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About Joto Afrika

Joto Afrika is a series of printed briefings and online resources about adapting to climate change in sub-Saharan Africa. The series will help people understand the issues, constraints and opportunities that poor people face in adapting to climate change and escaping poverty.

Joto Afrika is Swahili; it can be loosely translated to mean 'Africa is feeling the heat'. The next issue will focus on climate change and energy.

Please tell us what you think about this seventh issue of *Joto Afrika* and what you would like to read about in future issues - contact details are on **page 8**.



Women in search for pasture and water for their animals in Kyuso, Kenya. © Kimathi Tony, 2011

The future of pastoralism in a changing climate

Editorial

Pastoralism is a free-range livestock production system. It is practised in all of Africa's dryland regions, and in some communities it is the main source of food security and income. But will pastoralism survive in the changing climate?

Statistics from African Union's policy framework for pastoralism (2010) show that there are 268 million pastoralists. They live and move on 43 percent of Africa's land mass and contribute between 10 to 44 per cent of the Gross Domestic Product in the countries that they live in.

Pastoralism has immense potential for reducing poverty, generating economic growth, managing the environment, promoting sustainable development, and building climate resilience. The 2010 African Union's policy framework recognised this importance.

But despite these positive aspects, pastoralists are experiencing rapid changes in their environment and welfare as a result of the changing climate. The incidences of severe, back-to-back droughts are rising, resulting in the deaths of large livestock numbers as pastures and water sources dry out. In addition, human populations and settlements are increasing, taking up traditional grazing areas and competing for water resources. Pastoralists are also suffering from occasional but severe floods.

Such upheavals are taking place under an inadequately developed service infrastructure, with poor market linkages and weak, unprepared institutions. Pastoralists are becoming increasingly marginalised.

The future of pastoralism in the changing climate is the subject of national and global discussions. The concerns are catalysing the scientific community to generate knowledge and share experiences and best practices that may offer solutions for the survival of pastoralism and the millions of people dependant on this livelihood.

This issue of *Joto Afrika* provides research findings, lessons learnt and success stories from across Africa.

Key messages include:

- **Recognise the multiple processes and stressors that govern the vulnerability of pastoralists to climate change.** Pastoralists are suffering from the effects of climate change; policy makers and development agencies must be sensitive to this. They should also respond to the other non-climate stressors that affect pastoralism.
- **Protect pastoral land and enhance the mobility of pastoralists and their livestock.** Pastoralists have coped with climate stressors for a long time, using mobility strategies for the sustainable management of dryland vegetation and water resources. This strategy needs to be enhanced through appropriate land-use policy frameworks.
- **Consider index-based livestock insurance schemes as one of the strategies for protecting livestock keepers against climate risks.** Lessons coming from pilot livestock insurance schemes should be considered before repeating and up-scaling.
- **Invest in building the capacity of pastoralists.** Education and training programmes enhance pastoralists' skills and help them to diversify their enterprises, improve resource management, and take up employment opportunities. These must be strengthened through appropriate financial support and policy interventions.

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Adapting pastoralism to a changing climate

Research summary

Enclosures made of dried twigs and stones protect small ruminants from the scorching sun in Kenya's Chalbi Desert. © Oseni Saidu

Pastoralism is complex; it seeks to maintain a balance between pastures, livestock and people, in uncertain and variable environments, where alternative land uses are risky. The increased frequency of extreme weather events in the tropics – especially floods and droughts – may overwhelm the existing resilience of pastoral systems. This raises questions about their sustainability.

Climate change and climate variability are creating increasingly vulnerable conditions in fragile pastoral ecosystems. Changes in land tenure and agriculture, and sedenterisation (the settling of groups), are also fracturing large-scale pastoral ecosystems into isolated systems.

Debates about pastoralists

Two opinions prevail about the impacts of climate change on pastoralists. Some experts argue that pastoralists will be among the first groups to lose their livelihoods, as rangelands and water points dry up. Others insist that pastoralists are the best equipped to adapt to climate change, since their livelihood strategies are honed to respond to scarce and variable natural resources, and to cope with uncertain agro-ecological conditions.

Furthermore, these authors argue that pastoralists' adaptation capacities have been eroded as a result of their historical and social marginalisation. They conclude that their vulnerability to climate change is more a consequence of this marginalisation, rather than climate impacts. The threats of climate change are seen as related to the diminishing capacity of pastoralists to use their adaptive capacities.

