

**Conférence Internationale
Commune**

**La Lutte Contre La
Désertification
et
L'Impératif International de
Politiques de Soutien**

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Livre des Résumés

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Contents

SESSION 1: POLICY CHALLENGES IN COMBATING DESERTIFICATION	1
Desertification and Human Security: Addressing Risks and Uncertainties <i>David Mouat and Judith Lancaster</i>	3
Interdépendances entre Désertification, Pauvreté et les Menaces sur la Sécurité Humaine <i>Gogo Ndiaye Macina</i>	4
Science in the Service of Combating Desertification - Results of the International Conference on "The Future of Drylands" <i>Thomas Schaaf</i>	5
Forced Migrations due to Degradation of Arid Lands: Concepts, Debate, and Policy Requirements <i>Fabrice Renaud and Janos Bogardi</i>	6
Les Impératifs Politiques de la Lutte Contre la Désertification <i>Youba Sokona</i>	7
Le Forum de Montpellier sur la Désertification et la Société Civile <i>Nora Ourabah</i>	8
Policy Feedback from GEF – IYDD Events <i>Jos Lubbers</i>	9
SESSION 2: NEW POLICY DIRECTIONS TO MAINSTREAM DESERTIFICATION POLICIES	11
Pour des Politiques Plus Efficaces de Lutte Contre la Désertification <i>Slimane Bedrani et Azeddine Mouhous</i>	13
Déclaration de Paris sur l'efficacité de l'aide au développement et financement de la lutte contre la désertification: la stratégie du Mécanisme Mondial <i>Youssef Brahimi</i>	14
TERRAFRICA – Plateforme Partenariale pour L'intégration de la Gestion Durable des Terres dans l'Agenda Politique International <i>Taoufiq Bennouna</i>	15
Global Changes in Pastoral Policy <i>Jonathan Davies</i>	16
Linking Poor Farmers to Markets to Provide Incentives for SLM <i>Barry Shapiro</i>	17
Payments for Environmental Services as a Means to Combat Desertification in WANA? Reflecting on the case of the Rangelands <i>Céline Dutilly-Diane</i>	18
Enabling Policy Environment to Enhance the Uptake of Natural Resources Management Technologies in Marginal Dry lands: Empirical Evidence from Morocco and Tunisia. <i>Kamel Shideed</i>	19

SESSION 3: NATIONAL CASE STUDIES..... 21

Algérie: Lutter Contre la Désertification en Algérie : « De l'expérience à l'action »
Mohamed Seghir Mellouhi 23

Iceland : Policy Lessons from a Century of Soil Conservation
Andres Arnalds 24

Namibia: The Evolutionary Process of Mainstreaming Desertification Policy
Mary Seely, Patrik Klintonberg and Bertus Kruge 25

Argentina: Combating Desertification: From Research to Action
Elena María Abraham 26

China: The Role of Policies in Combating Desertification
Xiaoxia Jia..... 27

Pakistan: Policy Analysis and Barriers in Mainstreaming Combating Desertification into National Developmental Priorities
Amjad Tahir Virk 28

Maroc: Suivi Evaluation du Programme d'Action National de Lutte Contre La Désertification
Mohamed Ghanam 29

South Africa: The Implementation of Land Degradation Assessment and Rehabilitation Programmes – An Agricultural Perspective
Dirk Pretorius 30

Tunisie: La Politique en Matière de Gestion, de Suivi, et d'Evaluation de la Qualité des Sols
Hedi Hamraoui 31

Contraintes hydro-agricoles et stratégies de gestion intégrée et durable dans un contexte de désertification (Sahara Algérien)
Abderrazak Khadraoui 32

Algerian Sahara: Field Surveys in Tidikelt
Iwao Kobori, Abdelrahmane Benkhalifa and Hamadi el Hadj..... 33

SESSION 4: SUB-REGIONAL CASE STUDIES..... 35

Policies to Combat Desertification: A Perspective on the Latin American Region
Denis Avilés Irahola 37

UNCCD Implementation in West Asia: Challenges and Policy Options
Ahmad Ghosn and Habib Elhabr 38

Policies to Combat Desertification in the ESCWA Region
Boshra Salem 39

Policies Towards Combating Desertification in Africa
Rosebud Kurwijila 40

SESSION 5: KNOWLEDGE MANAGEMENT FOR ACTION ON DESERTIFICATION. 41

From Knowledge to Policy Change <i>Maryam Niamir-Fuller</i>	43
The Challenges of Measuring the Impact of Desertification Interventions <i>David Niemeijer</i>	44
The Land Degradation Assessment in Drylands Project <i>Riccardo Biancalani</i>	45
Knowledge Management and Policy for Combating Desertification in China <i>Wang Hong</i>	46
La Recherche Scientifique: un Moyen de Lutte Contre la Désertification <i>Dalila Nedjraoui</i>	47
A New and Sustainable Approach to Policies for Restoring Grasslands in China <i>Gaoming Jiang</i>	48
Sub-Saharan Africa Challenge Programme <i>Assétou Kanouté</i>	49
Traditional Knowledge for Combating Desertification in the Euro-Mediterranean <i>Pietro Laureano</i>	50

SESSION 6: INTERLINKAGES BETWEEN DESERTIFICATION, CLIMATE CHANGE AND OTHER GLOBAL ENVIRONMENTAL ISSUES 51

Synergies at the International Level: The Challenges of Bridging the Environment-Development Divide in the UNCCD <i>Pamela Chasek</i>	53
La Lutte Contre la Désertification et L'adaptation aux Changements Climatiques <i>Wafa Essahli</i>	54
The Challenge of Global Warming: Impacts on Desertification in 21st Century Africa <i>David Thomas</i>	55
Empreinte climatique sur les hauts plateaux et la steppe en Algérie <i>Mostefa Kara</i>	56
Interactive Effects of Desertification on Global Climate Change and Food Security <i>Rattan Lal</i>	57
Practicing Synergy in the Implementation of MEAs with Particular Reference to Desertification <i>Hillary Masundire</i>	58

Programme 59

List of Participants..... 65

SESSION 1:

**POLICY CHALLENGES IN
COMBATING DESERTIFICATION**

Desertification and Human Security: Addressing Risks and Uncertainties

David Mouat and Judith Lancaster

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Human behavior, including human response to changes in productivity and predictability, is a critical part of the desertification process and attempts to mitigate its effects. Land use strategies that may work well in years of good rainfall, or in areas where the soil is not exhausted, may be ineffective in dry cycles and may even exacerbate the desertification process. A declining biophysical system, at risk for desertification, may not be able to produce the goods and services necessary for a sustainable socioeconomic system. This can result in food shortages and hunger, overexploitation of resources in an attempt to produce more food, and further deterioration of land condition. Once initiated, this cycle is difficult to break. Desertification is linked to poverty and tends to result in out-migration, initially of young people and men. This changes the family structure and places burdens and constraints on the women, children and old people remaining, which in turn changes patterns of land use and may further exacerbate desertification. In many countries affected by desertification, loss of productivity results from the exploitation of dryland resources beyond the point of recovery, and almost a billion people worldwide are undernourished. A total of 135 million people are at risk of becoming refugees as a consequence of desertification.

What can be done before the ecosystem/land is degraded past the point of no return and before people become desperate? If human behavior, adaptability and resourcefulness, are crucial factors in the desertification process, then changing human behavior is our best chance of ameliorating the effects of desertification, and/or living within the restraints it imposes. Modeling and designing future patterns of land use and land responses is a technique which offers potential solutions for environmental issues by identifying different, and viable, land use strategies, and also empowering communities to take charge of their future and the future of the land. Especially important to the future scenario modeling effort is consideration of stakeholder priorities to indicate viable alternative land-use options, as well as the sharing of differing perceptions, and views. Alternative futures analyses are facilitated by outsiders, or persons not immediately involved in the situation under study. As a tool in conflict resolution, alternative futures analysis provides a forum for the exchange of concerns, issues and hopes for the future, and a final product that may be used by local leaders to influence managers and policy makers. Importantly, in the context of "organization", the technique also provides a leadership opportunity for potential dissidents and agitators, and is a tangible expression of "official" (governmental or non-governmental) concern and interest in the problem under investigation, and the people involved. The process empowers people, and provides capacity building so that they have the tools and confidence necessary to make changes in lifestyle and land use.

An alternative futures analysis provides an opportunity for policy makers and politicians to understand potential future situations and mobilize appropriate agencies to deal with them. It gives them a technology to assist in developing strategies to achieve desirable future land uses in a socio- economic and biophysical context. Additionally, the GIS-based visualization of the potential impact of land use alternatives upon the landscape is material that can be used at local, regional and national levels for presentations, information sharing, education and lobbying. In the context of political instability and the risk to security associated with desertification, this technique can be used to identify potential conflict situations and evaluate strategies most likely to defuse conflicts before they occur. Designed to address environmental concerns including biodiversity and water resources, alternative futures analysis involves stakeholders of all types and promotes interaction, communication and capacity building.

Interdépendances entre Désertification, Pauvreté et les Menaces sur la Sécurité Humaine

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Ministry for the Environment and Protection of Nature (MEPN), Senegal

La CCD reconnaît que le processus de désertification est complexe et sous tendue par plusieurs facteurs en interaction permanente (environnemental, social et économique). Pauvreté et désertification sont donc intimement liées en une spirale où tout se confond entraînant une fragilisation de la stabilité économique et sociale.

Au Sénégal, malgré les politiques de relances des productions agricoles, la contribution de l'agriculture dans l'économie nationale est en deçà des espérances. Ceci serait dû en grande partie par la désertification dont les impacts négatifs se traduisent par la:

- Saturation et dégradation des terroirs ; près de 50% des terres de cultures sont dégradées ;
- Baisse du revenu réel des paysan qui a provoqué la réduction très sensible de l'utilisation des intrants agricoles ;
- Baisse des rendements culturaux pour une agriculture largement dominé par la monoculture et des pratiques culturales inadaptes qui ont tendance à rompre l'équilibre des écosystèmes ;
- Régression des forêts naturelles de près de 8% pendant les dix dernières années ;
- Dégradation sensible des ressources en eau à cause des intrusions salines et la pollution des eaux superficielles dans les zones rurales;

Cette intervention présente les efforts fait au Sénégal pour faire face aux menaces de la désertification sur la sécurité humaine. Les défis comprennent:

- cadre juridique
- cadre institutionnel
- financement acquis

Pour briser le cercle vicieux de la désertification et la pauvreté, il faut des mesures correctives techniques sur tous ces aspects.

Face aux difficultés de financement direct du PAN, le Sénégal compte de manière indirecte tirer profit des opportunités financières qu'offrent les Conventions dites de Rio, des stratégies de réduction de la pauvreté, de l'Initiative du NEPAD etc.... Ceci, dans l'objectif ultime d'atténuer la dégradation des ressources naturelles, de lutter contre la pauvreté et d'aboutir à la sécurité alimentaire des populations vulnérables.

Science in the Service of Combating Desertification - Results of the International Conference on "The Future of Drylands"

Thomas Schaaf

UNESCO, Division of Ecological and Earth Sciences, Man and the Biosphere (MAB) Programme

Scientists were among the first to seriously consider drylands - either as ecosystems in their own right, or as areas with wide-spread poverty for which external agricultural and pastoral intervention schemes and new technologies could help to promote development. In the early-mid 1950s, the first inter-disciplinary research projects on arid lands were launched by UNESCO. Fifty years later, our scientific knowledge on drylands has vastly improved and yet land degradation in drylands continues to prevail in many parts of the world.

In June 2006, UNESCO, the Tunisian authorities, OSS and some twenty other partners organized an international scientific conference on "The Future of Drylands" in Tunis to take stock of some fifty years of drylands research and to identify priority research themes to promote sustainable development in drylands. Held within the context of the 2006 International Year of Deserts and Desertification, conference participants adopted the "Tunis Declaration" which identifies the following themes as priority issues in an attempt at defining future paths of dryland research for sustainable development:

- Interdependence and conservation of cultural and biological diversity;
- Integrated management of water resources in the context of a looming water crisis;
- Assessing and forecasting dryland ecosystem dynamics in order to formulate adaptation strategies in the context of global change and to alleviate poverty so as to achieve the MDGs;
- Agriculture and pastoralism as opportunities for sustainable land use;
- Coping with and management of natural and man-made disasters;
- Formulating and implementing scenarios and policy options for good governance in the context of global change;
- Identifying viable dryland livelihoods and policy options for the benefit of dryland dwellers (such as ecotourism);
- Educating for sustainable development and knowledge sharing;
- Reversing environmental degradation and promoting rehabilitation;
- Costs related to inaction in the field of land degradation;
- Renewable energies suitable for dryland development; and
- Evaluation of dryland ecosystem services and their trade-offs.

In order to address these priority issues, an enabling environment is essential. This will entail that governments and multilateral environment agencies step up their efforts to use sound scientific knowledge to formulate and implement policies, laws, regulations and action programmes vis-à-vis environmental issues stressing integrated management of natural resources and conservation practices. At the same time, the scientific community is requested to ensure its findings are made available and understandable to decision-makers and local dryland communities so that research can help shape sound policies and good governance as well as education on an interactive basis for sustainable dryland management and improved livelihoods.

