



Arresting forest decline at Tanzania's Uluguru Mountains

Rewards for environmental services could allow highland communities attain a decent and environmentally sustainable standard of living.

Simple tools and techniques, such as contouring, can help reduce soil erosion. (Photo © PRESA)

PRESA – Pro-poor Rewards for Environmental Services in Africa is working at sites in Kenya, Tanzania, Uganda and Guinea to facilitate fair and effective agreements between stewards and beneficiaries of environmental services. Voluntary, conditional and negotiated agreements can reward poor farmers for good land use practices, while ensuring a clean and sustainable supply of environmental services for local and global communities.

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Home to the Luguru people, the Uluguru Mountains are a chain of cool, wet, highland forests that have attracted human settlement for hundreds of years.

The mountains are the source of the Ruvu River, which sustains 2.8 million people in Tanzania's capital city Dar es Salaam. Arab traders established the port centuries ago largely because of the presence of fresh water from the Ruvu. However, population pressures have resulted in expansion of farming, increased logging and the decline of forest cover which have negatively affected the quantity and quality of River Ruvu's water.

Contradictions between food production and watershed conservation make the Ulugurus an interesting site for testing reward schemes for environmental services. Rewards for environmental services offer a new approach, by rewarding highland farmers for playing a positive role in watershed conservation with support from the downstream beneficiaries of water resources.

An ecosystem in danger

The Ulugurus are predominantly a farming zone, where large areas of forest have given way to settlements. The Uluguru population stands at over 100,000 people who prefer the favourable climate that allows them to grow crops for most of the year and which they sell to the towns and people of the drier lowlands. However, market access is limited by poor roads and long distances.

Apart from providing water to towns, the Ulugurus are an important provider of other ecosystem services. The lush submontane, montane and upper montane vegetation provide a habitat for diverse plant and animal species which could be of interest to scientists and tourists.

Agricultural expansion in the highlands is worsening deforestation and causing massive amounts of soil to be washed into rivers. Sedimentation blocks channels of water and results in flooding, damage to bridges and

isolation of villagers from the rest of the country. As the soil is washed away, fertility is also lost. Consequently, there is reduced agricultural yield on degraded land. Poverty is worsening among local communities, further driving people to exploit forests to expand their farming activities.

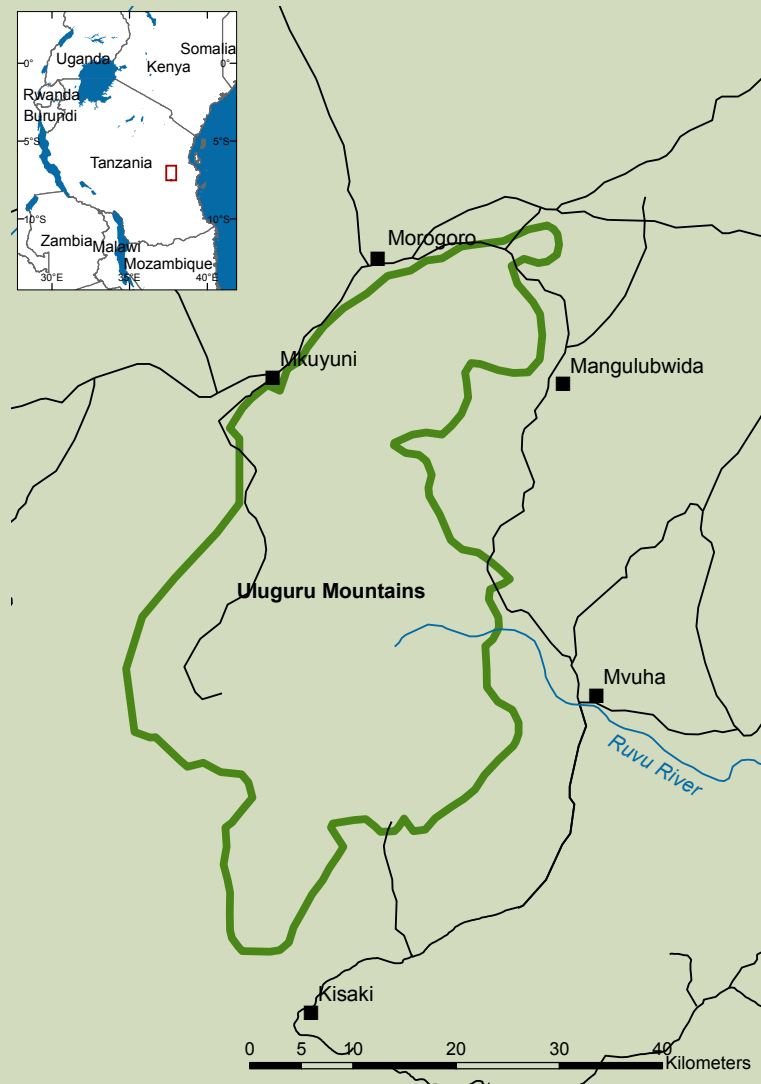
One approach for conserving the Uluguru forests could be to persuade communities to completely move out then transform the mountains into a protected water catchment. However, this not only presents serious challenges for social justice, it also does not guarantee that the farmers will not simply move into another sensitive area. Their expulsion would not address the roots of the problem.

Rewards for environmental services offer an alternative, where poor farmers are rewarded for playing a positive role in watershed conservation with support from downstream beneficiaries of the water resources. Rewards for environmental services could allow highland communities to attain a decent and environmentally sustainable standard of living.

Opportunities and challenges for PRESA

PRESA (Pro-poor Rewards for Environmental Services in Africa) is supporting the activities of the Worldwide Fund for Nature (WWF) and Care Tanzania in their Equitable Payments for Watershed Services (EPWS) programme. The EPWS programme is working to provide local farmers with a menu of options for sustainable agriculture. The World Agroforestry Centre (ICRAF) is backing EPWS through geographical information services and advice on good land management practices, based on decades of ICRAF research across the developing world.

Trees absorb carbon dioxide from the air and their growth can slow down the effects of rising carbon dioxide concentrations widely blamed for climate change. Growing global markets for carbon are creating opportunities for stewards of forests in the tropics, who can benefit from tree planting and forest protection activities. PRESA researchers are exploring how local communities can effectively harness these markets.



The Uluguru Mountains and surrounding catchment area. (Map © M. Mäkelä - World Agroforestry Centre)

Partners

- Worldwide Fund for Nature (WWF)
- Care-Tanzania

Stakeholders

- Dar es Salaam Water and Sewerage Company (DAWASCO), is co-operating in the EPWS programme through the provision of startup finance;
- Dar es Salaam Coca-Cola bottling plant, another major water consumer, has expressed positive interest in EPWS;
- Local community and farmer groups.