Financing Disaster Risk Reduction-The Indian Context

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1. Introduction

1.1 The significance of according priority and resources towards Disaster Risk Reduction ("DRR") for India arises from the fact that India is amongst the most disaster prone counties in the world. India is subject to various types of disasters including earthquakes, cyclones, tsunami, floods, landslides etc. The fact that it is a developing country also implies greater vulnerability and lower resilience to disasters. According to the World Bank India loses up to 2% of its GDP and 12% government revenue to direct losses arising from disasters.

1.2 It is common knowledge that disasters can have a tremendous negative impact on the local, regional and national economy. The destruction of livelihoods and infrastructure in addition to loss of lives especially when accompanied by slow recovery and reconstruction would create a cascading negative impact on the economic growth. Sustainable development is not possible without effective DRR. In the context of Disaster Risk Management an effective financial management strategy would entail firstly promoting DRR to reduce the negative financial impact of disasters and secondly a comprehensive risk financing strategy encompassing relief, rehabilitation and reconstruction and a judicious mix of risk retention and risk transfer.

2. Financing Disaster Risk Reduction

2.1 The term 'Disaster Risk Reduction' or DRR has not been defined in the Indian Disaster Management Act, 2005. UNISDR defines it as systematic efforts to analyze and manage the causal factors of disasters including reduction of exposure to hazards, lesser vulnerability of people and property, wise management of land and environment and improved preparedness for adverse events. Hence, financing DRR would involve the entire disaster management continuum starting from risk analysis through risk mitigation, risk financing to preparedness by way of monitoring and early warning and relief, rehabilitation & reconstruction, taking us back to post-disaster risk analysis as shown in the figure below:

Figure 1 Financing DRR

2.2 The definition of disaster management in the Indian DM Act, 2005 includes mitigation, capacity building, preparedness, response, relief, rehabilitation & reconstruction. The disaster management architecture of the country is hierarchical and multi-layered in keeping with the India's federal structure. It incorporates various government departments and other key agencies at the national, state, district and local levels apart from academic institutions scientific organizations, NGOs, corporate sector and the community at large.

2.3 At the Apex of the legal and institutional framework for disaster management in the country is the National Disaster Management Authority (NDMA) which is chaired by the Prime Minister of India. The nodal ministry for disaster management is the Ministry of Home Affairs (MHA) . The National Executive Committee chaired by the Home Secretary including Secretaries of key ministries and departments involved with disaster management assists NDMA in carrying out its functions and serves as implementing arm for NDMA approved

policies, plans and guidelines. At the Central level, the National Institute of Disaster Management is in charge of training, research and development of other capacity building activities. The National Disaster Response Force is a specialized force for the purpose of disaster response. These institutions at the national level interact with the State Governments and District Administration. At the State level, the institutional architecture is replicated through the SDMA and the State Executive Committee. At the District level there is a District Disaster Management Authority.

2.4 The Disaster Management Act, 2005 has created a sound institutional basis for DRR in India as it provides that the disaster management architecture at Central, State and District level should ensure the formulation of disaster management plans incorporating measures for preparedness, capacity building, prevention, mitigation and response. It also provides for the integration of prevention and mitigation measures in developmental plans and projects. It requires appropriate allocation of funds for preparedness, capacity building, prevention, mitigation and response and creation of dedicated disaster response and mitigation funds at various levels.

2.5 With a view to bring about the mainstreaming of DRR into developmental plans and projects the Ministry of Finance has made it mandatory for all project proposals costing above Rs. one billion to include a self-certification by way of natural disaster impact assessment. NDMA & MHA have also been continuously interacting with the Planning Commission to ensure that DRR is included in major schemes and Science and Technology are leveraged for disaster management.

2.6 Various nodal Ministries play a key role in DRR as far as specific disasters are concerned. This is detailed in the Table below. These ministries have dedicated schemes aimed at disaster prevention, mitigation, capacity building, etc. in their particular domain. Examples include, the Ministry of Environment & Forests's Integrated Coastal Zone Management programme and Ministry of Water Resource's flood management and flood forecasting programmes. The Department of Space has a Disaster Management Support programme and Ministry of Earth Sciences has a project on Tsunami and Storm Surge Warning System.

