

Keywords:

Resilience, participatory mapping, climate change adaptation



OVERVIEW

IIED Climate Change Group

Project name:

Climate adaptation consortium, Kenya; Promoting adaptation and climate resilience growth through devolved district climate finance, Tanzania

Project leader:

Ced Hesse

Time frame:

April 2011–March 2016

Objective:

Ensure that devolution policies lead to real bottom-up planning by helping dryland communities to articulate their knowledge and needs in a format that governments can understand.

PROJECT SUMMARY

A participatory mapping process enabling pastoralists to record their knowledge and use of drylands resources on geo-referenced satellite maps is being piloted in Kenya and Tanzania. The mapping is funded by the UK's Department for International Development (DFID) as part of broader projects supporting bottom-up planning for climate resilience in the drylands. The National Drought Management Authority and Isiolo County government, Kenya and the district of Longido in Tanzania are developing the maps with technical support from the GeoData Institute at Southampton University, UK and IIED. The maps impressed both communities and governments with the value of local knowledge, and will be used to develop byelaws and public investments to support pastoral livelihoods.

CHANGE IN ACTION

Kenya and Tanzania have devolution policies that in principle empower local people to drive their own sustainable development with government support. But if devolution is to reach the grassroots, there is a need for better communication and mutual respect between pastoralists and district or county officials. Digital participatory mapping provides a common

Maps that build bridges

After digital participatory mapping, pastoralists are proud of their local knowledge and policymakers want to act on it

The drylands in Kenya and Tanzania are not empty and barren, although that is how governments tend to perceive them. Pastoralists who live there see a tapestry of livestock routes, pastures and water sources. In a digital mapping project designed by IIED, the Resource Advocacy Programme and the GeoData Institute and funded by the UK's Department for International Development (DFID), communities in Isiolo County, Kenya, and Longido District, Tanzania, compiled information about local resources in a format that policymakers can immediately understand and use.

The maps made pastoralists into more confident advocates by demonstrating the depth and value of their knowledge. Local officials are also impressed with the resource maps and want to use them to design byelaws and finance investments in public goods that strengthen local adaptive capacity. And the digital mapping approach is spreading quickly to other organisations, districts and counties.

Digitising local knowledge

Participatory mapping has been used around the world to consult community groups, but maps constructed in this way by local people are often tough to transfer to a government office because the scaling or styles do not match official maps. In Isiolo and Longido the consultation process began, as usual, with maps drawn on paper or traced on the ground with sticks and stones. Then a facilitator helped the participants transfer these sketches to a geo-referenced satellite map projected on a wall.

In a series of meetings starting in 2011 in Tanzania and mid-2012 in Kenya, the pastoralists zoomed through a Google Earth simulation, confirming features and picking out new ones. Women's meetings, neighbouring communities and local officials each added their own input. Previously, the only available maps showed these areas mostly as unmarked wilderness. Now they look "like the A-to-Z of London," says Daoud Tari Abkula, the director of Resource Advocacy Programme, a community-based organisation in Isiolo involved in the project. DFID contributed significantly to the mapping process in Kenya, plus community validation of maps drafted earlier in Tanzania.

Communities were confident in applying their detailed geographic knowledge against the satellite images, and they annotated their maps with truly encyclopedic descriptions of pastoral resources and ecology – the Kenyan map listed over 200 grass species and their different reactions to rainfall patterns. Comments submitted by participants in Isiolo suggest that making the maps boosted their pride in understanding the landscape and motivated them to advocate for byelaws to protect their resources. Mohamed Guyo Golicha, a Boran pastoralist elder, said, "The details captured on the map with the names of resources in local language show ownership and ultimate need to protect what we have."

