empowerment and employment creation; and the implementation of re-distribution policies.

An enabling environment for private investment and economic growth should be the catalyst for poverty reduction and creating opportunities for participation by the poor introducing re-distribution policies. The focus on food security and the provision of infrastructure, extension services, technology, markets, social and financial services are promises that should meet the goals of reducing poverty. The Government would thus support reforms increasing access to productive assets such as land, water, information and financial resources to enable the poor to benefit from growth.

In order to fully realise the benefits of the construction of the Lubovane Reservoir and bulk water supply infrastructure under phase 1 of the Lower Usuthu Smallholder Irrigation Project (LUSIP), and to ensure improved economic viability of the project, it is necessary to increase the irrigated area to the Matata and Nsoko areas, Swaziland. The Government of Swaziland (GOS) has prepared feasibility studies and proposes to undertake investments to extend this phase 2 of the project to be

funded by the Swaziland Government and a number of international financing agencies amounting to approximately E2143 Million.

CURRENT SWADE PROJECTS

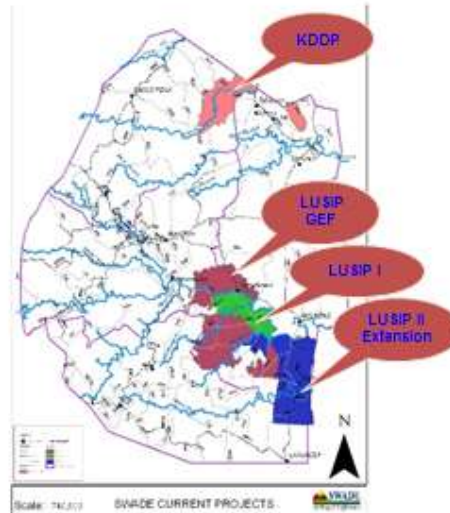


Figure 1: SWADE projects

The above mentioned development activities and other planned activities have environmental and social implications, which need to be considered. Therefore the Strategic Environmental Assessment (StrEA) is aimed at providing succinct and practical “best practice” guidance on how to avoid or minimise negative impacts and how to enhance benefits / positive impacts.

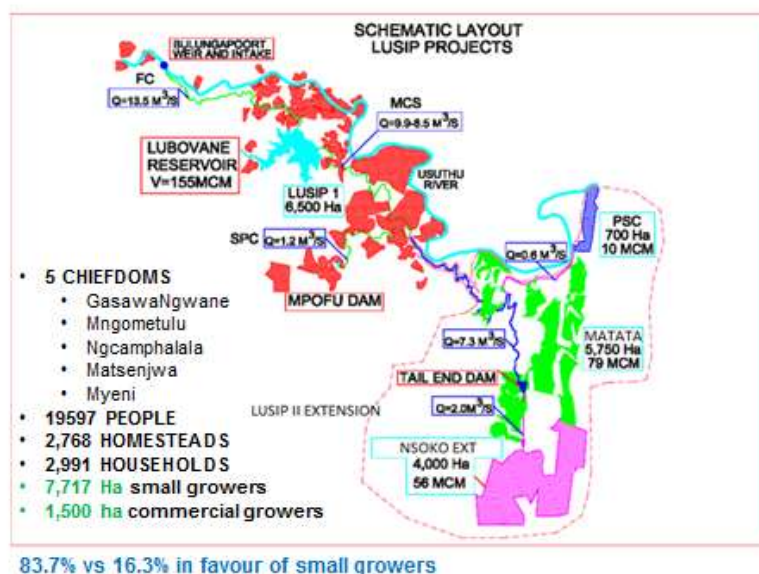


Figure 2: LSIP Projects

1.1 Study Objectives

The objective of the assignment as stated in the Terms of Reference (TOR) is to describe, identify and assess the likely and cumulative significant impacts on the environment of the implementation of the LUSIP 1, LUSIP 2 and Nsoko Extension.

1.2 The legislative context and need for StrEA

As provided for in the Environmental Management Act (EMA) of 2002, the Swaziland Environment Authority (SEA) requires a Strategic Environmental Assessment (StrEA) to be undertaken for the continuation and implementation of the LUSIP 1 and LUSIP 2 Extension. The Environmental Assessment (EA), act as the best mechanism to provide objective information to decision makers and Interested and Affected Parties (IAPs) about the environmental consequences of a proposed development project. In cases where an EA is done for single projects, it is termed an Environmental Impact Assessment (EIAs).

To-date, project-level EIAs has been conducted for LUSIP 1 and LUSIP 2 while the Extension (Nsoko Msele) EIA is underway. Of note is that when these EIAs were done the cumulative impacts of the various activities implemented were not considered. Whilst the impacts of one project might be relatively small and contained, the cumulative impacts might be substantial and significant in the long term. The StrEA is an internationally recognised way to assess past, present and future cumulative impacts through a formal process of systematic analysis of the social and environmental impacts of development policies, plans, programmes and other proposed strategic actions. Since the StrEA is supposed to a participatory decision-making, engaging with stakeholders at various levels at various stages in the process will be considered.

1.3 Scoping

Scoping represents the first stage of the StrEA and it explains the purpose of the StrEA, sets out the process and details what methods will be followed in meeting the requirements. In this way, the StrEA is a valuable decision-making aid and provides a mechanism for IAPs as well as other stakeholders to engage in a meaningful manner with decision makers where a more carefully considered decision-making process is promoted. Its sole aim is to focus the StrEA on manageable important issues where reasonable alternatives are examined. The outcome of the scoping process is a Scoping Report (this document) which includes issues raised during consultations as well as the issues raised in the StrEA TOR. This Scoping Report will therefore help communicate and define the scope of the environmental and social issues to be dealt with by the StrEA including the level of detail to which it is intended to address these issues.

The StrEA assignment will assess all the environmental impacts (positive, negative, social or economic) associated with the construction, and operationalisation of the project. Particular attention will be given to those elements that can either foster or break the effective performance of the project actions such as the availability of water resources for irrigation (water quantity and quality, greenhouse gases & climate change), infrastructure improvements improved production efficiency (farm chemicals, human health (HIV / AIDS, malaria, typhoid) labour and employment, migration, gender & equity, land tenure & land use planning, capacity building, governance issues, flora & fauna), land degradation, migration) and sugar prices and trade.

1.4 Assumptions and limitations

It is important to note that this StrEA has been undertaken as a request by the SEA due to the anticipated cumulative and synergistic impacts associated with the additional project phases to the original LUSIP. The implication of this is that this StrEA is not an assessment of a policy / programme as is supposed to be the case, but will assess current project and proposed project phases as a means of ‘damage control’ to make up for what should have been done prior to even formulating the LUSIP. One should also note that based on this situation, the genuine consideration of alternatives will be a challenge as the StrEA is carried out at a stage where alternatives have long been considered and some project phases are already in motion. Therefore this may influence the outcome and the ability to achieve the goals of a StrEA.

