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Out with the old, in with the new: New Approaches to social, economic, and environmental challenges

Towards an environmental Status Report for John Taolo Gaetsewe District Municipality

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Embracing change can be very difficult. Nobody likes to feel uncomfortable, stressed, or frustrated, but often we find ourselves in new situations that are not common to us, and if we embrace them, it can be good for us in the long run. For instance, during the Covid-19 pandemic, it was difficult being unable to see our loved ones or do things we normally like to do. No one enjoyed wearing a mask, having to sanitize their hands from time to time, with limited movements. ...but then we had to do all those things to stay alive.

The same thing with the environment. Everything starts with nature; we can no longer talk about the economy or social challenges without talking about the environment. That would be a major failure. The manner in which social and economic aspects have been addressed have proven to be unsuccessful because they are destroying our environment and threatening life on earth. The world is changing at an alarming rate.

Desertification: The process of losing fertile land because of human activities.

Environment: Everything around us, whether we are at home, at work, or playing, and it comprises the conditions or surroundings in which a person, animal, or plant lives or functions.

Economy: The process or system by which goods and services are produced, sold, and bought in a country or region

Social challenges: Any condition or behaviour that has negative impacts for large numbers of people e.g., poverty, disease, poor service delivery like clean water and sanitation.

The evidence is quite frightening! The acceleration of climate change, the rising of sea level, desertification, and the loss of biodiversity due to human activities (e.g., mining, agriculture, and urban developments) is quite concerning. There is a growing recognition that the traditional way of addressing interconnected social, economic, political, and environmental challenges is proving insufficient. Addressing these issues would require a strong set of rules, laws & policies; but most of all a new way of thinking. It necessitates a fresh mindset and a new approach to actions!

As part of the government's strategy to ensure that our environment is protected, laws such as the National Environmental Management Act (NEMA) Number 107 of 1998 were formulated. Section 16A of NEMA (Act 107 Of 1998) e.g., demands the creation of a State of Environment Report (SoER) every five years. In chapter 7 of the same law, new ways of checking or monitoring systems of our environment are called for.

What is a state of the environment report?



The State of Environment Report (SoER) is a report card on the condition or quality of the environment. It provides information on how the environment affect us, how we impact the environment and how the environmental condition change over time. Key environmental conditions or environmental issues are grouped into themes. Within each theme, several environmental indicators are selected to “tell a story” about that particular theme and help us in identifying patterns in certain environmental issues. For example, under the theme “Biodiversity”, environmental indicators include vegetation type, animal and plant species under threat and protected areas. Therefore, the primary goal of environmental indicators is to enable us to measure, monitor and report on changes taking place in our environment.

Why do we need to report on the state of the environment?



The environment is changing and deteriorating at an ever-increasing rate because of human activities. The loss of biodiversity is one of the biggest threats to life on earth. It is important that we protect our biodiversity because our well-being depends on how well biodiversity and its ecosystems are functioning. Ecosystems provide us benefits that are essential for our daily lives, such as food, wood, wool, medicines, clean air, clean water, mental and spiritual health, and space for recreation and outdoor sports. There is a clear link between biodiversity, ecosystem services (benefits provided by nature) and human well-being. Therefore, we all have a duty to protect our environment and to do so, we must know and understand the impacts we have on the environment. Poor environmental management, over-utilisation of natural resources and poverty are some of the issues that threatens our biodiversity.

Biodiversity refers to the totality of life on earth, including the diversity of genes, species (plants and animals) and ecosystems. An ecosystem refers to interactions of living and non-living organisms in a community across a geographic area.

How is a State of the Environment Reported: The New approach!



The SoER must be produced in accordance with the requirements of NEMA, providing us with accurate and relevant information on the condition of the environment to improve decision-making, implementation of policies, raising public awareness and enhancing public participation with the aim of building a sustainable economy while securing a healthy environment. It will also assist in providing early warnings and explores potential environmental problems. Some of the issues it addresses include,

but are not limited to, pollution, land degradation, removal of trees, water management and the need for better environmental management across the different themes. An analysis of problems will allow the public and government to monitor progress towards the achievement of provincial and national environmental objectives as well as towards international targets such as the Sustainable Development Goals and Millennium Development Goals!