So climate change is a double-edged sword; it focuses attention on the potential catastrophes facing pastoral areas, but may also distract attention from the policy and governance problems that hinder pastoral development, and also prevent pastoralists from adapting to climate change.

This marginalisation is partly because the true value of pastoralism is poorly understood. Several authors have described a detailed evaluation procedure, which identifies pastoralism as the dry lands' 'invisible asset'.

Pastoral systems contribute significantly to national and regional economies, with many countries exporting meat and other livestock products. Pastoralists also maintain cooperative and economic relations with settled communities along their mobile routes.

Intervention strategies

With respect to climate change adaptation, intervention strategies to support pastoralists should be geared towards building adaptive capacity and resilience in pastoral communities, through the following steps:

- develop policies that provide pastoralists with opportunities to practice mobile livelihoods
- enhance and secure pastoralists' access to strategic resources – essential if they are to respond effectively to climate change
- reverse policies that contribute to their marginalisation, such as forced settling
- give pastoralists opportunities to participate in decision-making for policies that are connected to their livelihood
- promote pastoralists' resilience to droughts by developing livestock markets, defending communal land tenure, good governance and respect for pastoral rights
- scale-up and fully implement livestock disaster insurance schemes for pastoralists: this can prevent a downward slide of vulnerable pastoral populations due to climate threats
- research appropriate dissemination pathways for climate information and climate impacts to pastoralists and stakeholders, involved in policy-making and service provision.

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This work on pastoralism and climate change adaptation was supported through the Climate Change Adaptation in Africa (CCAA) programme, funded by the DFID and the IDRC, with coordination by START, Washington, DC.

See also

Vulnerability of worldwide pastoralism to global changes and interdisciplinary strategies to sustainable pastoralism, by S. Dong, L. Wen, S. Liu, X. Zhang, J.P. Lassoie, S. Yi, X. Li, J. Li and Y. Li, *Ecology & Society* 16(2):10, 2011

Pastoralism Information Note 5. Pastoralism and Climate Change, by J. Morton, Natural Resources Institute, University of Greenwich, 2010
<http://bit.ly/nPyOqy>

Index-based livestock insurance. Protecting pastoralists against mortality loss due to severe forage scarcity, by A. Mude, International Conference on 'The Future of Pastoralism in Africa', Addis Ababa, 21–23 March 2011.



Talk to us

Please tell us what you think about this seventh issue of *Joto Afrika* and what you would like to read in future issues – contact details are on **page 8**.

The next issue will focus on energy.



Coping with drought in Niger

Research summary

A pastoral boy herds cattle in south-west Niger. © Stevie Mann (ILRI), 2005

Livestock are a store of wealth for pastoralists, and play an important role in drought mitigation and risk-coping strategies. However, droughts of increasing frequency and severity are threatening the pastoralist way of life.

Pastoralism and agro-pastoralism are the dominant livestock production systems in most parts of sub-Saharan Africa's arid and semi-arid zones. But grazing lands are being lost due to drought, increasing population pressure and restricted access to land. This is forcing more and more pastoralists to settle and grow crops, resulting in considerable reduction in grazing lands.

Coping strategies

The International Livestock Research Institute (ILRI), in collaboration with partners, analysed the coping mechanisms of Fulani pastoralists in Tillabery, Maradi and Zinder regions, pastoral and agro-pastoral zones in Niger. The project considered the roles of poor pastoralist and agro-pastoralist producers and associations, non-governmental organisations, donor organisations, researchers and policy makers.

The project identified technical, policy and institutional intervention options that could reduce the vulnerability of livestock and their keepers to climatic shocks, particularly drought. This involved collecting and sharing available knowledge on current climate change and identifying potential risk management and coping options.

One coping mechanism is the sale of live animals during drought to buy grains for household consumption. The animals sold are mainly males, but breeding females are sometimes sold in severe droughts. This makes herd reconstitution after a drought much more difficult. Pastoralists also sell fresh milk and processed milk products.

The data collected shows that livestock play an important role in the resilience of poor pastoral communities in Niger. But communities have other coping mechanisms as well.

- They collect wild plants for food, such as wild millet varieties, the grains of grasses including *Cenchrus biflorus*, and some fruits.

