

**MINISTRY:**

**HUMAN SETTLEMENTS, WATER AND SANITATION**

**REPUBLIC OF SOUTH AFRICA**

**NATIONAL ASSEMBLY**

**QUESTION FOR WRITTEN REPLY**

**QUESTION NO.: 245**

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**Ms E L Powell (DA) to ask the Minister of Human Settlements, Water and Sanitation:**

(1) Whether, in light of the Musina-Makhado Special Economic Zone (SEZ) that is proposed for development within the Vhembe District Municipality in Limpopo, her department undertook an assessment of how the agricultural sector, which is one of Limpopo’s primary sources of income, will be impacted by the construction of several mines, industries and coal-fired power stations in the area, particularly in terms of the limited water resources and associated impact of acid mine drainage on existing water resources;

(2) whether the Department of Water and Sanitation conducted an in-depth (a) analysis of the water resource availability and (b) a climate change vulnerability assessment for the water resources in the Southern African region and/or neighbouring countries that are required to supply the SEZ with water; if so,

(3) whether this study includes areas immediately under water stress and/or which are likely to be under water stress within 5-10 years and beyond; if not, what is the position in this regard; if so, what are the relevant details;

(4) whether the Department of Water and Sanitation compiled a list of regions within the vicinity of the proposed SEZ that face imminent water insecurity; if not, why not; if so, will she furnish Ms E L Powell with the list of these regions;

(5) whether the Department of Water and Sanitation has determined the status of water resources and water services infrastructure required to ensure that communities are provided with water services in a progressive and prioritised manner taking into consideration the limited resources available and are not prejudiced by the supply demands of the SEZ; if not, what is the position in this regard; if so, what are the relevant details? NW328E

**REPLY:**

(1) The Musina-Makhado Special Economic Zone (SEZ) proposed for Vhembe District Municipality in Limpopo is an integrated industrial development at Musina on a 60 square kilometre development polygon. Twenty three (23) core plants to be constructed at the site include a coal wash plant, a coke plant, a heat recovery power generation plant of 390 Mega Watt capacity, thermal power, ferrochrome, ferromanganese, silicon manganese, vanadium-titanium magnetite, high manganese steel, high vanadium steel, stainless steel factory, lime, cement, and refractory plants at a designated site. The plants form a connected sequence of energy and metallurgy production, from coal mining, coal wash, coking plant, power plant ferroalloy plant, iron making to steel manufacturing.

Several core plant and enabling local infrastructure comprising roads, rail sidings, air transport terminals, electricity grid, sewer and potable water facilities will be required at the SEZ polygon. Other feeder linear infrastructure like roads, rail, and electricity grids, will need to be developed or upgraded for supply of raw materials and transport of manufactured products to markets.

Current and potential source mines for input raw materials like coal, ferrochrome, manganese, vanadium, iron ore, silicon ore, nickel ore and limestone have been identified in various Provinces of South Africa, and neighbouring countries like Zimbabwe and Botswana. The minerals from neighbouring countries will require the upgrade of import and export terminals, and the upgrade of infrastructure like the road and rail bridges over the Limpopo River.

The potential raw ore source mines are widely geographically distributed beyond Limpopo in South Africa as far as Northern Cape for instance for manganese, Rustenburg and Thabazimbi for ferrochrome and iron ore. Other countries like Zimbabwe are also potential supply areas for coal and ferrochrome at which the stricter environmental standards across the two countries shall be applied as per standard adopted international practice. Hence, the potential impacts of the SEZ activities spread beyond Limpopo, but the assessment of impacts and benefits will of necessity transact at the local, linear and the regional level.

Whilst of necessity the assessment focuses on the potential negative impacts on agriculture, potential benefits also warrant exploration. These benefits include increased market access due to increased population in the area, and potential expansion of agricultural production in both Zimbabwe and South Africa due to increased water availability arising from the water resources developments for the SEZ.

With respect to assessments of impacts of the contemplated development on agriculture in Limpopo, it is important to note that the core, feeder and enabling facilities are in the planning phase. The planning of the relevant infrastructure is progressing and shaping over time. To that end, the assessments of impacts of the contemplated activities continue to evolve as more information becomes available. The activities’ impact on the different areas is regulated by various competences and authorisations will be issued by various spheres of government.

For the geographically distributed source mines, the Special Economic Zone polygon with its multiple plants, and enabling local and feeder linear infrastructure, relevant and strict protocols of assessment before authorization shall be followed on a case by case basis for each facility, to comply with the relevant environmental legislation, including for the protection of water resources to minimize negative impacts.

