



# **DREAM II Learning Events**

## **March 2021**

The Rangeland Fodder Nexus

DREAM II Learning Event  
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Proceedings



*Source: ILRI*



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### Introduction

The Rangeland Fodder Nexus learning event was organized as the first in a series of running up events for the Development of Resilience Empowering Alternative Measures in Arid and Semi-arid Lowlands of Ethiopia conference (DREAM II). The learning events are meant to create connections between different organizations working on this topic, to share experience and discuss the scaling of the good practices. The Learning Event aims to highlight different experiences in increasing the fodder availability in the lowlands – which is the basis for the pastoralist economy. There is much thinking on increasing the capacity of the rangelands by better management as well as by growing fodder. There also opportunities to better use the potential of irrigated areas, either by growing fodder or by more systematically make use of the stover/ stubble from these areas.

The presentations from the Learning Event can be accessed on the [sdr-africa.com](http://sdr-africa.com) website.

### Opening Speech – HE Dr. Fikru Regassa

HE Dr. Fikru Regassa opens the Learning Event on the Rangeland Fodder Nexus. He stresses the importance of this event, by mentioning several purposes that increasing fodder production in lowlands and rangelands. These purposes are:

- More fodder available for a stronger livestock economy
- Fodder reserves in drought situation
- Creating jobs in the entire value chain from selling seeds to selling fodder to selling livestock
- Symbiotic relation between pastoralists and agro-pastoralists

Within the event, experiences from several programs on fodder production will be shared, which can provide building blocks to develop a more comprehensive strategy on this important topic. They also serve a source of inspiration and education.

He furthermore emphasised what DREAM stand for and what DREAM is doing, bringing together actors in the lowlands and promoting collaboration and cooperation, and the scaling-up of approaches. He refers to the series of Pre-Conferences in 2020, in which the important of jointly working on the common ground was identified. This includes the creation of a taskforce, led by the Ministry of Peace and Ministry of Agriculture, which is now taken further.

HE Dr. Fikru Regassa presents the upcoming Learning Events and Pre-Conferences in the next months, supporting the activities of the taskforce. This all leads to the DREAM II Conference in September 2021 in Jigjiga.

He welcomes all participants to the learning event, both online and physically in Semera and Jigjiga. He lastly thanks all participants, presenters and organisers, and wishes everyone a productive session.



## Fodder Production Demonstration RILE Project, Somali Region

ACPA - Ali Ahmed Abdi (PhD)

In this presentation, Ali Ahmed Abdi presents the RILE (Resilience Improvement Livelihood Enhancement) Project on behalf of ACPA (Aged and Children Pastoralists Association), which lasts from October 2017 to October 2021. However, there is the intention to continue scaling up under a next phase of the project. Agropastoralists and pastoralists are both part of this projects' target group. Within the project, the major fodder production activities are:

- Establishment of community owned fodder production demonstration sites.
  - With these, it was aimed to demonstrate fodder sowing and management of four different forage varieties (Sudan, Rhodes, Panicum and Buffle grasses). These species are very suitable to the soil texture and climate.
  - Around 350 households benefitted from these sites so far.
- Provision of agricultural inputs to smallholder farmers.
  - These inputs were intended to encourage local agrarian production.
  - Around 350 households benefitted from these inputs so far.
- Intended to encourage the local agrarian to enhance production.
  - With these, it was aimed to the targeted households' skills on fodder production.
  - Around 130 participants benefitted from these inputs so far.

Over the first three phases, the project has 5,700 direct beneficiaries and 8,880 indirect beneficiaries. The main lessons learned from the project are:

- Improved production can be pushed through provision of support and facilitation.
- Farmers involved in fodder plantation for daily labor can benefit from a training session.
- Better collaboration among service providers can draw communities' attention to development.

[Link to presentation](#)

## Rangeland Reseeding, Afar

APDA – Hussein Idris

Fodder production is integrated in many of APDAs' projects and activities, both along the major rivers and in the dry hinterland. APDA aims to enable the sufficient local production of animal feed, to be used on wide scale for milking and breeding animals, specifically as a reserve for dry seasons.

