

# Considering the future of the rangelands:

Participatory Scenario Analysis in Isiolo, Kenya

October 2018

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#### Written by Mark Tebboth and Roger Few, University of East Anglia

The five-year ASSAR project (Adaptation at Scale in Semi-Arid Regions, 2014-2018) uses insights from multi-scale, interdisciplinary work to inform and transform climate adaptation policy and practice in ways that promote the long-term wellbeing of the most vulnerable and those with the least agency.

#### Managing the availability of pasture in Kenya

- Pasture scarcity is a huge issue for pastoral and agro-pastoral populations in semi-arid lands, with impacts on livestock and the wellbeing of populations. It contributes to increased levels of population migration, creates conditions for conflict, and leads to other negative impacts.
- To date, the different ways of managing the availability of pasture have struggled to mitigate these issues.
- Our research shows that stakeholders from communities, government, and non-governmental organisations (NGOs) tend to have similar preferences for how to deal with pasture scarcity, although there are some key differences.
- At grassroots level, preferences for addressing the issue of pasture scarcity are influenced, for example, by age, gender, location, and the main livelihood of the affected community.
- This underlines that different management approaches will result in different sets of people doing better or losing out. Such trade-offs need to be made explicit in the design and consultation phases of interventions to address pasture scarcity. It is important to consult and engage with affected communities in ways that are sensitive to differences in perspectives within and between communities.

#### Participatory Scenario Analysis (PSA): Understanding the future together

Using a novel research method called PSA, the ASSAR research team brought together a wide range of stakeholders who are directly affected by pasture scarcity, to explore the issue and analyse different possible management solutions in Kenya's drylands. Over a six-month period, we engaged with three communities in Isiolo and Meru counties: Kachuru, Kulamawe, and Kina. We also worked with a number of representatives from government and non-governmental organisations.



#### What is PSA?

PSA is a deliberative process through which groups of stakeholders – including those traditionally excluded from decision-making – are guided through an exploration of the positive and negative trade-offs associated with different visions of the future. PSA facilitates engagement with communities that are currently politically marginalised, and encourages their views to be better incorporated into decision-making processes around pressing environmental concerns that affect their lives.

### Pasture scarcity: challenges and opportunities

- Kenya's semi-arid rangelands have long been the home of pastoralist communities that shift the location of their herds in response to changing availability of water and pasture.
- Traditional rangeland practices tended to regulate pasture use to ensure availability of resources, especially in times of scarcity.
- As a result of complex interacting factors including land use and land tenure changes, population dynamics, and environmental change, ensuring equitable and sustainable access to pasture has become a challenging issue in recent decades, and has been especially strained during times of drought.
- Changes in climatic conditions threaten to exacerbate these problems. Longer dry periods and rising temperatures can reduce the availability of soil moisture to maintain pasture cover.
- To respond to the threat of climate change and the ongoing issues regarding the availability of pasture, people and
  institutions at all levels need to adapt and re-evaluate the ways they manage climate-related risks, now and into the
  future.



### Plans for improving pasture availability

ASSAR's PSA in Kenya supported communities in sharing their views about the strengths and weaknesses of different potential management approaches to improve access to pasture. Using a workshop format, the ASSAR PSA guided participants through a series of activities during which they discussed the impacts of pasture scarcity, explored how pasture availability may change in future under anthropogenic climate change, and then analysed different management scenarios.

By analysing scenarios of how to manage pasture in future, participants were able to think through the

respective strengths and weaknesses of alternative approaches and to make judgements about how different social groups might fare. For example, the younger generations might do better in some scenarios compared to others. Or people living closer to settlements and watercourses may receive greater benefits than those who live in more remote locations. Descriptions of each scenario were presented using a visual image to help engage participants and make the workshops more accessible to non-literate participants.



#### How climate change is expected to affect Kenya

- The Greater Horn of Africa<sup>1</sup> is expected to warm faster than the rest of the world. Although there are major uncertainties about annual rainfall change, climate projections indicate that longer dry spells and shorter wet spells may become the norm.
- For Kenya more specifically<sup>2</sup>, local warming is expected to be greater than the global average, with significant impacts for the already-warm climate. Even a 1.5°C increase in global temperature will severely affect agriculture, health, and other vulnerable sectors. Under an increasing emissions trajectory, the 1.5°C threshold could be breached within the next decade, and the 2°C threshold the decade after. As impacts will increase with each half degree increment there is an urgent need to strengthen the country's planned adaptation responses.
  - <sup>1</sup>Osima, S. *et al.* 2018. Projected climate over the Greater Horn of Africa under 1.5°C and 2°C global warming. *Environmental Research Letters*.
  - <sup>2</sup> ASSAR. 2018. What global warming of 1.5°C and higher means for Kenya. [Infographic]. Adaptation at Scale in Semi-Arid Regions (ASSAR).

