

# Harness knowledge, SA's indigenous biodiversity to drive growth

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**I**NDIGENOUS biodiversity and knowledge will make a major contribution to economic development.

In recent months, the health benefits and legalisation of marijuana have been debated in both Parliament and our courts. Unfortunately the debate has polarised the nation into those either for or against its legalisation. However this has opened the door to discussions about South Africa's indigenous biodiversity and the related knowledge of its uses.

South Africa is the third most biodiverse country in the world. This richness is one of our country's important natural assets as it provides goods and services that are vital for human well-being. Our rich species, ecosystems and natural heritage, which form the very foundation of our economy

and society, provide a resource base for the sustainable development and growth of the tourism, biotechnology, pharmaceutical, bioenergy, agriculture, forestry, fisheries and indigenous knowledge-based sectors of the economy.

Nonetheless, cases have been reported where materials from South African plants, used for centuries by local communities as traditional medicine, were patented or attempted to be patented by parties not privy to this knowledge. These reports brought home the realisation that it is necessary for our heritage to be protected, specifically because pharmaceutical and herbal industries financially benefit from the exploitation of indigenous plants.

Consequently, industries and researchers continue to appropriate indigenous knowledge and plants without the consent and compensation of the knowledge creators

or possessors.

The government has taken steps to enact laws to protect indigenous knowledge and plants. Any person conducting bioprospecting projects and research on indigenous biological resources in South Africa needs to consider the effects and requirements of the Biodiversity Act, the Patents Amendment Act and the Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill. The latter, among others, is intended to promote the commercial use of indigenous knowledge in the development of new products, services and processes.

Herbal medicines are the most widely used and lucrative form of traditional medicine, generating billions of dollars in revenue globally. In 2008, the Department of Science and Technology published the Ten-Year Innovation Plan, which sought

to transform South Africa into a knowledge-based economy. It envisaged that the production and dissemination of knowledge would lead to economic benefits that would enrich all fields of human endeavour. The "Farmer to Pharma" concept was identified as one of the five grand challenges in the plan.

It was conceptualised as the interface for integrating South Africa's rich natural biodiversity, indigenous knowledge and applied biotechnologies. This plan has now evolved into the Bio-economy Strategy.

The establishment of the Traditional Medicine Research and Development Platform, specified in the Bio-economy Strategy, aims to promote the scientific discovery, validation and production of high quality safe and effective products based on African traditional medicine, thereby contributing to health care, job creation,

education and training, conservation of indigenous medicinal plants, and equitable benefit sharing with the owners of the indigenous knowledge and providers of resources.

In 2016, global trade in traditional medicines was worth \$115 billion and expected to grow between 10% to 20% annually. The World Intellectual Property Organisation regards traditional medicines as a tonic for economic development.

A study by the Small Enterprises Development Agency in 2013 estimated that the value of the South African trade in indigenous medicinal plants to be about R20 billion, creating more than 400 000 jobs throughout the value chain. However, the market is fragmented between formal small businesses and the informal sector. These numbers do not include marijuana.

A Deloitte study suggested that despite

a period of economic hardship that led to a general slowdown in health care use, consumers continued to value and spend money on services such as nutritional supplements and traditional, complementary and alternative medicine. The total value of these out-of-pocket expenses was about 19% of the national health care budget in 2012 and is rising.

Our indigenous knowledge of medicinal plants can therefore be used to put South Africa on a path to inclusive economic growth. This is radical economic transformation.

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