



drynet

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News from Drynet

A global initiative giving future to drylands

Drynet is a project of 14 organizations from all over the world. They work together to combat land degradation

GLOBAL NEWS

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Drynet Update

Welcome to the fifth issue of "News from Drynet", a newsletter from the Drynet network on global concerns for drylands from local perspectives. This issue highlights the current debated on climate change and it's consequences for drylands, the desertification processes and the possible methods of adaption.

During March 2009 the Drynet network held their regional meetings in Asia, Africa and Latin America to discuss the (regional) progress on project activities, the situation in drylands, and the prospects and directions for future cooperation. Besides the project related work each meeting gave participants further inspiration through a field trip in Kazakhstan, an open conference with a broad range of stakeholders in Senegal and the presentation of a research on bioremediation initiated by Drynet in Bolivia.

One of the themes which transpired from all three meetings as crucial issue for the future work of Drynet was the debate on climate change, the impacts this will have on dryland inhabitants and various strategies of adaption to these changes which are propagated. Being an already highly fragile ecosys-

tem, drylands are likely to suffer heavily from even minimal increases of tem-perature or variations in rainfall. In the wake of these changes many more regions will be adversely affected by the process of desertification and land degradation. For these reasons the implications of climate change and the strategies of adaption will be a top priority for our work in the coming years.

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



Regional Meeting in Africa. Drynet team visits a farmer's field outside Dakar, Senegal - Photo by Maude Gentit

GLOBAL NEWS

Adaptation to climate change:

SYNERGIES RESULTING FROM THE INITIATIVES DRAWN UP AT THE CONVENTION TO COMBAT DESERTIFICATION

It has been several years since multinational efforts to develop and implement action programmes to combat desertification were begun. These processes have led to the implementation of various initiatives to mitigate the effects of drought and also the consolidation of survival strategies for local communities faced with land degradation. The initiatives undertaken in the affected countries of Africa, Asia and Latin America primarily address agricultural development and food security, conservation and protection of natural resources, water resources management, efficient energy use, information and communication.

These initiatives largely correspond to the priority activities identified in the National Adaptation Programmes of Action to address the most urgent needs and concerns regarding the adverse effects of climate change in the least developed countries (LDCs). In Africa, this applies particularly to water resources, food security, arid zone ecosystems, forestry and coastal areas. To overcome the difficulties posed by climate change, it is difficult to differentiate between the combat against desertification and adaptation to climate change with regard to the above mentioned actions. Some actions to combat desertification may also con-

tribute to the mitigation of climate change, such as sustainable land and forest management with carbon sequestration. In addition, improving the access of affected developing countries to renewable energy technologies could reduce greenhouse gas emissions resulting from the use of fossil fuels. The needs stated by the concerned parties through the National Adaptation Programmes of Action for Climate Change and the National Action Programs to Combat Desertification highlight common priority areas and the need for concentrated execution of these strategies to create a real sustainable development perspective. Although their methods and approaches are different, the programmes from the UNFCCC and UNCCD conventions share a common objectives: to improve the living conditions of vulnerable and impoverished populations affected by desertification and climate change.

To accelerate the course of action, the

adaptation programmes must reinforce and extend the reach of the activities already begun within the framework of the NAP to Combat Desertification. This approach will reinforce the collaboration between different players and institutions without duplicating the implementation of actions resulting from the conventions and, with the existing financial resources, effectively respond to the needs of the most impoverished populations living in arid zones in developing countries where the means of subsistence are directly linked to natural resources.

Approaches to addressing adaptation to climate change can derive global benefits from the synergies of the initiatives and models drawn from the Convention to Combat Desertification.

By Drynet partner: Emmanuel S. Seck, ENDA TM, Senegal (Environmental Development Action in the Third World) - "Environment Energy Development"



GLOBAL NEWS

EXCERPT FROM ARTICLE:

Can we survive the real and semantic pitfalls of adaptation?

Recognition by the Intergovernmental Panel on Climate Change (IPCC) that the climate is rapidly changing and will affect the world's most vulnerable communities most severely, has put adaptation high on the global agenda. What does this imply for development policy and practice?

