Drynet Update

Welcome to the seventh issue of “News from Drynet”, a newsletter from the Drynet network on global concerns for drylands from local perspectives. This issue is committed to analysing our achievements over the last three years and our plans for the future. As a thematic highlight we want to introduce the topic of livestock keeping and mobile pastoralist in the drylands of the world.

As has been mentioned in previous issues of this newsletter Drynet was initially set up as a three year project mainly supported by the European Union and the Global Mechanism. With this official project phase of the Drynet network now drawing to an end, the members are presently involved in assessing the results, achievements and impacts of their work over the past three years. During this process of evaluation the benefits and strengths of the network for the individual partners as well as for the communities and the global arena were perceived as being so positive that a continuation and prolongation of the Drynet network and its activities became very desirous.

In order to jointly map all of our achievements and come to a clear understanding on what the follow-up of these should be, Drynet organised its Third Annual Meeting beginning of November in Rome, Italy. The meeting was divided in two main parts, an internal meeting to strategise on the path ahead and a two-day external meeting to which we invited key stakeholders involved in dryland issues and possible strategic partners for future cooperation. This meeting was held at the IFAD building and a number of their staff was able to join us and give valuable input. Further crucial discussions were aided by the presence of amongst others colleagues from the Global Mechanism, the FAO, the European Commission, Swiss and French country delegates and of the International Land Coalition (ILC) and DesertNet. Drynet presented its work of the past years and mapped out the three main areas on which the network wants its focus to be in the coming years. Drynet firstly wants to present itself as a focal point and knowledge hub for local and traditional knowledge related to drylands and land degradation, meaning to act as a nexus between local communities and as well policy makers as maybe even more crucially the scientific community. This could help local knowledge getting the attention that
it deserves but also opening channels of information flows both ways, trying to get the scientific advances applied where they are most needed. Secondly Drynet wants to continue to strengthen the national stakeholder platforms it has initiated in the past few years in order to create stable and reliable partners for the national as well as international dialogue between at least communities and politicians. And this will feed into the last focus area namely trying to further increase local communities and CSOs input at the international arena. The present situation proves that this is more necessary than ever to continue to bring local voices to that level and much more work needs to be done in order to achieve truly participatory processes. The interactive meeting proved very valuable for our plans for the future and strong commitments were made to collaborate on our future endeavours, financially as well as in material support and in the forming of important alliances and strategic cooperation. Drynet, together with some of these partners, will actively look for more partnerships and allies in the coming months. While all the members and in particular the Steering Committee is still very busy working out the details of what the next phase of our Drynet work will look like we are now confident in saying that our work and combined effort will continue. Drynet’s focus remains to combat the globally felt effects of desertification and our commitment to better the lives of those affected by climate change, drought and land degradation is stronger and more determined than ever. Thank you for your continued attention and participation over the last three years and we as a network are looking forward to future cooperation with you and your organisations.