- Some people eat less, giving priority to children under 5 years, pregnant women and nursing mothers.
- Some families send members to work elsewhere, especially in urban centres, and in neighbouring countries including Nigeria and Benin.
- Pastoralists rely more on assistance from family and close relations in the community who are relatively rich, and those in the urban centres.
- Some engage in small-scale trade, for example selling or bartering livestock for grain.
- Families delay major expenses, like marriage and schooling, until the drought is over.

Lessons learned

The survey data confirmed the effects of climate change on pastoralists' livelihoods. It is important that researchers, policymakers and other stakeholders recognise the multiple processes and stresses that increase their vulnerability. There are several initiatives that could improve community responses to drought:

- The management of grain and feed banks should be improved at household level.
- Improved market access, especially for food crops, would enable more livestock–grain exchanges during drought.
- The enhancement of livestock mobility, through the integration of existing regional and national policies on livestock into local conventions.
- Illegal levies, imposed by local authorities for the passage and grazing of herds, should be removed; these contravene laws that guarantee livestock mobility.

See also

Identifying livestock-based risk management and coping options to reduce vulnerability to droughts in agro-pastoral and pastoral systems in East and West Africa (2007–2009).
<http://bit.ly/mT9THN>

- Investment in index-based livestock insurance schemes will minimise the risks faced by pastoralists during droughts.

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This article is a product of a project on reducing vulnerability to droughts in agropastoral and pastoral systems in East and West Africa, funded by the Systemwide Livestock Programme.



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You can subscribe by sending an email to jotoafrica@alin.net. Please include your organisation and your full postal address. You can also subscribe and send feedback via SMS, to **+254717032322** and start with the word **Joto**.



Grazing management as an adaptation measure

Case study

Conserved pasture in northern Kenya. © Guyo Tuke, 2011

Grazing areas in Kenya are slowly diminishing due to the changing climate and poor management. Food for the Hungry-Kenya (FH-Kenya) works with communities – elders, environmental management committees, community leaders and local administrations – to develop tools to manage pastures in grazing areas.

Resource maps

The FH-Kenya pastoralist livelihoods programme works with communities to identify their resource needs and produce resource maps that show where grazing land and water are in their locality. This can help community members to recognise the presence of resources that they did not previously know about.

Seasonal calendars

Rotational grazing prevents overgrazing; it allows grass cover to regrow, which is important for soil conservation. Seasonal grazing calendars explain when and where grazing takes place and for how long. We train communities to learn about the best times to graze (in both wet and dry seasons) and what level the grass must be for grazing to take place. The calendar allows

communities to plan when to move animals to a particular site and what species of animals are allowed.

Grazing control

Elders organise meetings before every wet and dry season to determine the ways forward in grazing management; FH-Kenya supports these meetings. The elders choose guards to ensure that grazing rules are followed to prevent overuse. There are consequences for those who are violating the rules: several people have been fined for breaking the rules, in the form of cash or livestock fines. If people do not accept the orders of the elders' courts, the issues are directed to government administrators. The District Officer attends meetings to support the elders in pasture management.

Challenges

Through these efforts, pastures now last much longer before they are exhausted. Nevertheless, there are still challenges. For example, local culture demands that a man must bring in animals from outside his village, even if it means stealing. But livestock theft results in conflicts, which disrupt negotiated grazing management plans. Even if grazing areas are well

managed by the surrounding communities, intruders from other communities can damage them. Elders also complain about the lack of support from the government, since some defaulters are not punished.

To resolve these issues, FH-Kenya recommends:

- including all people – especially women and young people – in grazing meetings; in most communities, young people graze the animals, but they are not involved in grazing meetings
- government administrators should be involved in grazing management planning meetings, so that they can support pasture management groups in law enforcement
- leaders from all communities should work together to plan their livestock movements.

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Contribute to *Joto Afrika*

Do you want to tell people how your community is adapting to climate change? Are you involved in a programme, project or research that is helping people to find practical solutions to cope with the effects of climate change? We want your contributions for *Joto Afrika* – especially contributors from regions beyond East Africa. Our next issue will be on energy.

We are looking for research work, community case studies, videos, audio clips and photo essays about climate change adaptation across sub-Saharan Africa. The case studies need to be short (no more than 600 words), easy to understand and provide practical information for other people facing these problems. If you would like to contribute, please contact the editor at jotoafrica@alin.net. We welcome contributions in French and English.