As circumstances and the physical environment change, living things and their societies must also change if they are to survive and prosper in the new conditions. The particular combination of qualities, abilities and mental and emotional resources that enables some people to face and respond to change positively we call "adaptive capacity": the ability of a living social-ecological system to adjust responses to changing internal demands and external drivers. If they are to survive and thrive, agricultural and pastoral communities in the drylands will have to manage their resources in ways that draw on past knowledge and experience, but which go beyond the bounds of the familiar and the traditional. It is essential that we understand what sorts of conditions will enable the world's most vulnerable communities to thrive in this changing global environment, use this knowledge to shape our policies and practices. "Poverty traps" and "rigidity

traps" both limit the ability of people and their institutions to adapt successfully to changing societies, and relative wealth does not protect institutions from crumbling in the face of crisis. Providing money and material resources to vulnerable communities is not enough to increase their resilience. Inappropriate aid might undermine the resilience and self-sufficiency of farming communities. The post-Copenhagen adaptation agenda must enhance resilience and preserve environmental services.

It will be vital to focus material resources on ensuring that the resilience and problem solving capacities of dryland communities are enhanced. What was described as good development practice in previous eras is more relevant than ever in the "adaptation era": sustainable resource management approaches based primarily on local resources, informed by sound knowledge of local eco-and social systems, and engaging the full participation of local communities via participatory action research. "Solutions" based on analysis and technologies that only exist outside affected communities will fail. And when this happens we must ensure that the failure is not blamed on the affected communities.

By Drynet partner: Noel Oettle, EMG, South Africa

For full-length article please visit our website: www.dry-net.org

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International Agenda 2009

04 - 15 May 2009 - CSD-17 Session in New York, USA 3rd Implementation Cycle: Policy Session. As the policy Session of the third implementation cycle, CSD-17 will continue to focus on the following thematic issues:- Africa,- Agriculture, - Drought & Desertification, - Land, - Rural development. Drynet will be present at the CSD-17 with a side event. More information: www.un.org/esa/dsd/csd/csd_csd17.shtml

21 May - 22 May 2009 - Environment & Economy: Mind the Gap in Cape Town, South Africa The conference will cover environmental resource economics as it applies to natural resource management. This includes the economics of biodiversity conservation, water resource management (especially natural aquatic environments), agricultural resource management (especially natural landscapes), climate change and marine resource management. More information: www.un.org/esa/dsd/csd/csd_csd17.shtml

01 June 2009 - 03 June 2009 E-biosphere Conference - International Conference on Biodiversity Informatics in London, UK Biodiversity Informatics is a young field that is making diverse classes of biodiversity data available online and putting these data to work for science and society. The Conference will highlight the accomplishments, capabilities and uses of Biodiversity Informatics and will gather community input for a 5-10 year research roadmap. More information: www.e-biosphere09.org

GLOBAL NEWS

The Camel:

A MAJOR RESOURCE FOR CLIMATE CHANGE

With its proverbial desert adaptation, the camel is the one domestic animal that is best equipped to withstand global warming. Already it is replacing cattle in areas such as the Ethiopian Borana rangelands where a higher atmospheric CO₂ content is driving the substitution of grasslands with shrub vegetation. Under high ambient temperatures, camels also have the major advantage over exotic cattle of not depending on energy-intensive air-conditioning for providing large amounts of milk.

While it is well known that camel racing is big business in the Gulf, the economic potential of camel milk production is less frequently realized. But lately demand for packaged camel milk has sky-rocketed in the supermarkets of the United Arab Emirates, especially Dubai, as camel milk has become appreciated as an alternative treatment for Diabetes: it contains a substance that simulates the effect of Insulin. The so-called white gold of the desert also has ingredients that stimulate the immune-system and therefore is used for the treatment of tuberculosis and even cancer. Furthermore it can be consumed by the increasing number of people who suffer from lactose intolerance. Demand for camel milk has also soared because Dubai's camel dairy Camelicious has entered into a joint venture with an Austrian chocolate maker which necessitates camel milk powder. For these

reasons, the Gulf countries are currently on a shopping spree in countries such as India, Pakistan, Sudan to purchase as many female camels as possible.

Most camels in the world are still owned by some of the most marginalised people in the hottest and remotest parts of Africa and Asia. Obviously these people have a major resource on their hands, but in order to make use of this resource they require various inputs, such as awareness about the economic potential of their animals, organisational strengthening and training, as well as technological support and infrastructure for processing camel products which are not limited to milk, but also include meat, wool, leather, and even camel dung paper. Indian Drynet partner Lokhit Pashu-

Palak Sansthan, with support from a European Drynet partner, the League for Pastoral Peoples and Endogenous Livestock Development is currently supporting the camel breeders of the Thar Desert to cash in on their traditional assets, with significant results. However, much more needs to be done, and this NGO effort must be supported by appropriate government policies as well as targeted research efforts. It also should be replicated in Pakistan, Iran, and other Southwest Asian countries to ensure that it is not just affluent Gulf countries that can capitalize on this animal, but also the poor people of the drylands.