By Drynet partner: Both ENDS, the Netherlands - drynet@bothends.org

**Bio-cultural Community Protocols: A tool for strengthening livestock keeping communities**

Especially in drylands, livestock keepers have stewarded animal genetic resources for food and agriculture for millennia and developed breeds which are optimally adapted to the rigorous demands of their eco-systems. These animals are able to cope with periodic droughts and are also an extremely valuable asset in adapting to climate change – which the high yielding breeds developed by scientists are not. The role of indigenous livestock keepers and their traditional knowledge in conserving breeds is recognized by the Global Plan of Action on Animal Genetic Resources and has been elaborated upon in a recent FAO publication (FAO, 2009). Furthermore, the UN Convention on Biological Diversity (CBD) also commits signatory countries to support in-situ conservation and to respect and preserve the traditional knowledge, innovations and practices of indigenous and local communities. Despite these international agreements, the in-situ conservation of pastoralists and other communities rarely receives the support it deserves and most conservation efforts focus on ex-situ approaches – in the form of deep frozen semen or on government farms. Equally of concern, livestock keepers are rarely even aware of their rights under the UN-CBD and other international and national legal frameworks. This is where Bio-cultural Community Protocols (BCPs) come in as a very important tool for communities to become aware of and invoke their rights. By establishing a BCP, a community puts on record its traditional knowledge and the genetic resources that
it has been stewarding. It also reflects on its options for the future and is informed about its existing rights in a facilitated process which results in a printed document that summarizes the role of the community in biodiversity conservation and its rights. While the BCPs was developed in the context of the discussion on Access and Benefit-Sharing under the CBD, they provide a legal tool for implementing Paragraph 8j of the CBD on in-situ conservation. Facilitated by Drynet partner Lokhit Pashu-Palak Sansthan (LPPS) and the League for Pastoral Peoples and Endogenous Livestock Development (LPP) as well as the South African NGO Natural Justice, the Raika of Rajasthan were the first pastoralists to develop such a BCP but others are already following suit. This will change the equation between grassroots communities and outside development agencies.

Further information:


By Drynet partner Ilse Köhler-Rollefson, LPP, Germany

from all sectors involved in agricultural research for development. These will include farmers, consumers, civil society organisations, service providers, input suppliers and market representatives. Those directly concerned with research, and subsequent agricultural inputs in the public, private and international sectors, and the funding bodies that support research and advisory processes, will also take part in the main session. http://www.egfar.org/egfar/website/gcard/2010-conferenceFoodSecurityAndClimateChangeInDryAreas_2009.htm

16 - 20 August 2010 - Second International Conference on Climate, Sustainability and Development in Semi-Arid Regions (ICID II) in Fortaleza, Brazil.

With the goal of promoting secure and sustainable development in the semi-arid regions of the world, ICID 2010 aims to bring together public policy makers, scientists, and members of civil society. Organisers of the event hope to identify and focus action on challenges and opportunities for a better future in the world’s arid and semi-arid regions. The conference will generate, publish, and present recommendations to guide global, regional, national and local analysis and policies aimed at reducing vulnerability and improving the lives of the people of dry lands around the world. http://ictsd.org/i/events/59501/

8 -11 November 2010 - Third International Conference on Drylands, Desserts and Desertification 8 in Sede Boqer Campus, Israel.

This meeting will address the restoration of degraded drylands. http://cmsprod.bgu.ac.il/Eng/Units/bidr/desertification2008/
Excerpt from: No simple solution to livestock and climate change

Simply reducing livestock farming in developing countries will neither cut emissions nor benefit the poor, says livestock expert Carlos Seré. For many people the terms ‘greenhouse gas’ and ‘climate change’ conjure up images of smokestacks billowing noxious clouds, gridlocked traffic, the cracked bottom of a dried-up lakebed, or a polar bear clinging to a melting ice floe. Rarely do you see images of farmers ploughing fields, planting seeds or feeding animals. Indeed, until recently, agriculture – particularly in developing countries – has been largely absent from climate change discussions.

But farming is a significant contributor to climate change, and also a victim. Agricultural activities, including forest clearing, fertilising soils and transporting produce, and indeed livestock farming, account for about a third of global greenhouse gas emissions. Meanwhile farmers, particularly in developing countries, are threatened by climatic changes such as shifting rainfall patterns and more extreme and unpredictable weather. Livestock certainly deserves the attention of climate change experts. Emissions from animals account for just over half of all agricultural emissions, or about 18 per cent of total emissions. But as negotiators prepare for Copenhagen, the agenda of some lobbyists appears to be driven by a long-standing anti-meat bias that promotes simple solutions to complex problems.

There is broad consensus that highly intensive livestock production in rich countries can be medically and environmentally unhealthy as well as inhume, and should be scaled back. But those who portray livestock as the main culprit in global warming typically fail to mention the ‘meat divide’ that separates industrial and agricultural economies. Livestock emissions depend on how animals are raised and fed. Grain-fed, factory-farmed cattle in industrialised countries emit much higher levels of greenhouse gases than the grass-fed, family-farmed cattle in developing countries.

