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EARLY WARNING SYSTEMS

Pilot studies on early warning systems

Note by the secretariat

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INTRODUCTION

1. By its decision 14/COP.5 of 12 October 2001, the Conference of the Parties (COP) invited the Parties, according to their financial and technical capacities, to carry out pilot studies on early warning systems utilizing the recommendations of the ad hoc panel, and to report on progress achieved to the Committee on Science and Technology (CST) at an appropriate session. The COP also encouraged Parties and international organizations to provide technical and financial support to developing country Parties wishing to carry out such pilot studies on early warning systems.
2. The secretariat has received five submissions from the Parties on this topic, which are reproduced in annex to this document. They are reproduced as received by the secretariat, without formal editing and translation.

Annex¹

REPORTS BY PARTIES

1. Germany

- The German side has provided support to the CST Ad Hoc Working Group on Early Warning Systems.
- As part of a pilot project in Central Asia within the scope of the SRAP, support is being provided to the establishment of an early warning system.
- The GIS-based monitoring system for Lebanon for the identification of particularly desertification-prone areas also serves as an early warning system as defined by UNCCD.
- In China, a desertification risk analysis was carried out in Ningxia province as part of the NAP.

2. Hungary

Although a separate drought early warning system has not been established yet in Hungary, early warning activities are based on the above indices. With the objective of providing a more comprehensive framework for improving early warning and drought monitoring and mitigation techniques, the creation of a Regional Drought Preparedness Network for Central and Eastern Europe is initiated, in which Hungary would be ready to take a coordinating role.

The National Drought Strategy, which builds upon national results and international experiences, exists in a draft form and is currently under consultations at the experts' level, under the guidance of the Ministry of Agriculture and Rural Development. The Strategy will summarize the underlying concepts, methods, steps and sources for preventing and mitigating drought damage in the country, and provide a basis for further actions in this field. The Strategy is being elaborated taking into account the relevant national development strategies, policies and environmental programmes. National Action Programmes on Drought Mitigation will be prepared and elaborated on the basis of the National Drought Strategy, following its future approval by the Hungarian Government.

Attitude towards drought mitigation actions should shift from the crisis management type of actions to risk management, where a proactive approach is taken well in advance of drought events, so that mitigation can really reduce the impacts of drought.

¹ Reproduced as received by the secretariat without formal editing, in the language of submission only.

3. Italy

Italian international cooperation operates in this field providing technical and financial support to countries affected by drought and desertification through a number of projects and training activities executed by national and international organizations. Among them, the most relevant projects are:

IN SUDAN-SAHELIAN WEST AFRICA

Network for mitigation of climate impacts on food production risks and improved management of agro-ecosystems. The project links and integrates various components of existing knowledge in several fields including early warning, climate modeling and prediction, agro-ecosystem simulation and analysis, and ecological scaling theory.

Especially, the project wants to verify the potential value of forecasts of inter-annual climate fluctuations for improving food crop production. The project is also addressed to enhance the interactions among end-users concerned with the consequences of climate variability on food security and natural resource management in the region and improve local climate prediction skill by specific training. In this framework Mali has been designated as a test area in West Africa.

TRAINING IN NATURAL RESOURCES MANAGEMENT AND FOOD SECURITY (REGIONAL AGRHYMET CENTRE)

Training course on Planning the Response to Climate Events and Drought Effects by Capitalizing on the Experience and Information of Operational Early Warning Systems: The project aims to disseminate information on the use of data collected by the early warning systems in order to strengthen the countries' capacities to plan and establish adequate action mechanisms to mitigate the effects of drought and desertification by capitalizing on the methods and techniques already developed by scientists and existing projects and programmes, through better networking and vertical and horizontal coordination. Technical experts from Sahelian countries (Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Mali, Mauritania, Niger, Senegal) and national institutions active in the field of natural resources management and food security attended the course.

ERITREA

Early Warning Systems for Food Security and Environmental Monitoring based on Africover database project. The Project aims to:

- Create a national integrated databank with the aim to ensure information accessibility and preservation, and in the same time to increase the value of information relevant to different database, and particularly of the Africover database and by highlights its potentially to be a source of information for different analyses.

- Promote the creation of an information system for early warning and environmental monitoring. To implement the structural analysis, through integration and merging of different available data (Biomass trend and distribution – Growing season evolution – Soil degradation – Desertification indicators production) and information, producing a set of preliminary analyses and outputs related to food security and environment degradation.
- Implement – through the information system – a current analysis applying monitoring, modeling and rainfall forecasting tools with the aim firstly to evaluate the level of risk of food insecurity in an early warning framework and later to monitor the environmental resources in the framework of environmental management.

SENEGAL: CENTRE DE SUIVI ECOLOGIQUE (CSE)

CSE capacity development in gathering, analyzing and publicizing agricultural and environmental data by institutional support and by scientific and technical staff education through:

- Technical assistance to define terms of reference of teledetection, databases, agricultural monitoring activities and Internet information dissemination
- Spatial analysis methodologies development
- Specific software development

AGHRYMET CENTRE – CILSS EARLY WARNING AND FORECAST OF CROP PRODUCTION

Early Warning and Agricultural Previsional Systems:

- Validation and development of provisional model risk areas
- Reinforcement of meteo station network in nine Sahelian countries
- Technical assistance to National Meteorological Technical Services
- Development of individuation of vulnerable areas and monitoring patterns
- Development of a regional (CRA) and national (Senegal, Burkina Faso, Mali and Niger, Chad, Mauritania, Gambia, Guinea Bissau, Cape Verde) food security and early warning information system
- Reinforcement of CRA operational capacity in the field of food protection

4. Oman²

This system is linked to the analysis and evaluation of benchmarks and indicators of desertification in the Sultanate of Oman. It is a monitoring and follow-up system that uses monitoring technology such as the Geographical Information System (GIS) and remote sensing. With regard to cooperation with international organizations and to logistical and technical support, the Sultanate of Oman has established cooperation with the Massachusetts Institute of Technology on the implementation of a desertification simulation programme which aims at devising an advanced methodology, using modern scientific and technological innovations to monitor and analyse the dynamics of climate and their interaction with the ecosystem in the region (interactive modelling), for the purpose of understanding the phenomenon of desertification and how to combat it. The project is funded jointly by the Ministries of Municipalities, the Environment, and Water Resources, and by the Islamic Development Bank.

The Sultanate of Oman also works in coordination with the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Arab Center for the Study of Arid Zones and Dry Lands (ACSAD) to implement the vegetation coverage and water resources programmes as part of the Sub-Regional Action Programme (SRAP).

5. Zambia

The Zambian NAP has included the need for strengthening the early warning and preparedness systems in Zambia.

The County has even identified some interventions to be undertaken as regards strengthening the early warning and preparedness systems. Implementation of the identified interventions will take place after resources are mobilized.

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² Translated from Arabic (ICCD/2003/INFORMAL/2)