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Participatory Forest Management in the Congo Basin — Ways for Climate Change Adaptation and Sustainable Development

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Abstract

The Congo Basin belongs to some of the most complex and most interesting terrestrial ecosystems in the world and is considered to be one of the world's biodiversity hotspots. Human and animal populations living in or nearby the forests are dependent on its ecosystem services for their daily livelihood needs. Unfortunately, the man-made degradation of the Congo Basin forests persists and thus threatens the provision of food, water, medicinal plants as well as important cultural, regulating and supporting ecosystem services. In addition to land-use changes, climate change is dramatically increasing the vulnerability of the forest ecosystem and all dependent species including the local human population.

Thus, new solutions need to be found that combine a sustainable forest management practice, while ensuring climate change adaptation at the local level to increase resilience of the Congo Basin socio-environmental system. For this, Participatory Forest Management (PFM) has been analysed using a multi-criteria assessment of different climate change adaptation indicators. The indicators chosen combined socio-economic, cultural, political and environmental factors to provide a holistic and interdisciplinary perspective.

The analysis showed that PFM can offer a management practice that ensures and enhances the satisfaction of livelihood needs such as the provision of food and water, while promoting sustainable development of health infrastructure and education services. At the same time, PFM increases climate change resilience of the forest ecosystem and subsequently also the local population. Additionally, the analysis showed that certain factors (e.g. enhanced food security) promote the effectiveness of climate change adaptation, while other factors (e.g. lack of transparency) increase the constraints for proper PFM implementation. At the end, these factors need to be considered to reduce effectively the vulnerability of local population and the Congo Basin ecosystem and thus need to be integrated into the post-2015 political development agenda.

Keywords: Adaptation, Africa, climate change, Congo Basin, participatory forest management, participatory resource management, post-2015 agenda, resilience, sustainable development, tropical forests, vulnerability