

UNDERSTANDING EXISTING METHODOLOGIES FOR ALLOCATING AND TRACKING DRR RESOURCES IN INDIA¹

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A NOTE ON GLOSSARY

The meanings of the technical terms used in this study conform to the 2009 version of UNISDR terminology². The same terminology has not been adopted uniformly in the Disaster Management Act 2005 and other official publications of Government. It is important to take note of the difference to understand the meaning of government policies, guidelines, schemes and programmes in India. The overarching term used in India and in many countries of South and South East Asia is Disaster Management. The Act defines ‘disaster management’ as “*a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for- (i) prevention of danger or threat of any disaster; (ii) mitigation or reduction of risk of any disaster or its severity or consequences; (iii) capacity-building; (iv) preparedness to deal with any disaster; (v) prompt response to any threatening disaster situation or disaster; (vi) assessing the severity or magnitude of effects of any disaster; (vii) evacuation, rescue and relief; (viii) rehabilitation and reconstruction.*” UNISDR Terminology does not define ‘disaster management’; it uses the term ‘disaster risk management’ which is defined as “the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster”. This definition does not explicitly include ‘response’ and ‘relief’, which occupy important place in Indian definition despite the ‘paradigm shift, from the erstwhile relief-centric response to a proactive prevention, mitigation and preparedness-driven approach’ as announced in the National Policy.³ It would be pertinent to note the difference of meanings of some of the terms in the Disaster Management Act of India and the UNISDR terminologies:

Disaster Management Act 2005

Capacity-building includes—(i) identification of existing resources and resources to be acquired or created; (ii) acquiring or creating resources identified under sub-clause (i); (iii) organisation and training of personnel and coordination of such training for effective management of disasters.

Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

Mitigation means measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation;

UNISDR Terminology 2009

Capacity development: The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions

Disaster: A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Mitigation: The lessening or limitation of the adverse impacts of hazards and related disasters.

² 2009 UNISDR Terminology, UNISDR Geneva, May 2009

³ National Policy on Disaster Management, National Disaster Management Authority 2009.

Preparedness means the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof.

Reconstruction means construction or restoration of any property after a disaster.

Not defined

Preparedness: The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

Recovery: The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.

Disaster Risk Reduction: The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

ABBREVIATIONS

CRF	Calamity Relief Fund
CWC	Central Water Commission
DDMA	District Disaster Management Authority
DM	Disaster Management
DRM	Disaster Risk Management
FC	Finance Commission
GAR	Global Assessment Report
GFDRR	Global Facility for Disaster Reduction and Recovery
HFA	Hyogo Framework for Action
IDRN	India Disaster Resource Network
IDKN	India Disaster Knowledge Network
IMD	India Meteorological Department
INCOIS	Indian National Centre for Oceanic Information Services
ISRO	India Space Research organisation
MHA	Ministry of Home Affairs
NCCF	National Calamity Contingency Fund
NIDM	National Institute of Disaster Management
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Fund
NDRF	National Disaster Response Force
SDMA	State Disaster Management Authority
SDRF	State Disaster Response Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UT	Union Territories

EXPLANATIONS ON CURRENCY, UNITS AND EXCHANGE

Rupee is the monetary unit of account in India. It is abbreviated as Re. (Singular), Rs. (Plural). Recently the Government of India has adopted the symbol ₹ as the sign of Rupee. But in all budget documents for the study period (2005-06 to 2011-12) Rs. has been used and therefore the same is used in the study.

Crore (abbreviated as Cr.) is the unit in the Indian number system equal to ten million (10,000,000). Lakh is equal to one hundred thousand (100,000). Both these units are used in budget documents and the same is used in the study.

The value of Indian Rupee fluctuates in foreign exchange market. Currently the value has been fluctuating around US\$ 50 for 1 Rupee. The same has been used for purpose of analysis in this study.

EXECUTIVE SUMMARY

The Hyogo Framework of Action (HFA) has prescribed 5 Priorities for Action structured around 15 key activities and 62 sub-activities for building the resilience of nations and communities to disasters. While these activities are meant to be performed by a multiple stakeholders at all levels, it is the national governments that play the key role in allocating resources for the implementation of the laws, regulations, policies and programmes for disaster risk reduction. Our information and understanding about the quantum and nature of investments that national governments make on disaster risk reduction (DRR) and the impact that such investments are creating in reducing the risks of disasters, particularly in the developing countries, is inadequate. The Global Assessment Report (GAR) 2009 had reported that DRR resources still heavily depended on bilateral and multilateral assistance, while GAR 2011 informs that less than one country in five could describe the percentage of their national budgets assigned to disaster risk management.

The existing budgetary processes and national accounting systems do not generate enough disaggregated data on the basis of which realistic assessments could be made about the resources that are allocated for the development and implementation of disaster risk management laws, regulations, policies and programmes across all relevant sectors and at all levels of governance. Clearly systems, processes and methodologies should be developed which would enable governments at the national, provincial and local levels to assess the resources available from different sources for disaster risk reduction, determine *inter se* priorities in allocation of resources, identify the critical gaps, track the devolution of resources from the national to the local levels and evaluate the impact of such investments in reducing the risks of disasters.

This study looks into the systems and processes of public investments on disaster management in India through an analysis of the budgets of the national government for the period 2005 to 2011. The **objective** of this exercise is to understand the trend and types of public investments on disaster reduction, examine how resources are allocated and devolved to the provincial and local governments, and finally identify the critical gaps in investments to recommend measures for better classification, accounting and tracking of investments for disaster risk reduction.

The study explores existing **methodologies** for tracking public investments by national governments on three contemporary cross-cutting issues of developmental, namely gender, climate change adaptation and millennium development goals and suggests that the best way to identify, classify, analyze and track national government investments for disaster risk reduction is to look directly into the schemes and programmes of the government across all sectors, classify them in two broad categories of *dedicated* and *embedded* schemes, analyze the trend and pattern of such investments, identify the critical gaps and recommend measures for addressing these gaps mainly through mainstreaming disaster risk reduction in development.

The study explains the **systems and processes of public investments in India** at national, provincial and local levels of governance, as per the constitutional and legal system of India, with particular reference to the role of Finance Commission which decides the devolution of funds from the national to the state governments and the Planning Commission which prepares the five yearly and annual development plans for the country.

The **awards of the Finance Commissions** on disaster management since the inception are examined. Various mechanisms and norms recommended by successive Finance Commission for allocating and devolving fund to the State governments for disaster management are reviewed. The limitation of these mechanisms in addressing the needs of long term recovery and reconstruction and of disaster risk reduction are noted.

The **approach of the Planning Commission** on disaster risk reduction since the Tenth Five Year Plans is reviewed. Mainstreaming disaster reduction remains the focus of the planning body since 2002, but this approach has not much tickled down to the plan schemes and programmes in different sectors of development.

The existing system of **coding of budgetary allocations** and expenditure and tracking of government expenditure are analyzed and the data sources available on public investments on disaster risk reduction are explored. It is found that budgetary allocations on disaster relief and rehabilitation are explicit and have been coded to the details whereas similar coding are not available for allocations and expenditure on disaster risk reduction which are dispersed and disguised in numerous schemes and programmes. Therefore exact quantification of allocation and expenditure on disaster risk reduction is not possible within the existing framework of budgetary control and coding.

In this backdrop, the entire gamut of schemes and programmes of the various Ministries and Departments of the Union government are reviewed to identify the schemes that have relevance for disaster risk management. The schemes so identified are grouped in two generic classifications – the **dedicated schemes on disaster management** and the embedded schemes on disaster risk reduction. The dedicated schemes are those schemes and programmes of the government on which hundred per cent of the allocations are earmarked for disaster management. Scanning through the hundreds of items of expenditure under different schemes and programmes of all the Ministries and Departments of the Union government, we could identify 37 schemes of 8 Ministries/ Departments that are exclusively dedicated to disaster management. The total financial allocations on these schemes and programmes in the budget of 2011-12 are Rs. 11708.47 Cr., which is equivalent to USD 2341.69 millions. This works out to 0.94 per cent of the Union Budget and 0.1 per cent of the GDP.

The number of dedicated schemes on disaster management has increased from 17 in 2005-06 to 37 in 2011-12 even though only 8 out of 75 Ministries/ Departments of Union government have initiated dedicated schemes on disaster management. It can be expected that as the Ministries/ Departments complete preparation of disaster management plans in the respective sector, which is mandated under the Disaster Management Act, new sector specific dedicated schemes shall be developed. The Working Group on Disaster Management has recommended launch of 9 new dedicated schemes on disaster management with total investment plan of Rs. 9500 Cr. during the Twelfth Plan period of next five years. Once approved these projects would be expected to augment significantly the quantum of investments on dedicated schemes.

As it exists today the focus of dedicated schemes on disaster management is overwhelmingly on disaster response and relief. The allocations on the twin flagship schemes of Calamity Relief Fund and National Calamity Contingency Fund (now christened as State Disaster Response Fund and National Disaster Response Fund) together constitute Rs. 9436.7 Cr. in the Union budget of 2011-12. This constitutes 80.5% of the total allocations on dedicated schemes. The Twelfth Finance Commission has further augmented the allocations on SDRF to Rs. 33,581 Cr. for the fiscal cycle 2010-15, averaging Rs. 6716.18 Cr. per annum. Besides the Union budget made a provision of Rs. 4525 Cr. on NDRF for the year 2011-12.

The pattern of investment on dedicated schemes shows that nearly 84 per cent of the allocations are on HFA Priority-5: *Preparedness for Effective Response*. These include specific allocations on response, relief, rehabilitation and reconstruction. This is in accordance with the global trend – allocations on disaster response and relief are mostly controlled by the response agencies and therefore these are more conveniently located and centralized in dedicated schemes that are easily identifiable and focused and can be operated conveniently by the response agencies. Contrarily allocations on risk reduction are more dispersed and decentralized across multiple sectors and therefore these are embedded in multiple schemes.

