Reflect & act

Climate change, water

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OVERVIEW

IIED Climate Change Group

Project name:
Strategic planning and adaptation in the decentralising water, energy and environment sector

Project leader:
Caroline King-Okumu and Victor Orindi

Time frame:
2014–16

Budget:
£80,000 (DFID)

Objective:
To put a value (in economic or other terms) on the returns on investments in locally determined adaptations to improve and climate-proof access to water by pastoral women and their households.

PROJECT SUMMARY

The national and county government agencies face challenges to enhance water services for the more than 18,000 households in Isiolo, a county covering 25,700 square kilometres in northern Kenya. But at the ward level, communities are already improving their access to water through a Climate Adaptation Fund. Through an action research initiative, the National Drought Management Authority (NDMA) and IIED are exploring options for valuation of these community-driven adaptations. This should help communities, decision makers and donors to prioritise their ongoing investments.

CHANGE IN ACTION

Ward-level committees in Isiolo county in northern Kenya are investing to enhance water availability, access and management under a changing and variable semi-arid, arid and drought-prone climate. Their understanding and management of their own adaptation needs and context maximises the chances of success. Where successful, these investments in public goods can benefit society as a whole, and also meet the particular needs of women and other vulnerable groups. But the

Distilling the value of water investments

The benefits of ward-level adaptations in the arid and semi-arid lands of Kenya

With support from the Government of Kenya and international donors, the Isiolo county government has begun investing substantially in water services. The Isiolo County Adaptation Fund, determined and managed at the local level, has helped improve resilience to climate change in the county, including for women and other vulnerable groups.

Drawing on these experiences, NDMA and IIED have begun exploring the economic impact of improving and climate-proofing access of pastoral households to water. In so doing, they have identified some of the value of adaptation to households, both quantitative and qualitative.

Access and safety

Ward Adaptation Planning Committees (WAPCs) dug new boreholes and also improved the management of existing waterpoints. They also added troughs to accommodate more livestock, separate taps for domestic water collection and sanitary facilities. This has eased congestion, saving time and averting conflicts. As a result, women can use waterpoints more frequently.

Women using Yamicha and Urura boreholes in the remote northwest can now fill ten jerrycans (20 litres of water each) each time they visit. If they do this daily, it will cover the minimum needs of 20l per person for a household of six, and still leave an additional 80l for washing and caring for small stock. Conversely, a visit once every four days would provide only 8l per person for drinking and cooking, and only 2l for watering livestock — not enough to support even one goat.

The WAPCs also improved water quality at both boreholes and waterpans (earthen reservoirs, excavated from the sloping landscape). Covering storage cisterns and fencing waterpans, for example, prevented contamination by birds and livestock. Livestock used to wander into unfenced waterpans, making the water unfit for human use. Once the water became too dirty even for livestock, the women would abandon the waterpans and either buy more water from kiosks or search for it elsewhere. By protecting its quality, humans and livestock could make more use of more of the available water.

Cost of access

The cost of water depends on the source. In Badana village, street kiosks sell water piped from a borehole and storage tank for 3 shillings per jerrycan. But women can now source five of the ten jerrycans they need per day from a clean waterpan where they pay only 100 shillings per month to the watchman. So the cost per jerrycan works out to less than 1 shilling to the women — and nothing to the government.

At boreholes, households pay a small charge to water livestock but water is then free for domestic use. The livestock fee does not cover all operational costs, however, which include fuel, maintenance and a watchman. Sometimes, the government makes up

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benefits need to be captured and compared to enable economic decision makers to weigh one investment option against another. Understanding these benefits should help communities, national agencies at various levels and donors to target and increase their investments in the public goods that they need most. A better understanding of benefits from the community's adaptation priorities should also help local, national and international agencies improve the nature of their support for local adaptation and resilience-building.

KEY LESSONS LEARNT & INNOVATIONS

- Adaptations prioritised by women and men included improved siting, design and management of water plans, shallow wells, sand dams and boreholes. Water users' knowledge of the effects of climate variability within the dryland ecosystem enabled them to plan and predict the benefits of many adaptation activities effectively.
- Adaptation benefits included increased safe access to water, cost savings, economic opportunities and local capacity. Some, but not all, of these benefits could be quantified.
- Better use of past climate records, together with other hydrological information, could heighten the impact of investments. This information could also help communities identify their needs with local authorities, national technical services and private service providers.

PARTNERS' VIEW

Planning for surface or ground water has always been a challenge in our county due to insufficient data and minimal community involvement in project identification, prioritisation and implementation. This project is helping the communities including us as their County Government to address these problems.

Victor Adaka, Isiolo county government water officer

FURTHER READING

King-Okumu, C (2015) Inclusive green growth in Kenya: Opportunities in the dryland water and rangeland sectors. IIED, London. http://pubs.iied.org/10137IIED

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Caroline King-Okumu/IIED

Women water their livestock at the waterpan in Bibi village.

the difference through subsidies, on top of the initial costs of drilling.

Economic opportunities

In Sericho town, with better water access, women were able to keep lactating animals nearer home to milk faster and more easily, and cows continued giving 2l of milk every day during the dry season. With less time wasted at boreholes and easier access to water, rural women prepared and sold tea, doughnuts and maize-based dishes around the waterpoints. They generated 3.75 shillings in income from each litre of water — more than 20 times the value of the unprocessed water sold by the street kiosks in the town centre. Faster watering also increased the numbers of customers visiting them.

Reliable availability of water during the dry season can also promote other economic activities. The WAPC in Sericho, for example, has prioritised improvements to Komor Bulla waterpan in anticipation of stimulating the adjacent market centre.

Strengthened local capacity

The success of these activities has encouraged national and international donors to fund locally designed and managed activities directly. For the first time, draft county-level legislation and revisions to key policy documents are mentioning the essential role of the WAPCs. This recognises the value of their investments and validates local participatory processes, including the involvement and wisdom of women. For many in the county, this is the most important benefit.

Next steps

To date, adaptation has relied on community knowledge of climate variability and seasonal forecasts. Better use of past climate records, together with other hydrological information, could heighten the impact of planned investments in water harvesting structures and boreholes. This information could also help communities identify and prioritise their needs with local authorities, national technical services and private service providers.

Further studies should more precisely assess and compare these quantitative benefits from adaptation options to improve water availability, access and management under the variable and changing climate — in the arid and semi-arid areas of Isiolo and across northern Kenya.