In 2005/2006, APDA began using fodder in emergency projects on overcoming malnutrition, when a lot of cattle in Teeur and Awra died due to drought. Also, more recently, in 2020/2021, drought problems occurred in combination with a locust plague. Fodder has been distributed to overcome these challenges.

Also, in non-emergency situations, fodder production in deliberate plots near the pastoralists houses is promoted, through for example training. In other projects, APDA has promoted to grow grasses for their animals and for the market. Hussein Idris also mentions grass-huts called "golli", which are built from grasses, which can be used as feed when needed.



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In two new projects, fodder production is also included. These projects aim to rehabilitate the damaged rangeland and community livelihoods, as well improving farming methods.

Hussein Idris mentions three important lessons learned:

- Fodder needs to be an essential part of the pastoralist plan in Afar Region, not just to secure animals in the dry season but also to secure maximum milk production for the household and possibly the market. The concept of fodder needs to be enabled through awareness, promotion and practical facilitation.
- This will lead to awareness and fodder production, as a result people will then reduce their herd size and have a more sustainable herd, which also has a high milk output.
- More needs to be done to research locally available and affordable fodder. Work was done some years ago on the use of ground prosopis juliflora pods, however more investigation is needed.

In the final part of the presentation, several opportunities for upscaling are discussed. Local fodder cooperatives and milk production cooperatives have an important role in the mainstreaming of fodder production. These cooperatives should also be linked to animal fattening and marketing, deep into the hinterland. The importance of water should be considered next to fodder.

[Link to presentation](#)

## Participatory Rangeland Mapping, Borana

HELVETAS – Abarufa Jatani

Abarufa Jatani presents on behalf of HELVETAS (Swiss Intercooperation) on its major activities in rangeland / fodder production. In the pastoralist area Borana zone, HELVETAS has two projects; NRM-Borana & Leave no girl behind.

Its major activities on rangeland / fodder production are:

- Participatory resource mapping as an entry point
- Selective bush thinning at prioritized sites
- Testing various bush thinning techniques through PAR (Participatory Action Research)
- Facilitation of collaboration forums at different levels
- Hay making including bale hay

As stated above, participatory resource mapping is an entry point for rangeland activities. It is used to have a joint discussion with resource users and stakeholders to agree on the way forward. The mapping exercise help to identify the existing resources, gaps and necessary action to be taken.

The produced maps can be the starting point for vision mapping by the community, in which they map the desired future outcome. This vision map is a helpful tool in identifying required actions and actors and budgeting the required resources. It is a living document for further planning and reference.

Abarufa Jatani mentions several lessons learnt related to rangeland / fodder.

- Effective rangeland management requires collaboration of customary institutions and government structures.



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- Scalable implementations of rangeland activities reduce the dry season fodder gaps.
- Household level hay making ensures equitable utilization of rangeland / fodder among poor and better off.
- Hay making reduces the drudgery of women to travel long distances and associated labor.
- If customary institution provides the opportunity, women can become responsible in rangeland/fodder management.

Using PAR (Participatory Action Research) to test various bush thinning techniques is mentioned as a possibility for upscaling, next to the promotion of multi-stakeholder natural resource management, in which women can have an active role.

[Link to presentation](#)

### Fodder Grass Seed Banks in Kenya

MetaMeta, on behalf of JustDiggIt – Jean Marc Pace

Jean Marc Pace presents the grass seed banks concept from JustDiggIt, with which MetaMeta works in the Green Future Farming project. Grass seed banks are all about regreening through sowing and harvesting grasses. The grass seed banks can be naturally fenced with shrubbery to protect the grasses from grazing livestock and wildlife.

Grass seed banks are viable landscape restoration enterprises, that combines landscape restoration with economic opportunities for communities. Also important are the livelihood opportunities for rural women which grass seed banks bring. The profit from grass seed banks is invested back in communities or landscape restoration, as it is a social enterprise. Therefore, no long-term external financial input is needed to sustain grass seed banks.

Thanks to horizontal learning (by women groups), there is a lot of potential for upscaling grass seed banks. On the fodder production area, also spices and honey can be produced, for more livelihood opportunities. Furthermore, there is potential for export to a growing external market.