### Different communities. A common problem.

#### **KACHURU**

Kachuru is a small village of roughly 2,000 people that lies on the border between Isiolo and Meru. The community is a mixture of Boran and Meru people. The village has received little attention from government and external non-governmental organisations. The main sources of livelihood for people here are pastoralism and small-scale trading.





#### **KULAMAWE**

Kulamawe is located east of Kachuru on the road heading from Isiolo and is connected by dirt road to Kina to the south. The large village of approximately 4,500 people has numerous shops, hotels, and guesthouses. It has three primary schools, one secondary school, several mosques and other municipal buildings. Its economy is dominated by pastoralism and petty trade.

#### **KINA**

Kina is a small town within Isiolo county located to the east of Meru county, and to the south of Kachuru and Kulamawe. The location is one of the key areas in which the Resource Advocacy Programme (RAP) has been operating. RAP is a pro-pastoralist project that advocates for the restoration of the traditional (Dedha) system for communal management of rangelands. Kina has an estimated population of 5,500 people. The town is large enough that it has a service sector, and it is likely that many residents have mixed occupations, though pastoralism clearly remains a major livelihood type and source of income for many.



### **PSA workshops**

During the main stage of the PSA, we held discrete workshops with different stakeholder groups to understand who the winners and losers are likely to be in the near future under four different management approaches to address the issue of pasture scarcity. The workshops were similar to group interviews. We asked participants about the problems that pasture scarcity causes and their opinions on a range of potential management approaches. Our aim was to understand how these management approaches could assist or impede adaptation over the next five to 10 years. Along with the workshops with the three communities in the drylands around Isiolo, we held two additional workshops: one with a group of representatives from local government, and another with representatives from NGOs and civil society organisations (CSOs). We held separate workshops so we could explore whether different stakeholders had different perceptions of the problem and whether they favoured different management approaches.



#### **Community workshops**

We held workshops in Kachuru, Kulamawe and Kina. In each workshop, for most of the discussions the participants were split into four groups: older women, older men, younger women and younger men. Although the numbers varied a little, each group generally had about six people. This was to ensure that people felt more at ease to speak freely, rather than deferring to others who traditionally have greater social standing on account of their age and gender. This approach helped us understand if there were any key differences in perception according to age or gender.

#### **Government workshop**

The participants for the government workshop were drawn from Isiolo and Meru counties. They represented the Department for Agriculture, Livestock and Fisheries, Meteorological Department, National Environment Management Authority, and the Water Resources Management Authority.

#### Non-governmental workshop

The participants for the non-governmental workshop represented a mix of international NGOs and local CSOs that were working, or had been working, on issues associated with pasture scarcity in the region. The NGOs included representatives from CARITAS, ActionAid International, and the Resilience and Economic Growth in the Arid Lands–Accelerated Growth (REGAL-AG) project. The CSOs included representatives from Kenya Camel Association, Isiolo Peace Link, Pastoralist Women's Health and Environment Network, Resource Advocacy Programme, Merti Integrated Development Programme, Leparua Conservancy, Naisulu Conservancy, and the Northern Rangelands Trust.

#### **Feedback meetings**

After the main stage of the PSA process we held a further meeting in Isiolo with multiple stakeholders. At this meeting, we shared results from the workshops and focused on steps that could be taken locally in the short, medium and long terms to support activities that promote effective and equitable management of the rangelands.

### Four scenarios for dealing with pasture scarcity

In the first phase of the PSA process, we gave workshop participants four management scenarios for addressing issues of pasture scarcity and asked them to rank their preferences. Participants discussed in groups the advantages and disadvantages of each of the four management scenarios, focussing in part on how these might affect different population groups. They also reflected on the social and ecological trade-offs involved in each. Each person was then given a ballot paper listing the four different scenarios. Individuals were given 10 votes, and ranked each scenario according to their preference: four votes for the most preferred, three for second best, two for the third best, and one for the least preferred. These results were aggregated for each group (in the community workshops these were the socially-differentiated groups based on age and gender) to create scores which were discussed further by the participants as a whole. Our findings combine the statistics from the scoring (number of votes cast, and the first and second-choice preferences) with key points arising from the discussions.