Overproducing and overconsuming meat, milk and eggs have become a health hazard in the North, while the South suffers from chronic malnutrition – in part due to underproduction and underconsumption of these foods. Most people who keep cattle in developing countries are either small farmers who feed their animals grass and other common forage, with seasonal supplements of stalks and other harvested crop wastes, or herders who periodically move their stock in search of new sources of grass and water.

Both these groups have very few alternatives for making a living beyond crop and livestock farming and both leave a relatively small environmental footprint. For example, all of Africa’s cattle and other ruminants contribute just three per cent of global livestock methane emissions. And there is scope to cut these emissions by improving the diets of hungry animals, as poor nutrition decreases their value for milk and meat and encourages poor people to keep more animals, instead of less.

But many experts now agree that the biggest concern about livestock production in developing countries is not how much farm animals are emitting but to what extent a hotter and more extreme tropical environment will diminish livestock productivity. Reducing productivity by even a small amount will threaten supplies of milk, meat and eggs to hungry communities that need these nourishing foods the most. For many people, including more than one billion people living in absolute poverty and chronic hunger, the solution is not to rid the world of livestock but rather to find ways of farming animals sustainably.

Many livestock scientists, including those at my own institute in Africa, are looking to develop a ‘third way’ of livestock production, lying somewhere between factory and family farming – one that promises pathways out of poverty without depleting our natural resources, affecting our climate or threatening our public health.

Carlos Seré is director of the International Livestock Research Institute, Nairobi, Kenya


If you like to receive this newsletter electronically or for more details on the articles published, contact us at drynet@bothends.org or check our website www.dry-net.org
Dear friends!

Welcome to the national pages of the last issue of Drynet newsletter as the three year project is nearing its completion. We hope that the previous issues were interesting and useful for you. This issue is dedicated to development of cattle breeding and range sheep production in the drylands. In this issue you will familiarize yourself with experience of using water for irrigation of pastures from hot flowing wells in Uzbekistan, mitigation of pasture degradation by planting saxaul and prostrate summer cypresses in Tajikistan, and the UNDP/GEF project “Sustainable Pasture Management for Welfare of Rural Population and Preservation of Environmental Integrity” in Kazakhstan.

NEAR A HOT WELL IN KYZYLKUM DESERT

Pastures of Uzbekistan are primarily located in the desert zones. Two thirds of these pastures are more or less affected by degradation. Average fodder yield from one hectare is 1.7 metric quintals. As the livestock population is growing, there isn’t enough fodder. An experiment in Kyzylkum desert showed that pasture fodder reserves may be expanded by using the water from the flowing wells.

The experiment had been carried out at Madaniyat farm in Kanimekhsky district, 150 kilometers away from a town of Navoi. Desert cattle breeding is the main area of activity of this farm. Sheep, camels and goats are grazed amid fixed ridges and hillocks rotated by migrating dunes and dune chains. This territory, along with many other pastures in Kyzylkum, is characterized by the declining fodder capacity and hot flowing wells.

Wells were drilled in the Soviet times for the stockbreeding needs. But many of them aren’t suitable for stock watering. In addition to being hot, the flowing water is salty. Can the water from these wells be used to grow fodder? An answer to this question had been obtained in accordance with findings of the sustainable land management study. This investigation had been carried out by the International Centre for Agricultural Research in the Dry Lands (ICARDA) in collaboration with the national research institutions under the Central Asian Countries Initiative for Land Management’s Multicountry Partnership Framework Support Project.

Beginning their investigation, scientists had taken into account the number of flowing artesian wells in Kanimekhsky district – over sixty. There are many more hundreds of similar artesian wells in the desert. According to scientists, the flowing water of 35-40 degrees is suitable for growing of salt-enduring crops. Water flow of one well is sufficient to irrigate 5-6 hectares.