By Drynet partner:

Ilse Köhler-Rollefson, LPP, Germany

Camel milking in Khaba- Photo Courtesy of the author



REGIONAL NEWS

Growing food crops in the drylands:

Drought is a powerful factor which shapes livelihood and economy of Tharparkar people, which affect all aspects of their lives such as food, prices of livestock, crop income, labour rates, school attendance, drinking water quality and so many reasons, which causes the escalating rate in migration.

Drought is not new for the local people, but what makes them despair today is the fact that nature and pattern of the calamity have changed a lot. Currently drought does not imply only to state of being not enough food rather it gives rise to a complex of multi dimensional to permanent loss at community and household assets and livelihood means.

Poor rural people in the drylands, climate refugees, drought and political migrants, they all may show some concern over climate change and global warming. However, their most urgent wishes, their basic priorities are not directly related to the climate, but to their empty stomach and poverty. If there is any option for us, then let us first take care of their water and food problems.

Being aware of the necessity to take care of the global warming problem (a long-term task), the international community should FIRST provide short-term ways and means to solve the food problem in all the drylands of this world. The solutions are known.

Rural people, forming the group most affected by the food crisis, do not need to play a role in boosting the world's food production. They simply need to produce enough food for their own family (*"to fill their own hungry stomach"*). Application of cost-effective technologies should therefore be programmed at the level of small-scale **"family gardens"** or **"school gardens"**.

It has been observed by that, meal with green vegetable is a privilege that only a few families settled near town can afford. For a common person the menu invariably includes millet-loaves with handful chilies through out the long dry spell of the year. The result is obvious; hundred of people fall in victim to infections disease every year primarily due to improper diet and malnutrition.

With these family gardens, it was clearly shown that with minimal investment maximal results were booked within the shortest time, e.g. 6 months, whereby families were enabled to grow their own food with a minimum of irrigation water. A very simple soil conditioning method offered a maximum of chances to grow vegetables and fruit trees in two different seasons: a milder autumn-winter period and a hot spring-summer season.



It should be a basic principle that food aid starts with the construction of a

small kitchen garden for every family in the drylands. If it is possible to offer such a small garden to families in dryland area such as Tharparkar desert, it is feasible everywhere.

One needs only a small fence, a minimal quantity of a water and fertilizer stocking compound, a minimal volume of irrigation water and some seeds. Imagine the low costs for offering fresh food all year long to rural families in the drylands.



Splendid examples of long-term combating food shortage with family gardens can be seen everywhere. One can only hope that such a success story will soon be duplicated in many similar situations, where hungry people wait for similar innovative and well-conceived practices, with a remarkable return on investment, laying solid foundations for further sustainable development. Food aid, be it with billions of dollars, can only be very effective if priority is given to **local food production for the poor rural or urban people**, who can not afford to buy the expensive commercial food products in shops or supermarkets. Small-scale family gardens, school gardens, allotment gardens and urban gardens in unused open spaces should be our strategic counter-attack against the actual food crisis.

By: SCOPE (Drynet partner)

REGIONAL NEWS

New Technologies

About KISSS Technology



KISSS is the world's most advanced sub-surface irrigation system and represents a milestone in green technology.

Developed through years of research with leading Australian Universities and the CSIRO, KISSS matches the soil capillary action to deliver water to the root zone. The patented KISSS' unique, patented design significantly reduces the amount of water needed, making KISSS irrigation perfect for drought conditions or businesses that want to save money while conserving water.

KISSS is proven to develop stronger roots, reduce plant-to-plant variation (i.e. enhances uniformity), reduce water logging and drainage losses, and to minimise soil salinity levels.

How Does KISSS Work?

KISSS provides irrigation managers with much greater control over root zone conditions. It is the only system where soil moisture levels directly influence the delivery of water. KISSS ensures water goes where it is most needed by moving water upwards and outwards to the root zone at the soil's natural absorption rate. As saturation occurs, KISSS "intelligently" directs water to dry soil, creating a uniform wetting pattern. For the first time, water application rates can be matched to the capillary absorption properties of the soil!

KISSS can also effectively and usefully disperse recycled water. The sub-surface delivery means grey water and sewage effluent can be used with added safety.

Benefits

- Water savings of up to 60% versus conventional irrigation systems.
- Delivers water directly to the root zone.
- Eliminates evaporation and surface run-off.
- Reduces water losses caused by deep drainage and tunneling.
- Increases fertilizer efficiency.
- Safe, effective and efficient use of [recycled water](#).