### Group Discussions

After four presentations, there were three group discussion (Jiggiga, Semera and online) discussing a range of questions.

#### **Question 1: What is the current situation on fodder availability?**

Because of many pressures on the rangeland, e.g., degradation, invasive species (e.g., prosopis) and overgrazing, fodder scarcity is a fact. On the other hand, the demand for fodder is increasing.

In both Afar and Somali, there is a poor fodder production, due to above mentioned challenges. This production goes hand in hand with a degradation in biodiversity in the rangeland. In Afar, there are some fodder producing systems under irrigation, but not enough. In Somali, there is adequate fodder production in some regions, while in other regions there is not. Generally, there is no strong attitude towards fodder production in the community and weak customary institutions. It is also mentioned that the local knowledge on how to manage rangelands has decreased.



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The biggest fodder potential is from the rangelands themselves, however, there is a need to manage grazing and to control invasive species. Currently, not enough is happening in terms of rangeland management, at scale. The problems caused by desert locusts and scarcity of rain, make fodder production even more challenging and make fodder scarce.

One of the changing trends is that in for instance Borana, hay is being collected and transported to other areas. In this area, also baling machines are getting more common. Another point is that integrated land use planning is often mentioned in documents, but not yet widely implemented on the ground.

Other gaps / issues identified during fodder production implementation are:

- Lack of awareness for both users and producers
- Lack of market linkages
- Desert locust
- Free grazing
- Water shortage
- Poor storage and management practices
- Poor infrastructure
- Limited experience on animal feeding
- Budget constraints from government and other implementing actors
- Seed suitability
- Urbanisation
- Land degradation
- The carrying capacity of the landscape for fodder production is probably a bottle neck for scaling up.

**Question 2: What can we learn? How can we scale up?**

**Question 3: What from these experiences (from previous presentations) in promoting fodder production is worth replicating / scaling up in the lowlands?**

One of the main points, is that one should always work with the community and that the traditional systems have a lot of potential (like the beda system in Borena). However, it needs to be empowered and strengthened. Also, the Grass Seeds Bank systems have potential to be scaled up.

Some good practices that are worth replicating / scaling up in the lowlands are:

- Conserving fodder produced in good rain seasons as feed in dry seasons / droughts
- Implementing demonstrating sites for fodder production
- Creation of market value chains. Within these value chains, there are also opportunities for women and female headed households. There should not only be a focus on increasing production.
- Strengthening cooperatives
- Awareness raising on the benefits of fodder to cope with droughts
- Capacity building regarding affordable storage systems
- Innovative technology to test seed quality
- Encourage traditional fodder conservation



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- Mechanised fodder production in some areas
- Area closure practices
- Fodder seed production

Furthermore, there is a need for complementary approaches:

- Rangeland management based on traditional system
- Improved grazing practices (including animal impact tool to improve soil quality), though challenging in terms of community management
- Bush clearing / management (to allow the rangeland to regenerate and remove unwanted species)
- Soil and moisture conservations – regenerates land with seeds in the land
- Hay making
- Additional fodder production from special sources
- Promoting fodder production should be complemented by expanding/upscaling water conservation structures, as well as irrigation expansion.

There are a lot of promising openings, but more discussion, exchange and documentation of good practices are required.

### Using Road Water for Fodder Production - Kenya

MetaMeta/South Eastern Kenya University –Kevin Mganga

Kevin Mganga presents the possibilities for combining rainwater harvesting from roads with fodder production in African rangelands. There is great potential for using this water to enhance pasture and fodder production. Upscaling is both promising in Kenya, but also in other countries and areas such as the dry lowlands of Ethiopia.

He has researched which native grasses are suitable for fodder production and also for restoration of degraded African rangelands. While *Eragrostis superba* and *Chloris gayana* produced the most biomass, *Cenchrus ciliaris* and *Enteropogon macrostachyus* had the most potential in restoration of degraded rangelands.

There is a need to invest in local native pasture seed systems in Africa. As his research showed, it is very important to carefully select species depending on the goals, as all species have their own unique strengths.