What is striking is substantial investment of Rs. 1579.17 Cr., equivalent USD 315.83 millions on Priority-4: *Reducing the Underlying the Risk Factors*. This is likely to go up substantially in the coming years as a number of mitigation projects that are already on the pipeline would become operational.

Decoding the **embedded schemes** from the perspectives of disaster risk reduction is much more complex as most the schemes were formulated without any direct objective of risk reduction but the nature of the schemes are such that it has elements which serve to promote the cause of risk reduction. Looking at the scope and objectives of the plethora of schemes and programmes of various Ministries/ Departments of Government of India we could identify 85 schemes that have the potential for reducing the risks of disasters. The total allocations on these schemes for the year 2011-12 are Rs. 396272.26 Cr., which works out to 32.02% of the total budget of Government of India. This by no means suggests that the entire amount is spent exclusively on disaster risk reduction; this only means that some parts or elements of these allocations have the potential for risk reduction.

The Plan and Non-Plan schemes, with elements of disaster risk reduction embedded in them, may be broadly classified in at least five different types:

- a. Schemes that promote research and provide services for assessment, analysis and early warning of hazards and risks in different sectors;
- b. Schemes that seek to provide education and skill and enhance information and awareness to promote a culture of resilience among communities;
- c. Schemes whose objectives are to mitigate the risks of disasters;
- d. Schemes that are directly targeted to reduce social and economic vulnerabilities;
- e. Schemes that reduce the burden of payment on producers and consumers in certain sectors, which include a large sections of vulnerable population.

In terms of HFA Priorities, almost 80% of the total allocations on embedded schemes are in the nature of HFA Priority 4: *reducing the underlying risk factors*. Nearly 3.5% of the allocations are on schemes that are close to HFA Priority 2: *identification, assessment and monitoring of disaster risks and enhancing early warning*, while a significant 16.3% are allocated on schemes related to HFA Priority 3: *use knowledge, innovation and education to build a culture of safety and resilience at all levels*. This is contrary to the general findings in the Global Assessment Reports that governments tend to invest less on risk reduction. It may be necessary to look beyond the nomenclature or declared objectives of the schemes to discover the elements that do help to reduce the risks of disasters directly or indirectly. If the droughts in India do no longer kill people in millions as it used to during the pre-independence period this can only be attributed to distribution of food grains at an affordable price to the vulnerable sections of the community all over the country. Therefore subsidies on food grains have directly contributed to the '*substantial reduction of disaster losses in lives*' which is the declared expected outcome of the Hyogo Framework of Action. Similarly, the Mahatma Gandhi National Rural Employment Guarantee Act provides livelihood security to people in rural areas by guaranteeing hundred days of wage-employment in a financial year to every adult member who volunteers to do unskilled manual work. This has provided valuable livelihood security to rural households who are affected by natural disasters at regular intervals. It is essential to capture such investments for reducing the underlying vulnerabilities of people, which budget analyses of DRR have generally tended to ignore.

Budget documents per se do not provide much information on the quantum and nature of all **sectoral investments on DRR**, as many embedded investments are not very explicit and remain hidden under broader plans and objectives of the schemes. It is necessary to unveil and capture the details of such sectoral initiatives under different nomenclatures that contribute to reduction of risks of disasters. It is only through detailed sectoral analysis that it would be possible to locate the exact investments, quantify

them properly, identify the gaps and take corrective measures to address the gaps. It is beyond the scope of this study to conduct such sectoral analysis, which can be meaningfully undertaken only through the involvement and participation of the concerned stakeholders in each sector.

There should be an institutionalized system for conducting such sectoral analysis on a regular basis. The model of gender budgeting shall be the most appropriate for this purpose. Ministry of Finance being the nodal authority on budget may make it mandatory for each Ministry/ Department to set up a cell on disaster management (such cells are already in existence in many Ministries). One of the functions of the cell would be carry out analysis of the investments made on DRR by the Ministry and the agencies under its control, quantify them and assess the impact of such investments. Such analysis may be conducted under the guidance of the NDMA which may lay down general and sector specific guidelines for this purpose. Results of such analysis should be incorporated in the Outcome Budget of the Ministry, for which the Ministry of Finance may lay down detailed operational guidelines. Such a step would not cost any additional expenditure for the government, but it would help to set up a system which would generate very valuable information on a regular basis regarding all ongoing investments on disaster management in each Ministry.

Trends of investment on disaster management in the State and Local governments are analyzed and it is found that very few State and Local governments are in a position to allocate budgetary resources of their own for disaster management over and above the contributions they have to make for their share of central schemes and programmes. During 2010-11 the Budgets of all the 28 States put together amounted to Rs. 1174585 Cr., of which the States own revenue was Rs. 529,289 Cr. (45.06%). The central allocations on disaster response and relief were not found adequate for the States which had to divert funds to the tune of Rs. 10746 Cr. from other plan and non-plan schemes mainly to finance the needs of long term reconstruction and recovery that is not provided in any of the central schemes.

Overall impacts of investments made on disaster management over the years are clearly visible. A legal and institutional set up has been established and policies and guidelines for holistic management of various types of natural and manmade disasters have been formulated. This has set in motion demands for allocation of funds for disaster risk reduction across sectors. Scientific assessment and analysis of hazards, risks and vulnerabilities have undertaken, at least at the macro and meso levels, for all natural hazards and microzonation of risks have been initiated for major natural hazards. Early warning systems for various types of disasters have been developed. Knowledge and education on disaster risk reduction has been introduced in the curriculum of school, university and professional education. Community based disaster risk management programme has been implemented in most of the multi-hazard districts. National Cyclone Risk Mitigation Project has been launched recently and similar projects for earthquake, flood, landslide etc are on the anvil.

Strong institutionalized arrangements for allocation of funds for disaster management are already in place. Sizeable allocations are being made for disaster response, relief, rehabilitation and early recovery, which have helped to reduce the loss of lives and property during disasters. India is also investing huge amounts for social and economic developments across many sectors, which have significantly reduced the vulnerabilities of poor people to the recurring hazards of nature.

The Disaster Management Act 2005 and the National Policy on Disaster Management 2009 have laid considerable emphasis on mainstreaming as the key strategy for risk reduction. Not much effort in mainstreaming disaster risk in various sectors of development has been made, but there are tremendous scopes and huge challenges in mainstreaming. The future success of reducing the risks of disasters would depend on a large extent how the critical needs of prevention, mitigation and preparedness are built into the process of development across all sectors.

Based on the key lessons learnt from our case study on India we recommend a **framework and a methodology on the classification, allocation and tracking of government expenditure**

on disaster management, which may be applied with suitable local modifications to understand the nature and trend of public investments on disaster risk management in any country. This methodology is simple step by step approach of the six steps as outlined below:

- a. List all the schemes and programmes of all the Ministries and Departments of national government and compute the allocations on revenue and capital head of each scheme and programme. In most of the countries this information is available in the budget document itself.
- b. Identify the schemes and programmes that have some relevance for disaster risk management and classify them in two broad categories: (a) *Dedicated* Schemes on which hundred percent of the allocations are on disaster management/ disaster risk reduction; and (b) *Embedded* Schemes on which allocations are less, but which contain elements that have potential for disaster risk reduction.
- c. Compute the total allocation of fund under both *dedicated* and *embedded* schemes and measure the allocations as percentage of total budget and also as percentage of the Gross Domestic Product of the country.
- d. Classify the allocations under both *dedicated* and *embedded* schemes in terms of the HFA Priorities of Action. In the first level of classification only the five priorities of action are considered, while in the second level the activities and sub-activities of the each of the priority of action shall be considered. The second level analysis would be rather complex as many allocations would not be explicit and there would be overlapping of allocations on number of activities and sub-activities.
- e. Track the funds that are devolved or transferred from the national to the provincial and local governments under both *dedicated* and *embedded* schemes
- f. Identify the critical gaps in investments across all sectors and initiate measures for addressing these gaps.

Based on this analysis the investment decisions may be reviewed and more vigorous efforts initiated for mainstreaming disaster risk reduction in development across all sector for optimising the impact of such investments.

I. INTRODUCTION

The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters adopted at the World Conference on Disaster Reduction in January 2005 by 168 participating countries provides the most comprehensive framework for reducing the risks of natural disasters around the world. The framework has prescribed 5 *Priorities for Action* structured around 15 key activities and 62 sub-activities. While these activities and sub-activities have to be performed by a multiple of stakeholders at all levels, it is the national governments that have to play the key role in the implementation of the framework. The efforts of the national governments shall be determined obviously by their commitments, capacities and priorities, but in the final analysis a lot would largely depend on the resources that are allocated for the ‘*development and implementation of disaster risk management policies, programmes, laws and regulations on disaster risk reduction in all relevant sectors and authorities at all levels of administrative and budgets on the basis of clearly prioritized actions*’.⁴

Unfortunately constraints of resources have remained one of the important factors that have impeded the implementation of the HFA. The biennial Global Assessment Report on Disaster Risk Reduction 2009 reported that hardly a few countries around the world have provided dedicated and adequate resources for disaster risk reduction, which still heavily depends on resources from bilateral and multilateral cooperation on short term stand alone project or programme modalities that generally do not facilitate its institutionalization or sustainability.⁵ Global Assessment Report 2011 reported that less than one country in five could describe the percentage of their national budgets assigned to disaster risk management, indicating that allocating dedicated resources remains the exception and not the norm.⁶ The Mid Term Review of the HFA found that only 20 countries had dedicated budget allocations to local governments for disaster risk management even though 65% of all countries have made local governments legally responsible for the same.⁷

There is very little information and understanding about the quantum and nature of public investment on disaster risk reduction by the national governments, particularly in the developing countries and the impact that such investments have in reducing the risks of disasters. The existing national accounting systems and budgetary processes do not generate enough of disaggregated data on the basis of which realistic assessments could be made about the resources that are allocated for the development and implementation of disaster risk management policies, programmes, laws and regulations in all relevant sectors and at all levels of governance and administration. Clearly systems, processes and methodologies should be developed which would enable governments at the national, provincial and local levels to assess the resources available from different sources for disaster risk reduction, determine *inter se* priorities in allocation of resources across sectors, identify the critical gaps in each sector, track the devolution of resources from the national to the local levels and evaluate the impact of such public investments in reducing the risks of disasters.