Conference participants also reminded national decision-making bodies and the scientific community to increase their efforts in implementing research for development projects in close collaboration with and for the benefit of local dryland communities. Integrating modern technologies with traditional knowledge to achieve sustainable development in drylands was seen as one promising way along which local communities, scientists and government officials could collaborate.

Forced Migrations due to Degradation of Arid Lands: Concepts, Debate, and Policy Requirements

Fabrice Renaud and Janos Bogardi

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Desertification is one of the most pressing environmental problems in the world today and affects between 10-20% of dryland areas. The Millennium Ecosystem Assessment (MA) gave an alarming picture of almost all ecosystems of the world with a particular emphasis on drylands. According to the MA's conceptualization of the linkages between human well-being and ecosystems, desertification reduces the quantity and quality of services (such as food, forage, water) otherwise provided by healthy ecosystems. When ecosystems cannot provide these services at adequate levels because of natural or anthropogenic processes, the livelihoods and basic human needs of local population (particularly in rural areas) can become compromised. Thus desertification clearly needs to be addressed in the global policy-making context, particularly since desertification-related problems do not remain confined to the drylands. Losing their meagre livelihoods, one adaptation measure of affected communities is to migrate to other places thus contributing substantially to the rural exodus towards cities and adding a potentially huge contingent to international migration. It is now estimated that the number of people migrating because of environmental problems in their region of origin (or environmental migrants) is already larger than people migrating for socio-political reasons. However it is difficult to properly quantify the number of environmental migrants and the migration routes in part due to illegal movements. The concept of environmental forced migration (environmental refugees) itself remains debated from a scientific point of view. This is principally because migrants may decide to move for a combination of reasons including environmental degradation, economic purposes and/or political strife. This lack of proper definition and consensus further contribute to the imprecision in estimates of numbers and routes. Migrations can of course be a force for good (as stipulated by the UN Special Representative for Migration) but forced migrations have the potential to bring extreme hardship to (i) the migrants themselves potentially generating a humanitarian problem and (ii) recipient countries, depending on circumstances. It is anticipated that forced environmental migrations will increase in the future and the migrants (who may become refugees) will not be recognized (and thus afforded the right) under the 1951 Convention relating to the Status of Refugees. It is therefore imperative that in parallel to already urgent humanitarian actions and to policies and measures put in place to prevent environmental degradation in drylands, the global problem of environmental migrants is debated internationally and that global policy answers be sought addressing in particular:

- Science: put in place programmes to allow a better understanding between the cause-effects mechanisms between degradation of ecosystems and social systems. In addition, develop proper definitions of environmental migrations, environmental migrant/refugee. Provide long-term, sustained funding for research.
- Awareness: raise knowledge-based public and political awareness of the issue and its environmental, social and economic dimensions.
- Legislation: put in place a framework of recognition of environmental migrants such as in a Convention or in parts of Intergovernmental Environmental Treaties.
- Humanitarian aid: empower the United Nations system and other major assistance organisations to provide aid to environmental refugees.
- Institutional: devise concepts and put in place institutions that are able to assist the flux of forced environmental migrants.

Les Impératifs Politiques de la Lutte Contre la Désertification

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La lutte contre la désertification reste l'un des défis majeurs du 21^e siècle, en particulier en Afrique où la vulnérabilité des populations et des écosystèmes des zones arides, semi-arides et sub-humides sèches est particulièrement importante. La désertification ou encore la dégradation des terres dans ces zones est un phénomène complexe, multidimensionnel aux implications diverses, dont celles politiques, sociales et économiques sont en perpétuelle mutation. L'interaction entre désertification et pauvreté est d'autant plus grande que le niveau de développement est bas et que les ressources naturelles constituent le principal capital de la majorité des populations. L'aridité n'est cependant pas une fatalité, les exemples des zones arides aux Etats-Unis et en Australie montrent que des programmes de développement soutenus par des politiques volontaristes peuvent y réussir en diversifiant les moyens d'existence et en créant des richesses qui retiennent les populations tout en préservant l'équilibre des systèmes écologiques. De la Conférence de Nairobi en 1977 à l'UNCCD en 1994, les concepts auront bien évolué, d'un désert qui avance à un désert qui se crée!

Aujourd'hui, l'année internationale des déserts et de la désertification, dix ans après l'adoption de cette convention et sa ratification par quelques 190 pays, ravive le débat sur les impacts de l'UNCCD et l'évolution des efforts de lutte contre la désertification en premier lieu au niveau local certes mais aussi au niveau national où continuent à s'élaborer les plans de développement économique et social et aux niveaux régional et international qui présentent des forçages importants pour l'élaboration de ces plans (globalisation des échanges, gouvernance environnementale mondiale...). La communication fera le point sur les acquis de dix années de mise en œuvre de la CCD mais aussi des lacunes qui persistent et conclura avec des propositions d'actions à mettre en œuvre pour dynamiser la mise en œuvre de la Convention et améliorer l'efficacité des actions de lutte contre la désertification.

Le Forum de Montpellier sur la Désertification et la Société Civile

Nora Ourabah

International Federation of Agricultural Producers / Fédération Internationale des Producteurs Agricoles (IFAP-FIPA)

Dans le cadre de l'Année internationale des déserts et de la désertification, la société civile composée d'ONG ; d'organisations d'agriculteurs et de collectivités locales a décidé de conjuguer ses efforts aux côtés de la communauté scientifique, des pouvoirs publics français et d'organisations intergouvernementales telles que le Secrétariat de l'UNCCD, le Mécanisme Mondial et le FIDA, pour organiser un forum baptisé *desertif'actions*, du 21 au 23 septembre à Montpellier, le premier dans son genre depuis la mise en vigueur de la Convention des Nations Unies de Lutte Contre la Désertification.

Le forum de Montpellier s'est conclu par l'adoption d'une déclaration commune qui traduit certains messages forts ayant émané de discussions intenses pendant les deux journées de débats. Les participants se sont accordés sur le manque d'attention accordé au phénomène de la désertification qui pourtant, menace la vie de plusieurs millions de personnes. Ils ont également constaté que l'évaluation du phénomène est récente. Il est alors plus aisé de se convaincre de la nécessité d'agir vite pour le combattre. L'idée selon laquelle la lutte contre la désertification ne peut se réaliser sans le concours de la société civile qui doit donc s'organiser afin de participer aux processus de décision et à la mise en œuvre de l'UNCCD est largement ressortie comme l'une des idées fortes de ce forum. Enfin, le forum a mis en exergue des initiatives de la société civile pour valoriser le potentiel économique des terres arides, souvent sous-estimé.

Le forum de Montpellier a créé une réelle dynamique de la société civile, de par l'originalité de son concept basé sur la mixité des acteurs. Les pistes ouvertes sont nombreuses et ne demandent qu'à être prises en compte par l'appel de Montpellier pour la lutte contre la désertification.

L'idée d'organiser un tel forum est le fruit d'un long cheminement et de nombreux efforts déployés par la société civile afin de prendre à bras le corps la question de la lutte contre la désertification. En effet, dès le début des années 2000, un groupe d'organisations basées en France et composés d'acteurs divers (ONG, Organisations professionnelles agricoles, groupements scientifiques) oeuvrant pour la lutte contre la désertification ont décidé de créer un groupe de travail sur la désertification (GTD) pour dégager des axes de travail communs et pour soutenir des actions de plaidoyer et de veille en matière pour lutter efficacement contre la désertification. Cette initiative de la société civile ayant pris de l'ampleur et gagné de la crédibilité s'est ensuite rapprochée d'un certain nombre d'acteurs de la société civile européenne. Ensemble, ils ont constaté lors du CRIC 3, le manque de mobilisation de la société civile sur ces questions, qu'elles traitent pourtant dans leurs divers projets de développement.

Ainsi, le Forum de Montpellier vient en prolongement de cette prise de conscience, et tombe à point nommé, à un moment où le monde se préoccupe des grandes questions environnementales.

Le forum de Montpellier doit servir de point de départ aux actions de solidarité en matière de lutte contre la désertification et doit porter plus loin, les actions de la société civile ces actions, aux côtés de toutes les parties prenantes (pouvoirs publics, scientifiques, organisations intergouvernementales..).

Policy Feedback from GEF – IYDD Events

Jos Lubbers

Global Environment Facility (GEF) Secretariat

The International Year of Deserts and Desertification and the beginning of GEF-4 as a new period for progress offers new ways and élan for Sustainable Land Management.

The paper gives a summary of outcomes of IYDD - GEF supported activities which bear on the problem of Land Degradation. It includes the global extent of Land Degradation, the global environmental impact, the economic impact and the environment - poverty link. The response to land degradation is focused on international legal and institutional developments. Information on actual activities and investments in Sustainable Land Management is provided even though the data are very scarce, poorly documented and lack uniformity.

The Land Degradation Focal Area in the GEF has gained experience with integrated approaches to natural resources management. The design of GEF LD projects has stimulated thinking on effects of SLM on biodiversity of global importance, the impact on international waters and on climate change. To combat desertification the GEF will focus on system-wide change through the removal of policy, institutional, technical, capacity and financial barriers to SLM. A promising instrument in this respect is the Country Partnership Program. Another priority will be knowledge management to obtain knowledge to understand the underlying causes of LD, to better share knowledge and to assess the status and dynamics of land use/land cover change.

SESSION 2:

**NEW POLICY DIRECTIONS TO
MAINSTREAM DESERTIFICATION
POLICIES**

Pour des Politiques Plus Efficaces de Lutte Contre la Désertification

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Les politiques de lutte contre la désertification menées jusqu'à maintenant n'ont donné que peu de résultats probants. Dans tous les pays touchés par le phénomène de désertification, les signes qui le caractérisent ne semblent pas avoir diminué d'intensité depuis une trentaine d'années. Cela s'explique :

Au niveau national, par l'inefficacité des politiques menées en ce domaine par chaque pays concerné :

- Faiblesse de la politique de remplacement des activités agricoles en sec (par exemple élevage extensif sur parcours ou la céréaliculture en sec) par des activités agricoles en irrigué,
- Faiblesse de la politique de création d'emplois non agricoles dans les zones en désertification (pour diminuer la pression sur les zones de parcours),
- Faiblesse des pouvoirs centraux à mettre en place une gestion durable des espaces pâturables du fait de leur connivence (ou de leur incapacité à s'opposer à eux) avec les grands éleveurs – souvent urbains – qui profitent de l'entrée libre sur les parcours et de la gratuité des fourrages naturels,
- Faiblesse de la recherche scientifique et technologique axée sur la lutte contre la désertification,
- Utilisation inefficace des ressources budgétaires affectées à la lutte contre la désertification (par exemple : le « barrage vert » mais aussi plantations fourragères et mises en défense sans mécanisme de gestion durable)
- Absence de techniques réellement participatives de valorisation et de gestion des pâturages,
- Le manque de bonne gouvernance de l'Etat et de ses services s'occupant des problèmes de désertification.

Au niveau international, par :

- La surdité persistante des pays riches aux avertissements des scientifiques relatifs à ce phénomène et donc leur incapacité à en tirer les conséquences,
- Refus de certains pays développés à adhérer aux accords internationaux dont l'application pourrait limiter le réchauffement de la planète et donc la désertification,
- Refus de la plupart des pays développés à accepter un ordre mondial (en matières d'échanges commerciaux, de finance internationale, de liberté de circulation de la main-d'oeuvre, de diffusion du savoir et de la connaissance,...) tendant à favoriser un développement plus égalitaire et plus rapide des différentes régions du monde,
- Le refus à mettre suffisamment de moyens pour aider les pays concernés à atténuer ce phénomène et à en diminuer les effets sur les êtres humains.

Pour chacun des points ci-dessus, on peut faire correspondre une politique appropriée qui, tout en étant réaliste (on ne peut pas bouleverser du jour au lendemain les rapports de force ni au niveau des nations, ni au niveau mondial), peut atténuer le phénomène de désertification et amoindrir ses effets négatifs sur les populations concernées.

Déclaration de Paris sur l'efficacité de l'aide au développement et financement de la lutte contre la désertification: la stratégie du Mécanisme Mondial

Youssef Brahim

Global Mechanism

L'architecture financière de l'aide au développement est en pleine mutation. Le nouveau cadre qui se dessine accorde une plus grande responsabilité aux pays bénéficiaires dans l'identification des priorités et la coordination des actions. Il appelle également les pays financiers partenaires à promouvoir une meilleure harmonisation de leurs politiques et procédures respectives de coopération pour le développement.

Dans ce contexte, quelle est (ou sera) la place accordée à la lutte contre la désertification dans les priorités nationales et, partant, dans le niveau d'allocation de ressources ?

Le Mécanisme Mondial inscrit son action dans la perspective de mise en oeuvre de la Déclaration de Paris en interagissant principalement au niveau national avec les acteurs nationaux appropriés et leurs partenaires au développement. A ce niveau décisionnel le Mécanisme Mondial appuie les pays dans l'élaboration d'une stratégie intégrée de financement de la lutte contre la désertification intégrée dans les stratégies nationales de développement. Sur la base de cette intégration le Mécanisme Mondial promeut également mobilisation de sources nouvelles de financement sur des thématiques porteuses comme, notamment, l'accès au marché des productions des zones arides, la synergie entre lutte contre la désertification et changements climatiques, ou le partenariat public-privé.