Northern Cape: Focusing on John Taolo District Municipality

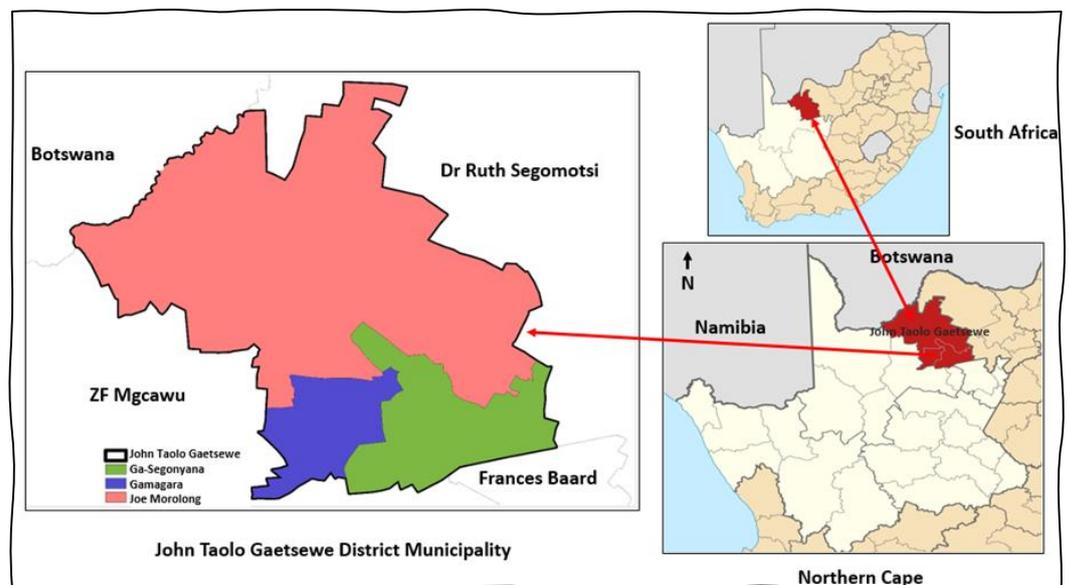
The Northern Cape neglected attending to environmental condition assessments and monitoring environmental changes, accordingly no Provincial SoER has been released since 2004. With capacity being the constraining factor, alternative approaches towards contributing to such reporting is needed. A different approach are to be tested, using the John Taolo Gaetsewe District Municipality (JTGDM) as case study.

The JTGDM, formerly known as Kgalagadi, is situated in the north of the Northern Cape Province of South Africa. It is located next to the Frances Baard and ZF Mgcawu Districts to the south, Botswana on the west and Northwest province to the eastern part of the country. The JTGDM is the second smallest district in the Northern Cape, occupying only

7% (27 498.9 km²) of the province. The district consists of three Local Municipalities namely:

Gamagara, Ga-Segonyana and Joe Morolong, with 186 towns

and settlements, of which the majority (80%) are villages in Joe Morolong local municipality.



Like many other parts of the country, when it comes to protection of the environment, the JTGDMD had been neglected. Being an arid district, it experiences several vulnerabilities i.t.o. availability of limited natural resources like water, climate change and grazing, and i.t.o. environmental impacts of mineral resource extractions e.g. Some of the social and economic challenges faced in JTGDMD include poor service delivery of water, electricity, and sanitation, poverty, low levels of education, urban and renewable energy expansions. With climate change expected to change climatic regimes, like extended drought periods, water and grazing availability is a concern. When the district's population continue to grow the need for water is expected to increase. However, the primary water source within this district is groundwater, and therefor limited to a large extent. Different methods and ideas are now needed to solve this district's social, economic and environmental challenges.

The State of the Environment Report uses a method known as Driver-Pressure-State-Impact-Response structure. The drivers and pressures are human activities and natural conditions (e.g., changes in temperature). State refers to the current condition of the environment and impacts are associated with human health. Lastly, response refers to our actions of responding to the changes in the environment. This structure also uses the themes and environmental indicators we mention before to compile or tell a story on the current condition of the environment.

The query that lingers is...so how does changes in the environment affect the people in the JTGDMD?

A new way of solving these environmental problems in JTGDMD will be explored using new methods, technologies and software towards sketching the current condition of the environment in JTGDMD. If regarded successful, the information will be incorporated into a state of the environment report for the JTGDMD. Be on the lookout for the release of the findings soon. The anticipation will pay off!