While it is the prerogative of the national governments to develop these systems and processes according to their constitutional, legal and administrative arrangements, it is imperative to facilitate the

⁴ Hyogo Framework of Action 2005-2015: Building the Resilience and Commitments to Disasters, Priority Action I (ii) (f).

⁵ 2009 Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate- Invest Today for a Better Tomorrow, p-123.

⁶ 2011 Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development, p-82.

⁷ Mid-Term Review 2010-11 of Hyogo Framework for Action: Building the Resilience of Nations and Communities to Disasters, P-23.

study of the existing systems of classification, measurement and accounting of public investments for disaster risk reduction in selected countries to have in depth understanding of the system, learn from the cross country experiences and global best practices and develop a set of guidelines and indicators and a model framework for allocating and tracking public investments on disaster risk reduction. The present study intends to make such an analysis in the specific contexts of India.

A. Contexts of India

India is the second most populated country of the world. Layers of hazards, vulnerabilities and risks have made India one of the most disaster prone countries. As per the global database of disasters, India ranks third in terms of disaster events, second in mean annual number of victims (people killed and affected) per hundred thousand inhabitants and ninth in terms of economic damages due to disasters.⁸ A World Bank study had indicated that India may well be losing 2.15 percent of its GDP on account of natural disasters,⁹ which is significant considering that the country invests less than 2 percent of its GDP on public health infrastructure and facilities.

India is also the largest democratic country in the world with a constitutional commitment to establish a socialist republic. The country invests enormous resources on subsidizing food grains for the poor, guaranteeing employment to the rural poor, running mid-day meal for the school children and administering a plethora of social welfare schemes. The country has also established an institutionalized system of devolving resources from the national to the State governments for disaster response and recovery. The cumulative effects of all these measures have served to reduce the vulnerabilities of people, which are reflected in the declining fatalities in disasters, particularly hydro-meteorological disasters like drought, flood, cyclone etc.

India has developed strong legal and institutional systems for disaster management at national, provincial and local levels. The Disaster Management Act 2005 provides for setting up of Disaster Management Authority and constitution of Disaster Response and Disaster Mitigation Fund at the national, state and local levels. India has put in place a sound and comprehensive techno-legal regime to regulate construction of housing and infrastructure projects in hazardous areas, although the process of implementation and enforcement of the regulations have been tardy. India is also in the process of developing a techno-financial regime for regulating bank and insurance finance for risk reduction. The country has improved the early warning systems for various types of natural disasters and is using space and information and communication technology for risk assessment and analysis for effective preparedness and response. India has also laid considerable emphasis on education, training and public awareness for developing capacity for disaster risk reduction at all levels.

The national government has increased its investments on dedicated schemes for risk reduction, while efforts are being made for mainstreaming disaster risk reduction in development across sectors. It is relatively easy to assess the quantum of investments on dedicated schemes, but is not so easy to make such assessments in respect of schemes where risk reduction is embedded in development. This is even more difficult in the 28 federating States as hardly a few State governments have dedicated schemes of their own for disaster risk reduction. They depend almost entirely on central allocations. As we go further down the system to the local governments – more than hundred thousand rural and five

⁸ Thirty Years of Natural Disasters 1974-2003: The Numbers, Centre for Research on the Epidemiology of Disasters Louvain, 2004.

⁹ The World Bank, Financing Rapid Onset Natural Disaster Losses in India: A Risk Management Approach, 2003.

thousand urban local bodies – data scarcity becomes even more acute, making public invest analysis even more difficult and complicated.

B. Issues and Objectives

In the context of the difficulties and challenges outlined above, this study would look into the complex methodological issues of analyzing and tracking public investments on disaster risk management. The study would draw lessons from the methodologies applied for tracking similar cross-cutting and multi-level public investments, such as gender mainstreaming, millennium development goals and climate change adaptation.

The study would look into the existing systems and processes of public investments in India and examine the awards of Finance Commissions and approach of Planning Commissions - the two overarching institutions that decide the principles and framework for allocation of public investments in India. The study would scan the policies, plans and initiatives on disaster risk management and disaster risk reduction at the national, provincial and local levels of governance in the country.

The study would further classify the schemes, programmes and projects of various Ministries and Departments of Government of India into two broad categories: (a) *Dedicated Schemes* where hundred per cent investments are on disaster management and/or disaster risk reduction and (b) *Embedded Schemes* which have significant features and components that can contribute to the assessment, analysis and warning of hazards of nature and reduction of vulnerabilities and risks and of disasters. Quantum of investments on both dedicated and embedded schemes and programmes disaster risk reduction during 2005-2011 shall be computed and the pattern and trends of such investments shall be analyzed.

The study would further assess the overall impact of such investments and identify the critical gaps in both dedicated and embedded schemes that would need to be addressed and streamlined. Based on this analysis a framework for allocating and tracking public investments on dedicated and embedded schemes on disaster risk reduction in India shall be developed for consideration.

II. METHODOLOGY

The existing literature on the classification, measurement, tracking and accounting of public investments on disaster risk reduction is extremely scanty. The much publicized World Bank study *Natural Hazards, Unnatural Disasters: the Economics of Effective Prevention*¹⁰ and the background work of over seventy experts and two dozen institutions that it preceded¹¹ stopped short of looking at the core issues of public finance for disaster risk management. The findings of the study that prevention is both possible and cost-effective and that resources for prevention can often be embedded in the budget of the projects, such as the design of infrastructure etc are important, but the study did not systematically explore how such integration can be achieved across sectors within the systems and processes of governance and public finance. The four main policy recommendations of the study¹² rather placed emphasis on the market forces for solution: (a) make information available on hazards and risks and thereby enable risk reduction to be reflected in the pricing of land, property and insurance; (b) permit land and housing markets to work freely to provide incentives for investment on maintenance and improvements; (c) ensure that adequate infrastructure and public services are provided by government; and (d) permit public oversight over institutions. No doubt market can correct many distortions and improve efficiency in the systems, but it may not be an answer to imbalances and exclusions that expose large sections of people to disasters. Therefore budgetary interventions are necessary for reducing risks of disasters.

The UNISDR study on *Effective Financial Mechanisms at the National and Local Levels for Disaster Risk Reduction*¹³ reviews the principles and practice of Public Expenditure Management (PEM) and applies these to the context of financing and investment on disaster risk management at national, local and community levels. The study concludes that ‘public resource allocation is influenced by conflicting plans, policies, and pressures extant during the bureaucratic process of preparing budget proposals and the political process of approving them’. In this competing environment the best way to raise the demand for disaster risk reduction is to create institutions, assign functions and weight to the institution, develop regulatory frameworks and coordinating plans and create projects that would leverage funds from the budgetary process. The key lesson of the study is that ‘supply’ of public finance would not be forthcoming unless ‘demands’ are pitched by institutions from within the system. Where such institutions are not available, it would be good policy to create such institutions at strategic locations within the governance system and vest them with powers and functions that would receive priority for allocation of resources.

In this perspective the HFA Priority-1 for ‘creation and strengthening of national institutional and legislative framework’ is significant, but as the Global Assessment Reports on 2009 and 2011¹⁴ have shown, creation of new institutions in most of the developing countries have not necessarily facilitated allocation of additional resources for disaster risk reduction. This raises the key issue that when resources themselves are scarce, the manipulative capacity of bureaucratic-political process for altering the pattern of allocation gets limited. Therefore the alternate strategy of ‘mainstreaming disaster risk

¹⁰ The World Bank , 2010

¹¹ <http://www.gfdr.org/gfdr/node/284>

¹² . Pages 3-8.

¹³ Paper written for the Mid-Term Review of the HFA by David Jackson of the United Nations Capital Development Fund, January 2011.

¹⁴ Risk and Poverty in a Changing Climate: Invest Today for a Safer Tomorrow, GAR 2009, page-123; Revealing Risk, Redefining Development, GAR 2011, page-82.

reduction in development', which are inherent in all the five priorities of action of the HFA, assumes importance.

Mainstreaming is the key process which involves¹⁵ (a) identification of the existing systems, processes, schemes and programmes in each sector that can have a potential role for risk reduction; (b) review of how such role is being performed at present; (c) analysis of the shortcomings and critical gaps; (d) prescription of how such gaps can be addressed within the framework of the systems and processes; (e) suggestion of changes in the systems or processes by way of additions, amendments or revisions that can optimally utilize the available resources; (f) evaluation of impact of these changes. These six-fold processes of mainstreaming involve very comprehensive and incisive exercise within each sector with complete participation of all the stakeholders. The budgetary allocations within each sector can be revised, re-appropriated or supplemented on the basis of such exercise. Unfortunately there are very few examples of such comprehensive sectoral analysis of mainstreaming DRR in development in most of the countries. India is no exception.

This makes the analysis of public investment on DRR a difficult task and calls for innovative methodologies to deal with a canvass that is simultaneously too large and too small - large as it looks at public investments on disaster risk reduction across all sectors; small as sector specific information on the needs and gaps of investments are limited. In this context it may be relevant and worthwhile to look at how public investments on other wide ranging cross-cutting issues have been studied. Here we will look at the methodologies developed for studying public investments on three multi-sectoral issues of contemporary importance – gender, millennium development goals and climate change.

