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Mapping land use change and its impact on biodiversity in South Africa

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Global change refers to an interconnected set of phenomena, resulting largely from human actions which have modified the environment at an accelerate rate during modern times and one of the contributing factors is land use change. Land use change is a complex process that results from the interactions of social, political, economic, demographic, technological, cultural, and biophysical factors. Changes in land cover occur because of the land use decision and the decision making process which happens at various levels, individual, household, community, local government, province, country and even at global level. Increasing demand for food and land for development because of a growing population, changes in social organization and attitudes are some of the factors that lead to land use change as land is cleared for food and industrial production or for human settlements. The government has put measures in place to reduce the rate of ecosystem decline and species loss through legislation such as the Biodiversity Act (Act 10 of 2004) which provides for listing threatened or protected ecosystems. However reports indicate that about 18% of South Africa's land has been transformed or degraded and over 7 million ha of land in South Africa have been invaded by alien plants. If land use change is not managed well it can result in loss of biodiversity, loss ecosystem goods and services, soil degradation and increased vulnerability to extreme weather events such as intense storms, floods and droughts. The South African Risk and Vulnerability Atlas has emerged as a tool to provide decision makers at national, provincial and local levels in South Africa with information to make timely and informed decisions that will improve the chances of adaptation to climate change and global change. This presentation will discuss the threatened ecosystem map as illustrated in the atlas and how human activities particularly in big cities impact on biodiversity function and structure.

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