As per the TOR it is also worth mentioning that the StrEA will be based mainly on previous studies and stakeholder consultation and will to a less extent make use of field visits to verify information. The challenge lies in that much of the StrEA relies on the gathering of secondary data, and not the collection of primary field data, with the exception of socio-economic surveys and the stakeholder consultation process. Furthermore stakeholder engagement will be limited to engaging with key stakeholders at leadership role for organisational structures and less with individuals at the lower levels. It is therefore possible that the findings of the StrEA will, in certain instances, remain untested in the public domain. Nevertheless, in cases where additional research may be needed to fill critical knowledge gaps and improve understanding of the impacts associated with the project, the Consultancy team will have to make recommendation in the StrEA to the client for additional studies to be pursued at a later but appropriate stage.

1.5 Terms of reference

A summary of the TOR indicate that the assignment will be composed of two parts, which are the scoping study and the StrEA study. The initial study will identify and define the issues that will need to be addressed by the StrEA study. The conclusions of the scoping study will determine specifically the scope of activities for the StrEA study.

The StrEA scoping study will deliver the following results:

1. A brief description of the institutional and legislative framework of the sugar sector and sugar industry in the country;
2. A brief presentation of the relevant environmental policies and objectives in the country;
3. An identification of the key stakeholders in the sugar sector and their concerns;
4. An identification of the key LUSIP – environment interactions;
5. A presentation of the impact identification and evaluation methodologies to be used in the StrEA study

2. THE StrEA PROCESS

As provided for in the Environmental Management Act (EMA) of 2002, the Swaziland Environment Authority requires that certain projects which are likely to have a significant impact on the environment, be subject to the EIA process. Upon considering the different projects planned for the LUSIP 1, (LUSIP Phase 2 Extension), the SEA required SWADE to undertake a StrEA for the projects, see appendix 1. Therefore the StrEA will be carried out following the EIA process as there is no specific law for carrying out a StrEA in Swaziland. The EIA calls for the screening of a project to determine whether an EIA is necessary or not. Then a scoping exercise must be undertaken to come up with environmental issues to be evaluated and the methodologies to be employed when evaluating

these. The StrEA report is then compiled and submitted to the SEA who makes comments on additional requirements if necessary and also invites the public to review the document and make comments. These stages are described below:

2.1 The Screening Stage

During this period this project was not subjected to screening due to the fact that it was screened during phases 1 and 2 and was determined to require an EIA which were already done in 2002 and 2012 respectively.

2.2 Scoping Stage

Once screening has been completed the next stage is the scoping phase. The main objective of scoping is to identify key issues of concern that should be addressed in the assessment of the plan and the appropriate level of detail to which they should be considered. This scoping report will help inform stakeholders about the key environmental issues and the key elements of the plan/programme/ project. In addition, the Scoping Report will be used as a tool to generate comments from stakeholders on the scope and approach of the StrEA. In conducting the scoping exercise the consultant was trying to address the following questions:

- What are the relevant significant issues to be addressed by the StrEA?
- What methods can best evaluate the identified impacts?
- Against what environmental objectives should the potential options be evaluated?

In undertaking scoping the consultancy team followed a participatory process, to ensure that relevant stakeholders had an opportunity to voice out their comments and concerns on the existing and proposed project. It was also necessary to engage Swaziland Water and Agricultural Development Enterprise (SWADE) to establish the context as an important initial phase of the StrEA scoping which then allowed the team to set the framework for all subsequent StrEA related issues and activities. On the other hand a meeting with the Swaziland Environment Authority (SEA) was convened early enough to ensure that expectations, procedures and legal requirements were properly aligned from the onset. The meeting was held at the SEA offices in Mbabane on 7 October 2015 and minutes from the meeting are attached in Appendix 4.

A list of relevant stakeholders was requested and received from the client and was used to identify key stakeholders for telephonic and facial interviews to get further information on project environmental impacts. A public scoping meeting was held on 8 October 2015 at the Siphofaneni Inkhundla hall following adverts placed in the Times of Swaziland and the Swaziland Observer running from the 3rd to 7th October 2015 inviting all IAPs to the scoping meeting. The advert sample is attached in Appendix 5. Furthermore, consultation is on-going and shall continue throughout the StrEA process until the final report is compiled.

2.2.1 Geographic Scope

This StrEA is for the LUSIP 1, 2 and Nsoko Msele projects and therefore the assessment will be primarily focussed at activities occurring within this jurisdiction. It is however recognised that there is a national and Transboundary dimension to the project and as such recognition will be given for such to be examined at these levels.

2.2.2 Temporal Scope

The StrEA will consider short, medium and long-term impacts as well as secondary, cumulative, synergistic, permanent and temporary, positive and negative effects during the assessment.

2.2.3 Scoping of Strategic Environmental Assessment Issues

In conducting scoping consideration has been given in determining whether the environmental impacts both positive and negative are likely to be significant. A summary of the identified significant impacts is available in section 6.1 of this report.

2.3 Compilation of Strategic Environmental Assessment Report

This involves review of project impacts carrying out site investigations, evaluating negative and positive impacts, formulating comprehensive mitigation plan, to minimize adverse impacts whilst enhancing positive ones. This will be conducted by various specialists to evaluate proposed project impacts and devise mitigation measures all done with project beneficiaries.

2.4 Public Review

This involves review of the prepared StrEA document to ensure that all public comments and environmental issues have been addressed. After review by the SEA, documents are circulated in strategic places for review by interested and affected (IAPs). This helps to ensure that concerns that were raised during scoping phase are adequately addressed in the StrEA. When the SEA is satisfied that all concerns about the project have been adequately addressed in the StrEA, an Environmental Compliance Certificate (ECC) is issued.

3. RELEVANT POLICIES, PLANS, PROGRAMMES AND SUSTAINABILITY OBJECTIVES

Evidence over the years shows that impact assessment and decision making relative to development activities has been and are influenced by international conventions, national policies and laws, and to a big extent socio economic obligations. The analysis of the policy, legal, and institutional framework has helped identify the key stakeholders as well as the issues for consideration and in formulation of the StrEA objectives. It relates to institutional analysis and change, as needed or simply as a result of policy dynamics, and the extent it influences decision making capacity over time, and consequently the success of the StrEA. In this analysis the consultancy team will consider levels of responsibilities, legal and regulatory frameworks, responsibility overlaps, and gaps, conflicting positions or synergies, required joint initiatives and complementarities. The LUSIP project is nested in a hierarchy of plans and programmes that relate to various sectors, the section that follows will therefore, provide details on the relationship between the LUSIP projects and relevant national policies, plans and programmes.

In identifying documents to include in the review of plans, programmes and environmental protection objectives, and the range of baseline data to consider, this Scoping Report has sought to take on board comments received during the consultation process as well as an investigation of previous study reports. It is also important to consider other plans and policies at the international level as Swaziland is a signatory to most of these and also is an upstream of the Usuthu River therefore indicating likelihood of Transboundary impacts. The review of plans, programmes and environmental protection objectives is a dynamic process and as new objectives emerge or are revised, they will be reviewed and any conflicts or inconsistencies will be recorded. Policy context continually shifts as new plans are adopted and/or take the place of former plans. The purpose of the review has not been to highlight every detail from every document selected, but to identify the key implications for the SEA. The reviewed policies, plans, programmes are discussed briefly below and will be analysed in detail in the StrEA report.

3.1 National Laws and Policies

The LUSIP project would comply with Swaziland's national environmental management policies and legislation. It will be guided by the country's regulations and policies as well as international treaties and polities. These are briefly described below and will be discussed in detail in the StrEA report to assess conformity and contradictions and recommend improvements where necessary.

