



Fig.1: Isiolo South Dedha Assembly meeting

## Summary

*The report summarizes the findings of a participatory assessment of returns on investments in strengthening customary institutions for natural resource stewardship in four wards of Isiolo over the long dry season of 2014. Due to the rapid timeframe for the assessment, many observed benefits were not yet quantified. However, those that could be appraised so far already outweighed the investments made through the Isiolo Climate Adaptation Fund and by the members of the local institutions.*

## Introduction

An example of successful adaptation to drought was observed during 2014 when severe drought conditions appeared in Isiolo County and neighbouring Counties across Northern Kenya. In all of the other affected Counties, by the middle of July the National Drought Management Authority (NDMA) was reporting rapidly declining socioeconomic indicators as a result of yet another drought threatening the region. However, in Isiolo alone, animal health, child nutrition and local livelihoods appeared to be less affected by the worsening climatic and vegetation condition indicators. The County Steering Group attributed this uncharacteristic decoupling of drought and its human impacts to good practices in local

natural resource management. A rapid participatory assessment was undertaken with members of institutions concerned to the weigh the climate-ecosystem-economy interactions and benefits secured in comparison to investments in adaptation through natural resource stewardship.

### Vulnerability to Climate Change in Isiolo and Strengthening of Customary Resource Stewardship Institution

The livestock sector accounts for 80% of economic activity in Isiolo and surrounding Counties in Northern Kenya. The extended 2008-11 drought caused livestock mortality rates as high as 40-60%. The average interval of around five years between drought events is not enough to enable recovery from losses of this magnitude, and future climate change predictions anticipate an increasing severity and frequency of these events, as well as rising temperatures across the country as a whole. In February, 2014, the drought alert was raised once again in Isiolo and surrounding counties (NDMA 2014a).

During the lead-up to the 2014 dry season, significant investments in adaptation were made through local customary institutions for natural resource stewardship in Isiolo, with support from DFID and other agencies (NDMA 2014b). A County Adaptation Fund (CAF) was established on a pilot basis in Isiolo, but was not yet available in the surrounding counties. The CAF is the first 'devolved' adaptation fund to be directed and managed at the local level, ensuring that funds are available in the vulnerable communities where they are needed. CAF establishes and supports Ward Adaptation Planning Committees (WAPCs) from rural wards to identify, develop and implement priority projects for adaptation to climate change. The one-off cost to establish the Fund in Isiolo was £455,687 (see cost breakdown in NDMA 2014b).

The budget placed at the disposal of the WAPCs for the first round of investments implemented in late 2013 and early 2014 was £355,796. By August, 2014, all activities designed and implemented by the WAPCs had been completed successfully and a 2nd round of adaptation investments was under development. The first round included an investment of £66,234 in four ward-level activities to strengthen customary resource stewardship institutions, known locally as *Dedha*. These were carried out by qualified NGOs selected and contracted by the WAPC for this purpose.

### The Assessment Challenge and Approach

Adaptation to climate change is anticipated to prevent or reduce the anticipated impacts of climate changes, including accelerating and intensifying droughts. Co-benefits including accelerated development and mitigation of future changes may also be achieved with adaptation, and should be captured in the assessment of benefits. The nature and economic value of the direct and indirect effects of adaptation may be complex, context-dependent and unevenly distributed across society. Assessment of benefits may be value-laden and subjective (Chambwera et al. 2014). In light of these challenges, a multi-method assessment approach was adopted, including a review of available statistical information, a rapid participatory assessment with the *Dedha* members and on-site observation in each of the wards concerned at the end of the long dry season of 2014.

Some of the benefits could be readily quantified and valued (avoided livestock mortality and increased milk production)(after Behnke and Muthami 2011). Other benefits, including improved ecosystem function and service provision and indirect effects on the local economy were characterized but would require further study to be included in the economic assessment. The assessment was implemented within the same season as the



*Fig. 2: Young goats grazing at Awarsitu in Chari Ward, Isiolo County*

investments in strengthening the natural resource stewardship institutions, and focused on benefits achieved during this time. This enabled direct observation of immediate benefits as they were experienced by local people but was too short a timeframe to allow all benefits to take effect and be quantified through the study.

### The Initial Findings

The ratio of benefits to the local communities that could be included in the rapid economic assessment in comparison to the initial investment through the ICAF was 402:1. In addition to local communities, significant numbers of pastoralists migrated into Isiolo from other Counties to benefit from the improved availability of pasture and water. In areas where the numbers seeking refuge could be assessed, the ratio of economic benefits to the initial ICAF investment was 1,635:1. This success cannot be attributed to the ICAF alone because many agencies contributed to the strengthening the natural resource stewardship systems in Isiolo.

The members of the local customary institutions for natural resource stewardship themselves contributed 5 shillings from their own pockets for every 1 shilling that the ICAF provided to strengthen their institutions. This was more than they had invested in previous years, but they considered that the avoided livestock disease and mortalities and increased milk production had paid off with a return of around 90:1 on their investment.

Effects on ecosystem services due to management of watering points and seasonal grazing patterns amongst designated areas for wet season, dry season and drought reserves included effects on groundwater use, recharge and storage volumes, vegetation distribution, volume and species composition, wildlife habitats and survival rates, seed germination and soil qualities. The value of these benefits over the six-month period addressed by the study was not included in the economic assessment, nor their future value under anticipated climatic stresses. A broad range of other effects on the economy and society were also noted. These included

reduced need for migration in search of water and pasture, resulting in reduced security risks and increased time spent at home with the family and taking care of local businesses. Improved livestock quality, enabled market development, better prices, increased income generation and spending on local events such as weddings, Hajj and business development. Strengthening local institutions enhanced the voice of local leaders and created employment and skill-development opportunities for the youths who were involved in resource surveillance.

Although the climatic conditions experienced during 2014 were considered to resemble those of the previous drought in 2011, the needs for trucking of emergency water supplies and delivery of other forms of relief were reduced. The amount of these expenditures made and avoided could offer an indication of the benefits of the investments in natural resource management to the public finances of Isiolo and the surrounding Counties. Further analysis through the NDMA database and records of international institutions to quantify the public expenditures made and averted could reinforce the case for increased public support to local resilience-building activities.

## Recommendations

There is scope for increased consideration of ecosystem service benefits for further refinement of the valuation of the benefits from investing in

the stewardship refinement of the valuation of the benefits from investing in the stewardship of rangeland pasture resources. Consideration of a longer timeframe and appropriate discount rate in line with local planning horizons up to 2017, 2030 and 2050 would enable a more complete assessment of the net present value of the benefits of adaptation to climate change. Follow-up work could include a collaborative approach with Isiolo County, NDMA and other research institutions, including ILRI, IUCN, and others, as well as the University of Nairobi and available schools in Isiolo.

## Conclusions

The findings of the rapid assessment point to the cost-effectiveness of local resilience building, and the necessary role of the local customary institutions in achieving it. An interagency assessment could more comprehensively account for all investments in resilience building in Isiolo made since the 2008-2011 drought, and the benefits achieved over a longer and more forward-looking timeframe. In the meantime, the major part of the credit for the achievement in Isiolo, as evidenced in the NDMA statistics for July 2014, must clearly go to the *Dedha* members themselves, as well as to the WAPCs for making good use of the CAF to catalyse and accelerate the pace of their local adaptations.

## References

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Research funded by UKaid from UK Government, however the views expressed do not necessarily reflect the views of the UK Government