#### Scenario 1: Enclosures with socially-progressive policies

- Increasing amount of land enclosed as private, communal or group ranches.
- Wealthier individuals and communities able to control more land (through enclosures).
- Socially-progressive policies to encourage greater equality in livestock holdings.
- Greater provision of feed resources, fodder banks, and strategic rehabilitation of degraded rangeland areas.
- Increasing uncertainty about climate change in terms of aridity and extreme events.



#### Scenario 2: Increasingly formalised land zoning

- Land is zoned into different uses: for pastoral uses (wet, dry and drought reserve), wildlife, agriculture, urban, industry, etc.
- Increasing amounts of land given over to conservancies.
- Access rights are formalised and recognised by different users.
- Inaccessible rangeland opened up through conflict resolution and strategic provision of water points.
- Increasing integration of pasture management, livestock and crop production boosts access to feed resources.
- Increasing uncertainty about climate change in terms of aridity and extreme events.





#### Scenario 3: Reduction in number of herds and transition out of pastoralism

- Overall reduction in number of herds and fewer 'active' livestock owners.
- Through progressive social policies, poorer households are supported to diversify out of pastoralism into, for example, farming, (self-)employment, urban-based livelihood activities, etc.
- Herd accumulation for those that remain; increasing levels of wealth and ability to cope with livelihood shocks and stresses.
- Increase in co-ownership of herds and absentee livestock owners allows those that have diversified to retain interest in pastoralism.
- Increasing uncertainty about climate change in terms of aridity and extreme events.



#### Scenario 4: Changing herd composition and increasing preference for markets and sales

- Switch from grazers (cattle and sheep) to browsers (camels and goats) that are better suited to arid conditions.
- Improved extension and veterinary services reduce losses in times of stress (disease, parasites, etc.).
- Increased access to markets supports a shift to greater commercialisation.
- Increasing uncertainty about climate change in terms of aridity and extreme events.



### Key findings: community workshops

Across the three communities, scenario 2 (zoning of land) and scenario 4 (changing herd composition) consistently scored the highest<sup>3</sup>. These scenarios received the highest number of  $1^{st}$  and  $2^{nd}$  choice preferences<sup>4</sup>.

**Figure 1:** Total votes for each scenario, broken down by social group in each location. Combined scores show the mean votes across the four sub-groups (20-24 participants in each community, split into four equal sub-groups).



**Figure 2:** 1<sup>st</sup> choice preferences broken down by social group in each location. Combined scores show the mean votes across the four sub-groups (20-24 participants in each community, split into four equal sub-groups).



**Figure 3:** 2<sup>nd</sup> choice preferences broken down by social group in each location. Combined scores show the mean votes across the four sub-groups (20 participants in each community, split into four equal sub-groups).



<sup>3</sup> This is based on the accumulated scores given by individual participants, with 1<sup>st</sup> ranking scenario scoring 4 points, 2<sup>nd</sup> scoring 3 points, and so on.
 <sup>4</sup> Note that information on voting by individuals was unfortunately not retained for all groups, resulting in some data gaps in recording 1<sup>st</sup> and 2<sup>nd</sup> preferences - as seen in Figures 2 and 3.

Increasingly formalised zoning of land was the most favoured scenario in Kina. Overall, scenario 2 was scored the highest across the community participants, and was selected as  $1^{st}$  choice by 12 of the 22 participants. Scenario 4 scored second highest and was selected most commonly as  $2^{nd}$  choice, although scenario 3 was close behind.

Some gender differences between the community groups are apparent. Though scenario 2 consistently scored highly, it was favoured more strongly by the two male groups, across which 10 out of 12 participants ranked it 1<sup>st</sup>; by contrast, in the female groups only two out of 10 people ranked it 1<sup>st</sup>. Indeed, in the female groups the 1<sup>st</sup> and 2<sup>nd</sup> choice rankings tended to be more evenly distributed across scenarios, but with slightly more preference given to scenarios 4 and 3 respectively.

The popularity of scenario 2, more pronounced among men, was most frequently expressed on the grounds of improving pasture quality, increasing income from livestock, reducing influx of other pastoralist groups, and achieving greater equity within the community over access to resources.