A. Gender Budgeting

Gender discriminations in societies are pervasive and public policy interventions to correct the situation have ranged from affirmative discriminations in favour of women to designing special programmes across different sectors for the welfare, development and empowerment of women. Despite such interventions the discriminations have persisted and shockingly public investments have shown biases against women. Therefore the concept of gender budgeting was advocated by economists to analyze the revenue and expenditure of government to see whether these are adequate to meet the needs of women or whether these are causing further discriminations against women¹⁶.

The principles and practices of gender budgeting are followed in different ways. The United Nations has advocated a Five Step Framework for Gender Budgeting¹⁷, which is somewhat similar to the six-step process for mainstreaming DRR in development. These are: (a) analysis of the situation of women and men and girls and boys in a given sector; (b) assessment of the extent to which the sector's policy addresses the gender issues and gaps; (c) assessment of the adequacy of budget allocations to implement the gender sensitive policies and programmes; (d) monitoring whether the money was spent as planned, what was delivered and to whom; (e) assessment of the impact of the policy/ programme/ scheme and the extent to which the situation has changed in the direction of greater gender equality.

The usefulness of such sector specific situational analysis is well established; but cross-sectoral analysis of public finance from gender perspective would require application of different tools. Most of the countries that have adopted gender budgeting use the sectoral studies to prepare an annual statement

¹⁵ Charlotte Benson and John Twigg, Tools for Mainstreaming Disaster Risk Reduction-Guidance Notes for Development Organizations, ProVention Consortium, January 2007.

¹⁶ Debbie Budlender and Hewitt Guy, A Practitioners' Guide to Gender Budgeting: Understanding and Implementing Gender responsive Budgets, London 2003; Diana Elson, Gender responsive Budget Initiatives: Key Dimensions and Practical Examples, 2002

¹⁷ UNIFEM-UNFPA, Gender Responsive Budgeting-Resource Pack, 2006.

which is either appended to the budget itself or issued separately by organizations responsible for the same. In Australia which pioneered in gender budgeting a Women's Budget Statement is appended with the federal and many state budgets. The statement is based on compilation of statements from each Ministry on what their budget meant for women. In South Africa, the Women's Budget Initiative (WBI) has been set up by the Parliamentary Committee on Finance to analyze the budget of all major departments. In United Kingdom Women's Budget Group (WBG) which is an independent group of professional economists and policy analysts works with the Cabinet Office's Women and Equalities Unit to conduct studies and analysis to examine how taxation and expenditure affect men and women differently and what measures are necessary to correct the imbalance and inequities, if any. In Philippines Gender and Development Budget (GAD) is led by the National Commission on the Role of Filipino Women.

India has institutionalized Gender Responsive Budgeting with the process of budget making itself at the national level. Every Department is required to prepare a Gender Budget Statement on the basis of a two-category format: (a) schemes/ programmes in which 100% allocations are meant for women; (b) schemes/ programmes in which 30 to 99% allocations are meant for women. Further each Department has to prepare an Outcome Budget which would detail how policy initiatives and programmes relate to outputs and final outcomes in a range of areas, including gender empowerment. Ministry of Finance has issued a Charter for Gender Budget Cells which makes it obligatory for each Department to set up such cells to conduct/ commission studies/ performance audit of the schemes/ programmes from gender perspective.

The lessons from the methodology of gender budgeting are that detailed sectoral analysis has to be undertaken by experts within the government or outside, but a mechanism has to be institutionalized within the government to concurrently review what resources are being spent, how it is spent, what impact it creates and what needs to be done further to improve the situation.

B. Millennium Development Goals

The Millennium Declaration of the United Nations set 2015 as the time-line for achieving eight Millennium Development Goals (MDGs), which provide quantitative benchmarks for eradication of extreme poverty, hunger, illiteracy and diseases apart from achieving gender equality and empowerment of women, environmental sustainability and global partnership for development¹⁸. To monitor progress towards the goals and targets, the UN system, including the World Bank and the International Monetary Fund developed a set of 48 quantitative indicators. Five main criteria that guided the selection of indicators are: (a) provide relevant and robust measures of progress towards the targets of the MDGs; (b) be clear and straightforward to interpret and provide a basis for international comparison; (c) be broadly consistent with other global lists and avoid imposing an unnecessary burden on country teams, Governments and other partners; (d) be based to the greatest extent possible on international standards, recommendations and best practices; and (e) be constructed from well-established data sources, be quantifiable and be consistent to enable measurement over time. The UN Statistical Division developed guidance notes on the definitions, rationale, concepts and sources of data for each of the indicators used to monitor the goals and targets¹⁹. The monitoring of the MDGs takes place globally, through annual reports of the UN Secretary-General to the General Assembly and periodic country reporting.

¹⁸ <http://www.un.org/millenniumgoals>

¹⁹ The United Nations Development Group, Indicators for Monitoring the Millennium Development Goals: Definitions, Rationale, Concepts and Sources, 2003.

Although MDG monitoring is a complex exercise which is cross-cutting and multi-sectoral, the focus is clearly on the impact rather than on the process and much less on the process of public investment. The only comparable tool that has some relevance for public investment is related to MDG Goal 8 on Global Partnership for Development which has a target to develop an open, rule-based, predictable, non-discriminatory financial system. The twin indicators developed for monitoring the progress of the target is also rather simple – (a) net ODA to the least developed countries, as a percentage of OECD/DAC donors' gross national income and (b) proportion of total ODA to basic social services (basic education, primary health care, nutrition, safe water and sanitation). These are simple statistical analysis of information available from clearly identified sources. Therefore there are not many lessons from MDG methodology that are relevant for tracking budgetary allocations for disaster risk reduction except that how such major monitoring exercises involving so many countries and agencies are organized within definite time limits despite the constraints of data sources.

C. Climate Change Adaptation

In the recent past attempts have been made by several countries to estimate public investments across sectors on climate change adaptation. India's National Action Plan on Climate Change announced that 'current government expenditure on climate variability exceeds 2.6% of the GDP with agriculture, water resources, health, forests, coastal zone infrastructure, health and sanitation, and extreme weather events being areas of concern'²⁰. The methodology adopted for conducting the study would be of relevance for tracking public expenses on disaster risk reduction. First, the schemes/programmes of different Ministries/ Departments of Government of India were identified as per their orientation and relevance for climate change adaptation. For establishing baseline criteria for identification, seven critical adaptation components were selected: (a) crop improvement and research, (b) poverty alleviation and livelihood preservation, (c) drought proofing and flood control, (d) risk financing, (e) forest conservation, (f) health (g) rural education and (h) infrastructure. The approach in selection of the scheme was conservative as big incentive schemes like the food and fertilizer subsidy which can enhance adaptive capacities were not considered.

Over the years, several new sectoral schemes were launched, while several others have been amalgamated and modified. Therefore, for the purpose of data standardization, it was necessary to benchmark a list of schemes that would hold good for all the years under examination. Hence two benchmark list of relevant schemes – those operational during the period 1997-98 to 2000-01, and the other set under implementation during 2001-02 to 2006-07. After scheme selection and benchmarking, the revised budget allocation towards the identified schemes for the study period (1997-98 to 2006-07) was tabulated. The total outlays of schemes were aggregated under each adaptation component to find out the expenditure incurred under each component during the review period. All these figures were finally aggregated to compute the total expenditure on all adaptation related programmes.

D. Suggested Methodology

The methodology employed for studying government expenditure on climate change adaptation is simple, transparent and easily verifiable and may be applied for the purpose of tracking public investment on disaster risk reduction. The schemes/ programmes may be identified as per their orientation for disaster management and disaster risk reduction and further classified as per the Priorities of Action of the Hyogo Framework of Action.

The lessons from gender budgeting may also be adopted to the extent that the schemes/ programmes may be classified in terms of total allocations under the scheme. When hundred per cent of the

²⁰ Government of India, National Action Plan on Climate Change, 2009, page 17

allocations on a scheme/ programme are on disaster management or disaster risk reduction these may be categorized as 'dedicated schemes', while the remaining schemes where allocations are less than hundred per cent but which contain elements of risk reduction may be classified as 'embedded schemes'. Further lessons from gender budgeting may be adopted to create disaster management cell within each department of the government. This cell can be made responsible for coordinating the programmes and activities for mainstreaming disaster risk management in the concerned sector on a continuing basis.

E. Tracking Public Investments

Ideally every investment made by the public authorities should be tracked down to its destination to see how much of these resources are reaching the target areas and population and what has been the net outcome and investments of such investments. Various quantitative and qualitative tools, such as monitoring actual flow of funds, interviewing users of public services about their experiences, assessing the accessibility and costs of public services etc have been employed, but application of such tools have been limited to specific programmes and limited geographical areas²¹. There is not a single application of such tools to country wide budgets of national governments or more specifically to disaster management. The AidData²² portal set up with collaborative efforts of a number of donor countries seeks to track development finance to the developing countries. The GFDRR is collaborating with AidData to develop a disaster aid tracking dashboard²³. The project envisages isolation and classification of all DRR projects of the donors in accordance with the HFA Priorities of Action. The system is still in an experimental stage and probably at a later stage the methodology can be considered for tracking public investments on disaster management by the national governments.

For the purpose of this study we would focus on the systems and processes of public investments in India, identify and classify the investments on disaster management, analyze the impacts of such investments and assess the challenges and the opportunities ahead. Based on our analysis we would develop a framework for classifying, measuring and accounting public investments on disaster risk reduction at the national level.