Using Mbororo herders' traditional knowledge

Research summary

Pastoralists in search of water in Lac-Chad.
© Hindou Oumarou Ibrahim, 2011

Indigenous people are dependent on the environment and natural resources. This close relationship with the earth means that they are often among the first groups to suffer the consequences of climate change.

The Mbororo

The Fulani-Mbororo people (often called Mbororo) are nomadic and semi-nomadic livestock herders whose territory includes parts of Cameroon, Central African Republic, Chad, Niger and Nigeria. For them, climate change is not a distant issue; in recent years they have faced increasing drought, desertification and biodiversity loss in their homeland. Mbororo herders migrate vast distances to feed their livestock – from 110–1000 kilometres. Droughts are making these distances even longer, as they search for pasture.

Some indigenous Mbororo herders in Chad, who used to farm nomadic cattle, are being forced to change their way of life to become semi-nomadic or sedentary. They try to adapt traditional methods to this different lifestyle, but cannot even produce a subsistence harvest. And all the livestock which they once depended on are now dead or have been sold.

Adaptation strategies

The challenges facing the Mbororo, and other indigenous peoples, in the fight against climate change are enormous. The unique needs of these groups are rarely addressed in public debates or in the work of national, regional and international organisations.

But many indigenous nomads have knowledge about how to adapt to climate change and protect resources during droughts.

- The Mbororo traditionally travel in ways that allow the regeneration of ecosystems. Their approach to managing natural resources is also fair and rational.

- Many nomads practice the rotational use of pasturelands, which allows pasture to recover after intense grazing.
- Some groups divide their livestock: only the strongest animals are taken on longer migrations.
- Many also raise different types of livestock (such as cattle and goats), which have different grazing habits and reduce herders' risk of losing all their animals to one disease.

This knowledge about responses to climate change could be used to find solutions that could help the whole society to adapt. For example, technologies such as participatory mapping tracking could be used to show how to protect pastures. Traditional knowledge about rainfall patterns and seasonal changes in the weather could also be useful.

Recommendations

There is a need to strengthen the links between traditional knowledge and other adaptation approaches, and improve the two-way information exchange between pastoralists and the meteorological sector. In particular, the information already documented by nomads must be disseminated more widely. Good approaches

include climate diaries, where community members record their observations of the climate, and the sharing of local oral histories. Further recommendations include:

- Additional financial resources will be necessary to combine traditional knowledge and technological capabilities, which most communities do not have.
- Governments should learn from indigenous peoples' responses and knowledge when creating national policies, rather than implementing policies that destroy or infringe upon these traditional responses.
- Full participation by indigenous communities – including all community members – is essential for developing official adaptation strategies, so that government plans do not have a negative impact on vulnerable communities.

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Surviving the drought

Many parts of Kenya are experiencing severe and prolonged drought, and Elwak, in the northern region, has not been spared. The six-minute video 'Surviving the Drought' shows the realities of climate change; people have to share their little food with livestock, and some use unconventional alternatives such as wet carton boxes flavoured with salt or sugar to save their animals. This video shows the deepest effects of drought.
<http://bit.ly/nApKsi>



Livestock fed on wet carton boxes in Elwak, Kenya. © ALIN, 2011

See also

'For Climate Change Adaptation, Traditional Knowledge is Critical', Conservation International blog
<http://bit.ly/nPSXW5>



Vulnerability in Ethiopia's pastoral communities

Case study

Pastoralists in Ethiopia struggling with weather patterns that are increasingly unpredictable.
© Yohannes, snnprpastoral.gov.et

Droughts have occurred in the Ethiopian lowlands throughout history. Strategies to cope with and adapt to drought are embedded in local communities' social structures and resource management systems. For example, pastoralists store surplus milk and butter to distribute to poor households with no milking animals, especially during dry seasons.

In Ethiopia's Borana and Shinile zones, most people are pastoralists or agro-pastoralists. Livestock kept in the area include cattle, sheep, goats and camels, and the number of livestock determines the level of household wealth. People also sell their livestock; exports from Borana contribute significantly to the national income. The main crops grown are maize, teff, sorghum and haricot beans.

The scale of current climate change, combined with environmental, social and political pressures, means that many traditional strategies are no longer effective. Drought and extreme heat have great impacts on natural resources. For example, livestock become less resistant to disease – they often die because of the extreme conditions – and less productive in terms of milk and meat. This reduces livestock prices, since the livestock sold are emaciated, which in turn reduces household incomes.

