Strategy Report on Disaster Risk Management, Reduction and Response in Mongolia

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PURPOSE

This paper is the concluding report in satisfaction of the UNISDR/North-East Asia Office consultancy in support of the Office of the United Nations Resident Coordinator in Mongolia on Disaster Risk Management, Reduction and Response in Mongolia. It has been contracted through UN-ESCAP for the period from 21 April to 20 May 2013. The present report builds on the initial Strategy Paper on Disaster Risk Management, Reduction and Response in Mongoliaof 7 May 2013 and is based on interviews with key actors in Mongolia engaged in the institutional mechanisms, policy and regulatory frameworks and current practices associated with disaster risk management, reduction and response in Mongolia.[2]

The report summarizes the current DRM situation in Mongolia and draws conclusions based on initial scoping assessments of the advisor. These observations underpin recommendations for further strategic policy and programme development in the country consistent with Government interests and through United Nations and wider international organizations' involvement to strengthen the DRM and specifically disaster risk reduction (DRR) capacities of the institutional mechanisms, policies and regulatory frameworks in Mongolia. The author has based his analysis on present circumstances in the subject area since 2005, and itis projected from current conditions and suggested trends at the present time forward to anticipated needs and conditions up to 2020.

Information was obtained from background documentation provided by the Office of the United Nations Resident Coordinator in Mongolia (UNRC)and interviews conducted between 24 April and 20 May 2013 with people listed in Annex 1. The discussion also draws on the author's personal familiarity with the subject in Mongolia since 2004.

The report is composed in three parts with annexes: Part I presents elements that the author believes state a case and provide a foundation for advancing DRM policies and practice in Mongolia by capitalizing on current national conditions,or which otherwise need to take account of demands imposed by increasing disaster risk factors. Part II reflects on previous experience in emergency preparedness and response and the development of transitional elements that have informed and compose a strategic policy for national enhancement and expanded capacities for comprehensive DRM practice. This addresses matters of institutional growth and the developmentinitially in the area of disaster preparedness and response but more substantively looking ahead in terms of disaster risk management and reduction. Part III

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[1] The report includes crucial additional information that became available during the week of 20 May 2013, including reference to essential outcome documentation from the 4th Session of the Global Platform for Disaster Risk Reduction held from 21-23 May 2013 in Geneva, Switzerland.

[2] The abbreviation DRM is used in this report to mean the broad responsibilities of "disaster risk management" encompassing the various roles and responsibilities associated collectively with disaster management operations and disaster risk reduction policy and practices associated with disaster-related preparedness, risk reduction, response and recovery professional contexts. If a particular aspect of these service or policy functions is intended specifically, it will be identified by the more specific description, consistent with definitions in the UNISDR Terminology on Disaster Risk Reduction (2009), accessed on 5 May 2013 at http://www.preventionweb.net/english/professional/publications/v.php?id=7817

provides conclusions and recommendations derived from the scoping phase of formulating a DRM Strategic Development Process. Annexes provide additional summarized supporting information.

The process remains a work in progress and requires further input from both government and interested institutional parties. It will be refined further through additional information, deliberation, and critiqueleading to the preparation of a proposed Action Plan and later consideration at a multi-stakeholder meeting planned for later June, 2013.

The opinions expressed are the author's own and do not reflect official opinions of any United Nations system organization, official nor any Government of Mongolia organization or official, except as may be referenced in official Government of Mongolia or other organizations' public documents. The author acknowledges the full measure of cooperation received from United Nations staff, programme associates and Government of Mongolia officials with appreciation for their willing interest, knowledge and dedication to the subject.

PART I MONGOLIA'S DISASTER RISK MANAGEMENT PLANNING CONTEXT

As a landlocked country three times the size of France (1,553,560 sq. kms) exhibiting considerablediversity in landscape and geophysical conditions, frequent temperature extremes and about 2.8 million people, the country presents daunting DRM policy and operational challenges.[3] Nearly 70 per cent of the population resides in urban areas, with about 1.2million or 40 per cent in the capital area of Ulaanbaatar.There are nearly a million more people who are dependent on the natural environment as they move with their herds as pastoralists. These physical, social and economic conditions in contrasting human habitats are sharpened by strong cultural identities which define Mongolians' rapidly changing requirements for productive livelihoods, human security and physical protection from disaster risks.