TERRAFRICA – Plateforme Partenariale pour L'intégration de la Gestion Durable des Terres dans l'Agenda Politique International

Taoufiq Bennouna

Banque Mondiale

Les tendances actuelles de la dégradation des terres et leur mauvaise gestion en Afrique subsaharienne nuisent gravement aux services de l'écosystème. Le coût de la dégradation des terres dans la zone est estimé à une perte annuelle de 3% du PIB agricole, soit une perte du revenu annuel brut de plus de 9 milliards de US\$. Le coût de la réhabilitation des terres dégradées est largement inférieur, il est estimé à 1,9 milliards de US\$ par an. La poursuite des procédures actuelles de gestion aurait des conséquences néfastes pour le futur proche de la région.

C'est sur la base de ce constat qui souligne l'urgence de l'action et la nécessité d'instaurer des pratiques de Gestion Durable des Terres (GDT) qu'a été lancé le partenariat TerrAfrica, la plus vaste alliance de ce type jamais créée pour s'attaquer au problème de la dégradation des terres et renforcer leur gestion durable dans toute la région.

Reposant sur le principe qu'aucune institution ne peut à elle seule régler le problème de la dégradation des terres, TerrAfrica constitue un cadre unique et cohérent, basé sur une approche intégrée et plus globale, et un mécanisme de coordination efficient. Elle vient appuyer l'action collective des gouvernements africains, des organisations régionales et sous-régionales, des institutions multilatérales et bilatérales, des organisations scientifiques et de celles de la société civile, des producteurs et des populations locales.

Sur la base de son modèle opérationnel validé par tous ses partenaires et grâce à sa structure de gouvernance, TerrAfrica ambitionne d'accroître les ressources financières et non financières destinées à mettre en œuvre des stratégies de gestion durable des terres efficaces et efficientes, qui soient pilotées par les pays et systématiquement intégrées dans leurs programmes de développement.

En mettant l'ensemble des acteurs autour de la même table et en leur permettant d'intégrer la même approche, TerrAfrica porte la problématique de la dégradation des terres et la nécessité de leur gestion durable au centre des priorités internationales.

Global Changes in Pastoral Policy

Jonathan Davies

World Initiative for Sustainable Pastoralism (WISP)

The future of the drylands lies in the hands of mobile pastoralists. In direct contrast to popular opinion, pastoralism is essential to dryland ecosystem health and it is one of the few production systems that are genuinely environmentally friendly to the drylands. Furthermore, and also in contrast to popular opinion, pastoralism is the most economically viable means of managing the drylands. Nevertheless, many governments, particularly in the developing world, still consider pastoralism to be the scourge of both development and the environment and they create policies that deliberately undermine it. Yet some governments around the world are slowly recognising the value of pastoralism and are beginning to accommodate mobility within policy.

The World Initiative for Sustainable Pastoralism (WISP) is a global network for knowledge management on pastoralism and sustainable land management. This paper from WISP will present findings of a global review on the economics of pastoralism that illustrate the importance of pastoralism to developing country economies, the policy failures that undermine pastoralism, and policy trends from around the world. The paper will stress the importance of pastoralism in protecting drylands ecosystems and will illustrate how this attribute is consistently under-valued, and thus is being lost.

Overcoming desertification requires the enabling of mobile pastoralists, who are the best custodians of the drylands. Enabling pastoral mobility requires wide-spread policy change, to allow basic service provision and security as much as land rights and equitable markets. This policy change needs to be informed by good practice and strong evidence, and successful experiences and sound data are now being exposed which are making such change possible.

Linking Poor Farmers to Markets to Provide Incentives for SLM

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The poor are the most dependent on agriculture in the drylands, so they are hit hardest by desertification or land degradation (LD). However, the poor are frequently blamed as agents of land degradation through 'soil mining'-growing crops and grazing livestock without replacing the nutrients and ground cover that are removed, due to their limited financial means. This blame may be misplaced. The poor frequently initiate sustainable land management practices (SLM), especially when new market opportunities emerge -- as long as the right technologies, infrastructure and policies are in place for the incentives to be created for SLM. This paper explores the links between increasing access of the poor to markets, resulting opportunities for agricultural intensification, and the role of policies and investments in determining whether this market integration and intensification results in land degradation or sustainable land management.

Common factors in dryland development success stories include exploitation of local comparative advantages (soil, climate, biodiversity, labor, etc.); access to technologies that can increase land and labor productivity faster than population growth; and improved access to growing markets. With increasing population coalescing into urban centers in many parts of Africa, markets are emerging with increased food demand, the profitability of agriculture is perceived to be increasing, and even poor farmers are responding and intensifying production. The challenge is to intensify in a sustainable manner. Poor farmers can even be motivated to rehabilitate degraded lands as they intensify.

The incentives for SLM are often determined by the policy environment and public investments. Clear rights over personal property resources, especially land and trees, provide incentives to invest since farmers can capture the long term benefits. Rural infrastructure, such as roads to reduce the costs of inputs and marketing, strong farmer organizations, access to inputs and the credit to be able to buy them, along with education, communications and health care are essential for helping farmers improve their competitiveness and profitability. The ability of the poor to invest in the future is undermined, meanwhile, by policies that subsidize food imports, place taxes on the agricultural sector to support urban priorities, and neglect rural infrastructure, organizations, and institutions. Moreover, the social context must be carefully considered in policy making. For instance, efforts to privatize land can disrupt customary tenure arrangements and inter-ethnic relations leading to social conflict and negative impacts on the environment. There is no silver bullet, but a conducive policy environment, investments in rural infrastructure and in building strong local organizations, as well as clear local institutions create incentives for SLM.

Payments for Environmental Services as a Means to Combat Desertification in WANA? Reflecting on the case of the Rangelands

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Although the severe desertification of many rangeland areas of West Asia and North Africa (WANA) has been known for decades, solutions have to be found urgently as most previous technical and policies interventions have hardly proved effective. Although unsustainable land use practices are only one of the multiple causes of desertification, these could be addressed by appropriate incentive schemes. Payment for environmental services (PES) is one of them, though, to date, most PES programs have focused on the management of forests resources and watersheds in more humid environments. Other than the support of private or collective shrub plantations, few examples of PES schemes can be found for the management or the rehabilitation of dry rangelands.

This paper reviews the environmental services provided in the rangelands of West Asia and North Africa and seeks to evaluate whether PES could provide an incentive for sustainable management. Scientific knowledge of both the assessment of rangeland degradation and the environmental services provided by healthy rangelands (i.e. wind erosion protection, conservation of biodiversity, soil carbon sequestration, and water productivity) has to be improved, in order to quantify the potential benefits and identify who should pay for these benefits. This is also important for targeting the payments to locations where the risk of further land degradation and/or the potential environmental benefits are high.

Beside this important task, institutional issues have to be considered. Most of the rangelands in the semi-arid and arid areas of the WANA region are common-pool or open access resources, meaning that local institutional development as well as the national political and legal framework will be instrumental to make PES schemes work in the region. Determining just who bears the costs of proper rangeland management and who should receive the payments can be quite a difficult task. To make sure that poor and marginalized groups do not lose their pre-existing rights, effective mechanisms for identifying current rights holders need to be put into place. Once the group is established, the questions of investment, payment schedule, monitoring, and enforcement mechanisms must be answered. The transaction costs of implementing such a program will be shaped not only by individuals' incentives, but also by the institutional design and the cooperative capacity of the group to make and enforce collective decisions.

Finally, it will be important to put PES in context and compare the expected costs and benefits provided by PES programs with those of alternative policies to combat rangeland degradation (e.g. regulation, revisited public policies, land tenure reforms). Some of these may even have to be implemented simultaneously.

Enabling Policy Environment to Enhance the Uptake of Natural Resources Management Technologies in Marginal Dry lands: Empirical Evidence from Morocco and Tunisia.

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International Center for Agricultural Research in the Dry Areas (ICARDA)

Unlike agricultural research investments for high potential areas, the rate of return of research investment for marginal areas is not so clear. It is known that the adoption of new technologies in these environments is low because of the generally highly variable returns on such technologies, the high level of risk, and because of institutional constraints such as land property rights issues. Hence, it can be hypothesized that unless public incentives are provided, the potential benefits of new NRM technologies cannot be realized. In particular, if the technologies require investments, governments may have to subsidize their establishment. Subsidies are justified if public benefits can be generated whose value exceeds the amount of the subsidy.

Cactus/Atriplex alley cropping as an NRM technology for these areas can reduce, for example, soil erosion, which is a consequence of land use intensification for agriculture in the marginal environments. Reducing soil erosion has private and public benefits, some of which can be quantified and monetized (e.g., soil fertility) while other effects (biodiversity) are less tangible. Returns on investments and uptake of natural resource management technologies in crop/livestock production systems in arid and semi-arid areas of Morocco and Tunisia were assessed.

The analysis of both country cases has shown that investments in these environments can be economically justified if appropriate technologies are being introduced. Results of the two country studies provide evidence of the effectiveness of alley cropping systems in increasing barley and biomass production, reducing feed costs through reduction of purchased feeds, maintaining livestock production during drought seasons, improving soil organic matter, and reducing soil erosion. On the other hand, the financial analysis showed that the rates of return for farmers to invest in these soil conservation technologies are often not high enough to trigger technology adoption. Therefore, incentives provided by development projects and other means (e.g., government inputs) are important to stimulate technology adoption. Such subsidies can be justified, because the economic internal rate of return is satisfactory if these costs are accounted for. In addition, there are environmental benefits. In the case of Morocco, conservative valuation shows that the environmental benefits are justifying the additional investment the governments are making.

Government subsidy was found as a key factor affecting farmers' decisions in adopting Atriplex and Cactus plantation in marginal cereal land. Cactus is simulated to reduce stocking pressure during dry years and increasing farm income. The expansion in Cactus plantation will result in reducing cereal cropping in marginal lands, and thus conserve the resource.

This presentation is based on work conducted with partners at CIRAD-Emvt/ICARDA Tunis, INRA-Settat Morocco and Laboratoire des Productions Animale et Fourragère, INRAT Tunisie.

The Role of the Colombian Cattle Sector: Modernization Through Sustainable Production to Relieve Poverty and Reduce Land Degradation

José Félix Lafaurie Rivera

Presidente Ejecutivo Federación Colombiana de Ganaderos, FEDEGAN

This document discusses the opportunities available to the Colombian private livestock sector to support public policy in order to reach the goals of poverty reduction and environmental protection of the UN conventions, mainly those related to land degradation and desertification, through a combination of silvopastoral systems and organic livestock products with added value and timber. Three global trends are considered in the analysis: (1) the foreseen human population growth, (2) the growing demand for petroleum substitutes and the transformation of the world's agriculture to accommodate biofuel production, and (3) the growing demand for cattle products.

An important opportunity exists in Colombia to supply the growing demand for cattle products. However, this opportunity must not fail to take into account the challenges faced by our society, such as poverty reduction based on equity, and finding creative solutions to the armed conflict and illegal activities in that country.

A consensus with the public sector for defining goals and the processes to reach them is outlined in the recently finished Strategic Plan for Cattle Production for 2019, the main axis of which is modernization for equity and peace to benefit more than 200,000 small producers. This Plan expects to increase cattle population from the current figure of 23 million to 48 million heads, annual milk production from 6000 to 9000 million liters and slaughter from 3.5 to 9.6 million heads. It also expects to increase per capita consumption from 19.6 to 30 kg of beef and from 142 to 163 liters of milk. In addition, it considers annual exports of 50 000 tons of beef with high added value (certified organic) and 1254 million liters of milk. The role of the cattle sector is the foundation to achieve the national goals of: foot and mouth disease eradication in 2008; providing technical assistance through 30 Cattle Technology Centers; capacity building and institutional strengthening of cattle producer organizations.

Two innovative initiatives have been proposed to society: (1) public policy to curtail the anti-rural approach that has, over the last century, focused on investment through Income Tax Substitution towards an encouragement of investment in rural capitalization; and (2) a reconciliation with nature, through an unprecedented initiative in land use planning in our country (the restoration of 10 million hectares of degraded lands that will be dedicated to an environmentally friendly coexistence of cattle with timber trees and fodder species to support degraded land rehabilitation).

The author is firmly convinced that cattle productivity relies on friendly land use practices through silvopastoral systems that offer better income and social advantages. This conviction is supported not only by scientific evidence but by the author's personal experience with silvopastoral systems in the Caribbean, a region threatened by desertification. FEDEGAN supports other models for different life zones and micro-regions in the country and acknowledges the importance of environmental services. For these reasons, FEDEGAN leads a Project with the Global Environmental Facility GEF and The World Bank, with a total budget of 67.5 million dollars, 90% of which would be national public and private resources to begin a cattle productivity and land rehabilitation revolution with an initial effort of 100,000 hectares. In conclusion, Colombian cattle farmers are already fulfilling the shared dream of modernization for social equity and environmental conservation.