In these circumstances, pasture areas become greatly reduced, overgrazed (as there is less pasture available) and degraded. In addition, the amount of water

available is very limited. This forces women to travel further to collect it, and greatly increases crop failure in agro-pastoral areas.

These problems lead to greater food insecurity and malnutrition among pastoralists. There are also social problems: conflicts increase due to competition over scarce resources during drought years, especially in Borana, and school drop-out rates among children increase due to community migration in search of water. Human diseases and death rates also increase during droughts.

How to prepare for climate change

The lowland communities need new adaptation strategies to complement their traditional ones. One way could be modifying livestock diversity, composition and numbers. In Borana, cattle and sheep are especially vulnerable to drought, but goats and camels are less affected by pasture degradation and bush encroachment, since they are 'browsers'. Investing in goats and camels would make pastoralists less vulnerable to drought.

Another option is to pursue alternative livelihood activities. In the lowlands, these include casual labour in the construction industry, the sale of livestock products (such as milk), beekeeping, and the production and sale of vegetables. People also gather firewood and make charcoal, and collect water, minerals (such as gold, marble and granite), incense and natural gum to sell.

Pastoralists' ability to adapt to climate change is currently constrained by many factors. These include limited access to information (for example about weather, climate change, and pest and disease outbreaks), low education and skills, limited financial resources, and few accessible new markets in which to sell products. These limitations need to be addressed by non-governmental organisations and the government. Furthermore, the Ethiopian Government should:

- re-evaluate the role of pastoralism in Ethiopia's development, including policies to clarify land tenure systems that allow vital pastoral mobility
- improve the coordination, communication and information-sharing between different government agencies, from national to local levels, especially information related to weather, climate and food security
- buy weak and old animals from pastoralists early, when livestock prices are still high.

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Join the *Joto Afrika* debate online

Joto Afrika Eldis Community Group: <http://bit.ly/bM3ESo>

Joto Afrika Facebook Group:
<http://bit.ly/aMNLth>

Letters to the editor

We welcome your feedback on this seventh issue of *Joto Afrika*. Please send us your thoughts using the contact details on **Page 8**. Please include your full contact address or email. A selection of letters will be printed in the next issue.



Dear Editor,

We are grateful and excited about *Joto Afrika*. It is very informative and written in the simplest language, which most of our local communities – especially the farmers – can understand. It explains climate change, its causes, current indicators/impacts, and what it means to our future in the forthcoming editions I would wish to see the following:

- More insight on the causes of climate change and the tangible indicators to a common citizen.
- How we can collectively mitigate climate change.
- How do we link the local NGOs and CBOs with the various national and international organisations trying to capacity build or fund activities geared towards reducing greenhouse gases.

- For the sake of our East African Countries like Tanzania, and Kenya, we would love to have a Kiswahili edition.

As an organisation we look forward to further copies and also share information and our experiences with *Joto Afrika* readers.

Peter Mbogo
Kenya

Editor; Peter, we appreciate your feedback. For Kiswahili readers, we encourage you to repackage the English version for wider dissemination. Is this something we could collaborate on?

Dear Editor,

I have been enjoying the *Joto Afrika* series very much and would like to contribute a case study or possibly a research summary.

I work for an NGO (based in the UK) which works with groups of smallholder coffee farmers in sub-Saharan Africa. Our team works in partnership with coffee-producing organisations to help them to gain market access and get good prices for their coffee as well as supporting organisational development and capacity building projects.

We are also now working with our partners to help them adapt to climate change, since coffee is a highly vulnerable crop and will

suffer hugely with changes in temperature and rainfall.

If you think this would be a suitable topic, I could submit a case study about our work on adaptation in Uganda.

Jessica Frank
Climate Resilience Project Officer
Uganda

Editor; Jessica, We are glad you find Joto Afrika useful. Joto Afrika is thematic; however you can submit your case study to be considered in our future editions.

Dear Editor,

Congratulations for your endless efforts to educate Africans on the need for environmental conservation. After going through the detailed publication about the REDD programme you have made me realise that I am the *change* my community is waiting for.

I work on community projects in the Kenyan Taita-Taveta County. Most of the community here are engaged in mining, pastoralism, commercial tree logging and small-scale farming. I would like to

read more on alternative fuel for our domestic use. Should we promote bio-gas in its natural state?

