Chapter 1
The Role of Indigenous Knowledge Systems (IKS) in Climate Change

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ABSTRACT

Climate change is projected to have a negative effect towards food security and attainment of sustainable development goals (SDGs) in Africa. Its impact is expected to be extremely severe in regions of Africa that depend on rainwater agriculture and have limited resources to mitigate and adapt to climate change. Much of the climate awareness on climate change comes from models or scenarios that face certain degrees of uncertainty. The knowledge of local and indigenous peoples, commonly mentioned to as local knowledge systems (LKS) or indigenous knowledge systems (IKS), is gradually being recognized as an imperative source of information for climate mitigation and adaptation. It is essential that policymakers draw on the best available knowledge in the face of global climate change.

INTRODUCTION

Climate change is projected to have a negative effect towards food security and attainment of sustainable development goals (SDGs) in Africa. Its impact is expected to be extremely severe in regions of Africa that depend on rainwater agriculture and have limited resources to mitigate and adapt to climate change. Much of the climate awareness on climate change comes from models or scenarios that face degrees of uncertainty. The knowledge of local and indigenous peoples, commonly mentioned as local knowledge systems (LKS) or indigenous knowledge systems (IKS), is gradually being recognized as an imperative source of information for climate mitigation and adaptation. It is essential that policymakers draw on the best available knowledge in the face of global climate change.

MISSION AND CONCERNS

The book's chapters seek to document the contribution of IKS in climate change so as to develop a worthy appreciative knowledge on prevention of disasters, mitigation and climate adaptation so that communities recover from the atmospheric dilemma. Given the cross-cutting nature of impacts, knowledge of climate change needs to be taken as a whole. Therefore, it is imperative to consider making use of common knowledge used in climate change predictions in Africa. This knowledge is based on known facts, drawn from assimilated knowledge which is embraced and passed on to other generations. IKS remains an important source of information amongst local communities in many parts of Southern Africa. Rural communities value their IKS's as they appreciate that adaptation and mitigation strategies rely on this existing knowledge. Past, current and future knowledge systems are conveyed and innovated from one century to another so as to ensure an early warning system for disaster risk management. The scientific studies should therefore include traditional communities which can act as a backup for climate forecasting as there is a scarcity of interventions on countering challenges being faced in Africa. IKS's have a major role to play in current existing climate knowledge. Policies should be formulated to come up with mitigatory and adapting strategies by integrating existing climate models with existing IKS's. IKS is knowledge that has been attained in-situ by carefully studying the interactions of with the environment. So the science of climate change should figure out how to integrate indigenous thinking into the topic. IKS should be seen as a socio-economic factor which African communities can use in food production to survive in this changing climate.

In addition, this chapter explores how local existing data, and perspectives of upheavals being experienced can better understand the contribution IKS prediction as an adaptation tool to climatic changes being faced globally. Overall, this chapter seeks to postulate that IKS has the potential to fill information breaches and confirm present knowledge on weather changes, mostly at local and regional ranks.

GLOBAL IMPACT OF CLIMATE CHANGE

Brusseau (2019) prophesises that global climate change is expected to increase the impacts of environmental disturbances and pollution, hence posing negative effects on human health. Statistical data from the World Health Organisation (WHO) show that 150 000 human deaths occurred in 2000 (WHO, 2002). Furthermore, WHO (2014) projected approximately 250,000 deaths annually due to climate change will

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