

## Article

# Translating Indigenous Knowledge into Actionable Climate-Change Adaption Strategies: A Case Study of Maluti-a-Phofung Local Municipality, Free State Province, South Africa

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**Abstract:** Although the literature concerning vulnerabilities to climate change (CC) has been growing, research continues to be silent on approaches that can enhance the adaptive capacities of resource-poor communities that are vulnerable to the adverse effects of CC by translating indigenous knowledge (IK) into actionable adaptation strategies. This assertion is premised on the absence of concerted efforts to incorporate IK into science-based adaptation strategies. We attempt to address this gap by using a multidisciplinary investigative approach that taps into the perceptions of local people in the Maluti-a-Phofung Local Municipality in the Free state province of South Africa and what is available in the literature. This approach is helpful because it ensures that local people's perceptions, alongside other objectively informed insights, are systematically integrated into the co-designing of actionable climate-change adaptation strategies. Given these and other considerations, we invite the scientific community and those interested in sustainability to complement our efforts by providing suggestions on the way forward.

**Keywords:** climate change adaptation; coping strategies; local communities



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## 1. Introduction

Globally, there is growing recognition that translating indigenous knowledge (IK) into actionable, climate-friendly interventions is vital for mitigating the adverse effects of climate change. Discursive narratives on the translation of actionable climate change adaptation strategies must be informed by the knowledge and wisdom of those whose livelihoods continue to be adversely affected by the impacts of climate change [1]. This reasoning is premised on the widely accepted recognition that, although IK has tremendous potential to contribute to developing effective climate change adaptation (CCA) strategies, the current guidelines continue to yield suboptimal results [2,3]. Although this is the case, the utilisation of IK in mainstream CCA strategies is still limited [2,4]. In most cases, the development of the current approaches has often excluded important traditional methods in the CC mitigation process [5,6], despite the fact that indigenous people occupy or use a quarter of the world's surface area and safeguard 80% of its remaining biodiversity [7]. The legacy of trivialising IK has often resulted in the increased vulnerability of resource-poor rural communities to CC risks and threats [3,8]. This challenge demonstrates the immediate need to streamline the terms under which IK can be translated into actionable CCA strategies.

CC is a broad concept that involves long-term variations in temperature and precipitation for extended periods in the order of several decades [1,9]. These sustained changes in weather conditions are associated with the deterioration of people's livelihoods in all strata of society [1]. For example, several regions of the world are now experiencing an

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