²¹ Dehn, J, Reinikka, R, & Svensson, J. *Survey Tools for Assessing Service Delivery* World Bank Development Research Group. Washington, D.C. (2002)

<http://citeseer.ist.psu.edu/cache/papers/cs/26199/http:zSzzSzecon.worldbank.org>

²² www.aiddata.org

²³ <http://gfdr.aiddata.org/dashboard/dashboard?showDisclaimer=true>

III. SYSTEMS AND PROCESSES OF PUBLIC INVESTMENT IN INDIA

India is a federal country. The Constitution of India has clearly delineated the jurisdictions, powers and functions of the Union government and the constituent State governments. The systems and processes for mobilization, apportionment, allocation and investment of resources of the Union and State governments have also been detailed in the Constitution and the laws and rules framed there under.

A. Finance Commissions

The Union and the State governments have the powers to levy and collect taxes and duties in their respective jurisdictions. The Union taxes cover most of the elastic and buoyant sources of revenue such as income tax, corporate tax, custom duty, excise duty etc. The Constitution has provided that the net proceeds from such taxes shall be shared between the Union and the States and the principles that should govern the distribution as also the devolution of grants-in-aid from the Consolidated Fund of India to the States shall be decided on a five yearly basis by the Finance Commission. So far thirteen such Finance Commissions have given their awards²⁴ and all of them, starting from the second, recommended that specific amounts shall be allocated by the Union government to the States for disaster management. The pattern and trend of Finance Commission allocations on disaster management over the years are analyzed in Chapter- 4.

The Constitution of India was amended in 1992 to formally recognize the rural and urban local governments as the third tier of governance in the country²⁵. The amended provisions defined the jurisdictions, powers and functions of the local governments and made provisions regarding the mobilization and devolution of resources to these bodies. This includes the provision regarding the constitution of State Finance Commission once in five years by the State governments, which would recommend the distribution of the net proceeds of State taxes to the rural and urban local bodies and devolution of grants-in-aid from the Consolidated Fund of the State to these bodies. Further the central Finance Commission was mandated to augment the Consolidated Fund of the State to supplement the resources of the rural and urban local governments. Finance Commissions have been awarding substantial amounts to be transferred each year to the local governments²⁶, but none of these awards of the central and the state finance commissions contained any specific recommendation on disaster management or disaster risk reduction.

B. Five Year and Annual Plans

India has embarked on the path of planned socio-economic development of the country and adopted the strategy of five year development plans to achieve this objective. The Planning Commission is responsible for assessing the resources of the country, augmenting deficient resources and formulating plans for the most effective utilization of the resources for the balanced growth and development of all the regions and sections of population. Eleven such development plans have so far been formulated and the Twelve Five Year Plan (2012-17) is currently under preparation. The approach and strategy of the

²⁴ A summary statement of the central revenues allocated to the Union and State governments by the successive Finance Commissions is provided in Appendix - .

²⁵ The local government in India includes Gram Sabhas, Gram Panchayats and Zilla Parishad in the rural areas and Municipalities and Municipal Corporations in the urban areas.

²⁶ Thirteenth Finance Commission awarded devolution of Rs. 87518 6 Cr. to the Local Governments during the fiscal cycle 2010-15.

five year plans determine the Annual Plan which contains the details of expenditure and allocations on the programmes and schemes of central Ministries and Departments and the central assistance that is provided to the States for implementation of various development programmes. Disaster risk reduction is embedded in many such programmes since the beginning, but the Tenth Five Year Plan (2002-07) for the first time recognized that risk reduction is an important issue for planned and sustainable development. The approach of the five year plans for disaster risk reduction is discussed in detail in Chapter- 5.

C. Annual Financial Statements

Public investments in India are decided through the process of ‘Annual Financial Statement’ or budget which reflects the policies and priorities of the government for the governance and development of the country. Each tier of government – union, state and local – prepares its annual budget for the financial year starting from 1st April and no expenditure can be incurred by the government unless the budget has been approved by the appropriate body of elected representatives of the people in each level of government. The budget gives a comprehensive picture of the revenue and expenditure of the governments. While revenue includes the resources generated through taxation, borrowings, grants, profits, transfers, devolutions and other miscellaneous receipts, expenditure is broadly categorized under two types – ‘revenue’ or the recurring expenses incurred on salaries, establishments and other fixed liabilities and ‘capital’ or the non-recurring expenses on projects, schemes, programmes etc for a fixed period. Both revenue and capital expenditure are further categorized under ‘Plan’ and ‘Non-Plan’ heads. The Plan heads include those items of expenditure that are approved by the Planning Commission for the planned development of the country. The Non-Plan heads mainly include expenses that are non-developmental nature. Normally all plan schemes and projects after implementation should be transferred to the non-plan budget for maintenance and recurrent expenses, but this does not always take place. Further many plan schemes contain items of expenditure that are non-plan in nature. Therefore the plan-non plan dichotomy does neither give any clear indication about the nature of the investments nor provide a comprehensive and holistic picture about such investments.

Plan and Non-Plan Dichotomy

The classification of expenditure into Plan and Non-Plan, although not rooted in the Constitution, has evolved with planning process. Over a period of time, several issues have cropped from the distinction between plan and non-plan, making it dysfunctional and an obstacle in outcome based budgeting. Therefore the distinction should go for both Union and State budgets. There should be a fundamental shift in the approach of public expenditure: from a one year horizon to a multi-year horizon; and from input based budgeting to the budgeting linked to outputs and outcomes’

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D. Union Budget

The Union budget includes the details of allocations and expenditure under Plan and Non-Plan heads of both Revenue and Capital budgets of all the Ministries and Departments of Union government, and transfers to the States and Union Territories, presented in the shape of Demands for Grants. An overview of the Demands of Grants of the Expenditure Budget of the Union Government for the financial year 2011-12 is provided in Appendix-I. A summary of budgetary allocations of the Union Government during the period 2005-06 to 2011-12 is shown in the table given below:

Table 1. Budget Allocations of Union Governments 2005-2011 (In Rs. Cr.)

Budget Allocation		Percentage Share			
Revenue/Capital	Plan	Non-Plan	Total	% Plan	% Non-Plan
2011-12					
Revenue	363603.41	733558.83	1097162.2	33.14	66.86

Budget Allocation			Percentage Share		
Capital	77943.34	82623.25	160566.59	48.54	51.46
Total	441546.75	816182.08	1257728.8	35.11	64.89
2010-11					
Revenue	315124.9	643599.02	958723.92	32.87	67.13
Capital	57967.09	92058.23	150025.32	38.64	61.36
Total	373091.99	735657.25	1108749.2	33.65	66.35
2009-10					
Revenue	278398.35	618833.6	897231.95	31.03	68.97
Capital	46750.65	76855.08	123605.73	37.82	62.18
Total	325149	695688.68	1020837.7	31.85	68.15
2008-09					
Revenue	209767.21	448351.79	658119	31.87	68.13
Capital	33618.29	59146.24	92764.53	36.24	63.76
Total	243385.5	507498.03	750883.53	32.41	67.59
2007-08					
Revenue	174353.69	383545.83	557899.52	31.25	68.75
Capital	30746.31	91874.68	122620.99	25.07	74.93
Total	205100	475420.51	680520.51	30.14	69.86
2006-07					
Revenue	143762.42	344429.93	488192.35	29.45	70.55
Capital	28965.43	46833.35	75798.78	38.21	61.79
Total	172727.85	391263.28	563991.13	30.63	69.37
2005-06					
Revenue	115981.49	330530.61	446512.1	25.97	74.03
Capital	27515.29	40316.41	67831.7	40.56	59.44
Total	143496.78	370847.02	514343.8	27.90	72.10
2005-12					
Revenue	1600991	3502850	5103841	31.37	68.63
Capital	303506.4	489707.2	793213.6	38.26	61.74
Total	1904498	3992557	5897055	32.30	67.70

Source: Compiled from the Expenditure Budget, Government of India, 2005-06 to 2011-12

Note: As per current exchange rate 1 Crore of Indian Rupees is equivalent to US\$ 200,000.

These Demands for Grants also include the resources transferred to the State governments under both Plan and Non-Plan Heads through the concerned Ministries/Departments of the Union government. The transfers under Plan heads take place for the implementation of a plethora of development schemes and programmes of various Ministries and Departments of the Union government. These plan schemes and programmes can be classified under three main categories: Central Sector Schemes which are funded hundred percent and implemented directly by the Union government with the assistance of State governments; Centrally Sponsored Scheme which are funded on a sharing basis by the Union and the State governments and implemented through the State governments; and Additional Central Assistance which are provided hundred percent by the Union government on the basis of certain conditions imposed under the schemes. A total amount of Rs. 1488147 Cr. was proposed to be transferred as Plan grants to the States and UTs by the Planning Commission during the Twelfth Plan (2007-12). A few of these schemes are dedicated to disaster risk reduction, while elements of disaster reduction are

embedded in many schemes. Detailed analysis of the 'dedicated' and 'embedded' schemes has been made in chapters 6 and 7 of this study.

E. State Budget

The State governments have their own budgets which follow the format of broad classification of revenue and capital and Plan and Non-Plan heads of expenditure in Union budget. The State governments mobilize their own resources through taxes, borrowings etc which is supplemented by fiscal transfers and plan assistance from the Union governments and releases made under various Central, Centrally Sponsored Schemes and Additional Central Assistance. For the purpose of plan assistance from the Union governments, the States are divided in two categories: Special and Non-Special. The Special Category States get the plan assistance as 90 percent grant and 10 percent loans, while for the Non-Special Category States the sharing formula is 70 percent loan and 30 per cent grants. Budget allocations of the State government for the year 2010-11 and the share of State's own resources to the total budget is provided in Table - 2. It may be noted that the Central plan assistance and non-plan transfers comprise a significant percentage of the budget estimates of the State governments. It is as high as 90 percent for some of the Special Category States.