The scientists started their trial project in cooperation with a partner-farmer on one hectare in fall of 2007. They planted seedlings of wood species – quince, apricot, peach, ailanto, poplar. Some didn’t survive, because the winter was frosty, soil had frozen one meter deep, and the spring was early and dry. But many trees withstood frost and failure of rains. They burst into blossom at the trial field.

A portion of the field was segregated for tests with salt-loving bushes and herbs (halophytes). 260 kilograms of seeds of more than ten halophyte types were harvested in the desert. In the spring the seeds were planted in the sand, and they had come very well. The salt-loving feed crops recommended by ICARDA were also tested on the spot. The locals, who came to look at them, were astonished. Licorice was growing on one lot, others had millet, sorghum, corn, alfalfa, triticale, Sudan grass, cucurbits...
MITIGATION OF PASTURE DEGRADATION BY PLANTING SAXAUL AND SUMMER CYPROSSES

(Khamrabad massif, B.Gafurovsky district, Sogdiyskaya Oblast, Republic of Tajikistan)

Problems related to degradation of natural pastures and forage lands in the Republic of Tajikistan started to arise in the early 60s of the 20th century. At that time some scientists suggested to reconsider the pasture management strategy, but taken measures were too isolated. By the end of the 70-80s the pressure on pastures had greatly increased due to unrestricted cattle grazing and anthropogenic factors. Fodder resources were sharply declining, and conditions of vegetation cover had changed. Valuable fodder plants (camphor-fume, cypress, euritia) began to gradually fall out of biological associations, and vegetation-free surfaces started to emerge. Soil covering had also undergone some significant changes, such as reduction of the humus content and gradual root layer compression.

In 1989 the Khodzhent Machine-Ameliorative Livestock Station located at Khamrabad massif of Sogdiyskaya Oblast initiated research and practical work on cultivation and introduction of drought-resistant fodder plants (black saxaul and prostrate summer cypress). The purpose of these scientific studies was to stop pasture degradation, to increase yielding power of agricultural lands, and to create conditions for expansion of agrophytocenosis species diversity. Pasture plowing was done in long strips 15-25-35 meters wide, fall-plowing 20-25 centimeters deep. Strips were perpendicular to the direction of prevailing winds. The distance between strips was 10 meters, the seed time – from January 15 to February 1. Saxaul and prostrate summer cypress seeds were sown in mixtures prior to precipitation. Sowing had been done by grain seeder in strips (15, 25, 35 meters). Winged seed rate was 5 kilograms of seeds per 1 hectare. 60–70% of them were suitable for use. Boundary strips were 10 meters wide. Due to creation of saxaul tree belts, which reached 2-4 meters in height by the third and subsequent years, micro- and meso-climatic black saxaul plantings appeared. Starting from 1990, the productivity of natural grasslands has increased by 3-4 times.

Examination of the yielding capacity of prostrate summer cypress and other dominant types of natural pasture vegetation made it possible to identify specific differences in the degree of physiological adaptation of plants to soil and air drought, and to recommend them for farm testing. In arid zones of our country it is appropriate to sow those agricultural crops, which are able to withstand sharp continental climate conditions (-10°C, +40°C) and have a heavy root system and fodder advantages.

Prostrate summer cypress - a perennial half-shrub from a goosefoot family, 60-100 centimeters high, and with the life cycle of 10-15 years. The root is vertical, going deeply into the soil. It has good resistance to high and low temperatures (from +40
News from Drynet
A global initiative giving future to drylands

REGIONAL NEWS

K.G.Kodirov, Professor, Doctor of Agricultural Science, Dean of “Agrobusiness” Department, Tajik Agriculture University (TAU)
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to -50°C), and is capable of producing good fodder on the barren stony ground. Prostrate summer cypress is well-grazed by sheep and goats throughout all seasons. It has a high re-grow capacity. Depending on the re-growth time it is possible to receive up to 80% of yield. Studies proved that the yielding capacity of cultivated summer cypress pastures exceeds by far the productivity of natural pastures, which normally amounts to 15 metric quintals per hectare.