3.1.1 The Kingdom of Swaziland Constitution Act No 1/2005

This is the supreme law in Swaziland. Section 210 (2) provides that the state shall protect and make rational use of its land, mineral, water resources as well as its fauna and flora, and shall take appropriate measure to conserve and improve the environment for the present and future generation. The Constitution promotes environmental rights such as access to water for development (e.g. irrigation and hydro-power).

3.1.2 National Development Strategy 1997

Swaziland has a National Development Strategy (NDS), which contains a vision that seeks to place the country in the top 10% of the medium human development group of countries by the year 2022. The strategy places social developments, such as food security, human settlements and shelter, safe water and sanitation, health and human capital development, social security, gender issues, and the problems of disadvantaged groups at the very heart of Government policy, right along with a vigorous economy, the efficient utilisation of natural resources, and the development of infrastructure, research, and innovation.

In the process, the country is facing serious challenges. It currently is experiencing an HIV/AIDS pandemic and a deceleration of economic growth, with increasing unemployment and poverty. It also is facing increasing fiscal and balance-of-payment deficits, reduced foreign direct investment, and deteriorating social standards.

Swaziland recognizes the need for an attractive investment climate, based on sound macroeconomic policies and fiscal discipline, leading to accelerating economic growth. This requires considerable transformations within the private and public sectors, in order to generate a surge in private investment and an expansion of the tradable goods sector. At the same time Swaziland seeks to enhance the development of its human resources, to create greater labor market flexibility, and to place a new emphasis on industrial and infrastructural development.

Objectives:

1. By the year 2022, the Kingdom of Swaziland will be in the top 10% of the medium human development group of countries founded on sustainable economic development, social justice and political stability. Economic development for the country.
2. Reduce poverty levels in the country by empowering the poor to generate income and reduce inequalities.
3. Harmonization of programmes undertaken in the country in order to achieve first world status.
4. To guide equitable allocation of financial resources.
5. Promote agriculture and infrastructure development.
6. Diversify economic activities that contribute to the national economy.
7. Environmental sustainability.

3.1.3 The Poverty Reduction Strategy and Action Plan (PRSAP)

The PRSAP is Swaziland's overarching policy statement for reducing poverty and other related challenges. Its main objective is to reduce poverty by more than 50% by 2015 and ultimately eradicate it by 2022. This ambitious goal, cautions that tackling poverty in Swaziland would require fundamental reforms and a change in development approach. The PRSAP describes the country's macroeconomic, structural and social policies and programs to promote growth and reduce poverty, as well as associated external financing needs.

Given the centrality of poverty reduction in the country, it is worth mentioning that enshrined in Government initiatives is the drive to revive the economy and also reduce inequalities and poverty. An important initiative was the development of the national vision the National Development Strategy (1997 -2022) for which poverty reduction takes the central focus. The PRSAP is the development framework towards improving standards of living. It guides the formulation of government policy at both micro and macro levels and calls for a development agenda with a human face. It also calls for a new pattern of development, which is pro-growth and pro-poor, where the poor participate and share fully in growth, human development, and enjoy social protection.

3.1.4 Swaziland's First National Communication to the United Nations Framework Conventions on Climate Change (UNFCCC) (2002)

Identifies need for better water resources planning, development operation and management through the development of policies and strategies to conserve water. Therefore it is important for the StrEA to consider how the above will be taken into consideration.

3.1.5 Swaziland's Second National Communication to the United Nations Framework Conventions on Climate Change (UNFCCC) (2010)

This document talks to issues of biodiversity, water resources, health, and projections of Greenhouse Gas Emissions. The vast area of Swaziland's grassland and Lebombo bushveld is likely to be affected by climate change although with varying degrees of severity if the moderate case scenario (A1B) conditions prevail. Both vegetation types will likely lose more than half of their current bio-climate area. This has significant implications on biodiversity and people's livelihoods with most of the country's current vegetation types and species experiencing notable declines. Simulation modeling indicates that habitat for a majority of the endangered birds and mammals would decline dramatically. Analysis of the spatial distribution of most of the species of birds suggests most species are mostly likely to be critically endangered by the middle of the 21st century as a result of climate change. In water resources, the projected runoff change is negative in Usuthu, Mbuluzi and Ngwavuma catchments except for the Komati catchment. The median future stream flow lies below the present flows especially during the winter months in the three catchments except the Komati catchment. However, the decreases and increase in the stream flows in the four catchments fail to attain statistical significance at the 5% level.

In the health sector climate change will affect the basic requirements for maintaining healthier nation, clean air and water, sufficient food and adequate shelter. Catastrophic weather events, variation in weather systems that affect food and water supplies, ecosystem changes are all associated with global warming and pose health risks. Climate and weather risk may result in increased deaths due to heat waves, and natural hazards such as floods, vector-borne diseases such as malaria and other existing

and emerging infectious diseases. Projections of Greenhouse Gas Emissions from all sectors (energy, industrial processes, agriculture, waste, and Land Use, Land Use Change and Forestry) are projected to be at 25.4 million tonnes of CO₂ equivalent and are expected to increase to 33.4 million tonnes of CO₂ equivalent by the 2030 as the country tries to avert overarching challenges related to poverty and food security.

3.1.6 The National Adaptation Strategy

The over-arching goal of this strategy is to have the sugar industry continue playing the important economic development role that it has effectively played in the past. On this basis, the sugar industry should be able to continually maximize on its productivity, efficiency and competitiveness. Furthermore, where there is need to restructure operations, and possibly diversify, there is need to have a response mechanism that will ensure that society is not left worse off as a result of the EU sugar sector reforms. In supporting the sugar industry to continue playing its strategic multifaceted role, the strategy seeks to respond along three pillars. First, the restructuring needs of the industry will be supported, whilst ensuring that a programme of continuous productivity and efficiency improvement is implemented. Secondly, the continued viability of smallholder sugarcane farming will be ensured. Thirdly, the value of markets will be preserved, and where possible (preferential) market access will be enhanced. On the broader adaptation needs, the strategy seeks to minimize the possibility of deterioration in living standards resulting from the reforms and to support diversification initiatives, both within the sugar industry and outside to other sectors. Several priorities have been identified in the response strategy. First, the establishment of the institutional structures to coordinate the implementation of this strategy is paramount. Secondly, the stabilisation of the financial situation of smallholder cane growers will receive priority attention. The third priority relates to the protection of value of the trade dimension. Trade, in particular trade preferences, plays an important role in the continued viability and sustainability of the industry. A fourth priority relates to the welfare of retrenched workers and the ability of the sugar companies to continue providing quality social services at their estates for the benefit of workers and the neighboring communities.

3.1.7 Environment Management Act, 2002

The act is intended to provide and promote the enhancement, protection and conservation of the environment and the sustainable management of natural resources. It also turned the Swaziland Environment Authority (SEA) into a body corporate and established the National Environment Fund. In terms of the Act, the SEA has the power to halt any and all developments that have not been adequately scrutinized for their environmental impact. Any policy, bill, regulation, program or plan requires a Strategic Environment Assessment. The Act provides for public participation, and sets out regulations for the registering of environmental information, requests for environmental information, public review, public hearings, findings of public hearings, public participation in licensing decisions, order and prosecutions initiated by the public, civil actions and other regulations. The Act is the supreme environmental law and the implementation of any non-environmental piece of legislation, e.g. the Roads Act, where it is considered to have a direct or indirect environmental impact falls under the provision of the Environmental Management Act.

