

# **Biodiversity, Ecosystem services, Social sustainability and Tipping points in East African drylands (BEST)**

**NERC ref.: NE/1003673**

## **Activities undertaken**

The project began on 1 April 2011. This report therefore covers the first 11 months of the 24-month research programme. The overarching goal is to investigate how policy and economic incentives can improve the management of East African rangelands through their effects on pastoralists' livelihood choices.

Dr Aidan Keane PDRF has investigated available datasets and explored two main modelling approaches (stochastic dynamic programming SDP and agent based models ABM). During February-March 2012 the BEST team have carried out intensive stakeholder engagement to ensure the research questions refined during the first 11 months are robust, relevant and meet in-country needs, given the wide spread of site-specific circumstances across Kenya, Tanzania and Ethiopian rangelands to which we expect the models to apply. This first phase of stakeholder engagement has targeted policymakers, practitioners, entrepreneurs, NGOs and scientists through a workshop organised in Nairobi by BEST research collaborators ILRI. We went on to develop in-depth engagement through a series of field visits in northern Tanzania, southern and northern Kenya rangelands, UCL and IoZ researchers being accompanied and supported by BEST communications partner ATPS and supported by ILRI transport and logistics. In the course of these field visits we met and discussed research aims, approach and applications with (a) key individuals representing practitioner and advocacy groups (b) district and local government officials (c) customary leaders in pastoralist communities (d) community-based development facilitators (e) women's groups and (f) a wide range of local users (herdowners, farmers, etc).

The workshop programme, participants, presentations, discussions and feedback are posted on the BEST website at .... The stakeholder engagement field itinerary with details of the groups and individuals contacted are also available there. Briefly, the aim of the workshop, and of the subsequent field trip, was to present work carried out to date, to explain the proposed applications of the modelling work, and to solicit feedback as to whether our baseline description of the system and the proposed focus of the modelling work were robust and relevant. We sought constructive criticism to ensure that this work would be genuinely useful to policymakers and practitioners as well as to business people and local communities in exploring alternative policy scenarios and land use options. In the workshop, following keynote presentations by senior government and CSO figures and the BEST team, we set out work to date on Phase 1 research questions:

- ▲ How are pastoralist households' decisions on allocating land, labour and capital to different livelihood activities affected by conservancies?
- ▲ What are the economic and ecological consequences of these decisions? What are the trade-offs?
- ▲ How do the outcomes differ for households which participate in conservancies and those who do not?
- ▲ How can policy and economic incentives encourage more economically and ecologically sustainable livelihood choices?

Breakout interest groups (policymaker/funders; conservation NGOs/ businesses; community representatives/CSOs; researchers) then discussed the following questions:

1. Are you happy with the broad description of rangeland issues? Do you think we are missing or misrepresenting any important factors?
2. How are our Phase 1 Research Questions useful or not useful? Are we missing important questions?
  - (a) as applicable to the Maasai Mara
  - (b) as applicable to other rangeland areas across East AfricaWould comparable questions apply in other areas where you work (e.g. Tanzania, Ethiopia and northern Kenya)? How should we be re-thinking these questions for other areas? Are there more important issues we should be addressing?
3. What are the policy or management scenarios you would like to see addressed?

Discussion and feedback were captured electronically and in hard copy and are being used to inform the next stage of model design and testing. Full details are given at www. ...., but in brief the workshop was attended by senior government and international policymakers (eg. Mr Ali Mohamed, Kenya's Permanent Secretary for the Environment, and Vice chair, IPBES – International Platform for Biodiversity and Ecosystem Services; Mr Michael Waithaka USAID-ASARECA, etc); also representatives of various Embassies and Ministries). It also attracted representatives of numerous conservation organisations (eg. WWF, IUCN, ACC, KWT\* etc.), development research and practitioner organisations (IDRC), rights and resources advocacy groups (eg. TNRF), tour operator and conservancy managers (eg. Olare Orok Conservancy manager; Zeverjin & co. etc), and community representatives from Mara, Samburu, Kitengela, Amboseli and from northern Tanzania as well as a wide range of researchers. Separate meetings allowed us to put the project in detail to USAID representatives from Washington and Kenya. Our follow up field engagement work allowed

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us to hold comparable but more site-specific discussions with key figures in northern Tanzania who could not attend the workshop (Alais Morindat TNRF; Edward Porokwa PINGOS; Timothy Ole Kaile PWC etc) as well as district and local government alongside local users in both Kenya (northern and southern rangelands) and Tanzania. Details are available at [www. ....](http://www. ....) Overall this preliminary engagement work has achieved a high level of awareness and interest at all levels from local to national and international and across the full spectrum of interest groups, has received detailed feedback from all those levels on how to fine-tune the research to best effect, and has laid the basis for effective impact and broad engagement in dissemination at the end of the project.

**Forthcoming activities.**

The next phase involves AK completing generic models to pursue the research questions outlined above. Work focuses initially on a specific subset of data from the Maasai Mara in Kenya, where economic incentives and institutional structures have undergone rapid evolution but barely keep pace with land use change and wildlife declines. Grant applications now pending may allow additional data to be collected from collaborative work with a Kenyan PhD student on economic games in the Mara, which would further enhance this work. On the basis of the work so far AK is in the process of developing and parameterising a model to investigate how the availability of payments for conservation should be expected to affect households' livelihood decisions, a key question for the project. SDP models deriving the optimal sequence of choices that a household can make in order to maximise the probability that it will survive over a fixed time-horizon, based on its current state and the possibilities that are available to it, are anticipated to deliver initial results by August, in time for a forthcoming scientist, policymaker and practitioner meeting to be held by TNRF in Tanzania on community based natural resource management. At the same time initial steps towards developing the ABMs are underway. The final six months of the project will be dedicated to exploring policy and land use choice scenarios, and to the final engagement and dissemination work.

**Plans for delivering impact**

<i>Date</i>	<i>Event</i>	<i>Location</i>	<i>Audience/Impact</i>	<i>Status</i>
August 2011	Community/ stakeholders	Mara, Kenya	Initial community engagement	completed
October 2011	ESPA conference	London	ESPA community dissemination	completed
February 2012	BEST workshop + ILRI/ ATPS press releases	ILRI, Nairobi, Kenya	Policymakers, practitioners + community representatives: stakeholder engagement and feedback on initial work	completed
August 2012	TNRF-hosted workshop on CBNRM,	Arusha, Tanzania	Policymakers, practitioners + community representatives, also scientists	
Feb-March 2013	Community meetings	S Kenya/N Tanzania + N Kenya/S Ethiopia	Pastoralist/ agro-pastoralist communities; local government and NGO workers	
February 2013	BEST workshop + ILRI/ATPS press releases	ATPS, Nairobi, Kenya	Policymakers, practitioners and community representatives: engagement and feedback on near-completed work	
March 2013 + thereafter	Local language summaries and media releases	ATPS	Kenya, Tanzania and Ethiopia; Pastoralist and agro-pastoralist communities and extension workers	
March 2013 + thereafter	Media releases Policy briefings	ATPS	Kenya, Tanzania and Ethiopia policymakers/ practitioners	
March 2013 + thereafter	Academic papers		PNAS, J Appl Ecol; Cons Biol; Curr. Anthro; World Devt; Devt & Change etc	

\* for acronyms, see website at.....