However, it is important to note that these views expressed in Kina may also relate to some specific views people had of two different existing trends within the broad 'zoning' theme: a) the movement to restore the Dedha system; and b) the movement to establish conservancies. In some discussions at least, scenario 2 became equated positively or negatively with these (e.g., there were some concerns that the existence of conservancies would reduce access to water and grazing at critical times and exacerbate conflict).

Changing herd composition (scenario 4) performed consistently well across the groups. Respondents saw it as a way to boost livelihood income through improving water and pasture resources, strengthening livestock health, and lowering production costs. However, the last two advantages were not clear. Respondents expressed concerns that changing herd composition might adversely affect livestock health and raise production costs, in part because of their lack of knowledge about management and disease control for new livestock types. There were also concerns that this scenario would create environmental degradation, and prove to be a less feasible option for the poor.

Scenario 3, notably, also performed quite well as a preference, largely on the grounds that remaining herders (large and small) would benefit from improved access to water and better pasture, while others would be enabled to develop alternative occupations. The main negative point expressed about this scenario was that it would lead to erosion of the indigenous cultures tied to pastoralism.

Scenario 1 was consistently the least popular, although it was ranked highly by two of the women in the older women's group. Secure access to good-quality water for those wealthy enough to enclose resources was seen as a major advantage and boost to livestock health. The poor, on the other hand, would struggle to find adequate water for their animals, raising equity concerns expressed directly by two of the groups.



#### Kachuru



In Kachuru, overall, scenario 2 was scored the highest across the community participants<sup>5</sup>. Scenario 4 scored second highest but - as for Kina - was closely followed by scenario 3.

The consistent high scoring for scenario 2 (highest in all groups, and was the choice most often ranked  $1^{st}$  or  $2^{nd}$ ) indicates that this scenario was uniformly popular. Some gender/age differences are revealed in the details of other scores. However, the most notable is the very low score given to scenario 4 by the older men (none of whom gave it  $1^{st}$  or  $2^{nd}$  ranking). This was in marked contrast to all other groups, especially the two women's groups who gave scenario 4 a scoring close to that of scenario 2. Instead, the older men gave scenario 1 the second highest scoring, with two out of five giving it  $1^{st}$  or  $2^{nd}$  ranking. Again, by contrast, scenario 1 achieved the lowest scorings for each of the other groups.

Reasons expressed in Kachuru for the high preference for scenario 2 included improvements in pasture quality, reduced influx of herds from outside, and increased household income and welfare. Some concerns, however, were raised around livestock mobility restrictions and the potential for increased conflict.

Scenario 4 was favoured strongly by all groups except the older men (no clear reasons expressed). Respondents saw this option especially as something that could improve water access, livestock health and income from animals. As with the workshop in Kina, however, there were concerns that lack of skills in herd management and higher production costs could offset some of these potential gains.

As in Kina, scenario 3 was seen as a way to ensure continuing good access to water and pasture for remaining herders, boosting their income, but also offering other paid work opportunities and the possibility to accumulate wealth through those means. But, again, three of the groups expressed a concern for the loss of indigenous culture, plus a fear that older people and children could be disadvantaged by reduced supply of milk, or an inability to make the transition in the case of the elderly.

Scenario 1, which was scored quite highly by the older men, had positive comments mostly in relation to securing good water access, keeping out intruding herds, reducing the burden on households of seasonal migration, and providing a chance to accumulate income from production of fodder and access fees for pasture and water. Though it would benefit the wealthy more, it was argued that small herders could also benefit from enclosing land, though there was a risk of increasing conflict through the scenario.

<sup>&</sup>lt;sup>5</sup> Unfortunately, information on individual rankings was not retained by the workshop team for two of the community groups and hence cumulative information on 1<sup>st</sup> and 2<sup>nd</sup> preferences is limited for this community.

#### **Kulamawe**

In Kulamawe, overall, there was a notable difference in preferences from the previous two communities. Scenario 4 scored the highest across the community participants<sup>6</sup>. Scenario 2 scored second highest. Also, in this workshop the scorings for scenario 3 were slightly lower relative to the other communities, making it clearly third place.

There was consistent very high scoring here for scenario 4 (highest in all but the younger men's group, in which it scored almost the same as scenario 2). In all groups this scenario was ranked either  $1^{st}$  or  $2^{nd}$  by every participant. Scenario 2's scores among the groups follows the same pattern, with all scoring it as  $2^{nd}$  highest, except the young men's group who gave scenario 2 the top score and had five out of seven of its members rank it as  $1^{st}$  preference. Scenario 3 was consistently in third place in scorings across the groups, dropping to its lowest score in the older men's group in which it tied with scenario 1 - the option clearly least favoured by all other groups.