Black saxaul - a shrub from a goosefoot family, 3-4 meters high. The life cycle of black saxaul is 35-40 years. This plant may vegetate on any types of soil, but it grows and develops the best on gray and gray-brown soils of sabulous and loamy soil texture. Grazed parts of saxaul include annual shoot, last year’s shoot and fruits. Productivity of fodder (hay) on saxaul pastures is 15 metric quintals per hectare.

Saxaul at Khamrabad massif turned to be an efficient tool in obtaining and preservation of additional reserves of pasture forage in spring, summer and even autumn. Black saxaul generally uses moisture from deep soil layers. Atmospheric precipitation accounts just for a fraction of its water nutrition. According to the data obtained, during the vegetation period (about 270 days) 1 hectare of black saxaul consumes 6,521 tons of water, while the annual precipitation in this desert is only 1,600 tons, or about 160 mm per year. Comparison of data by seasons indicates that in winter and spring, i.e. during the precipitation period, the soil reinforced by saxaul roots contains more moisture than the open pastures. As observations show, the wind speed in this zone decreases by 2.5-3 times. All these factors contribute to the steam condensation and alleviate environmental conditions of the surrounding desert.

PASTURES ARE NATIONAL WEALTH

The year of 2010 has been proclaimed as the international year of biodiversity. The UNDP/GEF project “Sustainable Pasture Management for Welfare of Rural Population and Preservation of Environmental Integrity” offers real steps to preserve biodiversity and prevent pasture degradation.

4 rural areas of Dzhambul district, Almaty Oblast, were selected as the pilot territory, because they are a reflection of the most typical natural climatic zones in Kazakhstan. The project team has done a great deal of research. As a result of
geobotanical studies, the vegetation cover of forage lands has been analyzed on the total area of 339,105 hectares. We should mention that the most recent investigation of this kind in this area had been accomplished in the 80s of the last century! Experts were able to identify that the biodiversity has changed for the worse during this period of time. The populations of some types of fodder-valuable plants, such as cock’s-foot grass, valuable sorts of wheat grass and wormwood, saxaul and eurotia, have considerably declined. Alteration of biodiversity of natural pastures is causing the serious concerns. For purposes of further monitoring, 8 environmental sites were established; digital geobotanic maps with integrated data on the soil condition and recommendations on the rational pasture management were produced; pasture soil condition with due account for fodder reserves was identified.

The soil condition of pastures in the project territory:
- Total area of pastures – 339,105 hectares.
- Including clean pastures – 195,348 hectares, or 58% of the total area of pastures.
- Compact pastures – 123,858 hectares, or 36%.
- Bushy pastures - 6%.

Rational approach may cause pastures to rebuild their reserves and preserve the balance of plant communities. It is recommended to reduce the pressure on compact pastures, which would allow to increase the yielding power by expansion of perennial cereals and suppression of weeds. It is planned to sow wheat grass on the area of 560 hectares for wider cultivation of dry-steppe and semi-arid pastures. Selection of this plant is not accidental. On the second or third year this culture forms a strong and firm grass sod and prevents wind and water erosion. Additional advantages include high winter and drought resistance. Besides, it is a good forage for all farm animals and tolerant to multiple cattle grazing. Average life cycle of a perennial crop is 15 years. Alfalfa is another good fodder plant, rich in protein and highly resistant to atmospheric drought. 120 hectares were allotted for alfalfa.

Therefore, the pilot areas will be used as the testing ground for techniques of rehabilitation and improvement of pastures, which are the basis for economic security. Ninety percent of rural residents are engaged in cattle breeding and extensively use pasture resources. Today there is a room for increase in productivity of the agricultural sector. Conservation of natural biodiversity and handling of pasture degradation problems will allow to preserve environmental assets of natural forage lands and to furnish enough pasture forage supplies for the cattle breeding industry. It will be an important contribution to the sustainable development of rural areas.

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