3.1.8 Environmental Audit, Assessment and Review Regulations of 2000

These regulations outline processes and criteria for project screening, categorization and public participation for new projects. It spells out the requirement for environmental audits for operations

that are cause for concern for the SEA. The process and formats for compilation of environmental audits, Environmental Assessments and Comprehensive Mitigation Plans (CMPs).

3.1.9 Swaziland Environment Action Plan, 1997

To put in place a cross-sectoral approach to environmental management in Swaziland

1. Provide a state of knowledge overview of environmental conditions in Swaziland
2. Identify, prioritize and where possible quantify environmental problems
3. Propose solutions to environmental problems
4. Establish a framework which provides coherent direction for the process of environmental monitoring and action planning in the future
5. Provide framework for continuous development and environmental policy dialogues within the country and with donor partners.

3.1.10 Natural Resources Act 25 of 1968 and Act 71 of 1951

A Natural Resources Board (NRB) was established by this Act. The Natural Resources Act provides for the conservation and improvement of natural resources. The Act also covers matters related to health concerns and the prevention of soil erosion during landscaping and excavation of site works, protection of water sources, public streams, disposal and control of storm water, sewage and other bio-hazardous effluents. The NRB is empowered in terms of this Act to order the conservation of natural resources, and such orders may relate to:

- The construction and maintenance of soil conservation works.
- The preservation and protection of the source, course or banks of rivers and streams.
- The control of water including storm water.
- The control or prohibition of the burning of grass.

It is important, particularly because of the size of the project, that both the Minister responsible and the NRB pay attention to the project at the design, construction and operation phases to see to it that provisions of the Act are not violated.

3.1.11 The Water Act 2003

This Act seeks to harmonize the management of water resources in the country. Its provisions include the establishment of a National Water Authority and of a Water Resources Master Plan. This plan will contain an inventory of the total water resources of Swaziland, and a comprehensive programme of action in which the maximum value can be obtained from this resource for the benefit of the people of Swaziland.

3.1.12 Integrated Water Resources Master Plan, 2011

1. To provide strategic direction on how best to utilize, manage and develop water resources to facilitate social and economic development that will improve the livelihoods for the people of Swaziland.
2. Provide relevant information on water situation for planning purposes (surface water flows, ground water potential, water quality information, water use information)
3. Determine the water balance for all rivers in the country.
4. Provide guidelines for the development and management of water resources;
5. Increase water availability for domestic purposes, agriculture water use and other water uses.
6. Provide guidelines on equitable and sustainable water use,

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7. Develop a plan of action for specific water management and development activities that have to be undertaken to address the water situation.
 8. Increase sharing of water use and planning information between and within sectors.

3.1.13 National Water Policy (draft) 2011

1. To achieve sustainable development and management of water resources in the country through integrated planning. To promote integrated planning, development and management of water resources with particular emphasis on the roles and responsibilities of stakeholders.
2. To increase access to water for previously deprived sectors of society without prejudicing existing water users.
3. To ensure provision of adequate and good quality water for all and accessible to all citizens.
4. To ensure that Transboundary obligations are met at all times.

3.1.14 Swaziland National Trust Commission Act, 1972

This Act provides for the operation of cultural institutions and the proclamation of national parks, monuments and related matters. This Act grants the National Trust Commission powers to proclaim national parks and monuments. It can acquire or alienate movable and immovable property subject to this Act with the approval of the Deputy Prime Minister. Section 25 states that " The Minister may make recommendations in the national interest to proclaim: as a national monument, any area of land having a distinctive or beautiful scenery or geological formation, or any area of land containing rare or distinctive or beautiful flora or fauna or any area of land containing objects of archaeological, historical, or scientific interest or valley or any waterfall, cave, grotto, avenue of trees, old building, or another place or object whether natural or constructed by man of aesthetic, historical, archaeological, sacred, or religious value or interest."

3.1.15 Flora Protection Act, 2001

This Act promotes the conservation and protection of certain plants, through the use of a Schedule, trees, shrubs and vegetation and any living or dead portion of plants from destruction. If any protected flora exists in the project area and is likely to be cut or uprooted, this requires a permit from the Ministry of Agriculture (MOA). Very few protected plants or trees will be affected by the IP, and every measure should be undertaken to protect these plants if possible.

3.1.16 The Plant Control Act, 198

To control the movement and growing of plants and matters incidental thereto.

1. It establishes a Nursery registration Board.
2. Regulates the sale and movement of plants.
3. Gives authority for the compulsory destruction of alien plants.
4. No importation of prohibited plants.
5. Imports of plants from other countries shall require a permit

3.1.17 The Forests Preservation Act, 1910

This Act protects indigenous timber land. The Minister of Agriculture has to grant permission for clearing and cultivating any government or Swazi National Land within 30 yards of an area in which indigenous vegetation is growing. Thus any person who recklessly sets fire to any indigenous or brushwood is deemed to be guilty of an offence.

3.1.18 Forestry Policy, 2002

Achieve efficient, profitable and sustainable management and utilization of forest resources for the benefit of the entire society and to increase the role of forestry in environmental protection, conservation of plant and animal genetic resources and rehabilitation of degraded land.

3.1.19 Livestock Development Policy of 1995

The country's Livestock Development Policy calls for the commercialization of livestock development through the promotion of smallholder livestock production enterprises, introduction of cost-recovery programmes (removal of subsidies), promotion and marketing of produce and capacity building through training and research (MOA, 1995). The overall goal is to promote sustainable use and improvement of farm animal genetic resources to increase livestock production and productivity, ensure food security at household and national levels and improve living conditions of the rural population. Improve rangeland management and utilization.

3.1.20 Waste regulations 2000

These regulate the management of all types of waste in Swaziland. They outline the functions of the Swaziland Environment Authority and local authorities. They outline provisions for the storage, collection and Disposal of waste in urban areas as well as in waste control areas (in non-urban areas). Outline requirements for carriage, and general management of waste as well as obligation for different types of wastes.

3.1.21 Water pollution control regulations 2010

These regulations control discharges made into water bodies. They outline responsibilities for operators, water authorities and the Swaziland Environment Authority in water pollution control. They provide water quality objectives as well as effluent standards.

3.1.22 Occupational Health and Safety Act 2001

The Act outlines the responsibilities of employer, employee and the government in occupational health and safety issues. It establishes a tripartite advisory committee to advise the ministry of Labour on these issues. Occupational health and safety is not the sole responsibility of the employer. The employees through the health and safety committee should also contribute toward application of the occupational health and safety standards

3.1.23 Bio-Safety Policy 2011

The policy seeks to provide a supportive and an enabling environment for the introductions of GMOs in Swaziland.

3.1.24 Resettlement Policy 2003

The guiding vision of the National Rural Resettlement Policy (NRRP), which has been approved in 2003, is to establish a durable, practical and participatory framework for the planning and sustainable management of land, and the appropriate application of resettlement strategies in rural Swaziland, in order to increase agricultural production, promote the sustainable utilisation of natural resources and improve livelihoods.

