

CHAPTER 2

THE SURVEY AND THE REPORT OBJECTIVES

2 The WMO Disaster Risk Reduction Country-level Survey

As a first step in implementing the WMO disaster risk reduction strategy, the WMO distributed a survey questionnaire, in March 2006, to its 187 Members² to determine their respective capacities and involvement in disaster risk reduction.

2.1 The Structure of the Survey

The WMO Disaster Risk Reduction Country-level Survey (Annex 1) was structured into four main components that sought to identify:

- Hydrological and meteorological hazards affecting the country and the existence and status of national databases for hazards and their impacts
- National legislation, organizational structure and the role of the National Meteorological and Hydrological Service related to disaster risk reduction
- National Meteorological and Hydrological Service capacity and products and services to support different phases of Disaster Risk Reduction
- Areas that are reducing the potential contribution of the NMHS to disaster risk reduction

2.2 Survey Response

The WMO Disaster Risk Reduction Country-level Survey was circulated to 187 WMO Members in March 2007 and a total of 139 National Meteorological and Hydrological Services (NMHSs) contributed detailed inputs in response to it (See Table 1 and Figure 4 below).

Scope	Number of surveys received	Total number of countries	% Response
Global (WMO Members)	139	187	74%
Developing countries	85	137	62%
Least Developed countries	25	50	50%
Africa (RA I)	28	52	54%
Asia (RA II)	25	34	74%
South America (RA III)	10	12	83%
Central and North America (RA IV)	18	22	82%
South-West Pacific (RA V)	14	19	74%
Europe (RA VI)	44	48	92%

Table 1. The distribution of responses to the WMO Disaster Risk Reduction Country-level Survey³.

² At the time of the Survey distribution, the WMO had 187 Members. The WMO member "Serbia and Montenegro" participated in the survey and then on 6 December 2006 Montenegro was added a separate member, thus the total current WMO Members total 188. This report reflects the combined survey submission by Serbia and Montenegro as prior to 6 December 2006.

³ Developing Countries, Least Developed Countries or Small Island Developing States have been identified from official United Nations lists (Annex 2).



Figure 4. The global/regional distribution of responses to the WMO Disaster Risk Reduction country-level survey.

2.3 Approach to analysis and the survey database

2.3.1 Approach to analysis

The analysis approach of the survey responses was as follows:

- Examine all NMHS contributions and develop a global-level overview of the information contained in them.
- Analyze survey contributions from each Regional Association, Developing Countries, Least Developed Countries (LDCs) and Small Island Developing States (SIDS) and those responses related to sub-regional groupings requested by the Chairs of the WMO Regional Associations' Working Groups on Disaster Risk Reduction;
- Synthesize the results of the preceding work, identify significant gaps, deficiencies and anomalies in NMHS' capabilities and capacities; and
- Conclude with commentary on significant anomalies, regional differences and other matters requiring discussion.

2.3.2 Survey Database

To facilitate the analysis a comprehensive database was developed for identification of capabilities, gaps and needs based on statistical analysis for any grouping of counties (economic, project based, etc.) desired in support of project identification and prioritization.

2.4 Report Objectives

The objectives of this report are to document the capabilities of National Meteorological and Hydrological Services in relation to their provision of meteorological and hydrological support to disaster risk reduction, identify any gaps in those capabilities, and draw attention to related needs for remedial or enhancement actions. This report presents a synthesis of the information contained in NMHSs responses to the WMO disaster risk reduction country-level survey mentioned above, representing a benchmark against which future progress in enhancing support to disaster risk reduction can be measured. At the same time, it aims to provide feedback to national, regional and global disaster risk reduction organizations to assist them in targeting and implementing improvements in their approaches to addressing that priority. Such improvements could, for example, include expanded coordination and tighter partnerships with relevant governmental and non-governmental agencies and institutions and more effective utilization of early warnings and other products of National Meteorological and Hydrological Services.

2.5 Report Structure

For reasons of efficiency, and to provide some predictability for the reader, a consistent “template” (Figure 5) approach has been applied to the synthesis and assessment of the survey responses for each of the six WMO Regional Associations and for other country and sub-regional groupings that were identified by the Chairs and members of the WMO Regional Associations’ Working Groups on Disaster Risk Reduction.