Table 2. Budgets of State governments 2010-11 (In Rs.Cr.)

States	Budget Estimates			Own Tax Revenue	Central Tax Share	Own Non-Tax Rev	Central Transfer	Other Assistance
	Plan	Non-Plan	Total					
I. Non-Special Category States								
1. Andhra Pradesh	39,928	70,732	110,660	46,999	14,505	15,703	13,441	28,079
2. Bihar	20,000	33,759	53,759	10,644	23,600	1,207	11,784	35,678
3. Chhattisgarh	13,600	11,808	25,408	7,505	4,806	4,321	3,894	8,634
4. Goa	2,522	4,133	6,655	2,218	557	1,568	660	1,165
5. Gujarat	26,896	41,786	68,682	30,261	6,600	6,184	6,432	11,794
6. Haryana	11,864	23,091	34,955	16,469	2,194	3,549	2,329	4,851
7. Jharkhand	10,304	11,993	22,297	5,967	6,340	3,130	4,665	10,596
8. Karnataka	27,082	41,632	68,714	36,228	9,060	2,820	5,530	14,380
9. Kerala	8,048	34,068	42,116	20,884	4,826	2,314	3,157	8,318
10. Madhya Pradesh	21,939	31,490	53,429	18,670	11,047	4,322	9,404	21,233
11. Maharashtra	36,598	89,902	126,500	63,838	10,883	10,216	12,107	22,936
12. Orissa	12,902	26,094	38,996	10,360	10,004	3,166	7,915	17,544
13. Punjab	5,567	32,729	38,296	16,308	2,908	6,649	2,753	5,760
14. Rajasthan	14,709	39,639	54,348	19,021	12,252	4,976	6,215	17,871
15. Tamil Nadu	26,377	56,682	83,059	41,438	10,402	4,101	7,150	17,981
16. Uttar Pradesh	45,645	95,054	140,699	42,306	35,517	14,985	18,812	52,773
17. West Bengal	19,048	56,755	75,803	20,008	15,206	3,518	8,841	23,248
II. Special Category States								
1. Arunachal Pradesh	3,187	3,740	6,927	144	686	383	3,888	4,550
2. Assam	12,566	24,194	36,760	4,976	7,595	2,782	11,056	18,202
3. Himachal Pradesh	3,133	11,946	15,079	2,956	1,635	1,779	5,219	6,750
4. Jammu & Kashmir	7,901	17,687	25,588	3,505	2,911	1,307	14,939	17,801
5. Manipur	2,919	3,027	5,946	289	944	457	3,679	4,533
6. Meghalaya	2,582	2,348	4,930	462	854	261	2,817	3,635

States	Budget Estimates			Own Tax Revenue	Central Tax Share	Own Non-Tax Rev	Central Transfer	Other Assistance
	Plan	Non-Plan	Total					
7. Mizoram	1,317	2,261	3,578	118	563	166	2,406	2,949
8. Nagaland	2,349	3,586	5,935	203	657	166	4,328	4,914
9. Sikkim	1,713	2,307	4,020	211	500	1,275	1,599	2,066
10. Tripura	2,684	4,010	6,694	667	1,069	190	3,586	4,595
11. Uttarakhand	5,117	9,635	14,752	4,024	2,345	1,115	4,675	6,995
All States	388,497	7,86,088	1,174,585	426,679	200,466	102,610	183,281	379,831

Source: State Finances-A Study of State Budgets of 2010-11, Reserve Bank of India, 2011

F. Local Budgets

3842 Municipalities in the urban areas and 249918 Panchayats in the rural areas constitute the Local Governments of India. Consolidated data regarding the budgetary allocations of the local Governments are not available from any single source. Some of the large Municipal Governments publish their annual budgets, but for most of the rural and urban self-governing institutions such information are hardly ever available in public domain.

The local governments generate their own resources through property tax, toll tax and other local levies. Internal resources of a few local governments such as municipal corporations of mega cities like Brihanmumbai Mahanagar Palika (Greater Mumbai Municipal Corporation) are quite substantial, but for most the local government's internal resources are hardly ever adequate even for payment of salaries to the employees. Therefore the local governments depend on grants from the States, which take place either under general or specific devolution of funds from the States or share of Non-Plan grants or Plan assistance from the Union government for the implementation of various schemes and programmes within the jurisdiction of the local governments. For many local governments the share of Non-Plan grants and Plan assistance from the Union government constitutes the main resources for the development activities in their respective areas.

G. Extra Budgetary Public Investments

Most of the public investments in India are channelized through the budgetary processes of the Union, State or Local governments, but there are sizeable investments which are taking place through extra-budgetary channels such as investments of public sector companies, loans from financial institutions, domestic and foreign contributions to non-governmental organizations, trusts or other public bodies which work for public purposes. Various No clear estimates of the quantum of such assistance are available from any source, much less on disaster risk reduction. A recent study indicates that many private sector companies are investing resources on disaster risk management activities as part of their corporate social responsibility. Although most of such investments are focused on disaster relief, there are examples of innovative risk reduction programmes funded by the corporate houses²⁷.

H. External Assistance

Every external assistance to the Union and State governments in the shape of grants, loans, borrowings etc from multi-lateral financial institutions and under bi-lateral arrangements are routed through the mechanism of Union budget. During the financial year 2011-12 the Union budget had a total provision of Rs. 14500 Cr. of net external assistance (total receipts minus total borrowings), which is equivalent

²⁷ PGD Chakrabarti, C.Bandopadhyaya and K.Raina, Disaster Risk reduction for Safe Development: A Study of Corporate Practices in India, 2009.

to USD 2.9 billion. Out of this only USD 263 million was related to disaster management. USD 245 million was received as a soft loan from the World Bank, while USD 17 million was received from the UNDP for the phase-II of the DRM project. Minor grants have been received by some of the agencies from UNISDR and GFDRR for conducting some activities related to disaster risk reduction.

As a matter of official policy followed consistently since Indian Ocean Tsunami in 2005 India does not seek external assistance from the donor countries for disaster management, but if any such assistance is offered by any country that is accepted. Such ad hoc assistance is not reflected in the budget. Further, India permits donor assistance directly to the NGOs registered under Foreign Contribution Regulation Act. Consolidated figures regarding the quantum of external assistance to the international and national NGOs are not available from any official document, although non-official sources indicate that such assistance could be substantial. Most of such assistance are focused on disaster relief, although a number of NGOs, like Action Aid, Oxfam, Red Cross etc did pioneering efforts in community based disaster risk management programmes in different parts of the country. Initial efforts of the NGOs in piloting innovative programs on disaster reduction laid the foundation of wider scale interventions of the national and state governments.

In the recent years India has started contributing substantial amount of humanitarian assistance to the countries affected by natural disasters, particularly in its neighborhood. A recent study shows that during 2000-10 India contributed USD 325 million to the countries affected by natural disasters. During the same period India's contributions to the multilateral agencies like UNHCR, WFP, UNRWA and CRF amounted to USD nearly 150 millions²⁸.

India as Donor

India is still in the process of defining its role in disaster relief efforts. Since its independence, the country has come to the aid of people in need. For example, it became home for thousands of Tibetan Refugees in 1959 and millions from East Pakistan (now Bangladesh) in 1971. In 1987, during the Sri Lankan Civil War, India flew humanitarian assistance materials to civilians in the city of Jaffna, an act that could be viewed as one of the few humanitarian interventions worldwide. In the past 10 years, the scale and frequency of India's efforts to help those in distress have changed significantly. Today, as the world's fourth largest economy, India has the means to contribute to international aid efforts more systematically. Although a large share of its population is still poor, and though huge income gaps characterize the Indian economy, India has come a long way; once dependent on Western aid, it is now part of the group of non-Western humanitarian donors which together account for at least 12 percent of worldwide humanitarian aid each year.

*Harmer and Cotterrell
Changing Landscape of Official Humanitarian Aid
Overseas Development Institute*

I. Tracking Allocation and Expenditure

It is relatively easy to track investments of the Union government and transfers from the Union to the State governments but it is not so easy to track such investments from the States to the districts or to all the urban and rural local governments. Although the data is available within the systems, these are not captured and compiled in a systematic manner by any statistical agency and these get lost in government files and documents and are not available in public domain. It is possible to capture such data from multiple sources and develop a system of tracking public investments for the benefit of policy makers and researchers. Efforts are being made to develop a Central Plan Assistance Monitoring System (CPSMS)²⁹ to track the central plan assistance to the States. The CPSMS is being tested on a pilot basis

²⁸ Claudia Meier and CSR Murthy, India's Growing Involvement in Humanitarian Assistance, Global Public Policy Institute, 2011,

²⁹ <http://cpsms.nic.in/Users/LoginDetails/Login.aspx?ReturnUrl=%2fdefault.aspx>

in four States - Madhya Pradesh, Bihar, Mizoram and Punjab - to track each release of funds from all central Ministries and Departments to the State governments and their agencies, NGOs etc at the state, district and sub-district levels. Since many such releases are made through the banks, the CPMS have been integrated with the Core Banking Solution (CBS) of 32 nationalized banks. When fully operational it shall be possible to precisely track all public investments made under the central plan assistance. The system however focuses on the releases and falls short of tracking the results. Further, the releases take into account the broad account heads that do not always capture the sub-components of the scheme that deals with specific cross cutting issues such as disaster risk reduction etc. Probably at a later stage the system can be further broadened to include the qualitative aspects of monitoring of the plan schemes.

J. Data Sources

There are six main sources through which public investment data can be tracked within the various layers of governments.