3.1.25 The Public Health Act, 1969

Swaziland Public Health concerns, and ways of dealing with them, have been expressed in the principal legislation: the Public Health Act 5 of 1969. The Act defines the Authority for prescribing and enforcing preventative and remedial measures for the protection of Public Health in Swaziland. However in recent years there has been increasing concern expressed by the environmental health officials, health officers and others that the Act fails to provide the back-up required to control risks to Public Health, and that it fails to meet the present day environmental health needs.

3.1.26 Game Act

This act seeks to regulate the protection of game. It prohibits hunting protected and royal game and animals within protected areas. The act also contains schedules that list specially protected game as well as royal game. It is administered by the King's Office.

3.1.27 Protection of Fresh Water Fish Act No.75/1936

This Act, under the Ministry of Agriculture, provides protection to indigenous species of fish by stipulating a close season during which time fishing is not permitted and also by prohibiting the capture of fish by certain destructive means. The Act prohibits the stocking or removal, cultivation, recreational fishing or dealing in fresh water fish without a permit. It provides for open and close seasons for catchments of fish and specific devices to catch fish in a sustainable manner. The Act further regulates the introduction of alien fish into the country's water bodies

3.1.28 The Natural Resources (Public Stream Banks) Regulation, 1951

Prevents cultivation of crops within the stream banks Prevent cultivation of crops within 100 feet (33 meters) from the banks of public streams. Protects destruction of biodiversity rich ecosystems close to the river banks.

3.1.29 Electricity Act, 2007

1. To reform and consolidate the regulation of generation, distribution and supply of electricity. To regulate the electricity supply industry through licensing of power generation, transmission, distribution, importing and supplying electricity.
2. Ensure improved access to electricity for all citizens.
3. To regulate the production, trade and use of controlled substances and products

3.1.30 The Ozone depleting Substances Regulation, 2003

1. Ensure the elimination of substances that deplete the ozone layer.
2. Provide a system of data collection that will facilitate compliance with relevant reporting requirements of the related environmental protocols.
3. Promote the use of ozone friendly substances.

3.1.31 The Water Pollution Control Regulations, 2010

To control discharges made into water bodies. To outline responsibilities for operators, water authorities and the Swaziland Environment Authority in water pollution control.

3.1.32 Comprehensive Agriculture Sector Policy, 2005

Ensure optimum contribution of the agriculture sector to the socio economic development of the country through Intensifying and diversifying agricultural productivity in accordance with good water and land management practices.

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1. To increase agricultural output and productivity.
 2. To increase earnings of those engaged in agriculture by promoting the adoption of diversification and use of appropriate technology.
 3. To stabilize agricultural markets.
 4. To ensure sustainable use and management of land and water resources.
 5. To enhance food security.’

3.1.33 Draft Summary report on the Swaziland National Agricultural Investment Plan, 2014

To increase the contribution of agriculture to economic development, reduce poverty and improve food and nutrition security

3.1.34 Irrigation Policy, 2005

To provide clear guidance on the development and enhancement of irrigation systems in order to expand land under irrigation and improve agricultural water management and thereby increase productivity of small holder irrigated farms.

1. Guide irrigation development and allocation of water for irrigation purposes.
2. Improve current management and operation of existing irrigation schemes for efficient water utilization.
3. Empowerment of smallholder irrigators on Swazi Nation Land.
4. Increase investment in the irrigation Enhance environmental management to support increased food production and food security.
5. Promote and undertake applied agricultural research to promote food security.
6. Improve agricultural market systems and infrastructure and have prices determined by free market forces
7. Facilitate smallholder farmer access to agricultural inputs and credit.
8. Promote alternative livelihoods in rural areas.
9. Improve food storage facilities

3.1.35 Disaster management bill and national disaster management plan 2000

Multi sectoral plan that acknowledges risks arising from climate change, water resources management practices, agriculture land use planning, health and education.

3.1.36 National Food Security Policy, 2005

To ensure that all people in Swaziland at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

1. Proposed committees to coordinate food security are still to be established.
2. Facilitate smallholder farmer access to agricultural inputs and credit.
3. Promote alternative livelihoods in rural areas.
4. Strengthen national response to react to drought and improve preparedness and response to drought and other disasters

3.1.37 Draft Land Policy (drafted in 2000, redrafted in 2013).

To encourage rational and sustainable use of land and improve access and management of land resources.

1. Improve access to land and secure tenure.

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2. Improve productivity, income and living conditions to alleviate poverty.
 3. Enhance efficient and effective land administration systems.
 4. Encourage ownership by Swazi citizens.

3.1.38 Agriculture Research Policy, 2011

To create an enabling environment for the National Agricultural Research System to be efficient, effective, responsive to demand and produce research and products which are relevant to the defined national priorities.

3.1.39 Fresh Water Fisheries and Aquaculture Policy in Swaziland, 2011

1. To ensure sustainable and regulated access to fish resources in order to achieve an equitable balance between socio economic needs and ecosystems health. Promote an efficient, effective and sustainable fish farming
2. Support the development of small scale commercial and intensive fish farming.
3. Encourage fish consumption to improve nutrition for the people.
4. Operationalize a fish hatchery
5. Support women to establish fish farms

3.1.40 Draft National Climate Change Strategy and Action Plan, 2014

1. To enhance the adaptive capacity of Swaziland to climate change in order to achieve sustainable development and contribute to the better quality of life for the Swazi nation. Integrate climate change adaptive and mitigation measures into the various sectoral policies and national development planning and budgeting.
2. Promote development and implementation of adaptation and mitigation actions that contribute to achievement of sustainable development, eradication of poverty and enhance adaptive capacity.
3. Provide mechanisms for mobilizing and accessing support for capacity building, transfer of technology and financial resources from the international community and other sources.
4. Build awareness and understanding of climate change among various stakeholders through education, training and public awareness.
5. Strengthen the legal and institutional framework for effective coordination and

3.2 Relevant International Laws

The key International/regional legislation relevant to the project is the SADC Shared Watercourse Systems Protocol (an Intergovernmental Water Agreement). The main thrust of the protocol, which is a legally binding document, is to ensure efficient conservation of the scarce resources and equitable sharing of water. The Usuthu River is a shared river basin between South Africa, Swaziland and Mozambique, therefore compliance with the Interim IncoMaputo Agreement (2002). Furthermore, as the project will be partly financed by loans from the African Development Bank and the European Union, it must also comply with the Bank's Environmental Policy and Environmental Sectoral Guidelines for Irrigation Development and the European Union's Environmental Guidelines.

