

Best Practice Brief – Fodder production in Baringo County

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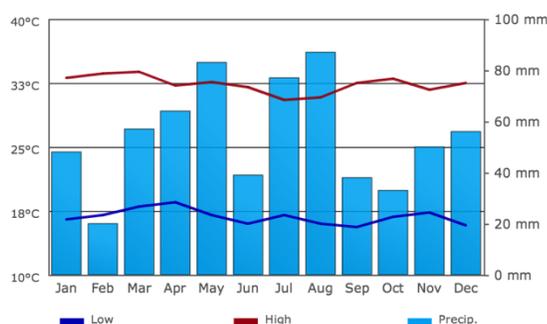
Since November 2012, a consortium of SNV Netherlands Development Organisation, the International Livestock Research Institute (ILRI) and the Kenya Livestock Marketing Council (KLMC), has been implementing the “**Enhanced Community Resilience to Drought through Innovative Market Based Systems**”-project. This EU funded project responds to concerns over the capacity of pastoralists to manage current and future climate risk as well as the sustainability of livestock production in the Kenyan Arid and Semi-arid Lands (ASALs). The project is part of the Kenya Rural Development Program (KRDP) and is managed by the National Drought Management Authority (NDMA).

In six counties – Baringo, Isiolo, Marsabit, Samburu, Tana River and Wajir – the implementing partners promote pastoral livelihoods diversification, facilitate robust markets for livestock and livestock products, and consolidate the knowledge base to enhance climate change adaptation and market orientation. Part of our interventions aim at accessing appropriate grass seeds, as well as to improve grass harvesting and marketing, haymaking, hay storage and promote steer fattening.

Baringo County

Baringo County is located in an arid area prone to drought, in Mid-Western Kenya. It has a population of 555,561 (KNBS 2009¹) and borders Turkana to the North, Samburu and Laikipia to the East, Koibatek to the South, Keiyo Marakwet and West Pokot to the West.

Baringo lies in Kenya’s Semi-Arid and Arid Lands (ASALs), and is characterised by dry spells and short rainy seasons, with annual average rainfall of 652 mm/year at Marigat (where the Maiyani group is located).



¹ KNBS 2009 Kenya Population and Housing Census Report. Republic of Kenya

The Baseline economic household survey (2013) – developed during the inception period of the project – indicated that the average monthly household expenditure in Baringo is Kshs 2,554 (approx. US\$29).

During periods of drought, lack of fodder for is often a major cause of livestock mortality. During the dry years of 2009-2011, many households lost a lot of their animals, directly resulting in increased levels of poverty and food insecurity. We believe that through sustainable fodder production and marketing, communities can benefit from less volatile / fluctuating incomes and reduced livestock mortality during drought, as they will have access to affordable hay. Since 2013 the KRDP project has been working with the Maiyani group on fodder production.

The Maiyani fodder group

The Maiyani fodder group was established in 2012 and has 18 members (4 women and 14 men), all of whom are youth. This has been the composition since they started the group by themselves in 2012, and because they are a very well functioning and closely-knit group they intend to keep the membership at 18. They have a chairman but make all decisions together by majority vote. Their farm is 16 acres, on land they have been leasing from the community (for free) for a period of five years since May 2013.



The Maiyani fodder group is among the 9 fodder groups that are engaged in commercial fodder production under the project. The group engages in fodder production, but individually they also keep small ruminants and are engaged in commercial charcoal making. The idea to produce fodder as a business - for selling and to fatten their animals - was initiated by the project. From the experience of the 2009 and 2011 droughts, of which the effects were severe, the group members quickly realised that fodder production is a business opportunity and an effective mechanism to cope with drought.

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The group started their fodder production activities in July 2013, when SNV initiated the project. The group was supported through land preparation and seed supply, however, due to low rainfall the grass did not fully establish to maturity. Based on the advice provided by SNV, KVDA and RAE Trust², the group did not cut the grass due to scanty distribution and poor root establishment as this would have damaged the roots and would result in the grass not being able to regenerate fully in the subsequent rainy season.

The first results

The Maiyani fodder group was able to get an income from their farm through three different fodder related activities.

Selling of grass seeds

After last year's rain, the group was able to sell 100 kg of grass seeds, for Kshs 300 per kg, resulting in an income of Kshs 30,000. This was sold locally as well as to RAE Trust and KVDA in December 2013. Their seeds were in high demand as they are of a very good variety, well adapted to ASAL areas. The seeds were sold at the time when people were ploughing, which is just before the rains start. The demand for their grass and seeds was high, and they did not have difficulties in accessing markets.

Fattening own animals

As the group didn't harvest the grass itself, they instead fattened 34 of their own rams by letting them graze on the fodder. These animals were fattened for 2 months after which they were sold for significantly higher prices than if they would not have been fattened. The estimated difference in selling price was Kshs 1500-2000 per goat, which can be translated in a total additional (fodder business related) income of Kshs 59,500 (=34*1750). These animals were sold at the end of March 2014.

Provision of grass for fattening of other people's animals

Next to that, 8 cows were fattened for two months by people outside the Maiyani fodder group. They paid Kshs 500 per month per cow, which resulted in a total income of Kshs 8000.

This means that for one harvest in 2013, the group was able to get a total income of Kshs 97,000. This is Kshs 5388 per member.

² Rehabilitation of Arid Environments - a Charitable Trust established in 1993 working on transforming degraded drylands into profitable rangelands for people and environment

On average, during the rainy season every member worked on the farm for 2 days a week. They harvested the seeds and fenced the farm, and provided security. This is necessary because when the fodder is growing, animals often try to break through the fences to get food.