Mwiwawi Bristone Mwazighe
Kenya

Editor: Thank you for the question on alternative fuel. Our next issue will be on energy and we will feature case studies on alternative fuel and bio-gas. Please look out for that issue as well.

Evaluate *Joto Afrika*!...

Dear Readers,

Greetings from the *Joto Afrika* team.

We are evaluating *Joto Afrika* from July to September 2011. Our aim is to not only ensure that we have sufficient evidence to inform decisions about *Joto Afrika* in the future but to also understand how people access and use climate change adaptation information. We hope you can help us by providing feedback on:

- the relevance of *Joto Afrika* – the magazine and the online videos
- how you have used it in your work
- how we can improve it further.

We will use different evaluation methods: face-to-face interviews, online questionnaires and telephone conversations.

Our evaluation is now online in english and french. Why not take a few minutes and do it now: **English version:** <http://svy.mk/r9u0E0>
French version: <http://svy.mk/ncfXnH>

If you are happy for us to contact you via telephone/Skype or for a face-to-face interview, please send us your number so that we can call you. You can email the details to jotoafrica@alin.net or text +254 717032322 and start with the word 'Joto'.

Thank you for your help with this!

The *Joto Afrika* team





Livestock insurance in northern Kenya

Case study

Education on livestock insurance in Marsabit, Kenya. © ILRI 2009

With livestock dying from lack of pasture and water, the pastoral way of life is being reduced to a struggle for survival in northern Kenya. Pastoralists may soon lose all of their livestock as the effects of drought continue, which in turn will also affect livestock markets.

Index-based livestock insurance (IBLI) gives pastoralists protection against climate-related risks such as drought-induced livestock losses. This reduces the likelihood of descending into poverty. IBLI is based on the level of forage available for livestock to feed on. Because this cannot be influenced by insurers or policy holders, it is relatively simple and transparent, especially given that satellite-based data on forage is readily available. This makes such products easier to administer and consequently more cost-effective to develop and sell.

Insurance in Marsabit

In January 2010, the International Livestock Research Institute (ILRI), together with its commercial partners UAP insurance, Equity Insurance Agency and Swiss Re Insurance, launched a pilot IBLI project in the Marsabit region of Kenya. To begin, ILRI and partners identified village members to act as insurance promoters. They were trained to promote insurance products and advise pastoralists about where they could buy insurance. Currently, they have two sales devices – ‘hunger safety net’ and scanner-based cell phones.

The insurance is sold during the dry periods (January–February and August–September). Pastoralists pay between

3.25 percent and 5.5 percent of the value of their herds to insure them for a year. For a cow, the cost starts at 467 Kenyan shillings (KES), about US\$5.20; it is KES50 (less than a dollar) for a goat or sheep. The smallest insurable unit is a ‘tropical livestock unit’, which is equivalent to one cow. Livestock keepers determine what percentage of their livestock they can afford to insure.

The prevailing drought in Kenya is expected to affect an estimated 1.8 million people, according to Abbas Gullet of the Kenya Red Cross Society; these people are mostly pastoralists, agro-pastoralists and those living in marginal agricultural areas.

Payouts depend on predicted livestock mortality rates. The project uses satellite imagery to determine and predict forage scarcity, and when animals are likely to starve. The scheme pays out after detecting a 15 percent level of predicted mortality. It then issues insurance payouts to insured pastoralists. The payout periods are usually after the long dry period (end of September) and after the short dry period (end of February).

Impacts

The pilot project has achieved some success. About 2,500 households in Marsabit district have bought insurance cover, showing a willingness among pastoralists to try new approaches.

The impact of the project is currently being assessed to find out whether it can be extended to other districts. However, there are some clear challenges:

- Many pastoralists do not understand the concept of insurance and have little or no previous experience with it. Due to this confusion, some demand payouts when they lose their livestock even if their animals’ death was not caused by drought.
- The region has poor infrastructure. This makes it more challenging to access the area and provide extension services.

There is a need for continuous education and training for pastoralists, so that they can understand insurance products better. More commercial partners will also need to invest if the scheme is to develop further.

Brenda Wandera

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See also

For more information on this scheme, visit www.ilri.org/ibli

Index-based livestock insurances
<http://bit.ly/iuogjl>

Video on pastoral livestock insurances
<http://bit.ly/lfxQku>

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