The country is exposed to several types of serious natural hazards. Parts of the country and particularly the densely populated capital area are subject to potentially severe seismic activity. The occurrence of unfelt seismic activity has been increasing since 2005 and particularly since 2009 to the extent that the Capital Area of Ulaanbaatar (UB) is surrounded by four faults able to produce earthquakes of Magnitude 7 (M7).[4] Based on a 2000 simulation, the National Academy of Mongolia estimated that 300 buildings and 60,000 residents would be affected if a M7 earthquake were to strike UB City. With the rapid expansion of the city, the potential losses would be far greater at the present time.

The periodic and particularly severe Mongolian *dzud*is a natural hazard that combines extreme weather conditions which decimate herdswhich are already weakened by summer drought conditions. With losses of 25 per cent of the national herd in the 2009-10 dzud, many herders' livelihoods were threatened. This led to increased migration off the land to the rapidly growing urban areas. Droughts, floods (in urban and rural areas), steppe and forest wildfire, storms and agricultural vermin are other hazards that combine climatic effects, changing environmental

[3] Demographic figures are approximations extrapolated from the 2010 Mongolia census figures as reported by the National Statistics Office of Mongolia, http://www.nso.mn/v3/index2.php?page=news_more&id=772 (Accessed 2 May 2013).

[4] This and the immediately following seismic information is from the "Progress Report 1 on The Project for Strengthening the Capacity of Seismic Disaster Risk Management in Ulaanbaatar City, Mongolia", by the Asian Disaster Reduction Center, and Tokyo Electric Power Services Co., Ltd. (September 2012), p. 1-1.

conditions, and increasingly challenging economic conditions that characterize a perilous hazard-scape in Mongolia.

These natural hazards have different consequences affecting various parts of the country and different segments of the population to a wide degree of exposure and vulnerability to disaster risks. They all pose recurrent threats and represent potentially costly consequences, which are not likely to lessen in coming years. Furthermore, much of the country's landscape and natural resources of land and water are fragile and are particularly subject to progressive degradation or reduced availability. This can be caused by the consequences of changing climatic conditions, human behaviour or economic growth and development decisions. As there is no private land ownership in the country, the only regulation of its use is by customary practice which can be intensely guarded for personal or local advantage, or otherwise can invite abuse.

In addition to these prevalent natural hazards, and readily identified disaster events, other socio-economic and geophysical conditions are creating additional or potential disaster risks that will assume greater importance in coming years. The UNDP Country Programme Action Plan for 2012-2016 noted this issue well when it stated,

> *"With the help of UNDP and other partners, the Government of Mongolia has made significant progress in the area of disaster risk management in the last decade. Much of Mongolia's initial focus has been on improving capacities for emergency response. The longer term challenge is addressing the socio-economic, environmental and developmental drivers of risk."*[5]

This statement sets out the basis for current opportunities. More importantly it highlights the extensive and pressing need for the country to significantly expand its understanding of contemporary DRM and the policy commitments and investment that will be necessary to identify, monitor and address its exposure to future disaster risks. The rapid socio-economic and demographic changes in the country, as well as greatly increasing resources available for national growth and development require that future disaster risk considerations cannot be assessed on a linear scale from previous events, but must be approached from new, multiple and combined perspectives.

Much of the built environment of major urban areas is dated or of varying physical condition or seismic resilience. A rapid increase in urban migration and growth of the informal or under-serviced "ger districts" around the perimeter of Ulaanbaatarnow account for fully 60 per cent of the city's population. Besides creating new and unmanaged risks, the ger districts also exert additional pressure on physical environments and require much more urban infrastructure which remains unmet. Urban migration has created further demands on services, infrastructure, and natural environments of cities, particularly in Ulaanbaatar. The population density of the capital has increased from 162 to 264 persons/sq.km between 2000 and 2010, an increase of 52 per cent in only 10 years.[6] The combination of the harsh and demanding physical environment, rapidly changing economic opportunities identified with urban or commercial activities and altered social conditions between rural and urban habitation will only intensify future drivers of risk in Mongolia.

