

## 2. FORMULATION OF THE REGIONAL MASTER PLAN

### 2.1 General Approach for Master Plan Formulation

The formulation of the master plan for the prevention and control of DSS in Northeast Asia basically builds on the outputs of two main components of the project, which were earlier undertaken. That is, the study on the establishment of a regional monitoring and early warning network for DSS in Northeast Asia and the study on an investment strategy to address the root cause of DSS in the source areas of the PRC and Mongolia. Hence, the results of studies for this Technical Assistance on the Prevention and Control of Dust and Sandstorms in Northeast Asia project have been organized into a three-volume report that can be referred to independently but remain interrelated in substance. The report organization is as follows:

- Volume 1: *A Regional Master Plan for the Prevention and Control of Dust and Sandstorms in Northeast Asia*
- Volume 2: *Establishment of a Regional Monitoring and Early Warning Network for Dust and Sandstorms in Northeast Asia*
- Volume 3: *An Investment Strategy for the Prevention and Control of Dust and Sandstorms through Demonstration Projects*

The conduct of the study is in accordance with the overall design of the project with detailed framework carefully set out to guide the entire flow of the project (see Appendix 1). Each of the project component employed different approaches and methodologies in response to their study purpose and goal. These are explained in succeeding sections.

### 2.2 Methodology and Approach for DSS Regional Network Development

Transboundary environmental problems such as DSS can most effectively be solved through regional cooperation. The merit of regional cooperation is that it will be possible to achieve much more through a network than by each country acting alone. There is considerable value-adding when neighbors combine their efforts to establish a regional monitoring and early warning network. Early warning of impending DSS events based on a regional monitoring network will be facilitated by data sharing with rapid communications on the progress and geographic extent of any DSS outbreak.

For the development of the regional network for DSS, the study looked into the capabilities of partner countries for DSS monitoring, forecasting, and early warning. This entailed the review of each partner country's institutional set up and linkages, technologies, and processes related to DSS monitoring. An inventory of geographically important monitoring stations was made and the monitoring indicator system utilized by each partner country was reviewed. A set of common monitoring indicators was then identified accommodating the different needs of the partner countries without compromising the technical and operational feasibility of the regional network. Likewise, mechanisms and operation for cross country data sharing were explored and worked out.

Specifically, the following points were identified through the review of the current DSS monitoring programs in the partner countries for consideration in view of establishing a regional network for monitoring and early warning:

*Firstly*, the perception, terminology, definition, monitoring method, current capacity, needs and expectation, etc. are all different from country to country. For example, there is a perception gap among the participating countries. DSS is considered as a phenomenon of natural disaster for countries in the source areas or the upstream countries while DSS is a

problem of air quality concerning public health for downstream countries. The definition of DSS is also different from country to country depending not only on monitoring method but also threshold value. In addition, needs and expectations are also different from country to country, even from agency to agency within a country. Accordingly, optimization and flexibility with step-by-step approach is necessary in formulating a feasible program for a regional monitoring and early warning network.

*Secondly*, although a few bilateral initiatives are already in place, these projects are limited to some specific field and national boundary areas. Since DSS is one of the transboundary environmental problems at a regional scale, multi-lateral cooperation mechanisms can solve the problem effectively and this is true for a regional monitoring and early warning network.

*Thirdly*, although Mongolia is one of the major source areas of DSS, there is no special monitoring site for DSS in the country. Moreover, most meteorological stations in Mongolia do not have any direct relation to DSS. In this regard, from a regional perspective, helping Mongolia develop its national capacity is one of the key tasks in terms of establishing a regional monitoring network, particularly on data sharing among participating countries.

### **2.3 Methodology and Approach for the Investment Strategy for the Prevention and Control of DSS in Northeast Asia**

The investment strategy is intended to provide a framework that is flexible and can effectively harness the capabilities of interested partner countries, international organizations and other stakeholders. The general principles of the investment strategy for DSS prevention and control in the Northeast Asian region are twofold<sup>1</sup>: (1) Demonstration projects are used as the main vehicle for attaining the objective of reducing the intensity of DSS and mitigating the impact; and (2) The demonstration projects are viewed as a first step of continuing efforts with a scope for expansion and replication. Moreover, the selection of the demonstration sites was conducted in the context of regional cooperation.

Demonstration project approach is, therefore adopted in implementing the investment strategy. The governments of the PRC and Mongolia have nominated four focus areas each. The four focus areas of the PRC are all located in Inner Mongolia Autonomous Region, namely: Hulunbuir, Xilingol, Ordos, and Alashan. The four areas in Mongolia are Sukhbaatar, Omnogobi, Dornogobi, and Ovorhangai. In addition, a joint demonstration area straddling the Sino-Mongolian border was selected at Erinhote on the PRC side and Zamiin-Uud on the Mongolian side.

The investment strategy is proposed in the context of the international, regional, and national frameworks for the control of land degradation, with particular emphasis on goals, priorities, scope, feasibility, affordability, effectiveness, sustainability, novel approaches and methodologies, and policy/institutional initiatives. There were a number of methodologies that were explored, during the course of the investment strategy formulation, for possible application in assessing and justifying mitigation measures intended for the prevention and control of DSS. These are the risk management, the application of the "Least-Cost-Plus-Loss" principle<sup>2</sup> and the selection of budget levels.

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<sup>1</sup> The principles for the investment strategy were agreed upon by the partner countries and international organizations during the First International Workshop on Investment Strategy held in Ulaanbaatar, 11-12 May 2004.

<sup>2</sup> This model used in forest fire management programs provides one option to analyze the cost effectiveness of interventions to deal with the uncertainties and widespread damages associated with disastrous phenomena like DSS.

In addition to the approaches in drawing up the investment strategy, approaches to be employed during the actual implementation of the demonstration projects were identified. One is the building on past experiences addressing DSS concerns as well as creating new and innovative approaches to DSS prevention and control. Another is allowing greater participation of individuals, households, communities, private sector, civil groups, academia as well as agencies of various levels of government and international organizations in the selection of focus areas and the identification of best practices.