SESSION 3:
NATIONAL CASE STUDIES

Algérie: Lutter Contre la Désertification en Algérie : « De l'expérience à l'action »

Mohamed Seghir Mellouhi

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L'adoption en juin 1994 de la convention des nations unies sur la lutte contre la désertification a marqué une étape importante du processus mis en œuvre pour combattre les effets de la sécheresse et de la désertification. L'Algérie a ratifié cette Convention en mai 1996 et s'est engagée ainsi à mettre les moyens disponibles dans un cadre national et une coopération sous régionale, régionale et internationale. Dans ce cadre, le programme d'action national (PAN-LCD) élaboré et validé en décembre 2003 s'est fixé pour but d'identifier les facteurs qui contribuent à la désertification et les mesures concrètes à prendre pour lutter contre celle-ci et atténuer les effets de sécheresse. Les actions du PAN se réaliseront en cohérence avec la politique nationale d'aménagement du territoire et concerneront la conservation des ressources naturelles (eau, sol et végétation) ainsi que la création des conditions meilleures pour améliorer les revenus des populations locales dans un cadre de développement rural intégré.

Iceland : Policy Lessons from a Century of Soil Conservation

Andres Arnalds

Soil Conservation Service, Iceland

The 1100 years of human settlement in Iceland are characterized by severe ecosystem degradation. Organized efforts to halt the desertification of Iceland began in 1907 with a national “law on forestry and preventing soil erosion”.

The first decades were almost entirely devoted to the urgent task of halting soil erosion in pastures and rangelands that left barren deserts behind and threatened the existence of several communities. This work was mainly conducted by fencing problem areas and seeding the native sand stabilizer, *Leymus arenarius*. With more availability of fertilizers and better equipment around 1950, revegetation of some of the vast areas of denuded land slowly began. Emphasis on grazing management and other preventive measures emerged still later.

The successes of this first period are beyond the comprehension of the current generation, especially considering limited financial and human resources. However, on a national scale, not enough has been achieved, and overall land health in Iceland keeps declining. A part of the reason may be universal in nature, that is: the top-down approach with little land user and public involvement; localized, single issue soil conservation curing symptoms, but not the causes; insufficient inventories of the natural resources, and cause and effect relationships; governmental subsidies to agriculture without environmental compliance; and weak laws on environmental protection and land user responsibility.

Since 1990, it has become increasingly clear that a comprehensive framework is required, based on clear, long-term goals and a broad range of views and partnerships. This includes harmonizing all laws that can affect land use and condition; tailoring agricultural policy to conservation concerns; integrating a wide range of supporting factors such as planning, research, extension and education; and searching for incentives that also stimulate knowledge, awareness and conservation ethics. International conventions and agreements also provide important guidelines.

A parliament-approved soil conservation program, Iceland’s equivalence of a National Action Plan, gives operational framework for 2003-2014. The main goals are mitigation of land degradation and desertification, revegetation of eroded land, and attaining sustainable land use. Tools include increased knowledge on problems and solutions, education and advice, increasing land user responsibility, law improvements and wide ranging participation. Governmental financing is improved substantially. Carbon sequestration as a tool in meeting Iceland’s obligations under the Kyoto Protocol has also become a major incentive for restoring land health.

Namibia: The Evolutionary Process of Mainstreaming Desertification Policy

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Desert Research Foundation of Namibia (DRFN)

The policy landscape in Namibia represents a relatively progressive framework for combating desertification. The Namibian Constitution of 1990, the various draft and ratified policies, legislation drafted, in progress or promulgated, Namibia's Vision 2030 and the several National Development Plans as well as the signed international environmental agreements all provide the background against which government, NGOs and civil society could address challenges of desertification. On the other hand, understanding of the interrelationships among desertification, poverty alleviation, land reform and sustainable development is limited as is the political will to address these issues related to desertification. Although elements of the policy landscape are not being activated, a number of supportive initiatives are being undertaken within the interpretation of this landscape, although not directly within its ambit.

Namibia initiated its focus on combating desertification before UNCED and prides itself on being driven by the needs of the country, documented in its Green Plan, and not by the requirements of international agreements. During the course of the INCD, development partner support contributed to initiation of Namibia's Programme to Combat Desertification (Napcod) which, from the beginning, agreed not to develop a static NAP but to, instead, elaborate and use a 'rolling planning' approach. This supported Namibia, the driest country south of the Sahel, in addressing key challenges encapsulated by the statement 'Proud of our deserts while combating desertification'. Other key steps in the initiation of the programme were an analysis of the existing policy framework and an analysis, using resource economics, of the losses to desertification, the results of which continue to be quoted a decade later.

The Napcod programme, under the guidance of a broadly-based steering committee, implemented a number of projects ranging from investigating bush encroachment in communal and commercial farmlands, to introducing Forums for Integrated Resource Management as a coordination mechanism for community based organizations (CBOs) supported by their service providers, to Local Level Monitoring as an approach to support decision making at the grass roots. Although Napcod was formally concluded after ten years of implementation, the approaches established have been integrated into and taken up by a variety of ongoing programmes, services and organizations. Based on broad participation and extensive communication, these approaches are now integrated into various government services, adopted by communities and continue to evolve through ongoing testing and application.

Nevertheless, several bottle-necks have been identified in terms of implementation of policy directives and the policies themselves. Conflicts and lack of integration amongst the multiplicity of new policies and legislation following independence in 1990 have been identified. Lack of understanding of the implications of new policies and legislation has led to their misinterpretation and misapplication. The requirement for continuity in the implementing framework, communication amongst different components of the implementing framework and greater buy-in from implementing agencies and communities are required. The final conclusion, however, suggests that the evolving process of mainstreaming desertification policy has contributed to overall sustainable development in Namibia.

Argentina: Combating Desertification: From Research to Action

Elena María Abraham

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An overview of the current status of the combat against desertification in Argentina is presented, explaining the severity of the problem that affects 70 % of the national territory, and discussing the background of the national organization engaged in building our National Action Programme.

The lessons learnt from the implementation of actions to combat desertification at national and local level are discussed as well.

A case study is developed, showing efforts to combat desertification in the Lavalle desert, Mendoza province, Argentina. This study case has been conceived in the framework of a “research-action” methodology. It entails from basic surveys and the obtaining of desertification benchmarks and indicators to the implementation of a “Demonstrative Production and Services Unit” and the “Desert Observatory” to monitor the impact and response of the project. This is underway at “La Asunción” locality in the core of the Lavalle desert, with active participation – during the whole process- of local actors, mainly the local government and the indigenous communities (huarpes) in synergy with the scientific / technological sector.

China: The Role of Policies in Combating Desertification

Xiaoxia Jia

National Bureau to Combat Desertification, State forestry Administration, P.R. China

Deforestation, overgrazing and over-cultivation are the symptoms of desertification, the root causes of which are relevant to population pressure and the relationship between humans and land and land management approaches. Since the late 1970s, the government of China has launched a series of ecological improvement programs, which symbolized the transition of China's desertification combating policies from local, small-scale initiatives to widespread, organized, nation-wide programs. In the early 1990s, along with the introduction of the sustainable development theory and the outcome of relevant scientific research concerning drylands, it was widely recognized that combating desertification is an integrated and systematic programme, of which the essence is harmonizing the relationship between humans and drylands in an effort to maintain sustainable development through adjusting human activities to the natural carrying capacity. With the state council's approval of the National Programme on Combating Desertification, some policies relevant to land tenure were issued by the central government, such as taxation exemption policies, to encourage stakeholders' participation in desertification prevention and control, just as China's desertification combating entered into the combination phase of policy and technical measures.

Since then, a policy system to harmonize relations between man and promote sustainable land management has been gradually established, and can be classified into restrictive, incentive, and guarantee policies for regulating inappropriate land management behaviors, encouraging sustainable alternative livelihood of local people and providing services and support to them. The restrictive policies include restriction against harvesting natural medicinal herbs in fragile dry areas, prohibition of open grazing in degraded grassland, and prohibition of fuel-wood collection in degraded drylands. The incentive policies include taxation exemption policies on agricultural and forest products in desertified areas, concessional loans for desertification rehabilitation activities, and subsidies for readjusting grazing and farming structures. The guarantee policies include land tenure, forest property rights, and agricultural services policies.

The innovation of policy provides tremendous impetus for farmers' participation in combating desertification, for instance, through providing grain and cash subsidies directly to individual farmers. The programme of converting degraded farmland to forest land has become the programme with the highest number of farmer participation. The law of combating desertification, executed in 2001, identifies the responsibilities of governments for degradation control at various levels. National forest ecological benefits compensation system creates modules of governments purchasing ecological services. Inland river water allocation policy combined with water right exchange facilitates water saving in agriculture and initially release the stress of water shortage in lower reaches in arid areas.

The assessment of the efficiency and effectiveness of national programmes and relevant policies suggests that the innovative policies have effectively promoted the recovery of the degraded vegetation. However, although the process of desertification expansion has been initially reversed in 1999-2004, the human-induced land degradation still exists parallel to the overall reversal. Rural poverty, lack of alternative livelihood, surplus rural labor and high dependants on land resources are all challenging the fragile aid ecosystem and raise new questions for revising and further developing relevant policies.

To maintain the existing achievement in combating desertification in China, far more needs to be considered regarding policy aspects in land tenure, forest property right and rangeland contracting system reforming, and ecological benefit marketing in order to bring more benefits directly to rural communities.

Pakistan: Policy Analysis and Barriers in Mainstreaming Combating Desertification into National Developmental Priorities

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Over the years, Pakistan has adopted a number of policies, strategies and developmental plans, which aimed at promoting sustainable management of land resources and combating desertification. These include national, provincial and district conservation strategies, sectoral policies, development frameworks and PRSPs. All these policies and plans consider conservation and sustainable use of natural resources as a vehicle to ensure sustainable development and place environmental conservation high at the national development agenda. Despite adoption of these policies and plans, achieving sustainable development and mainstreaming combating desertification into sectoral policies and developmental priorities remained a challenge. This paper examines how different sectoral policies and plans are relevant to the implementation of the UNCCD and NAP for combating desertification in Pakistan. This paper provides a brief analysis of national policies, strategies and action programmes and identifies major barriers in integrating NAP into sectoral developmental priorities. This paper also provides some recommendations for removing these policy barriers and mainstreaming combating desertification into sectoral planning and promoting sustainable management of land resources both at the national and provincial levels.

Maroc: Suivi Evaluation du Programme d'Action National de Lutte Contre La Désertification

Mohamed Ghanam

Haut Commissariat aux Eaux et Forêts et à la Lutte contre la Désertification, Maroc

Le Maroc a adopté son Programme d'Action National de Lutte Contre la Désertification (PAN LCD) depuis juin 2001. Parmi les domaines prioritaires du PAN LCD figure le Suivi- évaluation de la désertification et des impacts du PAN sur ce processus. A cet effet, un Système de Suivi-Evaluation a été mis en place dans le cadre du projet SMAP/CE de Suivi-évaluation des programmes d'action de lutte contre la désertification dans les pays Maghrébins depuis 2003 avec l'appui de l'OSS.

Les objectifs visés concernent :

- i) l'orientation et la dynamisation de la mise en œuvre du PAN
- ii) le renforcement de la coordination au niveau national et de la coopération internationale et
- iii) l'aide à la prise de décision par l'élaboration de tableaux de bord à l'attention des décideurs.

En rapport avec les objectifs précités, une série d'activités ont été menées conjointement par les partenaires institutionnels. Les principaux acquis sont :

- Une sensibilisation à tous les niveaux des responsables concernés par le suivi-évaluation du PAN, en particulier ceux des départements clés (Eaux et Forêts et Lutte contre la désertification, Agriculture, Environnement, Eau, Aménagement du territoire...) et des institutions (Centre Royal de Télédétection Spatial , Observatoire National de l'Environnement au Maroc)...
- Elaboration et adoption d'un montage d'ensemble du dispositif de suivi-évaluation du PAN, intégrant le niveau national, régional et local,
- L'élaboration d'une liste de 48 indicateurs avec l'instruction de leurs fiches descriptives et la constitution de leurs historiques,
- La mise en place d'un Système de Circulation de l'Information sur la Désertification (SCID), visible sur Internet (www.scid.ma)

Comme perspectives, il est prévu la consolidation des acquis déjà obtenus, la décentralisation du dispositif en lui donnant des prolongements à des niveaux territoriaux, la rénovation et la mise à jour du SCID et la préparation des conditions de pérennisation du système dans un cadre plus large en adoptant un Dispositif d'Observation et de Suivi Environnemental, comportant les trois composantes liées au suivi-évaluation du PAN LCD, Alerte précoce de la sécheresse et l'Observation et le Suivi Ecologique à Long Terme.

La réussite du dispositif de suivi évaluation est conditionnée par la volonté des différents acteurs à contribuer à l'instruction et au renseignement des indicateurs identifiés. Les acquis seront mis à la disposition de tous les acteurs et au public, notamment sur le site web mis en place à cet effet.