As the country's wealth increases and annual GDP has grown rapidly between 12 and 18 per cent over the past three years, more assets are concentrated in specific locations. If these are not protected from unmanaged disaster risks, theeconomic and related social costs of future

[5] "Inclusive Sustainable Growth, Country Programme Action Plan 2012-2016", Government of Mongolia, and the United Nations Development Programme, (January 2012), p. 16.
[6] 2010 census, as reported by National Standards Organization, *op. cit.*

disasters will increase. Although the severe 2009-10*dzud* reduced the national herd by 25 per cent from 40 million to 30 million head of livestock, favorable rainfall in 2011 and 2012 encouraged unrestrained restocking which was further motivated by prevailing cultural and economic practices. The national herd was restored to 40.9 million head by the end of 2012, and an additional 13 million head of livestock are expected to be added during the course of 2013.[7]While some commentators note that the available pastures can support such sizeable herds in gross terms, the unequal distribution of animals across the country as well as unregulated land usage and free migration creates areas of serious overgrazing and land degradation. With insufficient veterinary services, a prevalence of foot and mouth disease or the inability to conform to required international marketing standards, economically viable trading options in animal products are seriously constrained.

As livestock populations multiply, they place even greater pressures on sustainable land use and the natural resources on which herder livelihoods must depend. Even as agricultural diversification is being considered on some more productive lands, there are significant marketing or processing challenges to be overcome before sustainable rural economic alternatives can sufficiently provide for what has become a declining rural population.

There are additional emerging or "slow-onset" risks to people's livelihoodswhich can affect the land and natural resources of the country. As they do not easily fit traditional views of common disaster events they can easily become relegated to individual technical disciplines and insufficiently considered in wider developmental or risk reduction strategies. Since climatic conditions vary across the country, it is difficult to speak of sweeping changes from meteorological norms, alone. Nonetheless, much of the country experiences very high evaporation-transpiration ratesfrom rising temperatures that some commentators believe could make as much as 80 per cent of the country so arid as to be nonproductive by 2050.[8] Other concerns are expressed about different parts of the country where there is increasing snowmelt, uncontrolled or underutilized surface water runoff and a rapid depletion of ancient underground water reserves.The recent increase of large mining operations with their possible threats to deplete water resources in already arid or environmentally fragile areas of the country has become a serious concern among established rural communities.

The rapid growth of the mining industry in Mongolia currently accounts for between 22 and 24 per cent of GDP despite employing only 3 per cent of the formal labor force.[9]Despite the rapidly rising revenues derived from mining, the industry is likely to have significant environmental consequences. By contrast agricultural production which engages 33 per cent of the country's labor accounts for 14 per cent of GDP today, compared to more than 40 per cent in 2007.[10]Considering the risks posed to pastoralists discussed above, it is important to note that nearly 80 per cent of this agricultural contribution to GDP is derived from animal products.[11]These radically changing economic conditions suggest that they will have far-reaching effects on individual livelihoods as well as affecting the habitats where people live. These economic developments will impact the relative vulnerability and future exposure to new and different types of risks in specific geographical locations and population segments of the

[7] Verbal information provided by the Livestock Policy Implementation and Coordination Department, Ministry of Industry and Agriculture.
[8] This information and following observations were provided in interviews by the National Meteorological and Environmental Monitoring Agency, and also referred to in discussions at the Ministry of Industry and Agriculture and provided by FAO.
[9] Information provided in interviews at the Ministry of Mining
[10] GDP figures from Ministry of Economic Development
[11] Information provided in interviews by Ministry of Industry and Agriculture

country. These combined social, economic and geophysical features define the disaster hazards and risk management landscape that Mongolia is facing today.

These disaster risks do not replace nor diminish the legitimate concerns and emergency needs to prepare for and to respond to the more easily identified disasters caused by dzud, earthquakes, floods, droughts, wildfire, animal and human diseases among others. However, the intensive and rapid economic growth, significant migration and unregulated expansion of urban environments, increasingly economically-challenged rural livelihoods, and likely consequences of changing climatic conditions will all require strategic intervention, expanded professional relationships and sustained official coordination.