3.3 Key aspects emanating from the polices, plans and programmes to be considered when implementing the project

The StrEA is important in promoting sustainability by integrating environment and sustainability issues in decision-making, assessing strategic development options and issuing guidelines to assist implementation. The key points therefore emerging from the review of polices, plans and programmes

that the LUSIP project may be able to positively influence (either directly or indirectly) are outlined below:

- The importance of implementing development within boundaries and principles of sustainability.
- The need to conserve and enhance biodiversity, and avoid any significant impacts on natural sites.
- The need to conserve protected rare and endangered species.
- The need to prevent water pollution and protect water quality.
- Air quality should be protected.
- Waste should be minimised, reused or recycled.
- Noise and dust from developments should be minimised.
- Heritage assets should be conserved and enhanced.
- Carbon emissions should be minimized through directing development to sustainable locations where possible and encouraging lower-carbon practices in construction, operation and transport.
- The value of trees should be recognized, and loss of trees should be avoided where practicable through location and design policies and the conservation of woodland, grassland and wetland must be promoted. The potential contribution of trees in schemes should be explored and maximized.
- The most significant aspects to be considered and mitigated include, abstraction, invasive species; farm chemicals, soil erosion, biodiversity loss, habitat loss, land degradation, deforestation, sediment; and air pollution.

The above points coupled with consideration of baseline data and the comments made during the scoping meetings, enables the initial identification of the key environmental issues that will need to be addressed in the StrEA Report.

4. CONSULTING ON THE SCOPE OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT

Consultation on this Scoping Report is important as it ensures that the StrEA will be comprehensive and robust in supporting the existing and proposed projects and assures their ownership and sustainability. The consultation process will involve not only the statutory bodies required under the EMA but also IAPs and the wider stakeholders to ensure a high level of scrutiny rigor. In conducting the scoping stage comments / views will be sought throughout the process and this will be achieved through meetings and interviews.

4.1 Meeting with SEA held on 7th October 2015 at SEA offices in Mbabane

The following are issues that came out of the meeting which the SEA requires the StrEA to address in detail (Minutes attached in appendix 4):

Expectations from SEA

1. StrEA should address cumulative impacts from LUSIP 1, 2 and Extension
2. Synergistic impacts
3. Reduction / Displacement of grazing land It would help to look at alternatives from livestock feeding like irrigation of pastures, community SISA ranch
4. Review of policies addressing livestock issues
5. Ecology: the conversion of green fields to green deserts-
6. Issue of crop diversification
7. Use of chemicals and their effects
8. Harvesting techniques and alternatives
9. Gender issues- impacts of projects to women - how the projects benefits women.
10. Poverty alleviation- how project contributes to it
11. Impact on malaria as a result of more standing water bodies
12. Ecosystems and fragmentation of biomes (continuity between different ecosystems)
13. Food security - how project addresses it
14. Monitoring / Enforcement of mitigation measures from the different EIAs.

4.2 Public Scoping Meeting

The scoping meeting was advertised in the local media as well as by email to targeted stakeholders. On 8th October 2015 a scoping meeting was held at the Siphofaneni Inkhundla where a presentation on the existing and proposed LUSIP projects was done by SWADE representative as well a presentation on the StrEA process to be followed was done by the Consultant Team Leader. The following issues were raised (minutes attached in appendix 5) and some responses on the LUSIP projects were made where possible.

Questions / Comments from participants:

Livestock watering points

Communities next to dam don't have watering places. When the dam levels are low, the cows are stuck in the mud

Potable water

Individual meters so that people take responsibility to pay for the water.

Employment opportunities

For opportunities to have business in the activities in LUSIP 2 extension

Support to communities beyond project area

Why the SWADE facilitated development was mainly focusing across the Usuthu River.

Business diversification

He also asked if SWADE was going to come back and assist with other agribusinesses now that the sugar price had fallen since it had been the request from the community for such but they had been told that the funders were only willing to fund irrigated sugarcane production

Crop diversification challenges

Banana production was experiencing marketing challenges since the entities that had gone into its commercial production assisted by SWADE were complaining.

Response

SWADE had established a fully-fledged agribusiness department that was dealing with commercial diversification of agricultural produce. It was explained that from the outset SWADE always promoted the growing of fresh produce next to the irrigated sugarcane fields but the entities themselves destroyed those gardens and replaced them with irrigated sugarcane crops.

The original SWADE Project designs were such that work was going to be only across the Usuthu River hence even the StrEA certificate that was issued was for that side of the river. But due to the demand SWADE started assisting communities across the river even before SEA could certify such development because the thinking was that these were similar areas.

There is a culture challenge on the issue of communities paying minimum prices to maintain the development like potable water infrastructure.

Potable water and further development

Who would have the right information about the potable water and development other than irrigated sugarcane?

Response

Mr Silwayiphi Sithole and Mrs Lynn Kota respectively

Livestock watering points

Why there were no drinking troughs for the livestock of the homestead situated near the dam yet there are for those along the canal?

Institutional cooperation

It would be better for the SEA and SWADE to have good working relations so that the development is guided by the laws governing the environment and the project is not delayed.

Livestock feed

It was observed that LUSIP generally buys almost everything even such goods like hay bales that are easy to make

Business diversification

The responsibility to allocate land for anything in the chiefdom lies with the Chief. It is the local authority that must allocate grazing lands and SWADE may provide technical advice especially on livestock. Also the homesteads around the dam area should be given alternative land for other agribusinesses if crop production is not a viable option.

Livestock issues and land degradation including soil erosion

The other challenge the livestock farmers had might have been the result of a lack of interested from some of the then leadership of the groups that did not have livestock.

Livestock owners had learnt the hard lesson of poor livestock management and now wanted SWADE to build their capacity to commercially manage their livestock.

Response

The time for livestock farmers to suggest solutions to their challenges had come more especially because the effects of poor livestock management practices were affecting them.

SWADE assists the locals with coming up with investments that shall benefit them even if the irrigated sugarcane business fails.

Benefits from sugarcane milling (by-products)

Who then shall be the voice of the farmer now that the Nsoko Sugar Mill shall no longer be built due to viability challenges? There are no bonuses farmers get from the ILLOVO Mill like those that take their sugarcane to RSSC.

Responded

SWADE works closely with SEA. The only challenge was when SWADE started facilitating development on the side of the Usuthu River which SEA had not given her approval for development. The organization had looked at the similarities of area across the river and though there would be no need for an environmental certification.

Suggested

They would also benefit from the business opportunities at LUSIP II instead of giving opportunities only to big business.

Response

SWADE rules and regulations of participation are the same across the country. That was the reason that the communities at Nsoko Msele are benefiting yet their lands will not be affected in terms of commercial crop production. A similar arrangement was being discussed in Big Bend for farmers on TDL so that they could also benefit from the bulk water supply to farmers on SNL.

Mosquito problems

Mosquitos in particular were becoming a challenge to neighbouring households.

SWADE assist with the management of water damming making it easy for mosquitos to breed.

Mosquitoes are a major problem in our area which is made worse by the presence of water. SWADE should help as this is a health hazard and environmental as need to spray every night.

Capacity building needs

There is more exchange program as part of the learning process like SWADE once took the Inkhundla to Logoba to observe uncontrolled development that may lead to high costs of

bringing services to the people. Inkhundla officers have requested a visit to LUSIP projects so they have better understanding.

Institutional performance

Traditional authorities have failed to represent the interest of the communities especially in livestock projects which could be an alternative to sugar cane.

Health needs

Are those doing sugar cane benefitting from the project? If so this should be reflected in social investments such as hospital.

Sugar price decline

The sugar price is going down but livestock always increase in value.

Erosion control

Indigenous and food trees should be planted along banks of reservoirs

Access to the StrEA Report

Everyone needs access the report and it should be made accessible to even those who are not very literate.