- Reduces weed propagation.
- Reduced vandalism and damage due to sub-surface installation.
- Reduces maintenance.
- Deters root intrusion without the use of chemicals.
- KISSS can be operated so that the surface remains dry while roots are irrigated.
- Fully automated.

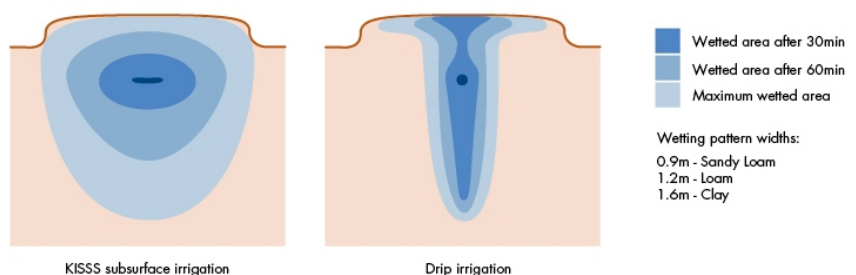
The Difference between KISSS and Conventional Sub-Surface Irrigation

Conventional sub-surface drip irrigation (SDI) systems rely on individual emitters to discharge water at controlled rates and must be run until the driest region of soil is saturated and therefore, inevitably, over watering. In contrast, KISSS' distributes water uniformly, reducing the need to over water and providing a more controlled, efficient irrigation solution.

Unlike SDI KISSS has:

- No run off
- Less evaporation
- No deep drainage
- Reduced water tunneling

Link: www.kiss.com.au



REGIONAL NEWS

NEWS:

Decertification termed a cancer for fertile soil Tuesday, February 10, 2009



By Muhammad Qasim Islamabad

Speakers at a two-day 'National Workshop on Sustainable Management of Dry Lands in Pakistan' termed decertification a cancer of soil that turns fertile land into worthless barren deserts. Ministry of Environment has organized the workshop in collaboration with the Society for Conservation & Protection of Environment (SCOPE) here at a local hotel. Additional Secretary Ministry of Environment Imtiaz Inayat Ellahi inaugurated the workshop here Monday, participated by policy makers, planners, researchers and representatives of civil society organizations.

The experts expressed during the workshop that all over the world, an estimated one billion people are at risk due to decertification, with 250 million being directly affected by it. The United Nations has estimated the annual cost of

decertification to the tune of US\$40 billion annually, while land degradation is an emerging and serious environmental threat in Pakistan. A consensus on the development of dry lands through substantial investment is the need of the hour, the experts opined, as dry lands not only hold the key to overcome food scarcity but are also vital for the ecosystem, biodiversity and provision of employment to poor people. Speaking on the occasion, Imtiaz Inayat said Pakistan is severely affected by land degradation and decertification due to unsustainable land management practices, increasing demand of natural resources, and climate change effects. These factors are causing enormous environmental problems, including the degradation of dry land ecosystems, loss of soil fertility, flash floods, soil erosion, water logging, salinity, deforestation and associated loss of carbon sequestration capacity and biodiversity. He said the situation is further aggravated by the scarcity of water, frequent droughts and mismanagement of land resources. The additional secretary said that one of the objectives of declaring 2009 as the National Year of Environment is to adopt environment-friendly and sustainable land management practices by creating an enabling environment for stakeholders. He said Pakistan has prepared a National Action Plan to combat decertification and mitigate impacts of drought. Under this programme, Ministry of Environment is implementing a project 'Sustainable Land Management to Combat Decertification in Pakistan' with the Global Environment Facility (GEF), United Nations Development Programme (UNDP) and Government of Pakistan funding, he said.

Phase-I of the project, being implemented at a cost of Rs238.8 million, focuses on creating an enabling environment,

institutional strengthening, main streaming Sustainable Land Management (SLM) principles in land use, and planning and implementation of pilot projects for promoting SLM practices for improving local livelihood. The phase-I will help in mobilizing additional funds of US\$12.5 million for Phase-II of the project, which focuses on the demonstration of SLM practices on a larger scale, building on the lessons learnt and best practices tested under Phase-I. The SLM Project is being implemented in the dryland regions of all the four provinces of Pakistan including Sindh, Balochistan, NWFP and Punjab. Major outcomes of the full-scale project include creating an enabling environment for main streaming SLM practices into land-use planning, capacity building for SLM, participatory implementation of nine pilot projects for testing SLM practices, and documentation of lessons learnt and best practices. The pilot projects include integrated management of water resources and rangelands in Chakwal and Attock districts at a cost of Rs10.062 million and poverty alleviation through soil conservation measures in District Bhakkar at a cost of Rs9.453 million in Punjab province. The projects in Balochistan are integrating natural resource management with the involvement of pastoralist communities in Rakhshan Valley District, Khara at a cost of Rs10.147 million, sustainable use of Mazri Palm and NTFP with the involvement of local communities and private sector in District Awaran at a cost of Rs9.471 million, and introduction of low delta and high commercial value crops with micro-irrigation in Surkhab, District Pishin at a cost of Rs9.969 million.