- a. **Union Budget and Economic Survey:** Finance Minister presents the Union Budget before the Parliament on the last working day of February each year. A day before the budget is presented the Finance Minister presents the Annual Economic Survey which contains an analysis of the State of the Economy and its prospects. The budget speech of the Finance Minister contains the broad summary and policy statements, while other details are provided in Annual Financial Statement, Finance Bill, Receipt Budget, Expenditure Budget and a Fiscal Policy Strategy Statement. All these documents are available in public domain and all previous budgets are uploaded in the portal <http://indiabudget.nic.in>.
- b. **State Budgets:** The Finance Ministers of the States present the budgets of the State governments before the State Legislative Assemblies during the first week of March each year. There is no single portal where the budgets of all the State governments are uploaded. However the broad summary of the budgets are made available in the press statements and websites of the State governments. The Reserve Bank of India makes an analysis of the budgets of all the State governments, which is usually published in the shape of a report on *State Finances- a Study of the Budgets*, which is published during March of the following year and are available in the bank site - www.rbi.org.in
- c. **Local Budgets:** Each of the rural and urban local bodies in the country prepares their own budgets which are presented before the elected members of these bodies during March every year. The information remains localized within the system and is hardly ever compiled at the district or state levels. These are not available in the public domain, although there are isolated examples of a few such studies conducted by institutions like Centre for Budget and Policy Studies, Bangalore <http://cbps.in> and Centre for Budget and Governance Accountability New Delhi <http://www.cbgaindia.org>.
- d. **MFR & QPR:** Every agency which receives fund in the government has to furnish Monthly Financial Reports (MFR) and Quarterly Physical Reports (QPR) in the prescribed formats, which shows the specific details of expenditure, the purpose for which these were spent and the results that were achieved. Such details are submitted by the districts and urban and rural local governments to their controlling agencies that allocate funds to them. Ultimately these get compiled in the State/ Ministry/ Department level reports, but the disaggregation of data that does takes place in the geographical and functional units of administration and governance get lost in the system. These details are not available in the public domain.
- e. **Mid-Term Appraisals:** Every major scheme or programme of the government is critically reviewed during the course of the implementation of the programme for mid-course corrections required, if any. Such mi-term appraisals of the scheme generate lot of information, which again could be utilized for tracking public investments.

- f. **Concurrent Evaluations:** Many schemes have built in provisions for concurrent evaluations based on the information generated through MFR, QPRs and other sources. These evaluation reports usually contain significant information on the qualitative aspects of the programme, their shortcomings and overall impacts.
- g. **External Evaluation:** External evaluations of many schemes are carried out through reputed independent agencies that employ their own methodologies for evaluation. These include random sampling for collection of data on a wide variety of issues that are not reflected in the official monitoring reports. These evaluation reports provide valuable qualitative information for tracking public investments.
- h. **CAG Audits:** The internal audits by the concerned departments and external audit by the Comptroller and Auditor General in Union government and Accountant General in State governments provides incisive analysis of the quantitative and qualitative results of public investments on specific schemes and programmes, the processes followed and the shortcomings in implementation. Although these reports have narrow perspectives of financial auditing, these do provide useful information for tracking and analyzing public investments.
- i. **Social Auditing:** Social audit initiatives fall into two categories – social audits carried out by Gram Sabhas/ Panchayats or local level Vigilance and Monitoring Committees and those carried out by civil society groups. In both these types, the social auditors are in a position to obtain direct feedback from beneficiaries on a large scale through village assemblies, focused group discussions and other oral evidence gathering methods to ascertain the outputs of social sector programmes and pinpoint grass root level failures. Considering the significant contribution by various social audit groups in ensuring accountability of the programme managers and implementing agencies, the Government of India has embedded social audit in one form or the other in almost all the flagship social sector programmes. These audit reports are available with programme managers and analysis of some of these reports is also available in public domain through research studies etc.

K. Consultations

All these primary and secondary data sources to the extent these were relevant for the study were examined³⁰. The broad conclusions of the study were discussed with senior policy makers in the Planning Commission, NDMA, Ministry of Home and Ministry of Finance, senior officers of the State Governments and analysts and researchers in NIDM and UNDP. The insight obtained during the course of a study on *Financing Disaster Management in India*³¹ was extremely useful in the analysis and conclusions of the study.

³⁰ Complete reference of these sources is appended with the report.

³¹ PGD Chakrabarti, *Financing Disaster Management in India*, 2010. This study was commissioned by the Thirteenth Finance Commission.

IV. AWARDS OF FINANCE COMMISSIONS

The responsibility of disaster management in India vests largely on the States, while the Central government plays a supportive role with financial, technical and material assistance, whenever necessary. The supportive functions of Central government extends from early warning of disasters by various agencies like Indian Meteorological Department, Central Water Commission etc to deployment of aircrafts, specialist teams of National Disaster Response Force (NDRF) and armed forces, arrangements for relief materials and essential commodities including medical stores, restoration of critical infrastructure facilities including communication network and such other assistance, as may be required by the affected States to meet the situation effectively. The expenses incurred by the agencies of the Central government are met by and large from the Plan and non-Plan budget of the Central Ministries.

Most of the expenditure on disaster management in India, more specifically for post-disaster response, relief and rehabilitation, are incurred by the State governments and district administration and almost the entire budgetary allocations for the same are met from the allocations made to the States annually for the five year fiscal cycle on the basis of the recommendations made by the Finance Commissions. In fact, the entire system of financing disaster management in India has evolved around the awards of the successive Finance Commissions.

A. Margin Money and Calamity Relief Fund

The First Finance Commission (1950-55) did not make any specific award for financing of relief expenditure of the States. The Second Commission (1955-60) innovated the concept of Margin Money to be allocated to the States as a separate fund for meeting the expenses on natural calamities. In case expenditure by a State exceeded its margin, Central assistance to the extent of 75 percent (50 percent as loan and 25 percent as grant) was made available. The next six Commissions continued with the margin money scheme with some modifications. The Ninth Commission (1990-95) replaced the margin money scheme with Calamity Relief Fund (CRF) to be contributed 75 percent by the Union government and 25 percent by the State concerned. The CRF remained the basis of the awards of the next three Commissions and grew in size exponentially due to the rising trends of disasters in the country.

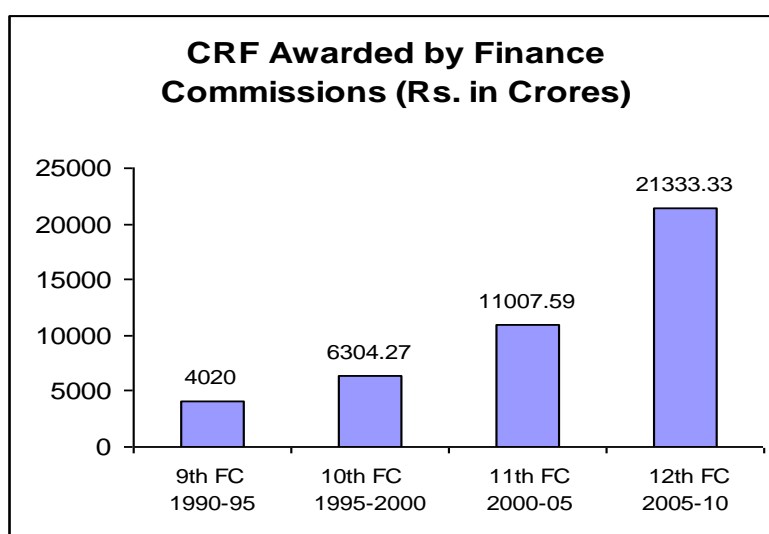


Figure 1. CRF Awarded by Finance Commissions (Rs. In Crores)

Inter se allocation of funds to the States remained a bone of contention as many States demanded that respective shares of States should be worked out on the basis of hazards, risks and vulnerabilities, while others pitched for funds for disaster risk reduction and for long term rehabilitation, but the Commission remained steadfast in its approach that in the absence of agreed formula for quantifying risks and vulnerabilities, expenditure actually incurred by the States on response, relief and rehabilitation during the past decade can be the only objective and transparent basis for allocation. The CRF allocations made by the States during the past two decades are summarized in the following table.

Table 3. Allocation of Calamity Relief Fund (In Rs. Cr.)

States	1990-95	1995-2000	2000-05	2005-10	Total
1. Andhra Pradesh	430.00	653.77	1094.40	1901.24	4079.41
2. Arunachal Pradesh	10.00	37.05	66.43	150.07	263.55
3. Assam	150.00	263.28	560.81	1023.84	1997.93
4. Bihar	175.00	273.53	683.28	789.83	1921.64
5. Jharkhand	-	-	-	592.6	592.6
6. Goa	5.00	5.64	6.85	11.64	29.13
7. Gujarat	425.00	734.90	891.84	1359.3	3411.04
8. Haryana	85.00	131.90	449.26	687.28	1353.44
9. Himachal Pradesh	90.00	141.88	240.29	534.01	1006.18
10. Jammu & Kashmir	60.00	103.74	192.85	458.54	815.13
11. Karnataka	135.00	220.30	412.04	668.61	1435.95
12. Kerala	155.00	291.65	371.56	633.55	1451.76
13. Madhya Pradesh	185.00	268.88	497.86	472.42	1424.16
14. Chhatisgarh	-	-	-	1348.37	1348.37
15. Maharashtra	220.00	359.03	868.64	1231.68	2679.35
16. Manipur	5.00	13.06	15.86	29.48	63.4
17. Meghalaya	10.00	14.69	21.77	59.84	106.3
18. Mizoram	5.00	6.67	16.42	34.9	62.99
19. Nagaland	5.00	8.95	10.83	20.29	45.07
20. Orissa	235.00	258.01	604.88	1599.16	2697.05
21. Punjab	140.00	285.07	678.10	806.88	1910.05
22. Rajasthan	620.00	942.52	1143.81	2296.68	5003.01
23. Sikkim	15.00	24.79	38.17	92.97	170.93
24. Tamil Nadu	195.00	312.45	567.14	1155.28	2229.87
25. Tripura	15.00	23.67	28.73	68.14	135.54
26. Uttar Pradesh	450.00	658.67	987.11	1569.49	3665.27
27. Uttaranchal	-	-	-	492.38	492.38
28. West Bengal	200.00	270.17	558.66	1244.86	2273.69
Total	4020.00	6304.27	11007.59	21333.33	43750.17

Source: Reports of successive Finance Commissions, <http://fincomindia.nic.in>

All the Finance Commissions further remained consistent in their approach that CRF shall be used only for on-disaster response, relief and rehabilitation, while resources for pre-disaster risk reduction and post-disaster long term reconstruction shall have to be arranged separately from the plan schemes of the Central and State governments.