Table 1: Nodal Ministries/Departments for Various Disasters

Disaster	DM under	Nodal Ministry
Earthquake	Ministry of Home Affairs	Ministry of Earth Sciences
Flood	Ministry of Home Affairs	Ministry of Water Resources
Drought, Hailstorm & Pest Attack	Department of Agriculture & Coop., Ministry of Agriculture	Department of Agriculture & Cooperation, Ministry of Agriculture
Landslide	Ministry of Home Affairs	Ministry of Mines
Avalanche	Ministry of Home Affairs	Ministry of Defence
Forest Fire	Ministry of Environment & Forests	Ministry of Environment & Forests
Nuclear Disaster	MHA, Department Of Atomic Energy	Department of Atomic Energy
Industrial & Chemical	Ministry of Environment & Forests	Ministry of Environment & Forests
Biological Disaster	Ministry of Health^& family Welfare	Ministry of Health & family Welfare
Rail Accidents	Ministry of Railways	Ministry of Railways
Road Accidents	Ministry of Road Transport & Highway & Shipping	Ministry of Road Transport & Highway & Shipping
Aviation Accidents	Ministry of Civil Aviation	Ministry of Civil Aviation
Cyclone, Tornado, Hurricane	Ministry of Home Affairs	Indian Meteorological Department, Ministry of Earth Sciences
Tsunami	Ministry of Home Affairs	Ministry of Earth Sciences

2.7 Apart from this, many of the schemes which are implemented by various ministries have embedded DRR components. For example the Ministry of Environment & Forest's Climate change programme, Ministry of Health & Family Welfare's National Rural Health Mission; Ministry of Rural Development's employment guarantee schemes.

2.8 NDMA is implementing an important World Bank funded project for cyclone risk mitigation. The National Cyclone Risk Mitigation Project encompasses cyclone forecasting tracking and warning systems, capacity building and structural measures. Similarly, for earthquake risk mitigation, NDMA is implementing the National Earthquake Risk Mitigation Project wherein the objective is to strengthen and support structural and non-structural measures towards earthquake risk mitigation across the country.

2.9 The Disaster Management Act, 2005 also provides for the creation of a National Disaster Mitigation Fund for projects focused exclusively on disaster mitigation and State level mitigation funds. In NDMA's view such a fund can address gap areas which individual Central and State Ministries and departments may not cover. Further, projects addressing cross-cutting themes and research and development could also be supported from such a fund. The rules in the utilization of the fund have been proposed in a manner which would encourage the States to set up their own mitigation funds. The proposal is under consideration of the Government.

3. Financing Disaster Relief

3.1 As regards post disaster finance, the present scenario in India is that in the event of a disaster, relief expenditure is met from State Disaster Relief Fund (SDRF). In case of severe calamities, the National Disaster Relief Fund (NDRF) supplements the funding available from SDRF. Funds available under these two reserves can be used only for relief and immediate rehabilitation and not for long-term reconstruction. This implies that to find funds for reconstruction we must reallocate funds earmarked for other activities or rely on external aid. Further, in the absence of immediate availability of liquidity there will be a longer time lag before complete recovery is achieved. The combination of these two factors can be very detrimental as far as economic recovery and growth are concerned.

3.2 There is therefore a need to tale a relook at disaster risk financing and transfer mechanisms, even though DRR would, of course, continue to be the most important intervention to reduce the negative financial impact of disasters. In recognition of the potential of insurance to act as an effective means of risk

transfer and the added benefit of incentivizing mitigation efforts as premiums are linked to the same, NDMA and the Insurance Regulatory & Development Authority (IRDA), have jointly prepared a discussion paper on "Disaster Relief and Risk Transfer through Insurance" after wide stakeholder consultations. To begin with, NDMA and IRDA analyzed the adequacy of the existing financing mechanism and the international best practices and came out with specific recommendations. It was seen that the actual relief expenditure of the states tends to be far more than the combined releases from SDRF and NDRF. The gap is often very significant in the wake of major disasters. There are certain disasters, which at present are not covered by the SDRF/NDRF scheme. There are years in which states have incurred significant amount of relief expenditure, which has been of the order of even 800% of SDRF and NDRF funding. This gap needs to be addressed else developmental activities of the State would suffer. Another gap as mentioned earlier is the funding or financing mechanism for reconstruction. The gap exists in terms of both overall adequacy as well as immediate availability of funds for reconstruction. These gaps suggest need for ex ante risk transfer apart from retaining risk through reserves and budget

3.3 Looking at the international best practices on financing disasters, a recent study by Lloyds on (non-life) insurance in 42 countries suggests that increased insurance penetration is likely to lead to better insurance coverage and subsequently a reduction in the level of damages and recovery costs, which fall upon the government and therefore ultimately upon the tax payers. However, India is one of the 17 countries identified as being under insured in terms of insurance penetration and insurance gap. The study indicates that about 85% of losses (2004-11) were uninsured in India. Non-life insurance penetration in India is less than 1%.