The very strong performance of scenario 4 in the Kulamawe workshop is not easy to explain relative to the other communities, though it may well relate to the existing awareness people have here of the potential for camel and goat husbandry. Reasons expressed were oriented around improved income from livestock, especially because of better livestock health during drought (camels and goats tend to cope better with exceptionally dry conditions). The potential to sell camel's milk was seen as a major economic advantage for women, and the availability of the milk as a boost for children's health. The main concerns, as above, were environmental degradation by camel herds, higher production costs, livestock health risks, and inability of the poor to acquire different animals. Also, it was noted that some Boran clans have taboos on consuming camel

#### meat and milk.

Scenario 2 did not come first overall in Kulamawe but performed well again, especially among the younger men's group. It was seen as a key way to improve pasture quality and raise livestock incomes, especially for the benefit of small herders. Both women's groups saw it as a mechanism to enable farming income too. There were arguments that it would reduce influx of external herds, but also counter-arguments that the effectiveness of regulation depends on strong enforcement of access rules by the leaders which cannot always be assumed. Issues of overuse of water sources were raised, together with disease risk and potential for increased conflict.

Scenario 3 was regarded positively for the same reasons as those expressed in Kachuru, together with the opportunity to improve livestock health and reduce migration burdens because of fewer herds using the same lands. However, the scenario was also strongly criticised for favouring larger herders over the poor. It was seen as a difficult option for female-headed households and the elderly, while presenting nutritional challenges due to lack of milk for children, the elderly and pregnant women. It was suggested that such change could also induce stress-related illness and family break-ups, and bring a loss of indigenous culture.

The advantages of scenario 1 were typically expressed in terms of pasture quality, control of influx, livestock health, reduced migration burden, and potential for engaging in farming on enclosed land (expressed in both the younger groups). Again, some respondents saw potential for this to be a good option for small herders and landowners. Equally, however, concerns were raised about access to water (for herders in general), conflict issues, and livestock health if animals live in confinement.



<sup>6</sup> Unfortunately, information on individual rankings was not retained by the workshop team for one of the community groups and hence cumulative information on 1<sup>st</sup> and 2<sup>nd</sup> preferences is limited for this community.





### Findings from government and NGO workshops

The workshops with local government and NGO representatives followed a slightly streamlined one-day agenda compared with the two-day community workshops. We gave less time to contextualising the issues and introducing the approach. In other respects, the process was the same with discussions and scoring exercises undertaken for the different management scenarios.

#### **Government preferences**

The scoring among government representatives was unanimous over the first choice scenario: **all eight people ranked scenario 2 the highest**.

The distribution of subsequent preferences was more uneven, although scenario 4 came a clear second, with a narrow range of individual scores.

Scenarios 1 and 3 achieved similar scores to one another, although preferences for scenario 1 showed some division between participants with three out of eight people making it 2<sup>nd</sup> choice and four people making it 4<sup>th</sup> choice.

The popularity of scenario 2 was based mainly on perceived advantages for pasture quality, livestock wellbeing, and strengthening of the income base for

communities. Zoning was seen as a means - already in practice through the Dedha system - to ensure reserved areas for dry season grazing. It was seen to enable better distribution of land access at a time of competing uses, and also to allow for fodder production and crop production. However, enforcing the system can be a challenge and may need government regulatory assistance. The same problem of preventing influx of other herders - both local and from a distance - affects conservancies, which were argued to be a positive initiative for protecting wildlife and bringing in tourism revenue. However, local management may be required as, in some cases of external management, indigenous communities have been denied access to land and thereby pushed into conflict with neighbouring communities.