South Africa: The Implementation of Land Degradation Assessment and Rehabilitation Programmes – An Agricultural Perspective

Dirk Pretorius

Department of Agriculture, South Africa

Land degradation assessment has been receiving much and dedicated attention from the Department of Agriculture (DoA) in South Africa. With only 35% of the country receiving more than 500mm rainfall per year, and with more than 80% of soils being classified as moderate to low potential, the pressure on high potential agricultural land is increasing dramatically. It is generally accepted that South Africa's natural resources are under severe threat of degradation. This concern, with good reason, is highlighted in almost all papers and reports on ecosystem health in South Africa. It is, however, alarming that a system to provide reliable quantitative information on the status of the natural agricultural resources in South Africa does not exist. Most of the figures quoted as reliable statistics are based on expert opinion or very coarse prediction models/remote sensing data.

In the 1990s DoA initiated a programme to investigate the use of geo-informatics in land degradation assessment. The use of Landsat TM data in soil erosion assessment was one of the first projects to evaluate the use of geo-information in land degradation studies. This development was followed by the evaluation of other remote sensing systems integrated into land degradation assessment systems. A review of the status of land degradation in South Africa by the National Botanical Institute and the Programme for Land and Agrarian Studies was conducted in 1997. The primary aim of the project was to assess the extent, rate and causes of land degradation in South Africa by means of research and participatory workshops. The technique used was based on the methodology developed by the World Overview of Conservation Approaches and Technologies Programme (WOCAT). DoA is currently initiating its Natural Resource Fixed Site Monitoring system for South Africa with the main objective of collecting and disseminating information regarding the status of the natural agricultural resources at national level. It is envisaged that approximately 2,000 sites will be surveyed within the next two years.

In 2005, DoA compiled a draft Soil Protection Strategy focusing on land degradation assessment and rehabilitation in priority areas. The strategy is currently being refined by various working groups and will be tabled during 2007. Detailed land degradation assessments will be conducted in three priority catchment areas as part of the strategy. This project will be linked to the global Land Degradation Assessment in Drylands Programme (LADA) launched during the 3rd meeting of the GEF Assembly during August 2006 in Cape Town. South Africa is one of the six pilot countries to assist with the development and testing of land assessment methodologies. The LADA programme will commence after the first coordinators' meeting scheduled for December 2006.

Tunisie: La Politique en Matière de Gestion, de Suivi, et d'Evaluation de la Qualité des Sols

Hedi Hamraoui

DG/ACTA-Ministère de l'Agriculture et des ressources hydrauliques, Tunisie

Dans un pays aride comme la Tunisie, l'irrigation des terres est nécessaire pour assurer une production agricole permettant de répondre aux besoins croissants et diversifiés de la population. Des efforts d'investissement importants ont été déployés par les pouvoirs publics pour mobiliser l'eau et pour aménager les sols irrigables. Ainsi, la superficie irriguée est estimée à environ 402,000 ha, répartie en périmètres dits publics aménagés par l'état (199,000 ha) et en périmètres privés pris en charge directement par les agriculteurs (203,000 ha). 70 % des superficies irriguées sont équipées en matériel pour l'économie d'eau

Cependant, l'irrigation conduit souvent à l'accumulation des sels dans les sols suite à l'apport de quantités importantes de sels solubles. En plus, l'intensification des cultures pourrait engendrer une baisse de fertilité des sols si aucune mesure d'amendement et de restitution de la fertilité des sols n'est prise en considération dans le système culturale. En effet, la salinisation secondaire est d'autant plus rapide et importante que l'eau d'irrigation est chargée en sels, que l'évapotranspiration est forte, que les sols sont lourds (texture argileuse) et que la nappe phréatique est proche de la surface, soit à cause d'un mauvais drainage, soit à cause d'une remontée induite par la sur-irrigation. En effet, la maîtrise de la trilogie irrigation-salinité-drainage est la clé de la durabilité des systèmes de production agricoles sous irrigation. En Tunisie, la salinisation des sols irrigués est un processus actif et relativement bien connu. Des manifestations d'accumulation des sels ont été observées un peu partout dans les périmètres irrigués. L'impact de la salinisation se traduit par une dégradation de la qualité des sols, une difficulté d'absorption d'eau par les cultures et par conséquent, une diminution de la productivité des terres irriguées. Ainsi, la valorisation du m³ d'eau utilisé se trouve réduite.

Le problème de la salinisation des terres en Tunisie est tellement important que les pouvoirs publics ont décidé de lancer deux études dans le cadre de la composante Promotion des ressources et de protection de l'environnement du projet PISEAU en vue d'élaborer une stratégie et un plan d'action permettant d'atténuer un processus de dégradation des sols. En plus, le projet LADA (FAO) où la Tunisie est partenaire permettra aussi de renforcer la stratégie Nationale de Gestion de Suivi et d'Evaluation de la dégradation des Terres, aussi bien en système irrigué qu'en système pluviale.

L'objectif à moyen et à long terme est d'assurer la durabilité du système de production agricole intensive sous irrigation, et de faire passer la contribution du système irrigué dans la production agricole total de 35% actuellement à 50% à l'horizon 2009, laquelle est tributaire du maintien ou de l'amélioration de la qualité des ressources en eau et en sol. Le suivi et l'évaluation de la qualité des sols et des eaux sous irrigation permet de mesurer cette durabilité par l'intermédiaire d'indicateurs pertinents (cf schéma ci-dessous), en plus de maintenir la productivité des terres sous système de culture pluviale (suivi et évaluation de l'érosion hydrique et éolienne, amélioration de la fertilité des sols, protection de la qualité des eaux.).

Contraintes hydro-agricoles et stratégies de gestion intégrée et durable dans un contexte de désertification (Sahara Algérien)

Abderrazak Khadraoui

Agence du Bassin Hydrographique Sahara

Les contraintes qui ont gravement accentué le phénomène de la dégradation des écosystèmes sahariens et notamment au Sahara septentrional sont, principalement : l'excès d'eau et de sels dans les sols agricoles. En effet, le constat est à présent évident et inquiétant: l'eau et le sol, ressources naturelles, dont la relative rareté et la fragilité sont reconnues, subissent, dans de nombreuses situations, un réel appauvrissement de leur potentiel et ce, à cause d'une gestion peu rationnelle. Les pratiques d'exploitation non conservatives et non contrôlées (surexploitation, pollution) aggravées par des risques naturels aussi fréquents que sévères (fortes températures, évaporation, érosion éolienne, holomorphie et hydromorphie) créent des situations difficiles à maîtriser et conduisent dans certains cas à l'irréversibilité au plan de la conservation des ressources.

De fait, une utilisation incontrôlée des ressources en eau non renouvelables entraîne souvent une remontée critique des nappes phréatiques salées avec des conséquences dommageables pour la préservation du cadre de vie et de l'environnement et la durabilité du potentiel productif agricole lequel constitue un facteur de stabilisation des populations et une des premières sources de leurs revenus.

La forte teneur en sels des eaux a engendré, très souvent, une chute des rendements des cultures et parfois la stérilisation des sols par la destruction de leur structure. Une mise en valeur hydro agricole non maîtrisée, aggravée par des conditions climatiques extrêmes, entraîne fatalement une salinisation des terres, d'autant plus accentuée que les sols cultivés présentent souvent des caractères d'hydromorphie. A cet égard, la gestion rationnelle des ressources en eau et en sols et la maîtrise des techniques hydro agricoles dans ce vaste territoire, fragile et complexe, d'une superficie de plus de deux millions de Km² sont aujourd'hui une nécessité en vue d'assurer un développement harmonieux et durable et ce, dans l'optique d'une agriculture moderne et performante.

Cependant, la recherche et l'expérimentation hydro agricole dans ces régions restent insuffisantes, alors que le besoin en études et investigations sur des stations spécialisées est indispensable, notamment au niveau des grandes zones agricoles. L'absence ou le peu d'intérêt accordé à ces activités scientifiques et techniques ont contribué à la méconnaissance des divers phénomènes engendrés par la mauvaise gestion des ressources en eau et en sols.

La présente communication est articulée autour de la présentation:

- des ressources en eau et en sols au Sahara;
- des travaux d'amélioration réalisés dans les régions du Nord-Est du Sahara;
- de quelques expériences soit réussies, soit mal conduites dans ces régions;
- de thèmes de recherche – développement à initier dans le cadre de la coopération internationale.

Ces différentes questions seront étayées par des cartes, graphiques, tableaux et photographies.

Algerian Sahara: Field Surveys in Tidikelt

Iwao Kobori, Abdelrahmane Benkhalifa and Hamadi el Hadj

United Nations University

This presentation draws on the results of field surveys focusing on the evolution of oases with foggara in Tidikelt. These surveys have been conducted by scientific missions, composed of Algerian, Japanese and French researchers, and directed by Iwao Kobori (Tokyo University, Meiji University and United Nations University), during the period from 1962 until 2005. Through this work, we have learned so much from the local peoples and their wisdom. We have also witnessed various changes in the policies of the national and regional government on sustainable development in such remote and marginal dryland oases.

Following the end of the Military Administration in Algeria, which was in place up until 1962, the independent national government took over responsibility for the development of the southern region (Sahara). Due to political and economic conditions during the 1960s and 1970s, the Algerian government activities in the south were necessarily limited. Throughout this period, it was not possible for our research missions to stay continuously in the region. However, we made shuttle visits every 2 or 3 years and listened to many comments from local people.

As we continued our visits to the center of the South during the 1980's, we observed the progressive development of a national plan for the South, which was undertaken by the government, step by step. We had many chances to sit and talk with regional and local representatives, farmers, merchants and nomads about the future of oases. We would like to report our experiences in the field based on friendly international collaboration, thanks to the support of the Government and people of Algeria.

SESSION 4:
SUB-REGIONAL CASE STUDIES

Policies to Combat Desertification: A Perspective on the Latin American Region

Denis Avilés Irahola

Zentrum for Entwicklungsforschung (Centre for Research Development)

The importance of policies on desertification in Latin America relates to their potential to simultaneously address major regional concerns on environmental degradation, poverty and social inequality. Serious processes of land degradation affect around 75 percent of the drylands that cover about one-quarter of the Latin American region (UNCCD, 2004). Agricultural land, on which more than 30 per cent of the population depends, is particularly at risk.

Governments have reported major advances in setting up solid legislative and institutional frameworks for intervening effectively in promoting sustainable development and the successful implementation of the Rio Conventions, particularly the Convention to Combat Desertification, through measures such as land tenure reforms, regulations on natural resource use, and promotion of participatory processes. However, some reports have noted a deterioration in the implementation of policies towards the achievement of social equity and environmental sustainability, as well as serious setbacks to governmental capacities to combat land degradation. These findings point to the limited effects of governmental policies, and to the need to explore their contents and the challenges and opportunities involved.

The legislative, institutional and financial scenarios comprising policies on land degradation have been favoured by the elaboration of National Action Programmes (NAPs), and by the implementation of several related activities in most countries of the region. The NAPs have provided key inputs towards the harmonization of environmental legislations and linked social and economic norms. Accordingly, a series of institutional arrangements have been carried out involving the creation and/or strengthening of coordinating national and local bodies, which increasingly embrace the participation of civil society and private actors. The financial scenario remains the weakest link on the policy implementation process. National governments and external cooperation alike have not yet translated environmental concerns into a sustainable financial mechanism to meet the needs identified in several diagnoses and plans, including those of the NAPs.

Based on recent reports provided by national governments and some NGOs, the paper identifies six factors related to the successes of national policies to combat desertification: participatory institutional articulation; promotion of education and research; decentralized action at the regional, municipal and/or districted levels; follow-up and quantification of results; investment of governmental resources on the implementation of local plans; and incentives for land restoration and conservation. The paper also addresses five main key areas raising policy challenges in the region: land tenure, natural resource management, traditional knowledge, economic policies focused on income-generating activities in the drylands, and gender and pro-poor oriented policies.

The paper draws conclusions and highlights lessons learned during the last 15 years of heterogeneous and uneven policy implementation in Latin America. Among them, it explores the mainstreaming of desertification concerns; South – South cooperation; and awareness and political willingness from the international community and national governments alike.

UNCCD Implementation in West Asia: Challenges and Policy Options

Ahmad Ghosn and Habib Elhabr

United Nations Environment Programme – Regional Office for West Asia (UNEP/ROWA)

The presentation reviews the status of land degradation/desertification in West Asia. It sheds a light on the extent of the desertification problem and the associated impacts at the environmental, economic and social levels. The national and regional efforts aiming at combating desertification in the region including UNCCD National Action Plans (NAPs) and UNCCD Sub-regional Action Programme for West Asia (SRAP-WA) are discussed with emphasis on policy and institutional aspects and their implications on the management of national and regional efforts for combating desertification. In light of UNEP/ ROWA's role and experiences in supporting UNCCD implementation in West Asia, lessons learned are outlined and policy and institutional options are recommended.

Policies to Combat Desertification in the ESCWA Region

Boshra Salem

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Drylands ecosystems are jeopardized by land degradation with serious consequences. ESCWA region belongs to drylands ecosystems where about 96.7% of its total area is either desertified or vulnerable to desertification. The immediate causes of land degradation in the ESCWA region are listed and discussed. However, the primary driving forces of land degradation are policy and institutional distortions or failures in the public or government, private or market, civil or community sectors, as well as civil strife.