3.4 When we look at best practices from other countries, three salient aspects come to notice:

i. Firstly, the use of compulsory earthquake insurance for residential buildings as has been done in Turkey, New Zealand and Taiwan. The objectives of the Turkish Catastrophe Insurance Pool include affordable insurance, which also becomes a vehicle to incentivise the following of standard buildings codes.

ii. Secondly, it is seen that governments utilize parametric insurance for financing relief and reconstruction involved in severe disasters. One example is the Caribbean Catastrophic Risk Insurance Facility.

iii. Thirdly, there are examples of reserve funds like FONDEN Mexico, which are used not only for relief but also reconstruction and which allow a part of the funds to be used for the purchase of risk transfer instruments including insurance premiums and CAT bonds. The FONDEN is in fact a very good example of internationally prescribed best practice of following a graded approach to financial resilience with a combination of risk retention and risk transfer as we move from high frequency low impact disasters to low frequency high impact disasters.

3.5 Based on these observations and the present scenario in India, NDMA and IRDA in their study on the role of insurance as a possible means of financing disaster risk, have come out with certain concrete suggestions as follows. The use of insurance as a risk transfer mechanism could be considered in order to meet the liability towards relief for disasters not covered by the SDRF/NDRF scheme and to fund non-immediate rehabilitation and reconstruction. This would preclude the reallocation of funds from developmental activities. It has been suggested that a percentage of SDRF itself could be allowed to be used for this purpose. Purchase of parametric insurance could be considered to supplement NDRF to meet expenditure post low frequency and high impact disasters. To begin with, earthquakes and cyclones could be covered and subsequently other disasters, subject to the availability of data. Another suggestion is that the insurance sector should come forward with innovative products in the area of individual disaster insurance suited to the needs of non-BPL[1] families keeping in mind affordability. As far as the BPL population is concerned, the Government would have to decide whether to pay their insurance premium or continue with the existing relief mechanisms. Based upon international best practices, it has been proposed that disaster insurance be made mandatory for residential property in urban areas. This would apply to all urban property tax payers. It is expected that the premium would reflect mitigation efforts such as adherence to BIS codes and hence this would also serve as an incentive for mitigation.

[1] Below Poverty Line

3.6 On the lines of the Public Liability Insurance Act, it could be considered whether insurance could be made mandatory for the owners of properties such as malls, theaters, hospitals, hotels, etc. and which are places of public congregation. Similarly places of religious pilgrimage should require mandatory third party insurance by religious trusts or administration in charge. The idea is to provide minimum disaster compensation to the visiting public at least on par with SDRF norms. Finally, the government needs to look at the international experience and conduct its own risk analysis to arrive at whether it would be economical to insure public utilities and critical public infrastructure. The former would include power, water supply and also encompass mandatory insurance of facilities owned by private sector or being run in PPP mode as for example telecommunications or airports. The latter would include school, hospitals, roads and bridges etc. Such a move could ensure the availability of capital to enable faster economic recovery.

3.7 These suggestions would require looking at some important policy changes. These include exploration of insurance premium as a risk transfer strategy as against the current norms of relying on reserves and contingency funds for relief expenditure and plan funding for reconstruction. Insurance of government property and mandatory insurance for utilities, industry and private homes are also some new policy areas.

4. Way Forward

The way forward for India would be to develop an appropriate DRR financing strategy based on a comprehensive risk analysis and needs & gaps assessment. We need to arrive at the appropriate balance of budgetary funding, reserves and contingency funding and risk transfer mechanisms suited to our country. We certainly need to help develop the disaster insurance sector in place of a perpetually underdeveloped disaster insurance market forcing sole reliance on the state exchequer, which is basically a burden on the tax-payer. It must be noted that insurance incentivizes disaster mitigation as premiums are linked to mitigation efforts. In sum, India's achievements so far have been in the areas of techno-legal regime, effective early warning, use of space and ICTs, capacity building, reserve funds and a dedicated response force. The way forward involves better implementation of the tecno-legal regime, review of major schemes to incorporate

DRR, setting up of mitigation funds, further improvement in EW systems and ICTs for DM and a comprehensive risk financing strategy.

Note:

This article is an extract from a presentation made to the Expert Group Meeting on Effective Strategies for Mainstreaming Disaster Risk Reduction in Asia and the Pacific, Bangkok, 26-28 November 2013

Disclaimer:

The author is a Civil Servant. Views are personal.