Response

MTK will submit to SWADE then it goes to SEA then the community gives comments over set period then SEA will finalize before disseminated to public.

Environmental issues

Environmental issues were not properly looked at in previous project.

Value addition into sugarcane production

Investigate the value addition such as the production of fuel from sugarcane.

Erosion control

Erosion caused mainly by overgrazing should be managed.

Grazing lands

The new projects will be better off as they can learn from our mistakes. For example we put all our grazing land under sugar cane. Is there Possibility to rectify that by purchasing additional land with government assistance?

Response

We often fail to learn from past mistakes for example the local farmers went to Maguga but did not discuss with their communities to suggest solutions.

5. COLLECTING BASELINE INFORMATION

To describe the baseline conditions / state of the environment, the consultant will make use of the most up to date environmental data / information available in reports and websites. In cases where updates of significant environmental data and relevant reports become available during the StrEA process the Consultancy team will incorporate the new information into the description of the current state of the environment. The consultants will give particular attention to both the existing sugarcane projects as well as to the proposed sites. The Consultant team will note any existing environmental problems to be able to identify pressures, drivers and response measures. The main focus of data collection would be produce datasets that can provide the relevant evidence base for those environmental objectives upon which the LUSIP could have a significant impact.

It is also important that the consultancy team makes recommendations on data or information that may be important to form the baseline information but was never have been generated or access may be difficult. Where data gaps are found for particular aspects of the current state of the environment, the significance of these data gaps will be clearly stated. In addition, it will be stated whether these gaps can be reasonably and realistically addressed during the StrEA process or will need to be conducted at a later but appropriate stage of the project.

A key document to be referenced will be the LUSIP 1 EIA /CMP documents and the LUSIP 2 ESIA and EMP documents as well as the specialist studies and available maps. Other sources include government websites and documents, the census, and data held within wider professional partnerships. It is intended to utilise Geographical Information Systems (GIS) where possible to display and analyse information relevant to the study area region.

In accordance with StrEA process the environmental baseline will be compiled to include a description of the state of the environment at present; a discussion of the key problems/ issues currently being faced in the region; and a description of the expected evolution of the environment should the proposed project not be implemented. The environmental baseline will be presented in the Environmental Report under a number of Strategic Environmental Assessment topic headings as follows:

1. Physical environment (geology, soils, land use, land suitability, land capability)
2. Climate (rainfall and temperatures)
3. Water and drainage (water quality, water availability)
4. Ecology (flora and fauna, biodiversity)
5. Socio-Economic Environment (tenure and settlement patterns, education, livelihoods, employment, cultural, gender, public health, food security, livestock and rangelands)
6. Dust, noise and air quality
7. Archaeological and cultural heritage

6. ENVIRONMENTAL IMPACTS ANALYSIS

Environmental impacts (positive and negative) associated with the existing and proposed project will be examined. In impact analysis the StrEA will deal with wider impacts that are not necessarily project specific but issues that require consideration at national policy level. The assessment of environmental and social impacts will be presented qualitatively and quantitatively depending on the

issues. The potential impacts are described as per the guideline set by the SEA and the AfDB and the World Bank safeguard policies and procedures. The assessment will also address the inter-relationship between these factors and identify secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects. These impacts will also be presented in a detailed description using the following types of descriptors:

- Negative or positive;
- Severity of the impact and geographical extent;
- Extent reversibility of the potential negative impact
- Magnitude
- Duration and frequency of the impact;
- Probability of their occurrence; and
- Significance of the impact will be evaluated

For each impact, the EXTENT (spatial scale), MAGNITUDE (size or degree scale) and DURATION (time scale) are described. These criteria are used to ascertain the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. This is shown in Table 6.1 below.

Table 6.1 Assessment Criteria for the Evaluation of Impacts Criteria Category Description

Criteria	Category	Description
Extent or Spatial Influence of Impact	<ul style="list-style-type: none"> • Regional • Local • Site specific • Transboundary • Cumulative 	<ul style="list-style-type: none"> • Beyond a 20 km radius of the site • Within a 20 km radius of the site • On site or within 100 m of the site • Overlaps to other countries • Persists for longer periods
Magnitude of Impact	<ul style="list-style-type: none"> • High • Medium • Low 	<ul style="list-style-type: none"> • Natural and/ or social functions and/ or processes are <i>severely</i> altered • Natural and/ or social functions and/ or processes are <i>notably</i> altered • Natural and/ or social functions and/ or processes are <i>slightly</i> altered
Duration of impact	<ul style="list-style-type: none"> • Short • Medium • Long Term 	<ul style="list-style-type: none"> • Up to 7 years • Up to 10 years after construction • More than 10 years after construction

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. The means of arriving at the different significance ratings is explained in Table 6.2.

Table 6.2 Significance ratings

Rating	Level of Criteria Required
High	High magnitude with either a regional extent and medium term duration or a local extent and long term duration
Medium	Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term
Low	Low magnitude with a site specific extent and construction period duration

Once the significance of an impact has been determined, the PROBABILITY of this impact occurring would be determined using the rating systems outlined in Table 6.3. It is important to note that the significance of an impact should always be considered in concert with the probability of that impact occurring.

Table 6.3 Impact probability

Probability Ratings	Description Criteria
Definite	Estimated greater than 95 % chance of the impact occurring
Probable	Estimated 5 to 95 % chance of the impact occurring
Unlikely	Estimated less than 5 % chance of the impact occurring

6.1 Summary of Key Impacts Raised by Stakeholders

The impacts listed below are not exhaustive but are an indication of the concerns already raised during the scoping phase and they are in no particular order:

- Biodiversity issues: heterogeneous ecological systems containing a wide diversity of indigenous plants and animals are converted to homogeneous monoculture systems comprised of a single exotic crop called ‘green deserts.’ Natural links between ecosystems are severed, reducing available faunal migration routes.
- Encroachment of valuable habitats such as riverine areas and wetlands that are drained and converted to cultivated land and settlement areas.
- Increased soil erosion and land degradation due to unsustainable farming practices (crop and livestock production)
- Chemicals used in farms (herbicides and pesticides) regularly have an impact beyond their specific intended target, and affect indigenous plant and animal life as well as water quality.
- Concerns about the contribution of the project to climate change and also the effects climate change will have on the project.
- Water Conservation and Demand Management is a concern that sugar cane is a high water consuming crop and therefore it is grown at the expense of food crops that could use less water and bring more benefits.
- Crop diversification / Food security concerns are that land for food crops is converted to sugarcane growing. There has been unending challenges related to marketing of vegetables and it requires to be addressed.
- Livestock issues-not enough grazing lands and high livestock numbers exceeding range carrying capacity, not enough watering points as well as low income from livestock production are major concerns.
- Declining sugar prices in the world markets is posing serious challenges
- Mosquitoes / malaria have been raised as a concern due to standing water resulting from irrigation and from stored water.
- Gender issues- the role of women and how they benefit from the project requires to be assessed and improved.