An overview of some National Action Plans (NAP) to combat desertification and strategies for reversing land degradations are presented in this paper. Many factors affect the success of implementation of the NAP. In this paper, an overview of the preparation, implementation, emphasis and achievements of NAP is provided by country. Successful practices of reversing land degradation are very dependent on the technical, environmental and societal aspects prevailing, as well as the type of associated land degradation and its type and degree of severity. These practices are looked at as lessons to be learned, studied and developed to suit the prevailing conditions, and the type of restoration or rehabilitation required.

A comparative analysis and review of selected successful practices for reversing land degradation in the ESCWA region is also presented from various countries. Conclusions showed that there is a need to develop improved bases for planning land and water management. As land degradation is a long-term process, it is difficult to pinpoint its cause–effect relationships. It is also difficult for the public to understand it, other than as an existing fact of life. Decision-makers also have great difficulty addressing it as a problem. If the present policies in the different countries of the ESCWA region continue, such processes of irreversible land degradation will become widespread and the cost of importing food and reversing degradation will become a real burden on the economy and development.

A framework of recommended actions to tackle the problem of the land degradation in the ESCWA region is presented in this paper. This framework is designed to optimize actions at the national, regional and international levels.

Policies Towards Combating Desertification in Africa

Rosebud Kurwijila

Commissioner, Rural Economy and Agriculture, Commission of the African Union

African Governments recognize the strong link between environmental resources degradation, particularly land and water, with poverty in the continent Africa. The continent further recognizes that it needs to formulate and implement broad integrated policy frameworks to effectively deal with the poverty and natural resources degradation nexus for greater economic benefits and to enable it to attain the millennium Development Goals and sustainable development. Faced with complex development challenges, the continent sees the necessity to identify priority areas and actions that take into consideration the synergies between the economic, social and environmental sectors. Drought, desertification and land degradation, which when addressed on a broad front will go a long way in solving the poverty, food security and development constraints, should be some of such priorities for the continent. Since agriculture contributes about 40% of the GDP of the African continent and employs more than 60% of the labour force, land degradation and desertification, which directly affect land productivity, therefore require serious attention if the livelihoods of the majority of the African populations would be improved.

For the effective implementation of the UNCCD, Africa has elaborated Regional, Sub-regional and National Action Plans, which in many cases calls for policy review with regard to land ownership, development and management. Many Regional Economic Communities (RECs) have evolved policies for the environment and natural resources sector that could combat land degradation and desertification. This presentation first offers an overview of African policies for combating desertification at the continental and national levels. It then describes the existing Sub-Regional Policies and Programmes to combat land degradation and desertification. The final part of the presentation includes a discussion of the constraints, challenges and opportunities for policies to combat desertification in Africa.

SESSION 5:

**KNOWLEDGE MANAGEMENT FOR
ACTION ON DESERTIFICATION**

From Knowledge to Policy Change

Maryam Niamir-Fuller

UNDP-GEF

More than ten years after its adoption, the seventh session of the Conference of the Parties (COP7) of UNCCD held in October 2005 in Nairobi (Kenya) concluded that there is an urgent need for a better strategic approach to implementation. The main issue is how affected countries are being helped to address the challenge of sustainable development taking into account desertification and drought issues and more precisely drylands' people concerns and aspirations. Despite general agreement that there is need to mainstream NAPs into major national development frameworks, mainstreaming is still lagging behind. Financing for desertification control and sustainable land management is not commensurate with the perceived needs. Implementation of the convention has been hampered by, among other factors, a failure to translate knowledge into policy change. While considerable state-of-the-art knowledge and good practice exists, it has not influenced policy change, nor convinced investors of the benefits of investing in drylands. Activities to support the UNCCD should be designed and implemented not in isolation but through the broader national development process, thus ensuring relevance, synergy and coherence with national and sectoral strategies and programmes. At least four barriers to bridging the gap between knowledge and policy change will be discussed : technical, financial, political and institutional. Examples will be brought from a wide array of UNDP-assisted projects to illustrate good practice where such barriers have been overcome to allow new and critical knowledge to influence policy dialogue and reform. GEF's knowledge management strategy for sustainable land management has the potential to lift many of these key barriers, thus working to deliver both global and national benefits, as well as catalyzing policy and financial support for implementation of the convention.

The Challenges of Measuring the Impact of Desertification Interventions

David Niemeijer

Niemeijer Consult

As ever-larger desertification figures seem to capture the headlines, it is easy to forget that a lot of progress has been made over the last decades in terms of how desertification is addressed. Progress that ranges from international attention in the form of a UN desertification convention, to increased collaboration between governments, NGOs and international organizations in combating desertification, to a more holistic approach on the ground. Progress has also been made in terms of our ability to measure and analyze desertification data with more advanced remote sensing technology and more powerful computers. If the attention has increased, the approaches have improved and the technology is better, why are we apparently not making more progress...? That is a difficult question to answer. Part of the problem is that we do not really have a good baseline against which to measure progress, nor a good monitoring infrastructure with which to track progress; issues that were again raised in the Millennium Ecosystem Assessment's Desertification Synthesis report. The other part of the problem, the part this paper focuses on, is that we do not really have a good way to track the impacts of our interventions. While the holistic approach to sustainable land management and desertification prevention is a major improvement compared to the sectoral approaches of the past, it is a major nightmare for anyone wanting to assess the impact of a sustainable land management program. In a way, it is on theoretical grounds that we assume that knowledge management, capacity building, creation of an enabling policy environment, in addition to on the ground interventions, is so much better than the traditional technical assistance. Due to the relatively short-term nature of interventions, the complexity of desertification processes, the limited funds for long-term monitoring and the indirect nature of interventions such as capacity building, we do not know in any quantitative way how successful our interventions really are. This poses a major challenge. Assuming it will always remain easier to get money to undertake action than to track the impact of action, any approach to keep better track of impact of desertification interventions will have to be both affordable and practical. This paper suggests a number of steps and approaches that can help better measure the impact of desertification interventions. Some of these approaches will likely be used for the KM:Land project, a multi-agency initiative to improve the accountability (not in a financial sense, but in environmental impact terms) of land degradation interventions and develop a basis for better knowledge management.

The Land Degradation Assessment in Drylands Project

Riccardo Biancalani

FAO-LADA Team

The Land Degradation Assessment in Drylands (LADA) project develops tools and methods to assess and quantify the nature, extent, severity and impacts of land degradation on dryland ecosystems, watersheds and river basins, carbon storage and biological diversity at a range of spatial and temporal scales. It also builds the national, regional and international capacity to analyze, design, plan and implement interventions to mitigate land degradation and establish sustainable land use and management practices. A contribution will be made to the Developmental Goals of UNCCD and UN multi-lateral agencies to improve people's livelihoods and economic well being.

To achieve these objectives, LADA develops standardized and improved methods for dryland degradation assessment, including stratification, with guidelines for their implementation in a range of scales. Using these methods, it will assess the regional and global baseline condition of land degradation with the view of highlighting the areas at greatest risk. These assessments will be supplemented by detailed local assessments that will focus on root cause analysis of land degradation and on local (traditional and adapted) technologies for the mitigation of land degradation. Areas where land degradation is well controlled will be included in the analysis. 'Best practice' guidelines will be developed and the results widely disseminated in various media. The project is intended to make an innovative generic contribution to methodologies and monitoring systems for land degradation, supplemented by empirically-derived lessons from the six main partner countries involved in the project – Argentina, China, Cuba, Senegal, South Africa and Tunisia – up-scaled to countries within their regional remit.

Knowledge Management and Policy for Combating Desertification in China

Wang Hong

PRC-GEF Partnership on Land Degradation in Dryland Ecosystems

Policy-making relies on the effective management and accumulation of knowledge. The most important aspect is to involve policy makers in the knowledge management system. Effective knowledge management therefore requires the participation of government officials, scientists and local peoples at the community level. Clear objectives should be made for knowledge management in relation to combating desertification. These objectives are relevant to the priorities of combating desertification. In order to improve knowledge management for combating desertification, a specific organization should be responsible for this mission.

China is one of the countries in the world suffering from a vast area and a wide distribution of desertification. By the end of 2004, the area of desertification was 2.6362 million km², constituting 27.46% of the total territory. With a rapid increase in population, China faces critical problems such as an intensification of conflicts between the demands of human livelihoods and fragile ecosystems and unwise human activities such as excessive cultivation, overgrazing, deforestation, excessive fuel wood collection and harvesting and irrational water resource use. The desertification process is still ongoing.

Recently, China drafted the National Action Programme (NAP) for the implementation of the UNCCD. This paper will focus on reviewing the NAP to identify the priorities of UNCCD implementation in China. Policy-making requirements at national, regional and local levels will be analyzed in order to overcome the barriers mentioned above. The following question will be considered: do existing knowledge management systems and approaches provide adequate information for policy-making? What are the gaps between knowledge management and policy-making for combating desertification? Finally, recommendations on knowledge management and policy-making for better implementation of the UNCCD will be given.

La Recherche Scientifique: un Moyen de Lutte Contre la Désertification

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Depuis le début des années 70, la communauté scientifique s'est penchée sur les problèmes de la dégradation des terres et l'analyse des causes et des conséquences du processus de désertification. Cependant, tous les résultats des recherches ne pouvaient être généralisés ni intégrés dans les actions gouvernementales très larges car les travaux sont le plus souvent confinés dans des laboratoires et surtout limités dans le temps et dans l'espace.

Le développement technologique a permis, ces dernières décennies, l'émergence de nouvelles méthodes permettant une vue plus globale du phénomène et développant des méthodes intégratives concernant la surveillance des écosystèmes et des ressources naturelles, la préservation du potentiel biologique et son développement.

Les institutions nationales ont, de leur côté, mis en place des programmes et élaboré des stratégies de lutte contre la désertification, le plus souvent sans concertations avec les scientifiques.

Aujourd'hui la communauté scientifique, par l'intermédiaire du Comité de la Science et de la Technologie, a été appelée à s'impliquer dans les actions de lutte contre la dégradation des ressources naturelles et des milieux.

Dans ce cadre, la liaison entre chercheurs et décideurs est impérative et doit se faire au niveau des Organes Nationaux de Coordination (ONC). La recherche scientifique à travers ses expériences et ses résultats, doit donner les atouts aux décideurs politiques et aux capacités institutionnelles pour la mise en œuvre de leurs politiques environnementales. Elle devra être également un soutien scientifique et technique pour la conception et l'élaboration de méthodes d'actions de préservation des écosystèmes et doit fournir des outils d'aide à la décision validée en permanence. Toutes les actions de lutte entreprises par le pouvoir public doivent être basées sur un diagnostic fiable de l'état de l'environnement local que seul un suivi régulier de tous les indicateurs et l'identification des responsabilités et des intérêts de tous les acteurs pourra permettre.

La communauté scientifique, en appui aux autorités locales, peut valoriser le savoir-faire des populations locales dans le domaine de l'utilisation durable des ressources naturelles à travers l'élaboration de programmes de vulgarisation, de démonstration, de sensibilisation et de transfert des connaissances.

Les institutions doivent contribuer à l'amélioration des connaissances et du savoir faire par la promotion et le développement des sciences de l'environnement dans les institutions de formation et la création de centres de recherches spécialisés dans le domaine de la désertification

Cette interaction chercheurs-décideurs, à travers de scénarios possibles et d'exemple précis, fera l'objet de cette communication.

A New and Sustainable Approach to Policies for Restoring Grasslands in China

Gaoming Jiang

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Land degradation is one of the major environmental problems worldwide, and has become particularly severe in China in recent decades with its rapid economic developments. China has an enormous area of grasslands, covering 41% of its territory (3.93 million km²) and is regarded as China's important natural resource because of its ecological and economic importance. However, anthropogenic activities have led to large-scale land degradation across the vast Inner Mongolia Grassland – the main grasslands region of China and part of the Eurasia Steppe that stretches from East China to Hungary in Europe. Inner Mongolia covers an area of 1.1 million km² with a population of 20.3 million. Recent surveys have shown that nearly 90% of the grasslands now are degrading at varying degrees, which is more than twice as much as was estimated 10 years ago. On average, the current grasslands primary productivity is only about 50% of that of the undegraded Steppe. The land degradation in this region is generally believed to be a major reason for the increasing frequency of severe sand/dust storms in northern China (particularly in Beijing and adjacent regions) in recent decades. As the environmental and economic future of the Inner Mongolia Grassland is at stake, scientifically sound ecosystem management strategies are urgently needed for the sustainability of this region. A case study in restoring the degraded grasslands has been developed in Hunshandake Sandy Land. The result showed that degraded grasslands in Hunshandake Sandy Land can restore itself rapidly once grazing is removed. Sustainable strategies for grassland restoration and management must explicitly integrate ecological, economic, and societal issues in the overall framework. There is a great need to educate the local people and policy-makers that most of the grasslands can be restored with ecological and economic success if proper measures are rigorously implemented. The participation of local governments and herdsmen is of vital importance.