[Link to presentation](#)

### Agriculture in water spreading weirs TREE project

GIZ - Bezuayehu Gebremichael

Bezuayehu Gebremichael presents the TREE project (September 2016- September 2021) on behalf of GIZ. The TREE project has a large potential for upscaling, which is also indicated by the MoU of Woreda PADO. TREE is a trilateral cooperation project of GIZ (Germany), Mashav (Israel) and MoA (Ethiopia). He introduces the topic by stating that population growth has caused a decline of trees that provide



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food, income and fuel. Also, the planting and care of multi-purpose trees (MPT) and fruit trees by (agro)pastoralists are insufficient.

Therefore, the TREE project aims to strengthen (agro)pastoralists horticultural capacity, which contributes to improved income and livelihood while reducing the risks which are associated with being involved in a livestock production system. More practically, the project enhances the diversity of incomes by integrating fruit and MPTs in the agropastoral landscape of Afar, while creating employment opportunity for local communities. 350,000 people are projected to benefit from the project.

Another objective of the project is equipping and expanding three nurseries to produce MPTs and fruit trees. These nurseries ensure adequate supply of quality fruit and MPT planting materials and become Knowledge Hubs in the targeted areas. They also can produce seedlings and distribute them to the (agro)pastoralists, as well as serve as an orchard for products and seed/offshoots.

Training nursery operators and workers and agricultural extension services on planting multi-purpose and fruit trees and institutionalizing knowledge in this field of horticulture and establishing a Knowledge Hub are other objectives. Agropastoral communities working on nurseries have already organized themselves into self-help saving groups “Ekube” and started saving at a commercial bank.

[Link to presentation](#)

## Symbiotic Fodder Farming Nexus in Flood Irrigated Areas in Pakistan

MetaMeta / FBLN – Allah Bakhsh

In this presentation, Allah Bakhsh focusses on flood irrigated areas of Pakistan. He presents a symbiotic nexus between nomads and agropastoralists. Nomads migrate from the highlands to the lowlands, where spate irrigation is practiced, and back every year, seeking fodder and better weather conditions.

The transition from highland to lowland and vice versa takes approximately 30 days to complete. In this period, the livestock grazes on no-man land and the nomads buy the standing fields of sorghum and other crops. Once the deal is done, the charge of the field is handed over completely to the nomads until after the harvest. The grains are immediately taken to the market for sale; the proceeds are used to make the first payment to the landowners. The remaining fodder then belongs to the nomads and is used to feed their animals. The nomads also buy stubbles and harvest remains to feed their animals.

When all crops are harvested, grazing is free for everyone until a certain date, both for nomads and others. There are no formal arrangements made regarding the grazing rules, apart from voluntary person-to-person agreements. Agropastoralists also benefit from having their lands grazed, as the animals provide nutrients to the land. Nomads also sell animals (goat and sheep) in local markets, supporting protein supply of agropastoralist.

There is a win-win situation for both the nomads and the agropastoralist, who benefit from each other's presence; a symbiotic nexus.

[Link to presentation](#)



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### Implications for policy and programming – panel reactions

#### Dubale Admasu (US-AID)

Regarding community rangeland management, there is a good approach to involve local community and involve local customary systems. We need to institutionalize this at the national level as well and pick these approaches up through training materials.

Rangeland management is in place; however, it needs to be supported by tenure security. Creating a sense of ownership (for example user rights) can also help in improving rangeland management. Contextualize is also important, as what happens in one region, does not necessarily work in another region.

Having the recognition of the community in land-use planning is not sufficient. Participatory land use planning and legal capacity improvement is needed to help divide the land between users based on the potential of the land.

With regard to fodder production, public-private partnership is important to support scaling up of good practices. The idea is to join resources for scaling up good practices and to have diverse sources of support

The government should take a more integrated approach, driven by a resilience approach encompassing with livelihood diversification, market development and restoring degraded land to increase productivity.

Regional diversification is important, and we need evidence-based insights in order to scale up. Therefore, it is important to include knowledge institutions in projects and upscaling.