Table 1: Scenario scoring and preference voting for government representatives.

| Government | n | Score        | 1 <sup>st</sup> choice | 2 <sup>nd</sup> choice | 3 <sup>rd</sup> choice | 4 <sup>th</sup> choice |
|------------|---|--------------|------------------------|------------------------|------------------------|------------------------|
| Scenario 1 | 8 | 15 out of 32 | 0                      | 3                      | 1                      | 4                      |
| Scenario 2 | 8 | 32 out of 32 | 8                      | 0                      | 0                      | 0                      |
| Scenario 3 | 8 | 14 out of 32 | 0                      | 1                      | 4                      | 3                      |
| Scenario 4 | 8 | 19 out of 32 | 0                      | 4                      | 3                      | 1                      |

Scenario 4's favourable scoring was related particularly to the greater ability of goats and camels to survive drought than sheep and cattle, as well as arguments about lower production costs – especially for goats which are seen as less costly to manage than cattle. Camels were seen as a good source of income, especially for women trading camel milk. Camel milk also has benefits as a source of nutrition for children. It was stated that some communities already knowledgeable about browsers are changing their herds, but need to be educated about rearing browsers together and supported with mechanisms to ensure that animals can be marketed



and sold. There are also fears among some people that the presence of camels generates conflict.

**Opinions on scenario 1 were more divided**. Positive aspects were the prospects for better management of land within enclosures, especially for group ranches where communal ownership, backed up by regulatory measures, was said to lead to better grazing patterns. However, there were major concerns around equity and the capacity of the wealthy to acquire more land, thereby exacerbating conflict. Women lacked rights to enclose land and so were particularly disadvantaged.

Transitioning away from pastoralism (scenario 3) was seen as something that has often been forced on people by drought, cattle rustling and/or historic policies. Sometimes, it leads to higher incomes but not always with permanent effect. It was felt most likely to be successful if achieved through a shift to agro-pastoralism, in which people could retain their association with an animal husbandry lifestyle. However, farming may be perceived by people as more demanding in terms of the need for employment expenses. Lack of capital is likely to be an impediment for the poor to change livelihoods, and certain types of change may lead household members to split into different locations, with associated social costs.

#### **NGO preferences**

The ranking by NGO representatives was much more heterogeneous than for the governmental group, resulting in a more even distribution of combined scorings. All scenarios achieved reasonably high scores, and all scenarios received multiple 1<sup>st</sup> or 2<sup>nd</sup> choice votes.

Overall, scenario 4 scored marginally the highest and had the highest number of  $1^{st}$  preferences. However, its range of preferences was broad, with 3 people putting it in  $4^{th}$  place.

Scenario 2 came a close second but its range was narrower, with 10 people listing it as  $2^{nd}$  or  $3^{rd}$  choice.

As with the governmental group, scenarios 1 and 3 achieved similar scores to one another, and in this case the preferences for both were spread out broadly across the options.

The strong but somewhat mixed performance of scenario 4 was matched by differing interpretations of why it is a likely scenario to take effect. For some, it is the existence of drought that will push people toward herding more drought-resistant animals that graze on trees whose roots enable growth even during times of low rainfall. For others, the driver is more economic than climatic, on the grounds that higher prices for camels and their milk would bring people more income. However, knowledge of camel husbandry and health is a barrier, and camels risk exacerbating conflicts between pastoralist groups, and between pastoralists and other land users. The latter is because of the space camels need to roam, and the ecological and physical damage that browsing camels can bring, such as destruction of fences.

The similarly strong showing for scenario 2 was based primarily on the argument that it would lead to more equitable management and overall improvement of pasture. It was argued that pastoralists would benefit from a communally-regulated system because it would reduce conflict between different land users due to increased recognition of rights, and better processes through which access could be negotiated. It could also enable mixed land use, including crop production, thereby enhancing diversification. It was further argued that women and children would benefit from this zoning of land since they would have all they need in one place: livestock would be close by, which means they could access milk and animal products no matter the season. However, some participants claimed that zoning restrictions might not suit all, and may not be compatible with expectations of unregulated common access. Moreover, regulations have the potential to be poorly managed and it was claimed that they could exclude access for some vulnerable groups, including femaleheaded households.

Table 2: Scenario scoring and preference voting for NGO representatives

| NGO        | n  | Score        | 1 <sup>st</sup> choice | 2 <sup>nd</sup> choice | 3 <sup>rd</sup> choice | 4 <sup>th</sup> choice |
|------------|----|--------------|------------------------|------------------------|------------------------|------------------------|
| Scenario 1 | 11 | 25 out of 44 | 3                      | 1                      | 3                      | 4                      |
| Scenario 2 | 11 | 30 out of 44 | 1                      | 6                      | 4                      | 0                      |
| Scenario 3 | 11 | 24 out of 44 | 2                      | 2                      | 3                      | 4                      |
| Scenario 4 | 11 | 31 out of 44 | 5                      | 2                      | 1                      | 3                      |