Sub-Saharan Africa Challenge Programme

Assétou Kanouté

Sub-Saharan Africa Challenge Program

The New partnership for Africa's Development (NEPAD) established by Africa's leaders in 2001 has set itself the goal of increasing agricultural output by 6% per year for the next 20 years. This poses a tremendous challenge for agricultural research and development institutions, policy makers and Africa's farmers. A series of consultations identified 3 main issues as the most significant constraints to reviving African agriculture.

- Failures of agricultural markets
- Inappropriate policies, and
- Natural resource degradation

Addressing these constraints in isolation will not solve the problem. Although the traditional approach to agricultural research and development has brought significant advances in the countryside, its fragmented and reductionist nature makes it ineffective in dealing with increasingly complex challenges. A new paradigm is called for that can foster synergies among disciplines and institutions, along with a renewed commitment to change at all levels from farmers to national and international policy makers. The proposed Sub Saharan Africa Challenge Programme (SSA CP) is one of the 4 challenge programmes of the CGIAR. It is based on such a paradigm, entitled "Integrated Agricultural Research for Development (IAR4D)". It has four objectives:

- To develop technologies for sustainably intensifying subsistence oriented farming systems
- To develop smallholder production systems that are compatible with sound natural resource management
- To improve the accessibility and efficiency of markets for small farmers and pastoral products and
- To catalyze the formulation and adoption of policies that will encourage innovation to improve the livelihood of smallholders and pastoralists.

The adoption of IAR4D implies:

- a change in mentality
- a different way of looking at the world of research
- a change in the way we think and analyse situations
- and interacting with others.

IAR4D involves institutional change, change in the way research is organized and managed, changes in how research interacts with other rural services and policy makers.

Traditional Knowledge for Combating Desertification in the Euro-Mediterranean

Pietro Laureano

IPOGEA

Traditional Knowledge constitutes the ancient knowledge of humanity, the deepest layer on which our science and culture have developed, the local solutions that have allowed the creation and management of ecosystems and cultural landscapes on the entire surface of the planet. It enables the development of solutions with a low energy and resource use that are able to adapt to environmental variability and to react to emergencies and catastrophes in flexible and multifunctional ways. Today, while entire planet systems risk ecological collapse, Traditional Knowledge shows how to interact with the environment enhancing its resource potential without exhausting it. It is the bearer of quality and techniques, widespread on a territorial scale, that have originated from the use of the materials and objects of everyday life. It consists of fragile elements that are subject to the attack of today's transformations, but it also constitutes a still widely adopted system of strong and brilliant devices for energy production and resource recycling, microclimate control and for the management of the earth's soil. The interest in Traditional Knowledge has been expressed by the United Nations and by other International Organisms during all the main conferences on sustainable development. Making an inventory and organizing the protection and dissemination of this knowledge has emerged as a necessity.

Concerning the activities of the United Nations Convention to Combat Desertification, Italy has received the mandate of organizing the Italian Centre for Local and Traditional Knowledge that has the following duties:

1. to make an inventory of Traditional Knowledge and of its innovative use in case studies on specific countries
2. study the possibilities for dissemination of Traditional Knowledge
3. study the parameters and the indicators for Traditional Knowledge loss and elaborate methods to combat such loss
4. select the successful practices and create a system of incentives for the implementation and dissemination of Traditional Knowledge and innovative technology deriving from traditional know-how
5. consider the methods for the protection of Traditional Knowledge rights that can be implemented by persons, communities, disseminators and traditional technique innovators
6. discuss the promotion of traditional techniques through each Country's Focal Points and provide a guideline for the adoption of a national safeguard and of dissemination strategies

SESSION 6:

INTERLINKAGES BETWEEN DESERTIFICATION, CLIMATE CHANGE AND OTHER GLOBAL ENVIRONMENTAL ISSUES

Synergies at the International Level: The Challenges of Bridging the Environment-Development Divide in the UNCCD

Pamela Chasek

Manhattan College and Earth Negotiations Bulletin (IISD)

In 1994, the United Nations Convention to Combat Desertification was adopted in Paris and was widely heralded as the first “sustainable development” convention. As the third of the so-called “Rio Conventions” and the first treaty negotiated in response to the United Nations Conference on Sustainable Development, the UNCCD introduced an innovative approach to combating desertification that focused on both natural and socioeconomic processes and popular participation. Its dual focus on poverty and environmental degradation embodies the concept of sustainable development and many hoped that the convention could bridge the environment-development divide. Nevertheless, this is one of the biggest challenges that the UNCCD has faced.

This paper will examine these challenges. Primarily, it will look at the difficulties the Convention has faced in creating synergies with other treaties in large part because of the environment-development divide. At the political level, some governments view desertification and the convention as a development issue and others see it as an environment issue. Most governments are not equipped with a “Ministry of Sustainable Development” and thus responsibility for addressing desertification is spread across ministries for environment, development, development cooperation, and agriculture, to name a few. As a result, there is sometimes a disconnect between officials dealing with desertification and those dealing with other “environmental” issues like biodiversity, climate change, wetlands, and forests. This confusion over the focus and scope of the UNCCD has affected implementation on the ground, as well as the provision of funding support and stronger commitments from the OECD countries. Furthermore, the inclusion of socioeconomic aspects in the definition of desertification has made it more difficult to measure progress through scientific indicators or other quantitative or qualitative measures, which is how the success of other instruments of environmental governance are measured. This affects the development of synergies between environmental conventions. The paper will examine these problems and will conclude with suggestions for bridging this divide and, therefore, increase the efficacy of interlinkages and cooperation/coordination between different environmental regimes in a way that could enhance the effectiveness of the UN Convention to Combat Desertification.

La Lutte Contre la Désertification et L'adaptation aux Changements Climatiques

Wafa Essahli

*Observatoire du Sahara et du Sahel (OSS) et
Communauté des Etats Sahélo-Sahariens (CEN-SAD)*

La Convention des Nations Unies de Lutte contre la désertification (CCD) et le Convention Cadre des Nations Unies sur les Changements Climatiques (UNFCCC), issues du processus de Rio, partagent le même objectif de favoriser un mode de développement plus durable et la sécurité alimentaire des Parties affectées en voie de développement. Ces convergences sont de nature à justifier la synergie dans la mise en œuvre de ces deux conventions à travers des programmes communs et/ou complémentaires.

Cependant et après plus de dix ans de mise en œuvre des deux Conventions et malgré les recommandations réitérées des différentes conférences des parties de la CCD, peu de programmes ont été développés dans le sens d'une synergie des actions entreprises dans le cadre des programmes d'action nationaux préconisés par l'une et l'autre des deux conventions. Les pays d'Afrique en général et les pays membres de l'OSS en particulier sont parmi les pays les plus vulnérables aux variabilités et/ou aux changements climatiques et les plus affectés par la désertification et par les effets de la sécheresse. Malgré les efforts consentis par ces pays dans l'élaboration de PAN/LCD et PANA, la mise en œuvre de ces programmes se heurtent à plusieurs entraves de diverses natures : institutionnelle, économique, structurelle, scientifique et technique. Sur ce dernier aspect, le manque flagrant de données pertinentes à même d'éclairer des processus de prise de décision reste l'une des principales entraves malgré les efforts consentis par plusieurs institutions nationales et organisations régionales et internationales dont l'OSS pour la mise en place de dispositifs de collecte, d'analyse et de traitement des données sur la désertification, la sécheresse et le climat.

La même décision recommande aux Parties de contribuer à la réflexion sur ces différents points qui doivent faire l'objet des termes de référence d'un groupe de travail stratégique à mettre en place.

L'OSS, répondant à l'appel de ses partenaires pour engager une réflexion sur la dynamisation de la mise en œuvre de la CCD et sa mise en synergie avec les deux conventions post-Rio en particulier celle sur les changements climatiques, réalise une étude « adaptation et lutte contre la désertification ».

La communication présentera les premiers résultats de cette étude qui comprend une analyse de l'état actuel de définition des stratégies d'adaptation aux changements climatiques et leurs relations avec les actions de lutte contre la désertification et des recommandations opérationnelles d'action pour renforcer ces relations.

The Challenge of Global Warming: Impacts on Desertification in 21st Century Africa

David Thomas

Oxford University Centre for the Environment and Tyndall Centre for Climate Change Research

The impacts of anthropogenically-induced global warming undoubtedly represent the biggest challenge facing 21st century society. It has been estimated that 182 million Africans are 'at risk' to death attributable to global warming impacts (Christian Aid 2006). The Stern Review report on the economic costs of global warming identifies Africa as the continent that will be most negatively affected by 21st century climate change (HM Treasury 2006), with up to 750 million additional people at risk from hunger in Africa and Asia if global temperature rises exceed 3°C. With 50% of the African land area presently dryland (UNEP 1997), of which a significant proportion may be affected, to varying degrees, by land degradation, it is vital to consider and assess the potential interactions between the dual socio-environmental issues of climate change and desertification.

For Africa, most GCMs predict, regardless of emissions scenario, that by the end of the 21st century, significant rainfall reductions will affect North and southern Africa, both substantially dryland regions supporting significant populations, with more uncertainty in model outputs for more tropical areas and the Sahel Belt. Accompanying these changes, especially in dryland areas, are predictions of more extreme events including the incidence of drought frequency.

There are two broad principal linkages between climate change and land degradation, both with significant policy implications. These are: 1) The effects of climate change on poverty and well being, as determined by factors such as crop production and the spread of vector-borne diseases, and 2) the direct effects of climate change on environmental processes, conditions and ecosystem behavior. Both these factors can contribute to changing pressures on natural resources, and potentially on desertification processes, not least when it is estimated that 65% of the sub-Saharan population is dependant on the rural economic sector (ILO 2005). However there are few studies that have actually attempted to predict or model the environmental changes people could actually face in dryland Africa in more than general terms. Example direct potential environmental changes due to climate change in Africa are considered, all of which have the potential to contribute directly to desertification as well as leading to changes in natural resource use that could further enhance land degradation. From a policy perspective, it is imperative that investigations of the potential spatial dimensions of these potential changes are conducted as they all impact on land use adaptations to cope with climate change, and potentially impact dramatically on anti-desertification activities, including NAPs and RAPs.

In conclusion, six policy implications of global warming for the UNCCD and its associated activities are considered:

- 1) Anti-desertification activities may be rendered ineffective by the rapid onset of climate change;
- 2) Policies, NAPs & RAPs should not compromise the ability of societies to adapt to climate change;
- 3) Seasonal forecasting may be important in effecting better agricultural responses to climate risks, while at the same time reducing the risk of activities that could enhance degradation;
- 4) In the short term, measures to remediate land degradation could have climate change benefits, such as being linked to carbon-sequestering programmes (carbon offsetting);
- 5) Uncertainty about the details of climate change impacts should not inhibit recognition of its likely dramatic impact on dryland and their societies and policy impacts;
- 6) Opportunities should be made and taken to assimilate climate change preparedness with anti-desertification activities.

Empreinte climatique sur les hauts plateaux et la steppe en Algérie

Mostefa Kara

Agence Nationale pour les Changements Climatiques (ANCC), Algérie

La crise climatique actuelle va aggraver la dégradation des ressources naturelles dans les hauts plateaux et toutes les régions steppiques de l'Algérie. Ces régions-ci constituent de véritables potentiels agricoles, et doivent assurer la sécurité alimentaire du pays, ainsi que la protection de la frange côtière. En l'absence de mesures appropriées, les institutions scientifiques internationales avec notamment le Groupe Intergouvernemental chargé des Changement Climatiques (G.I.E.C) ont développé des modèles qui prévoient::

- Un accroissement de l'aridité des zones steppiques (menace de désertification de toute la région)
- Une augmentation de température allant jusqu'à 2 °C
- Une baisse des précipitations de 10 à 15% avec des répercussions importantes sur la mobilisation des eaux de surfaces
- Une baisse des précipitations solides (neiges) de 50 à 80% suivant les régions du pays

Les mesures d'atténuation disponibles impliquent plusieurs secteurs, y compris le secteur de l'énergie. Sinon, à cet horizon 2020/2025, la mobilisation des ressources en eau de l'Algérie physique atteindra ses limites. L'impératif stratégique commande dès à présent de trouver des solutions pour faire face à ce défi majeur et menaçant. Les propositions disponibles jusqu'ici comprennent les suivants :

- Aménagements des chott;
- Reboisement massif;
- Définir de nouveaux critères architecturaux;
- Mise en œuvre d'une centrale solaire type SolarPower (Australie) fonctionnant 24h/24h puissance 200 Mwatt et une économie de un million de tonnes de CO² (premier du genre de type énergie propre);
- Transfert d'eau de l'Afrique tropicale vers l'Algérie à partir de 2025 (commencer à se préparer dès maintenant)

Interactive Effects of Desertification on Global Climate Change and Food Security

