

EXECUTIVE SUMMARY

Background Information

The impact of the proposed Musina-Makhado Special Economic Zone (MMSEZ) South site has been assessed in terms of vegetation clearance, the installation of bulk services and fencing of the site. However, the scope of some specialist assessments has been expanded to also include future planned industrial developments (such as climate change, air quality and biodiversity offset). The aim was to ensure that, apart from the immediate impact, a holistic view was also undertaken for the full life of the MMSEZ South site for key aspects.

The EIA application and Scoping Report (SRC) was submitted to LEDET (appointed as the Competent Authority) on 1 February 2019. The SRC was approved by LEDET on 31 May 2019 and the EIA process and assessments have begun. The Draft Environmental Impact Assessment Report (EIAR) was made available for comment on 01 September 2020. The EIAR was amended on the basis of receipt of comments and responses from Interested and Affected Parties (I & APs) and the second draft EIAR was made available for public review on 7 December 2020. The Final EIAR was submitted to LEDET on 01 February 2021. The Final EIAR was reviewed by LEDET and they identified information gaps and requested additional studies, more public participation and a revised EIAR.

The specialist reports updated to address the gaps include the following:

- Updated Biodiversity Offset Report
- Updated Climate Change Report
- Updated Socioeconomic Report
- Inclusion of an Avifauna Report

In addition to the above, LEDET requested that clarity also be provided on the following, focusing on the long-term life of the development:

- Water security for the MMSEZ South site
- Energy supply for the MMSEZ South site
- Waste disposal for the MMSEZ South site

Alternately assessed

Alternative sites were assessed at a high economic level that included areas such as Lephalale, Polokwane, Tubatse and the Musina-Makhado area. Cabinet approved the location and designation of the MMSEZ South site in July 2017 (LEDA, 2017) and the Department of Trade and Industry (DTI) designated the MMSEZ South on 01 December 2017. Therefore, no other areas were assessed at the environmental level.

Several layout options within the MMSEZ South site were assessed that included previously disturbed areas, site optimisation and avoidance of sensitive areas (based on specialist recommendations and the updated biodiversity offset report). The final master layout plan was amended to reduce the overall footprint of the project to 3862ha. Important ecological support areas in the fields are excluded from the development footprint (total reduction of 51% development area) which makes it available for conservation opportunities and

maintaining ecological links in the area. Based on the mitigation hierarchy incorporated into the revised footprint, Layout 3 is recommended. Alternative technologies focused on materials to be used for the roads that included a recommendation for impenetrable road surfaces in areas where the industries would be located and permeable in administration and residential areas.

Biophysical environment

The MMSEZ South site is located in a semi-arid zone north of the Soutpansberg. There are cultivated low scale commercial fields on farms Antrobus 566 MS (975.02662 ha) and Somme 611 MS (989.295716 ha) located on the eastern extent of the proposed MMSEZ South site. The general soil pattern for the MMSEZ South site is classified as non-arable pasture field/game land and wilderness capacity.

The MMSEZ South site falls into the Musina Mopane Bushveld and is categorized as the least threatened. The MMSEZ South site is located in the Vhembe Biosphere reserve. It does not form part of the core or buffer areas of the biosphere reserve, but is located within the transition zone that should support the development of sustainable activities. Based on the Limpopo Conservation Plan, the majority (northern part) of the MMSEZ South site falls within the Ecological Support Area Category 1 (ESA 1). The most critical area of biodiversity conservation is located in the southern portion of the MMSEZ South site and is categorized as Critical Biodiversity Area 2 (CBA 2). The rest of the proposed MMSEZ South site is on Ecological Support Area 2 (ESA 2), an area that is no longer intact but retains potentially significant importance from an ecological perspective, e.g. maintaining landscape connectivity. In terms of ecosystems, the proposed site is located outside of any threatened ecosystems. The MMSEZ South site does not fall within any major bird areas (IBA). However, the Mapungubwe, Soutpansberg and Blouberg Important Bird and Biodiversity areas surround the site.

Due to the potential ecological links present at the MMSEZ South site (more specifically on the southern part of the site), LEDET has requested that the Biodiversity Offset specialist report be updated. In addition, the layout plan for the various proposed developments has been revised to take into account biodiversity far-reaching specialist study recommendations. This reduced the overall footprint of the final development. By implementing a more optimized layout and avoiding sensitive areas, the overall project reduced its footprint from 8013.91ha to 3862ha, sacrificing more than 51% of the original site for conservation and ecological liaisons. This ensures that critical habitats within the MMSEZ South site, as indicated by the fauna and flora, wetland and avifauna specialists, are preserved. The offset options include the following:

- Site Option 1: Expansion of the Musina Nature Reserve.
- Site Option 2: Offset on the northern part of the MMSEZ South site.
- Site Option 3: Extension of Avel Private Nature Reserve.
- Site Option 4: Expansion of Baobab Private Nature Reserve or the declaration of neighboring portions as a protected area.

Social Environment

Three residential settlements are located within the MMSEZ South site study area boundary and are likely to be moved once the area is to be developed.

Water Security

It is acknowledged that the MMSEZ South site currently has limited access to water that currently only includes access to groundwater and the Nzhelele dam (which is currently used for irrigation). Although access to large amounts of water is not an important requirement in the initial MMSEZ South site setting (this EIA), however, it is a core requirement for any further industrial developments on the MMSEZ South site.

Currently, three main water supply projects/options are planned for the area. This includes:

1. The planned Mutasshi/Musina Corridor Bulk Water Supply, through which at least 30 million cubic metres of water will be transferred from the Zhove Dam, which is located in Zimbabwe to South Africa;
2. Development of the Musina Dam;
3. Access to groundwater.