A representative from a ward adaptation planning committee, Hawai Gufu, took pride in "identifying important resources that men could otherwise have forgotten."

language for both sides to discuss pastoral land use and customary techniques for adapting to environmental change. After making the maps, community members expressed pride in their collective knowledge, a sense of ownership and stewardship of drylands resources, and commitment to seeing them protected. Local governments welcomed the maps as urgently needed inputs to devolved planning processes, and neighbouring jurisdictions in Tanzania requested their own mapping projects. The technique is also spreading through other NGOs and multilateral organisations.

KEY LESSONS LEARNT & INNOVATIONS

- Participatory maps drawn on the ground or on paper have long been used in consultations with community groups, but the result is hard to transfer to other contexts. Digital mapping creates a product that governments can immediately understand and use.
- Bridging communication gaps in this way will provide crucial support for devolution policies in Africa, which authorise local governments to manage resources according to community needs.
- Compiling collective knowledge and cross-checking it against satellite images gave communities a highly useful tool as well as enhanced confidence and commitment to stewardship.

PARTNERS' VIEW

Resource mapping has been a fascinating exercise for the communities. Their whole world has been brought to them on a wall in a small room. The validated maps have ignited a process that is re-enforcing traditional governance structures to ensure better use of natural resources. And they will be a powerful tool for articulating community rights over land and resources. County institutions too are seeing resource maps as critical data to guide planning and investment. Just like the communities they will use them to demonstrate their resource base.

Daoud Tari Abkula
Resource Advocacy Programme



This research was funded by UK aid from the UK Government, however the views expressed do not necessarily reflect the views of the UK Government.



Photo: James Pattison

Maps drawn by community groups were transferred to a geo-referenced satellite map projected on a wall.

She added, “Women now have a reason to stand up and protect resources important to them and the community at large from an informed point of view, having been actively involved in mapping these critical resources.” Community members also praised the maps’ usefulness for sharing resources across neighbouring wards and counties and for passing down knowledge to younger generations.

Supporting grassroots governance

The digital maps provide a powerful medium of communication and understanding between communities and their local governments. This is crucial for devolution policies in Kenya and Tanzania, which give elected officials at the county and district levels responsibility to manage natural resources in line with local needs. At both sites, the maps were part of broader initiatives to strengthen local government planning in support of adaptive and climate-resilient drylands development.

For governments, the maps show that pastoralists’ knowledge is not inferior to ‘modern’ paradigms, but richly informed and particularly relevant to adaptation in a changing climate. Policymakers have received this information enthusiastically. Isiolo’s governor attended the concluding meeting there in October 2013. He commented that he normally receives maps with detailed information about the county from Chinese companies and investment companies proposing to mine or drill in that locality. He had never before seen a map from citizens that captured and explained their intimate knowledge, so rich in information, with an accuracy that cannot be disputed. “We are privileged to be the first county in the arid and semi-arid lands of Kenya to have mapped its resources and we will fully take this to its logical conclusion”, he said.

Manyinsa Gabriel, a Kenyan official assigned to manage devolution in Isiolo, noted that the maps serve an urgent practical purpose. Isiolo currently has no ‘spatial plans’ for development as required by the new county planning process. “This exercise could actually be the road map to finalisation of our County Integrated Development Plan,” he said.

Both Isiolo and Longido have welcomed communities beginning to work with local officials to develop byelaws based on the maps, and two districts adjacent to Longido have requested their own mapping projects, to start in February 2014. Digital participatory mapping is becoming increasingly widespread: UNESCO wants to use it in their work in the Ngorongoro Conservation Area, a World Heritage Site in Tanzania, and in Kenya CARE International and Christian Aid have expressed interest. The Kenyan and Tanzanian governments, having mandated bottom-up planning, expect Isiolo and Longido to fund investments in public goods informed by the community maps and other participatory consultations. If these approaches are successful, they could be rolled out nationwide as innovations in governance that enable communities to manage environmental change.



Knowledge Products

The International Institute for Environment and Development (IIED) promotes sustainable development, linking local priorities to global challenges. We support some of the world’s most vulnerable people to strengthen their voice in decision making.