Rattan Lal

Carbon Management and Sequestration Center, The Ohio State University

Land degradation in drylands, occupying 6.31 billion hectares (Bha) or 47% of Earth's land area, is called desertification. Drylands are classified on the basis of mean annual precipitation into four distinct ecoregions: (i) hyper-arid: with <200 mm rainfall and an area of 1.0 Bha; (ii) arid: with 200-400 mm rainfall and an area of 1.62 Bha; (iii) semi-arid: with 200-500 mm of winter rainfall or 400-600 mm of summer rainfall and an area of 2.37 Bha; and (iv) sub-humid: with 500-700 mm of winter rainfall or 600-800 mm of summer rainfall. Predominant soils of drylands are Aridisols (2.12 Bha), Entisols (2.33 Bha), Alfisols (0.38 Bha), Molisols (0.80 Bha), Vertisols (0.21 Bha) and others, (0.47 Bha). These soils have low soil organic carbon (SOC) but high soil inorganic carbon (SIC) concentrations, low nutrient reserves especially of N, and are prone to drought stress and accelerated erosion by wind and water. Other degradative processes responsible for desertification include crusting, compaction, and salinization/alkalinization. Estimates of the extent of desertification vary widely including 1.02 to 1.14 Bha of soil degradation, 2.58 Bha of rangeland degradation and an additional 1.57 Bha of lands under other uses but excluding those in the hyper-arid regions. The annual rate of desertification is estimated at 5.8 million hectares (Mha) or 0.132% yr⁻¹ of the total dryland area. It is caused by the interaction between poverty, environmental and natural resources exploitation, and soil/climate factors. Desertification leads to a decline in soil quality attributed to a reduction in SOC concentration, an increase in susceptibility to erosion and salinization, nutrient/elemental imbalance, a reduction in biomass and the net primary productivity (NPP), and a decline in biodiversity. Desertification adversely impacts food security at the household, community, national and regional levels. It is difficult to achieve sustainability of agricultural and forestry practices in dryland environments prone to desertification. There is a strong interaction between desertification and climate change. Desertification exacerbates global warming by influencing the ecosystem water and energy budgets and disrupting cycles of C, N and other elements. Desertified soils are a net source of CO₂ because of a decrease in NPP, and an increase in emissions of CO₂ from SOC and SIC displaced by erosional processes. The water budget is influenced by an increase in runoff and soil evaporation with the attendant decrease in transpiration and soil water storage. The energy budget is influenced by scanty or lack of vegetation cover and change in albedo. The vicious cycle of poverty - resource exploitation - soil degradation - extreme poverty can be broken through erosion control, afforestation, reclamation of salt-affected soils, and creation of a positive nutrient balance. Adoption of these strategies increases NPP, decreases runoff, increases soil water storage, enhances SOC pool and increases the ecosystem C budget. The potential of C sequestration through restoration of desertified soils is 0.9 to 1.9 Pg C yr⁻¹. Restoration of degraded agricultural soils can enhance annual food production by 20 to 30 million Mg, while alleviating hunger and poverty. It is a truly win-win strategy.

Practicing Synergy in the Implementation of MEAs with Particular Reference to Desertification

Hillary Masundire

*IUCN Commission on Ecosystem Management and
Department of Biological Sciences, University of Botswana*

The majority of African states are contracting parties to several multi-lateral environmental agreements (MEAs) including the UNCCD, UNFCCC, UNCBD, CITES, WHC, CMS, Ramsar Convention, several pan-African and regional agreements. While each of these agreements calls for a set of actions and obligations on the part of the contracting parties, the actual implementation on the ground-level involves the same local people or local communities. Even at a governmental level, the management of national programmes for several of these MEAs is usually the responsibility of the same government institution.

While several meetings have already concluded that effective implementation of these MEAs calls for synergy between and among the MEAs, it appears that rhetoric is not being matched with real actions on the ground. This paper reiterates and re-emphasises the need for synergy among the MEAs in order to achieve greater success in implementation and easing the burden on the actors on the ground. The paper will highlight suggestions for such synergy in regards to combating desertification in Africa.

Programme

SUNDAY 17TH DECEMBER

OPENING REMARKS

- 09:30-10:45 High-level representatives of collaborating organizations: Rector, UNU, Cherif Rahmani, Algeria, Hama Arba Diallo, UNCCD, Ahmed Djoghlaif, UNCCBD, Youba Sokona, OSS, Mahmoud Solh, ICARDA, Christian Mersmann, Global Mechanism, UNESCO & UNDP
- 10:45-11:00 *Coffee break*

SESSION 1: POLICY CHALLENGES IN COMBATING DESERTIFICATION

- Chair: Maryam Niamir- Fuller, UNDP-GEF**
Co-Chair: Anders Hjort Af Ornas, Sweden
- 11:00-11:15 Desertification and human security: Addressing risks and uncertainties
David Mouat, UNCCD GoE
- 11:15-11:30 Interdépendances entre désertification, pauvreté et les menaces sur la sécurité humaine
Gogo Banel Ndiaye Macina, MEPN, Senegal
- 11:30-11:45 Science in the service of combating desertification – results of the International Conference on ‘The Future of Drylands’
Thomas Schaaf, UNESCO
- 11:45-12:00 Forced Migrations due to Degradation of Arid Lands: Concepts, Debate, and Policy Requirements
Janos Bogardi and Fabrice Renaud, UNU-EHS
- 12:00-13:30 *Lunch Break*
- 13:30-13:45 Les impératifs politiques de la lutte contre la désertification
Youba Sokona, OSS
- 13:45-14:00 Forum on desertification and civil society
Nora Ourabah, FIPA
- 14:00-14:15 Policy feedback from GEF IYDD events
Jos Lubbers, GEF
- 14:15-15:00 Panel Discussion
- 15:00-15:15 *Coffee Break*

SESSION 2: NEW POLICY DIRECTIONS TO MAINSTREAM DESERTIFICATION POLICIES

- Chair: Pamela Chasek, IISD**
Co-Chair: Mourad Khelladi, Former Secretary of State for Environment, Algeria
- 15:15-15:30 Pour des politiques plus efficaces de lutte contre la désertification
Slimane Bedrani, CREAD, Algeria
- 15:30-15:45 L'efficacité de l'aide au développement et financement de la lutte contre la désertification
Youssef Brahimi, Global Mechanism
- 15:45-16:00 Plateforme partenariale pour l'intégration de la gestion durable des terres dans l'agenda politique international
Taoufiq Bennouna, TerrAfrica
- 16:00-16:15 Global changes in policies for sustainable pastoralism
Jonathan Davies, WISP
- 16:15-16:30 Linking poor farmers to markets to provide incentives for SLM
Barry Shapiro, ICRISAT
- 16:30-16:45 Payments for environmental services as a means to combat desertification in WANA?
Celine Dutilly-Diane, ICARDA
- 16:45-17:00 Enabling policy environment to enhance uptake of natural resources management technologies in marginal drylands: Empirical evidence from Morocco and Tunisia
Kamel Shideed, ICARDA
- 17:00-17:15 The potential role of the private sector
José Félix Lafaurie Rivera, FEDEGAN
- 17:15-18:00 Panel Discussion

MONDAY 18TH DECEMBER

SESSION 3: PART I: NATIONAL CASE STUDIES

Chair: Wang Tao, Chinese Academy of Sciences

Co-Chair: Friedrike Knabe

- 09:00-09:10 Opening remarks
- 09:10-09:30 Burkina Faso:
Ouraogo Bertrand Zida and Delphine Bernadette Ouedraogo
- 09:30-09:50 Algeria: Lutter contre la désertification en Algérie: De l'expérience à l'action"
Mellouhi Mohamed Seghir/Directeur Général des Forêts
- 09:50-10:10 Iceland: Policy lessons from a century of soil conservation in Iceland
Andres Arnalds, Soil Conservation Service of Iceland
- 10:10-10:30 Namibia: Evolutionary process of mainstreaming desertification policy
Mary Seely, UNCCD CST GoE, Desert Research Foundation of Namibia
- 10:30-10:45** *Coffee break*
- 10:45-11:05 Argentina: Combating desertification: from research to action
Elena Abraham, Instituto Argentino de Investigaciones de las Zonas Áridas
- 11:05-11:25 Pakistan: Mainstreaming combating desertification into national developmental priorities
Amjad Virk, Ministry of Environment/UNDP, Pakistan
- 11:25-11:45 China: The role of policies in combating desertification
Jia Xiaoxia, CCICCD
- 11:45- 12:30 Panel discussion
- 12:30-13:30** *Lunch break*

SESSION 3: PART II: STRATEGIES FOR MONITORING AND EVALUATION CASE STUDIES

Chair: Richard Thomas, ICARDA

Co-Chair: Wafa Essahli, OSS

- 13:30-13:50 Maroc: Suivi-Évaluation du Programme d'Action National
Mohamed Ghanam, Haut Commissariat aux Eaux et Forêts et Nabil BenKhatra, OSS
- 13:50-14:10 South Africa: Land degradation assessment and rehabilitation programmes
Dirk Pretorius, Department of Agriculture, Directorate Land Use and Soil Management
- 14:10 -14:30 Tunisie: La politique en matière de gestion de suivi et d'évaluation de la qualité des sols
Hedi Hamrouni, Ministère de l'Agriculture et des ressources hydrauliques
- 14:30-14:50 Contraintes hydro-agricoles et stratégies de gestion intégrée et durable dans un contexte de désertification (Sahara Algérien)
Abderrazak Khadraoui, ABH Sahara
- 14:50-15:10 Algerian Sahara: Field surveys in Tidikelt
Iwao Kobori, UNU, and Abderrahmane Benkhalifa and Ahmed El-Hadj
- 15:10-15:35 Panel discussion
- 15:35-15:50** *Coffee break*

SESSION 4: SUB-REGIONAL CASE STUDIES

Chair: Gemma Shepherd, UNEP

Co-Chair: Donald Gabriels, U. Ghent

- 15:50-16:10 Policies to combat desertification: A perspective on the Latin American region
Denis L. Avilés Irahola
- 16:10-16:30 UNCCD implementation in West Asia: Challenges and policy options
Habib Elhabr and Ahmad Ghosn, UNEP/ROWA
- 16:30-16:50 Policies to combat desertification in the ESCWA region
Boshra Salem, University of Alexandria
- 16:50-17:10 Policies towards combating desertification in Africa
Mme Rosebud Kurjiwila/ Foday Bojang, African Union
- 17:10-18:00 Panel Discussion

SESSION 5: KNOWLEDGE MANAGEMENT FOR ACTION ON DESERTIFICATION

Chair: Ahang Kowsar, FARS

Co-Chair: Boshra Salem, University of Alexandria

- 09:00-09:15 From knowledge to policy change
Maryam Niamir Fuller, UNDP-GEF
- 09:15-09:30 The challenges of measuring the impact of desertification interventions
David Niemeijer, Niemeijer Consult
- 09:30-09:45 The land degradation assessment in drylands project
Riccardo Biancalani, FAO
- 09:45-10:00 Knowledge management and policy for combating desertification in China
Wang Hong, PRC-GEF
- 10:00-10:15 La recherche scientifique, un moyen de lutte contre la désertification
Dalila Nedjraoui, University of Algiers
- 10:15-10:30 A new and sustainable approach to policies for restoring grasslands in China based on scientific findings
Jiang Gaoming, Chinese Academy of Sciences
- 10:30-10:45** *Coffee break*
- 10:45-11:00 Sub-Saharan Africa Challenge Programme
Assétou Kanoute, Sub-Saharan Africa Challenge Program
- 11:00-11:15 Traditional knowledge for combating desertification in the Euro-Mediterranean
Pietro Laureano, IPOGEA
- 11:15-12:00 Panel discussion
- 12:00-13:00** Lunch break

SESSION 6: INTERLINKAGES BETWEEN DESERTIFICATION, CLIMATE CHANGE AND OTHER GLOBAL ENVIRONMENTAL ISSUES

Chair: Barry Shapiro, ICRISAT

Co-Chair: Christopher Braeuel, CIDA

- 13:00-13:15 Synergies at the International Level: The Challenges of Bridging the Environment-Development Divide in the UNCCD
Pamela Chasek, IISD
- 13:15-13:30 La lutte contre la desertification et l'adaptation aux changements climatiques
Wafa Essahli, OSS
- 13:30-13:45 The challenge of global warming: impacts on desertification in 21st century Africa
David Thomas, Oxford University
- 13:45-14:00 Empreinte climatique sur les hauts plateaux et la steppe en d'Algerie
Mostefa Kara, ANCC, Algérie
- 14:00-14:15 Interactive effects of desertification on global climate change and food security
Rattan Lal, University of Ohio
- 14:15-14:30 Practicing synergy in the implementation of MEAs with particular reference to desertification
Hillary Masundire, IUCN, Botswana
- 14:30-15:15 Panel Discussion
- 15:15-15:30** *Coffee break*

CHAIRS REVIEW OF CONFERENCE PRESENTATIONS AND DISCUSSIONS

- 15:30-16:15 Session chairs: 5 mins each

HIGH LEVEL PANEL DISCUSSION

- 16:15-17:45 **Moderator: Zafar Adeel, UNU-INWEH**
Hans van Ginkel, UNU, Cherif Rahmani, Algeria, Ministers of Case Study Countries, Dave Mouat, GoE, Monique Barbut, GEF, Youba Sokona, OSS, Mme Rosebud Kurjiwila, AU, Habib Ben Yahyia, UMA

CLOSING CEREMONY

- 17:45-18:00 Closing remarks

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