My department has a precautionary approach which is followed, and shall be followed to guide the management of water at the mine and SEZ site, and the issuance of any authorisations. The assessment hierarchy prioritises zero discharge of contaminated effluent, the re-circulation and reuse of water to minimise the taking from resources and discharge, and containment and treatment before discharge of any contaminated water. This precautionary approach applies to all water streams that are identified at the sites, including storm water and any other wastewater streams from raw and product stockpiles. It will be the condition of the authorisations, if any, that the facilities shall be subject to long term monitoring during the life of the facilities. The post closure rehabilitation with associated financial provisioning is also a standard practice as per the legislation.

For the supply of water to the SEZ, my Department is investigating a number of potential local and international water sources to augment the limited resources in the area. The aim is to minimize and mitigate any impact on existing lawful water users as guided by section 27 of the National Water Act.

2. My Department conducted an in-depth study of the analysis of the water resource availability in the area. We issued a report called Limpopo Water Management Area North Reconciliation Strategy. This study identified that there are limited water resources in the Musina area, where the SEZ is located. A further update for the local Musina area is ongoing, and will be part of the outcomes of the water resource planning study for the area. The reconciliation study is available on my Department’s website at <http://www.dws.gov.za/projects.aspx>. I have also attached a copy to this response as **Annexure A** for your ease of reference.

My Department conducted a Climate Change Risk and Vulnerability Assessment of Water Resources in the Limpopo WMA during 2016/17. This assessment identified and proposed possible measures to deal with current and future Risk and Vulnerability of Water Resources due to Climate Change in the Limpopo Water Management Area. The assessment proposed solutions to deal with the climate change risk and vulnerability on water resources, namely: (i) improvement of water governance, (ii) further infrastructure development, operation and maintenance, as well as (iii) strengthening water management. The Climate Change Risk and Vulnerability Assessment report is attached to this response as **Annexure B** for your ease of reference.

Furthermore, a climate change vulnerability assessment is also implicit when a water reconciliation study is conducted. The water availability assessment study analyses past hydrological data and stochastically simulates flows. This takes into account the recent trends in climate.

My Department shall be initiating further studies to confirm water sources for the SEZ. These sources include both local and international potential sources. In this regard, the studies will among other things assess the climate change assessments in the source and water use region at a wider spatial scale.

The Zimbabwe-South Africa Joint Water Commission is about to initiate planning studies to investigate water resource development options in Zimbabwe for the benefit of both countries. Since the signing of the agreement, the technical teams of both countries have been continuously meeting to initiate the joint studies and to make updates on water related issues of mutual interest to both parties.

My Department has set up institutional structures with all co-basin states to co- manage common river basins. As part of these Commissions function is to assess the water availability and come to decisions on how to best use common rivers.

3. The Reconciliation Strategy covers the Musina-Makhado SEZ and surrounding areas. It had a planning horizon of 25 years to 2040. It is updated at 3-5 year intervals. The study is all encompassing, and is not only limited to water stressed areas, but also identifies the water demands, water surplus areas and explores the means to balance the water needs over time.

4. My Department did compile a regional water availability assessment, indicating the water situation in each area, and the potential sources. Areas that face imminent water insecurity within the vicinity of the proposed SEZ are contained in the Reconciliation Strategy which is available under Integrated Water Resource Planning on the Department’s Website (<http://www.dws.gov.za/projects.aspx> ).

5. The Assessment of Water Resources is a dynamic exercise through the Reconciliation Strategies and the updating thereof. My Department undertakes planning investigations for the progressive and prioritised water supply, which mainly entails Bulk Raw Water Supply Infrastructure.

The Water Services Infrastructure refers to Water Treatment Works, Potable Water Pipelines, Reservoirs and Reticulation, which is the responsibility of the Municipality. It is financed through the Regional Bulk Infrastructure Grant (RBIG), which is a Conditional Grant for developing new bulk water and sanitation infrastructure as well as refurbish, upgrade and replace aging bulk water and sanitation infrastructure. Furthermore, the Water Services Infrastructure Grant (WSIG) facilitates the Implementation of various water and sanitation projects to accelerate backlog reduction and enhance sustainability of services.

The Special Economic Zone development planned will effectively supplement the water in the overall area of Musina. The anticipated population growth from the industrial hub is included in the estimates of water that will be required in the area.