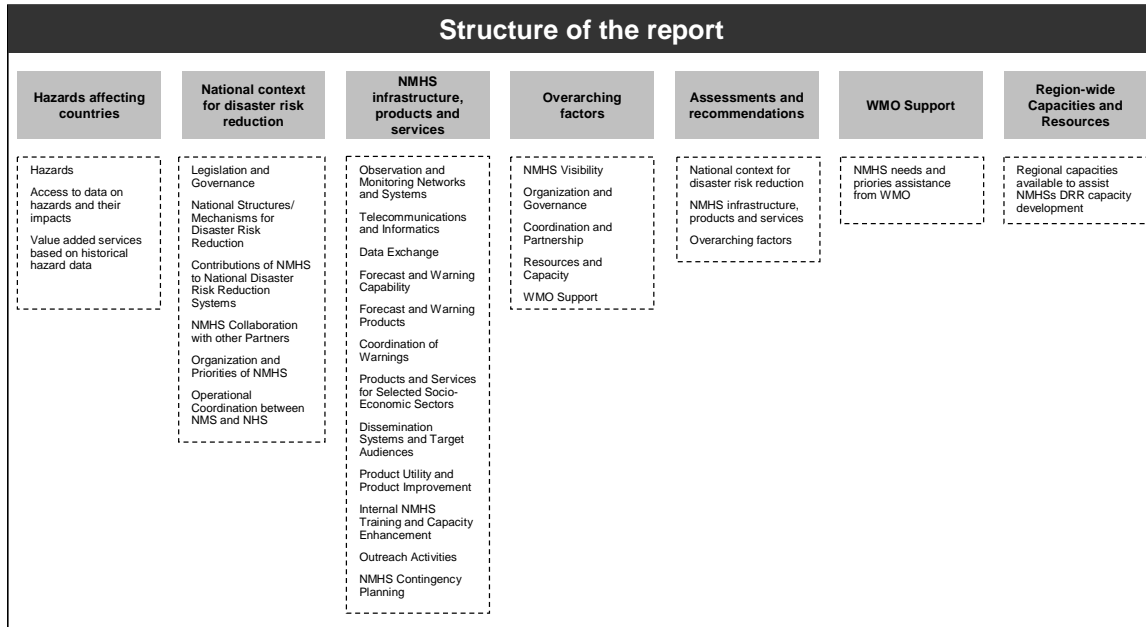


Figure 5. Report Structure

The internal structure of the synthesis chapters is as follows:

- Chapter Titles are, in each instance, followed an Abstract that provides a condensed overview of the main results and recommendations relating to the chapter.
- Each chapter begins with an indication of the level of response to the survey questionnaire within the group of countries in question, follows with an overview of the hazards that affect the area, comments on the status of archiving for hazard and impacts data and examines the extent of value-added services for disaster risk reduction that are provided by NMHSs, based on these data sets.
- The national context for disaster risk reduction within each group of countries is then reviewed, including legislative and governance aspects, the existence of national coordination committees, and the involvement and contributions of NMHSs within their national disaster risk reduction structures.
- An overview of the internal organization of NMHSs in the region or country grouping, a brief discussion of the influence of their parent ministries or departments on their orientation and priorities, and an examination of collaboration and partnership with the disaster risk reduction community.
- A detailed examination of NMHSs’ infrastructure, capacities, products and services, as reflected by the survey responses. This focuses on indicators of the internal capabilities of NMHSs to support disaster risk reduction, such as their observational networks and programmes, telecommunications and informatics systems, warning, forecast and other product generation capacities, coordination mechanisms and product dissemination systems, internal training, capacity building and external outreach programmes and other relevant aspects. A status of contingency plans to maintain NMHSs’ services in the event of emergencies is also briefly addressed.
- Comments on overarching factors that influence NMHSs’ contributions to disaster risk reduction, such as visibility, organizational, governance and partnership aspects, resources and internal capacity, each synthesis chapter presents a roll-up summary of collective needs for support from WMO, as reflected in the survey response from countries within the region or group being addressed.
- The chapters also incorporate a series of assessments and recommendations relating to its various sub-sections including national context for disaster risk reduction, NMHS infrastructure, products and services and the overarching factors.

- Finally, the chapters conclude with drawing attention to region-wide resources that can be accessed by individual NMHSs to reinforce their own internal capacities, drawing on information from regional assessments prepared by the WMO Regional Associations' Working Groups on Disaster Risk Reduction.

Note: The subsequent chapters of this report present the results obtained by applying the above approach. It is important to note that all percentage figures quoted in the report have been calculated by dividing the number of "yes" responses to individual questions by the total number of responses to the same question. As will be evident in reading the document, the total number of responses to individual questions varied considerably.

Additionally, it should also be noted that the WMO country-level survey was limited in its extent in that it did not include questions relating to air quality or climate change and their implications for disaster risk reduction. Consequently these hazards are not discussed in detail in this report. High air pollution episodes can represent serious health emergencies, particularly for the young and for elderly citizens, with many deaths each year being attributed to poor urban air quality in cities around the world. Moreover, air pollution is a rapidly growing problem in expanding economies in Asia and elsewhere. Equally, global climate change may disrupt temperature and rainfall patterns, increase sea levels and result in other impacts that could cause disruption of populations, economies and ecosystems. The conduct of an assessment of the implications of urban air pollution and climate change/global warming for disaster risk reduction would, therefore, represent a logical extension of the present analysis.