There should be an important role for (the use of) technology, as for example in the USAID resilience project. Satellite based information for local community on water availability and rangeland availability are highly promising. We should take advantage of technology and mobile coverage.

There is a new national pastoral development policy with a good vision for people in the pastoralists area. We need to collaborate and coordinate with donors for mobilizing resources in order to implement this policy.

#### Dr Samuel Negussie (Ministry of Peace)

The pastoral development policy is a guiding element for rangeland management and is already starting to be implemented. Budget has been made available for rangeland and pastureland development.

The ministry is working on regional investment plans to prioritize strategies for 6 regions of Ethiopia, where rangeland management is a core element. Activities will be rolled out in the coming years, and it is important to pick up on the discussed good practices and integrate them into investment.



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### Formulating lessons learnt

Tobias Feldt (GIZ) and Ilse Köhler-Rollefson (League for Pastoral Peoples)

Tobias Feldt works as an Animal Husbandry & Livestock Advisor for GIZ. He mentions that it is challenging to keep an overview of the ongoing activities and that it is important to keep a comprehensive view and to assess all aspects of development activities. Adapting to the local reality and realizing that there is no “one solution that fits all” are both very important.

He mentions some bad experiences with introducing high-performing breeds that are not adapted to the local situation. This created consequences and did not work out well because of a lack of consideration of all relevant aspects. A comprehensive overview and continuously monitoring and evaluating are thus highly important.

Within GIZ’s portfolio on livestock and pastoralism, there is a strong focus on conflict management / peace and rangeland management.

Pastoralism is currently recognized as a sustainable approach for rangeland resources management and as creating sustainable livelihoods of the local communities, in contrast to the conventional ideas on the tragedy of the commons. This has to do with a self-balancing equilibrium, in the long-term, between the animals and the rangeland biomass. The use of additional fodder may actually destroy this balance.

One of the latest ideas on pastoralism is valuing variability. Variability is, for pastoralists, actually an asset, and mobility allows to harness this asset. Also, pastoralism is having net zero emissions, which makes pastoralism actually ahead of its time. Pastoralism has already passed the goals which, for example, the dairy sectors has set for the long-term.

Mobile livestock is fueled by bioenergy, harvest almost anything, processes into protein, goes anywhere and is self-replicating, while a combine harvester needs fossil fuels, can harvest only one crop, does not process, can only be used on cultivated land and needs to be replaced.

Farmers and pastoralists can, and should form symbiosis, like the example from Pakistan which has been discussed by Allah Bakhsh. Manure is an important resource provided by the pastoralists to the farmers, which helps them with income levels that sometimes exceed income from meat and milk production, in the case of India. Additionally, animals help controlling weeds in the fields.

An interesting and promising approach is to find niche products like camel milk that feeds on natural herbs and health-benefiting plants, which are a plague to the farmers. Therefore, this is a win-win situation. Furthermore, the camels also fertilise the field.

It is therefore good to think about focus on quality rather than quantity; there is a trade-off between productivity and resilience. Therefore, more productive breeds are not necessarily more suitable. This way we can avoid going over the carrying capacity of the rangeland system. Ethiopia has competitive advantage along this line, specifically for camel milk production. There is a lot of potential for sylvi-pastoral systems, with a focus on high value niche markets rather than commodity approaches.

There is an international movement towards an international year of rangelands and pastoralism in 2026. It is very important for Ethiopia to support this proposal and to be on board.

[Link to presentation](#)



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### Closure – Martin Maurer (GIZ) & Frank van Steenbergen (MetaMeta)

Martin Maurer thanks all participants and presenters for participating in this learning event. He mentions that the current approach for the lowland Ethiopia of GIZ should include more attention and dedication to the rangeland management and fodder production.

Frank van Steenbergen also emphasises that the lowlands have a lot of potential and that there is a lot to be learnt. The lessons from this Learning Event will be captured in a learning document and video.

The next Learning Event will take place on April 7 on DVRPU (Dry Valley Rehabilitation and Productive Use approach) and the DREAM II Conference will take place from 20 to 24 September 2021. For more information visit the website [www.sdr-africa.com](http://www.sdr-africa.com).