Scenario 1 was seen as an option that could strongly benefit those able to enclose land. It would enable them to maintain or increase their herd size, and settle in one location with benefits for the education of children. It could also work well, specifically, to rehabilitate weak or sick animals because they would not need to move far for pasture, and could re-join mobile herds when they recover. Others countered that enclosures cannot support large herds and if the grass within them diminishes then fencing may be counter-productive. Some noted that wealthy landowners in Samburu misused enclosures. Although they have large enclosures, they continue to graze their animals on pasture outside their enclosures, reverting to their private land only during the dry season. Access to water resources enclosed within private land was also a concern for the poor who could not engage in enclosure ownership. Enclosed land was seen as a source of conflict over resources and of human-wildlife conflict.

The advantages of scenario 3 were articulated mainly in terms of reducing environmental degradation through reduced herd sizes and bringing social benefits, such as women who change livelihoods no longer having to tend herds away from their children. Some comments stemmed from what seems to be a modernist perspective on traditional culture. For example, the intercultural exchange associated with a transition away from pastoralism might relax cultural practices seen as restrictive (such as dowry expectations). Also, through engagement in mainstream education children could become less likely to return to pastoralism. However, it was also argued that transitioning away from owning animals is culturally difficult. It affects social status (including dowry norms) and demands learning a new lifestyle. Moreover, it disadvantages those who lose their herding jobs, trade in livestock products, and rely on milk supply for nutrition (children and the elderly).

## What different preferences mean for addressing the issue of pasture scarcity

**Figure 4:** Combined scores for each scenario showing the mean of the three communities (67 people), government representatives (8 people) and NGO representatives (11 people). The totals have been weighted to enable comparison.



**Figure 5:** 1<sup>st</sup> choice preferences for each scenario showing the mean of the three communities (67 people), government representatives (8 people) and NGO representatives (11 people). The totals have been weighted to enable comparison.



**Figure 6:** 2<sup>nd</sup> choice preferences for each scenario showing the mean of the three communities (67 people), government representatives (8 people) and NGO representatives (11 people). The totals have been weighted to enable comparison.



### Summary of findings by group



#### **Communities**

- Across the three communities, scenario 2 (zoning of land) and scenario 4 (changing herd composition) consistently scored the highest. These scenarios received the highest number of 1<sup>st</sup> and 2<sup>nd</sup> choice preferences.
- Scenario 2 was generally most favoured, although the positions were reversed in Kulamawe, where scenario 4 emerged on top.
- Scenario 4 achieved slightly higher relative scores among women than men, though results on this were strongly skewed by one community (Kachuru).
- In two cases, in Kina and Kachuru, scenario 3 (transitioning out of pastoralism) also performed quite well.
- Scenario 1 (enclosures) generally scored low, though slightly higher among older groups.

#### **Government representatives**

- Scenario 2 was ranked highest by all eight people, and therefore was 1<sup>st</sup> preference for all participants.
- Scenario 4 came some way behind but was a clear second, with a narrow range of individual scores and the most 2<sup>nd</sup> preferences.
- Scenarios 1 and 3 achieved similar scores to one another, although preferences for scenario 1 showed division between participants.





#### **NGO representatives**

- Scenario 4 scored marginally the highest and had the highest number of 1<sup>st</sup> preferences. However, its range of preferences was broad.
- Scenario 2 came a close second but its range was narrower.
- Scenarios 1 and 3 achieved similar scores to one another, and the preferences for both were broadly spread.

### Analysis

In terms of scoring and 1<sup>st</sup> choice preferences, the intention of the government representatives most closely matched the overall preferences of the communities in selecting scenario 2. However, the very strong preference among the government group for scenario 2 was slightly tempered in the communities where responses were more mixed.

The NGO group's relatively higher placing of scenario 4 appears quite different from the government results in this respect. However, the NGOs also strongly supported scenario 2. This matches the way that both scenario 2 and scenario 4 were supported in the communities – especially within Kulamawe, where scenario 4 scored highest.

Perhaps the strong favouring of a scenario based on landuse regulation is not surprising for governmental officers for whom this may be one of the principal tools of resource management intervention (although, arguably, scenarios 3 and 4 could also correlate with the practices of extension services). In the communities and among NGOs, a more diverse set of personal perspectives focussing alternatively on private wealth creation, market access, livelihood diversification, social vulnerabilities, and gender dynamics was shown.