In looking to the future, it is clear that policy requirements, operational abilities and institutional capacities of disaster and risk management must continue to strengthen emergency preparedness and response abilities for known disasters. But the greatest demands for the future are the expanded understanding, official leadership and strategic professional engagement to establish and sustain a full time commitment to identify, assess and then manage these and other future disaster risks. Without doing so, they will only grow into increasingly more serious disasters with lasting negative consequences for Mongolia.

The next section notes some of the preliminary attention given to these changes with incrementally increasing abilities proceeding from national emergency management abilities and institutional capacities. It is noteworthy that high level authorities and recent legislative action has begun to acknowledgethese more comprehensive approaches to DRM, even as demonstrated practice is in early stages of implementation. This presents a welcome opportunity for building strategically to address future requirements,but there is also a broad recognition for greater inter-ministerial and cross-sectoral coordination mechanisms.

The work will require new forms of association among technical professionals and social structures which have not typically been involved with disaster or crisis management. Activities necessarily involve all ministries and departments of government, at national, *aimag*, *soum* levels and in urban municipalities. They equally cut across development sectors, and involve many technical, educational and subject specialists – but especially the communities and people who are most immediately affected. These observations equally apply to various development initiatives within the United Nations system and those being pursued by international organizations and through bilateral assistance agencies.

PART II PROGRESS TOWARDS DISASTER RISK MANAGEMENT IN MONGOLIA

Early Needs and Progress: Benefitting from Experience

Mongolian authorities have been aware of the need to modernize and reconfigure the national approach and commitments to DRM since the early 2000s. While this was stimulated at least in part by the destructive and costly *dzud* in 2001-02, the process also has benefitted from significant changes in governance and the growth of Mongolia's emerging economy. As with any major alteration of long-established practice, the process has taken some time, but it also has been systematic, deliberate and consistent in intent.

As in most countries, disaster management organization and practice in Mongolia emerged historically from initial commitments to establish specialized emergency preparedness and response services such as fire-fighting, search and rescue, emergency communications and

logistics, and operational resources required for the timely distribution of emergency relief assistance, medical care, etc. The vast size of the country and very sparse population distribution across wide areas or the country presented both operational challenges and high costs to provide urgent emergency services. From the author's viewpoint the country has demonstrated a firm commitment to develop a national approach to disaster management planning and operational capabilities since initial efforts were reflected in the Mongolian Law on Disaster Protection of 20 June 2003 which created the National Emergency Management Agency (NEMA). [12]

At the highest political levels of responsibility matters of disaster management are apparently addressed through a State Security Council. The roles and responsibilities of this State apparatus have not been able to be addressed as information is not publicly available for obvious security reasons. However, it is understood that there is also an inter-ministerial State Emergency Council (SEC) chaired by the Deputy Prime Minister which is convened for national coordination purposes only when there is an immediate crisis or disaster threat. It does not appear that the SEC is involved in the monitoring of risk conditions in the country or to assess the changing needs and requirements for future DRM requirements. While a few passing references were made in the course of some interviews to a State Earthquake Council existing under the auspices of the State Security Council for contingency planning purposes, the existence or role of this mechanism has not been able to be verified nor elaborated in any discussions.

Since the creation of NEMA, Mongolian authorities have progressively sought to recognize changing conditions in the national "hazard-scape" and consistently pursued a series of opportunities to benefit from international initiatives and institutional capacity building, even as the emphasis remained largely focused on preparedness and response capabilities. This progress has sought to maintain a balanced, but also distinctive appreciation of the different requirements first in disaster preparedness and response requirements in rural areas through local authorities in *aimags* and *soums*,[13] as well as in the nine districts of the capital area of Ulaanbaatar municipality.

This has all been encompassed in the national operational authority of NEMA which was established by combining the previously distinct services of Civil Defense, Fire Fighting and State (material) Reserves. NEMA also was provided with the mandate to improve coordination and increase technical capacities and material support to fight disasters caused by known hazards.Since 2005 there has been a consistent effort to raise awareness to wider issues of disaster risks and preparedness or prevention and mitigation thinking. This has resulted in broader outlooks at national level and in selected pilot activities involving training of local authorities inselected aimags and working with herder communities in some targeted soums.