In order to address the various issues and concerns identified during the scoping exercise, it is anticipated that the following technical investigations will be required:

-
- Biodiversity
 - Soil / Land
 - Water resources study
 - Socio-Economic

7. DEVELOPING THE StrEA OBJECTIVES

The Consultancy team developed a set of objectives and decision-making criteria which are critical in assessing the potential environmental effects of the LUSIP and in prompting consideration of alternative approaches. The environmental objectives were developed based on the existing environment, stakeholder consultations (impacts), policy / programmes analysis, on previous project reports (EIA / ESIA) and on international guidelines. The draft objectives for each of the environmental issues are set out below. These are not in any order of importance.

Issue 1: Water resources (water availability, Transboundary impacts, water quality)

Objective: Protect water resources its quantity and quality

Issue 2: Biodiversity (Flora and Fauna)

Objective: To conserve and enhance biodiversity

Issue 3: Cultural and Archaeological assets

Objective: Conserve and enhance the heritage assets and their settings

Issue 4: Land resources (soil quality, land capability, suitability, and land use)

Objective: Ensure efficient use of land resources

Issue 5: Air resources

Objective: Protect and enhance air quality.

Issue 6: Climate Change (climate change on the project and the project on climate change)

Objective: Reduce causes of climate change and promote adaptation to the impacts of climate change

Issue 7: Social aspects (settlements, land tenure, labour issues, gender issues)

Objective: To improve the quality of life of the communities

Objective: To promote equitable access to natural resources and local services

Objective: to promote gender based economic development

Issue 8: Human Health (HIV/ AIDS, waterborne diseases)

Objective: To improve the health and well-being of the communities and reduce health impacts.

Issue 9: Sugar business viability / Trade

Objective: To improve the viability of the businesses and mitigate against unfavourable Trade impacts

Issue 10: Income generation diversification

Objective: To promote business diversification

Issue 11: Food security

Objective: To improve food availability and accessibility

Issue 12 Livestock

Objective: To improve livestock production

8. SCOPE PROPOSED, TIMEFRAMES & RESOURCES REQUIRED FOR THE StrEA, AND NEXT STEPS

The level of detail for the StrEA will be based on the TOR, policy, institutional and legislative framework analysis, existing documents and plans, as well as the issues arising from participation of stakeholders.

8.1 Scope proposed for the StrEA

In order to address the various issues and concerns identified during the scoping exercise, it is anticipated that the following technical investigations will be required:

Biodiversity issues study:

- Vegetation (indigenous / alien species, wetlands, scenic landscape, habitat)
- Flora and faunal species of significance and rare species (conservation status)

Soil / Land issues study:

- Land use change (degradation, deforestation, erosion, overgrazing, excess use or poor management of agricultural chemicals)
- Solid waste management (poor solid waste management)
- Cropping systems / conservation agriculture

Water resources management study

- Water availability (how much water is available and for what? Provision for potable water supply, how water is used, existing allocations, how sugarcane irrigation will affect availability)
- Water quality to determine the present ecological State (how sugarcane and other developments are / will affect water quality)
- Riverbank protection, siltation, eutrophication
- Climate change issues (vulnerability / adaptation, Mitigation)

Social Economic study

- Socio-economic opportunities and constraints (evaluation of the relative opportunity benefits and costs of sugarcane production compared to the relative economic benefits and costs of competing land uses, benefits from sugarcane by products)
- Financial implications (cost of land preparation, cane cutting, transport, & milling, income levels for labour)
- Impacts on livelihoods and poverty reduction
- Impacts on public health
- Impact on social and institutional dynamics
- Current / potential impacts on land tenure and the constraints and opportunities that existing forms of tenure and reforms
- Knock-on effects the current and proposed projects might have on other land uses and land users, as well as other developments
- Possible consequences of no further sugarcane development
- Food, nutrition, and health security of farming families.
- Gender and gender equity (current / potential distribution of benefits and risks to various groups and stakeholders, evaluation of the employment opportunities and benefits that the differing current and potential land uses can yield,
- Evaluation of the economic returns that can be generated over a 20-year period of analysis by the different land use options, evaluation of the economic benefits of water use relative to other actual or potential water users.
- To evaluate different sugarcane production models that can be considered benefits and costs of each approach.
- Policy / Institutional arrangements (capacity development, extension services and governance structures, legal requirements)
- Monitoring

8.2 Proposal of time frames and resources needed for the SEA study

The proposed work plan to conduct the StrEA is provided in below.

- 22 October Submission of Draft Scoping Report to the client
- 22 November Submission of Draft StrEA report to the Client
- 08 December Submission Final StrEA to SWADE
- 15 December Final Submission to SEA

The StrEA team will be comprised of the same specialists as that used during the scoping process due to tight budget and timeframe to complete the study (2 man months spread over 3 months). Additional input will be obtained by stakeholder consultation through workshops / meetings, use of e-mail and telephone calls as well as field visits.

The team is described below:

Table

Name	Role	Outline of duties
Dr. Nicollete Mhlanga-Ndlovu	Team Leader-Environmental	-Lead and guide team -Coordinate overall study and the various study activities -Assess policy / institutional issues -environmental policies and regulations -Monitoring / enforcement
Dr. Musa Dlamini	Agriculturalist	-Land use, soil types, irrigation, degradation, deforestation, erosion , excess use or poor management of agricultural chemicals -Cropping systems / conservation agriculture -Sugarcane production models -Sugarcane burning -Policy implications
Mr. Sabelo Simelane	Economist	-Cane prices -Opportunity costs, -Policy implications
Dr. Themba Mahlaba	Biodiversity specialist	-Vegetation (indigenous / alien species, wetlands, scenic landscape, habitat) -Flora and faunal species of significance and rare species (conservation status) Trends in vegetation / habitat destruction

Mr. Boyce Malima	Livestock specialist	Livestock –grazing lands status (carrying capacities) stock numbers, livestock opportunities and relevant policy
Ms. Sindi Nxumalo	Sociologist	-Assess gender and gender equity, social impacts, tenure issues, potential and current benefits and risks to communities, food security issues, nutrition status, land tenure issues, policy implications
Ms. Tenele Matsebula	Hydrologist	-water quantity and quality, climate change issues (vulnerability, adaptation, mitigation)

8.3 NEXT STEPS / WAY FORWARD

Once comments have been received for this draft Scoping Report from the stakeholders and the client the next step will be to develop the final Scoping study for approval by the SEA. Since the StrEA is to be developed through participatory approach, additional meetings will be held with various key stakeholders throughout the study period.

9. References

1. Swaziland Government, Environmental Management Act, Government Publisher, 2002.
2. Swaziland Government, Environmental Audit, Assessment and Review Regulations, Government Publisher, 2000.
3. Swaziland Environment Authority, Compendium of Environmental laws of Swaziland, Swaziland Government Publisher, 2005.
4. Swaziland Government, National Adaptation Strategy (NAS) in Response to EU Sugar Sector Reforms, April 2006.
5. Swaziland Government, Institutional and policy evidence-based analysis of agriculture water management (AWM) in Swaziland 2015.
6. Vakakis International, S.A, 2000, Environmental Impact Assessment Study on the proposed Lower Usuthu Small Holder Irrigation Development Project, Swaziland Government, Mbabane Swaziland

10. APPENDICES

- Appendix 1: SEA letter
- Appendix 2: Public Notice
- Appendix 3: Map of project area
- Appendix 4: Minutes of meeting with SEA
- Appendix 5: Minutes of Scoping Meeting
- Appendix 6: Terms of Reference