It is notable, perhaps, that scenario 4 had slightly higher support among women – at least in the poorest of the communities. The value of camel milk production as an innovative small business opportunity for women may be part of this. However, the skewing of the data by results from one community suggest that caution is advised in making this interpretation. Certainly, in both government and NGO groups there was a sense that people were already changing their herd composition to include more drought-resistant animals and this was likely to continue.

Scenario 3 received somewhat greater support within the communities than it did in either of the government and NGO groups, where it was marginally the lowest preference. This may reflect the position of many of the organisational participants and their advocacy/policy agendas which may either actively encourage pastoralism or at least make them conscious of the political sensitivities surrounding exit from pastoralism and rural-urban migration. However, many community members, while nervous of the economic risks of transitioning and its familial and cultural implications, may be actively considering or aspiring to a different livelihood basis.

Scenario 1 received greater support overall from both the governmental and NGO groups than it did in the communities, where it was roundly rejected as a priority option by most, but with slightly higher support among older community members. This option is most closely connected with a modernist economic model based on private wealth accumulation. Thus, it is perhaps not surprising that certain older, possibly 'elite' community members might view this more favourably than others, along with some governmental stakeholders. What is perhaps more surprising is that some of the NGO group ranked this as their first preference, although, as with the government group, there were more representatives who placed it last in their ranking. This may reflect the diversity of NGO types in the group, with differing advocacy priorities.



### Feedback, priorities and action

Following the PSA analysis, we collated the results and shared them with the various stakeholders involved, with the aim of shifting the focus from research to clearly-identified actions to address the pasture scarcity problem.

ASSAR hosted a feedback meeting in March 2018 in Isiolo that brought together representatives from the three community workshops and the government and NGO workshops. We brought these stakeholders together so they could understand one another's perspectives and try to work together toward a shared objective that recognises different priorities and concerns and takes the trade-offs into account.

During this meeting, the findings were presented and reflected on, and then the focus of discussions moved from research to identifying a list of actions that participants could take forward individually and collectively.

#### Specifically, the workshop asked:

- Can we identify where to target our efforts?
- What actions are likely to be more or less effective? What can actually be implemented in practice? What is realistic?
- Where do we agree and disagree? How can we move forward from here?
- Are there any actions that are likely to be mutually desirable?



Priorities identified at the meeting focused on actions to encourage better and more equitable management of pasture, especially in relation to zoning of land and changing herd composition. The participants split into mixed groups, facilitated by the researchers, and each agreed on key actions. These were then presented to the whole meeting and discussed further.

#### Priority activities that emerged from the process were:

#### Zoning of land

- Shared mechanisms of negotiation between different groups around mobility and resource access.
- Better mechanisms of **information provision** on climate information, pasture condition, and infrastructure development plans.
- Registering community land to maintain or ensure access to resources.

#### **Changing herd composition**

- Community access to **markets** for livestock exchange and new livestock products including local temporary markets.
- Awareness of different approaches and information for animal husbandry using peer-to-peer learning and demonstration.
- Support for mobile extension services for new livestock breeds.

### **Looking forward**

Following this meeting in Isiolo, the ASSAR team:

- Organised additional local capacity development work to support improved management of pasture and increase knowledge concerning camel husbandry. This included peer-to-peer learning through visits of community members to other rangeland communities in Kenya.
- Identified opportunities to feed information into bills, policies, and programmes with the intention of promoting more equitable access to pasture. The main focus of this work is on county-level instruments that address natural resource management, and livestock, land tenure and climate change.



### **ABOUT ASSAR**

ASSAR uses insights from multiple-scale, interdisciplinary work to improve the understanding of the barriers, enablers and limits to effective, sustained and widespread climate change adaptation out to the 2030s. Working in seven countries in Africa and South Asia, ASSAR's regional teams research socio-ecological dynamics relating to livelihood transitions, and the access, use and management of land and water. One of four consortia under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), ASSAR generates new knowledge of climate change hotspots to influence policy and practice and to change the way researchers and practitioners interact.

For more information: Oliver Wasonga (oliverwasonga@gmail.com/oliverwasonga@uonbi.ac.ke), University of Nairobi Mark Tebboth (m.tebboth@uea.ac.uk), University of East Anglia







UNIVERSITY OF NAIROBI

This work was carried out under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), with financial support from the UK Government's Department for International Development (DfID) and the International Development Research Centre (IDRC), Canada. The views expressed in this work are those of the creators and do not necessarily represent those of DfID and IDRC or its Board of Governors.

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