In NWFP, Conservation of water and soil has been undertaken with the

REGIONAL NEWS

In NWFP, Conservation of water and soil has been undertaken with the involvement of local communities in Shaikh Haider Zam, District DI Khan at a cost of Rs9.162 million and strengthening of traditional land use practices in low productive lands in District Lakki Marwat at a cost of Rs9.362 million. Whereas in Sindh, water harvesting and agricultural development has been implemented in Kacho Area, Taluka Johi, District Dadu at a cost of Rs8.955 million. Inspector General Forest Ministry of Environment Muhammad Iqbal Sial, UNDP Representative Abdul Qadir Rafiq and Chief Executive Scope Tanveer Arif also spoke on the occasion.
[link: http://www.thenews.com.pk/print1.asp?id=161848](http://www.thenews.com.pk/print1.asp?id=161848)

Climate change effects to hit Pakistan hard: IPCC chief

By Jamal Shahid

ISLAMABAD, Jan 13: Pakistan is among the countries which will be hit hardest by effects of climate change even though it contributes only a fraction to global warming. This and other worrying findings were revealed at the 'Regional conference on climate change: challenges and opportunities for South Asia' here on Tuesday.

Addressing the conference, Dr Rajendra Kumar Pachauri, chairman of the Intergovernmental Panel on Climate Change (IPCC), said Pakistan was witnessing severe pressures on natural resources and environment. He said: "Climatic changes are likely to exacerbate this trend. Water supply, already a serious

concern in many parts of the country, will decline dramatically, affecting food production. Export industries such as fisheries will also be affected, while coastal areas risk being inundated, flooding the homes of millions of people living in low-lying areas."



The two-day conference has brought together experts from the South Asia region to share knowledge and explore measures to combat the threat posed by the climate change. The conference has been organised by the Ministry of Environment and the International Union for Conservation of Nature (IUCN), Pakistan, and supported by the UK Department for International Development and the Norwegian Embassy. Droughts in 1999 and 2000 are one example that caused sharp declines in water tables and dried up wetlands, severely degrading ecosystems. Although Pakistan contributes least to global warming one 35th of the world's average of carbon dioxide emissions temperatures in the country's coastal areas have risen since the early 1900s from 0.6 to 1 degree centigrade. Precipitation has decreased 10 to 15 per cent in the coastal belt and hyper arid plains over the last 40 years while there is an increase in summer and winter rains in northern Pakistan. Although Pakistan produces minimal chlorofluorocarbons and a little sulphur dioxide emissions, thus making a negligible contribution to

ozone depletion and acid rain, it will suffer disproportionately from climate change and other global environmental problems. "The fact that global warming was unequivocal and there is no scope for scientific questioning, Pakistan faces potential environmental catastrophe," said Dr Pachauri, who has been awarded the Nobel Peace Prize (on behalf of the IPCC) along with former US vice-president Al Gore. Describing the effects of climate change in many parts of the world, Dr Pachauri, discussed the impact such changes were likely to have on a country like Pakistan and on the lives of its people. He said that health of millions would also be affected with diarrhoeal diseases associated with floods and drought becoming more prevalent. Intensifying rural poverty is likely to increase internal migration as well as migration to other countries. Given the enormity of the impact, adaptation and mitigation measures are critically important. "Although most societies have a long history of adapting to the impacts of weather and climate, climate change as we are experiencing it today poses new risks that will require new investments in adaptive responses," Dr Pachauri warned. Alarmed by a recent report that described Pakistan as the 12th most vulnerable country, Prime Minister Yousuf Raza Gilani, who attended the Tuesday's session of the conference as chief guest, appeared disturbed by the fact that environmental degradation would cost five per cent of the GDP every year. "Climate change is an economic and developmental problem as well as environmental. The government will make concerted efforts to achieve desired outcome to mitigate climate change," the prime minister said.

<http://www.dawn.com/2009/01/14/top5.htm>