The project's contribution

SNV has assisted the group by providing the seeds and ploughing services, as well as bailing boxes. As of June 2014 we are constructing hay storage facilities, which means that the group will be able to store excess hay and seeds. This can then be sold during times when prices are highest. With support from the project, on-site trainings on grass management and on grass & seed harvesting have been conducted. In the near future, SNV will provide harvesting equipment, which means that the group can also provide harvesting services to other groups (an additional source of income!).

The group itself provided labour during planting and harvesting, as well as fencing and security for the farm. At the moment they have 16 acres of seeded land, waiting for the next rains.

Challenges and constraints

The production of fodder has significant potential in Baringo. However, some issues remain a challenge:

- As indicated before, the *lack of storage facilities* makes it difficult for the group to sell their hay during times when prices are highest.
- In addition, the (living) fence that was constructed is prone to destruction by animals. As one of the members put it: "Our grass is so sweet that the animals will do anything to break through the fence".
- And as always in the ASALs, *drought* is a major challenge. In good years, grass can be harvested three times a year. At the beginning of June 2014, no rain had fallen at all. Therefore no grass was growing, though the seeds are in the ground waiting for the next rains.
- Another challenge identified by the Maiyani group was the *lack of ownership of the land*. As said before, they lease the 16 acres from the community for a period of five years. This lease will expire in 2018, and it is uncertain what will happen after. This is a significant uncertainty, and makes it difficult for the group to invest in their fodder business. All investments made might become wasted if the lease will not be extended in 2018.

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Climate resilience & fodder production

Climate variability is one of the major risks that pastoralists have to manage in Baringo. Low levels of development and limited market integration jeopardise the ability of pastoralists to successfully manage these risks. Climate change induced declining pasture productivity and availability of water resources can further stress pastoral economies with livestock losses and increased inter-ethnic conflicts over declining natural resources as a result. In an already vulnerable area, this will result in even lower coping capacities and increasing poverty.

Availability of hay (and related income) during drought increases the resilience of livestock owners and hay producers. With enough fodder available, breeding herds will better survive drought through hay storage and feeding. At the same time, it also enables pastoralists to fatten animals for sale at premium during drought. Milk production will not be adversely affected by drought, as lactating animals will be fed with hay that will be available at local markets.

Sustainable fodder production has therefore significant impact on livestock assets, income and food security: key indicators of increasing resilience.

We have seen that by assisting groups such as the Maiyani fodder group, it is possible to have a *local* supply of grass³ during periods of drought, as well as providing incomes to the fodder producers themselves.

In case the rains fail these seeds can keep well for two years, as long as they are in the ground. If it then starts to rain, grass will grow quickly. In a year with normal rainfall, three harvests are possible. Looking at the 2013 harvest, this could mean an annual income of approximately Kshs 300,000!

Lessons Learnt

It is possible to produce significant amounts fodder in Baringo
Given the right conditions – such as the availability of appropriate seeds, an enthusiastic group that sees the opportunity, and some technical assistance – fodder can be produced in Baringo in large amounts. Especially since in a year with normal rainfall, three harvests a year are possible.

Fodder production increases resilience to drought

Sustainable fodder production has a significant impact on livestock assets, income and food security. This increases the capacity of pastoralists to cope with drought. Fodder production has economically empowered the Maiyani group members, thereby their resilience to shocks (including droughts) and better linkages between fodder groups and livestock keepers

Good examples will be replicated

For example, for every member of the Maiyani group, each has their own piece of land from where they grow grass and carry out reseeding from the seeds that become available through their communal activities. Next to that, members have provided advice to people outside their own group based on the knowledge obtained from the assistance by SNV.

Different fodder related activities can complement each other

Grass & seeds harvesting as well as steer fattening can be combined, and can very well complement each other. For example, rather than jeopardizing the next harvest by cutting the grass while the roots have not matured, the group proceeded to harvest the seeds and use the standing hay for fattening of animals.

There is a high demand for seeds and hay

There is high demand and a market for good rangeland seeds as well as hay during the dry season in Baringo, which makes it easy for fodder producers to market their produce.

Sustainability and the way forward

Fodder production is an excellent solution to increase drought resilience and improve socio-economic conditions. With the assistance of SNV, ILRI and KLMC the Maiyani group has been able to grow fodder and retrieve a significant income from it. They indicated that they wouldn't have produced fodder without the assistance of project, as they previously didn't have the capacity and knowledge to do so. However, the picture is different now. They are eager to continue these activities (even without external assistance) as they see the business opportunities of being able to sell hay to pastoralists during drought periods, as well as in the sale of grass seeds and the provision of fattening opportunities. They already provided advice on fodder production to people outside their own group. Next to that, each member has its own piece of land where they plant grass from the seeds that become available through their communal activities.

³ Unfortunately, during the first growing season the group was not able to harvest grass, but harvested seeds and fattened animals instead

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SNV, ILRI and KLMC will continue providing support to local fodder groups in Baringo and other ASAL counties during the project, with the aim to make them viable micro-enterprises that will continue to sustain their business after the project has ended.

Together with the Maiyani group and our local partner organisation FIP, we will work on identifying the right mix between grass harvesting, seed harvesting and steer

fattening. Next to that, SNV will construct storage facilities and provide harvesting equipment.

By documenting and sharing experiences and livelihood impacts of the market and fodder interventions SNV, ILRI and KLMC aim to serve both pastoralist communities as well as local government authorities in maintaining and scaling up these models.



The group's farm, ready for the next rains

“The Maiyani fodder group is a very dynamic and enthusiastic group, and they quickly saw the potential of growing fodder as a business. Depending on this year’s rains they will also start selling hay. Given the potential of harvesting three times a year, they are very optimistic about the future and intend to continue producing fodder – even if SNV would not support them anymore!”

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