It is understood that access to a dedicated water supply will need to be ensured to allow for further development of the metallurgical hub of the MMSEZ South site.

Energy Security

Eskom has indicated that it will be able to supply 5 MW of electricity only during the first year of industrial operation of the MMSEZ South site. For this reason, several other technologies and options were also considered for power supply to the subsequent industrial development of the MMSEZ South site during this EIA. These options have provisionally included i) advanced nuclear power generation, ii) solar PV, iii) biomass, iv) combined cycle gas turbine (CCGT) and v) clean coal technology.

Advanced nuclear power generation was not considered feasible due to the timeline for the development and regulatory and licencing of an advanced nuclear power plant, and nuclear power generation and its associated health and safety issues. Solar PV studies have indicated that a solar field covering 1ha of PV panels can generate about 1MW AC power during peak radiation levels. A PV Solar farm of about 2000ha will be able to generate 1320MW (MMSEZ South site terrain's first phase's demand) during most daylight hours (not just at peak). Therefore, this option was not considered viable. In terms of biomass and access to natural gas, the challenge is that there are currently no natural gas reserves, new explorations, pipelines or LNG import facilities in the MMSEZ South site or surrounding areas.

Thus, the best available energy sources are currently seen as a combination between renewable energy (for future administration buildings) and a scaled-down independent coal power plant (for future industries for 24/7 power supply) that will enable power generation capacity outside the state-owned power provider, Eskom.

Climate change

The impact of the MMSEZ South site project's GHG emissions has been assessed in terms of future planned industrial developments. So, although the current EIA does not have a significant impact on climate change due to limited vegetation clearance and construction for the bulk services and fencing, however, it was relevant to look at the possible long-term future industrial impact of gaining a holistic view.

The report highlighted the following important future aspects of an industrial development, heat stress, water stress, economic stress and e-system vulnerability.

The majority of MMSEZ South site emissions will occur during the industrial operational phase with an expected HIGH impact and not during this EIA. For this reason, it is recommended that the climate change assessment be updated if future industries apply for development within the MMSEZ South site.

Air Releases

The temporary nature of construction activities for the MMSEZ South site that includes limited vegetation clearance for infrastructure installation and fencing will involve localised air quality impacts (mainly dust). As such, the specialist indicated that (understandably, the required mitigation measures are implemented) authorisation is granted.

Activities needed and desirability for the project

The South African government has spearheaded the establishment of Special Economic Zones (SEZs) across the country's nine provinces with the aim of attracting foreign direct investment (FDI), accelerating the production and export of value-added products and the creation of a favourable environment for job creation. Cabinet approved the designation of the MMSEZ South in July 2017 (LEDA, 2017) and the Department of Trade and Industry (DTI) appointed the MMSEZ South on 01 December 2017. The MMSEZ South site forms part of the Trans-Limpopo Spatial Development Initiative (SDI) and was developed as part of larger regional plans to unlock investment and economic growth and address the development of skills and employment.

The proposed Makhado-Musina SEZ South (MMSEZ South) site is ideally situated on the N1 north-south corridor. The proposed site is close to available land, existing infrastructure links, near sources of raw materials and markets.

Requirement for an Environmental Impact Assessment (EIA)

In terms of the National Environmental Management Act [NEMA], 1998 (Act No. 107 of 1998) as read with the IA Regulations, 2014 (as amended) promulgated under Chapter 5 of the NEMA published in GN R327, R326, R325 and R324 in Government Gazette 40772, dated 04 December 2014, a full scope assessment and EIA process is required for the proposed project as it contains various activity to be approved.

Impact assessment and management

The impact methodology to determine the meaning before the impact and after the impact is provided in Chapter 4. All impacts identified and assessed, as well as the proposed mitigation measures and management actions, can be found in Chapters 6 and 7 of this report. In addition, all the mitigation and management measures proposed by the specialists, including the additional impacts and management measures identified by the Environmental Assessment Practitioner (EAP), are included in the EMPr (Annexure AA).

The EIA aims to address the impact associated with the activities, but it also included a broader view on future expected industrial developments.

Public participation

Various non-governmental organisations (NGOs), interests, government departments, traditional community members, traditional community leaders and interests and affected party members participated in the public participation process that began from the pre-application phase of the project until 31 January 2021. An additional round of public participation is underway, ending on September 30, 2021, to address PPP comments by Competent Authority (CA) and offer registered Interested and Affected Parties (I&AP's) a further opportunity to comment on the minor amendments.

Once this process is completed, the Annexure G (Comments Received) and Annexure H (Comments and Responses report) will be updated.

Project overall EAP's opinion

The current EIA for vegetation clearance for bulk services and fencing will have a limited and medium-term reversible impact on the site. However, it is important that ecological "giving a developmental areas" areas are clearly demarcated and that ecological links are established with adjacent land use.

However, the proposed development cannot be seen in isolation as it will prepare the site for future industrial developments. However, as industrial developments will trigger listed activities under the EIA regulations of 2014, as amended, each developer will be required to undertake a stand-alone EIA.

The socio-economic specialist study indicated that the MMSEZ South site might be economically and socially significant and create sustainable jobs in Limpopo Province.

The Road Ahead

The public participation and environmental impact process has given the opportunity to assist in identifying issues and potential impacts. The Final EIAR incorporated all comments received from IPPs and was submitted to LEDET for a decision on the proposed development. This executive summary of the Final EIAR (this document) was distributed to all registered IPPs.

The Final EIAR can also be accessed as an electronic copy on EXS's web site.

The Final EIAR was distributed to all relevant authorities and distributed to LEDET for a decision on environmental authorisation. All relevant authorities and IPPs registered for the process will be informed as soon as a decision is communicated by LEDET.