B. National Calamity Contingency Fund

The Tenth Finance Commission created a separate National Fund for Calamity Relief with a corpus of Rs. 700 Cr. to deal with 'calamity of rare severity' which the Centre and the States should subscribe in the proportion of 75:25 respectively. The objective was to create a system to usher a sense of 'national solidarity in a common endeavour beyond the period of distress.' However the experience with the fund was not altogether happy. It encouraged the States to seek assistance even when a calamity could be met from the state's own resources. The result was that the entire corpus of the fund was exhausted

in three years. The Eleventh Commission recommended dissolution of the fund and setting up of the National Calamity Contingency Fund (NCCF) with an initial corpus of Rs 500 Cr. to be contributed by the Government of India and thereafter it would be filled by proceeds from the special surcharge. The NCCF could be used only after the funds allocated to the states under the CRF were exhausted. During the fiscal cycles 2000-2005 and 2005-10 an amount of Rs. 8063 Cr. and Rs. 10671 Cr. Respectively were released from NCCF to meet the contingent expenditure on disaster response and relief that could not be met from the CRF.

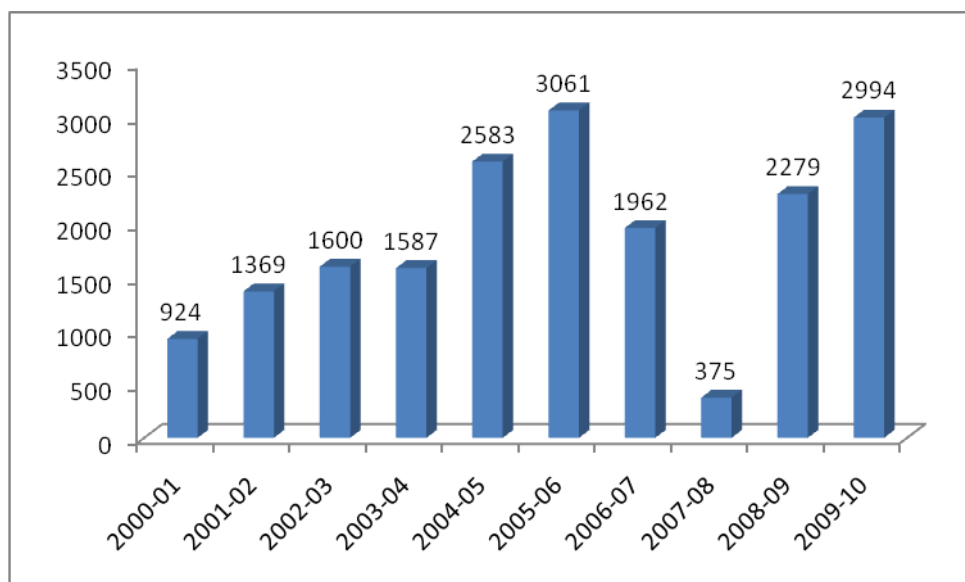


Figure 2. Releases from NCCF 2005-2010 (In Rs. Cr.)
Annual Reports, Ministry of Home Affairs, Government of India, 2001-09

C. National Disaster Response Fund

The Thirteenth Finance Commission (2010-15) was asked to review the CRF and NCCF in the context of provisions of the Disaster Management Act 2005 regarding the constitution of Disaster Response Fund and Disaster Mitigation Fund at the national, state and district levels³². After reviewing the existing arrangements, and considering the views of the State governments, National Disaster Management Authority, Ministry of Home, Ministry of Agriculture and the Planning Commission, the Thirteenth Commission recommended³³ that the NCCF shall be merged into the National Disaster response Fund (NDRF) proposed under the Act with effect from 1 April 2010 and the balances in the NCCF at the end of 2009-10 shall be transferred to the NDRF. The NDRF shall be credited with amounts that the Central government may provide after due appropriations made by the Parliament.

D. State Disaster Response Fund

The CRFs shall be merged into the State Disaster Response Fund (SDRF) proposed under the Act with effect from 1 April 2010 and the balances in the CRF, as at the end of 2009-10 shall be transferred to the SDRFs. The SDRFs shall be funded by the Central and State governments in the ratio of 75:25 respectively as in case of the CRF. However, since funding of their 25 per cent share may overstretch

³² Disaster Management Act 2005 provides for constitution of National Disaster Response Fund and National Disaster Mitigation Fund by the Government of India at the national level. The Act mandates the State governments to set up State Disaster Response Fund and State Disaster Mitigation Fund at the State level and District Response Fund and District Disaster Mitigation Fund at the district level.

³³ Report of Thirteenth Finance Commission, Chapter 11, Pages-197-201.

the fiscal capacity of the special category states, the ratio of 90:10 by the Central and State governments, respectively, shall be followed for the special category states. The total expenditure incurred by the States during 2001-08 shall be taken as the basis for determining the allocations of SDRF for the year 2010-15. This shall be supplemented by factors like inflationary rise in prices, projected growth in relief expenditure, and financial capability of States to raise additional resources for determining the size and share of SDRF. Considering all these factors the Commission awarded a total amount of Rs. 33,581 Cr., to be shared by the States during 2010-15, as detailed in Appendix- II. This represented a step up of 57.41% over the allocations during 2005-10.

The Commission did not favour the constitution of the District Disaster Response Fund (DDRF) as proposed in the Disaster management Act 2005 and recommended that Section 48(1) of the DM Act may be amended to provide for such an option to the states to decide on whether they should constitute DDRFs or whether funds could be effectively routed to each district with from the SDRF in the manner currently being followed under the CRF.

E. Capacity Building Grant

The Thirteenth Commission endorsed the recommendations of the preceding Commissions that 'disaster mitigation' which is the generic term used to describe disaster risk reduction should be funded out of the plan resources of the Union and the state governments. The Commission, however, felt that effective disaster response required trained manpower to deal with complex situations and therefore it is necessary to continuously undertake measures to build capacity and creating awareness amongst people. The Commission therefore provided additional grant of Rs. 525 Cr. to the States as per the details provided in Appendix – II.

Disaster Mitigation

As far as disaster mitigation is concerned, we believe that it should be a part of the plan process and that the expenditure therein should be met out of the plan resources of the respective ministries of the Union and the states. This is also advisable as there are already schemes at the central as well as state levels that are targeted towards mitigation, in areas such as drought-proofing, flood and water management, soil erosion and promotion of earthquake-resistant structures. While we realize that the current levels of funding of these schemes may not be adequate, it is our view that this aspect is best left to be decided by the Planning Commission and the NDMA.

*Thirteenth Finance Commission
December 2009*

V. APPROACH OF PLANNING COMMISSION

The issues relating to the management and mitigation of natural disasters did not find any mention in any of the five year plan documents starting from the First Five Year Plan of 1951-56 to the Ninth Plan of 1997-2002. The overwhelming perception was that disaster management was essentially one of emergency response and calamity relief, which was seen essentially as a non-plan item of expenditure.

A. Tenth Five Year Plan

The Tenth Five Year Plan (2002-07) made a departure – it not only included a complete chapter titled *Disaster Management - the Development Perspectives*, it heralded the most significant policy statement on disaster management ever made by the planning body:

The future blue-print for disaster management in India rests on the premise that in today's society while hazards, both natural or otherwise, are inevitable, the disasters that follow need not be so and the society can be prepared to cope with them effectively whenever they occur. The need of the hour is to chalk out a multi-pronged strategy for total risk management, comprising prevention, preparedness, response and recovery on the one hand, and initiate development efforts aimed towards risk reduction and mitigation, on the other. Only then can we look forward to "sustainable development."³⁴

The paradigm shift in the approach of the Planning Commission towards disaster management was prompted by a number of factors. The most important was the two mega disasters that immediately preceded the Tenth Plan – the Orissa Super Cyclone of 1999 and the Gujarat Earthquake of 2001 each consuming more than ten thousand lives, causing extensive damage to the life and property of the people and devastating the environment and economy of a large part of the eastern and western territory of India. A study conducted by the World Bank indicated that the country lost 2.1% of the GDP during the period while it could not invest as much on public health facilities. The second factor that pushed for a change in policy was the global movement for disaster risk reduction that began with the International Decade of Natural Disaster Reduction (1990-99) and adoption of the *Yokohama Strategy and Plan for Action for a Safer World* during the middle of the decade, in which India was a signatory and the setting up of the International Strategy of Disaster Reduction as a global coordination mechanism to guide the process of disaster risk reduction at the global, regional and national levels. The third factor was the domestic policy initiatives that witnessed the constitution of a High Powered Committee (HPC) on disaster management in 1999 which submitted its report on 2001 and recommended a complete restructuring of the legal-institutional and financial arrangements for disaster management and ushering in a new culture of disaster management in the country.

The Tenth Plan document largely endorsed the recommendations of the HPC regarding institutional arrangements for disaster management at the national, state and district levels, capacity building, training and education at all levels, community level initiatives, development of a comprehensive database for risk assessment, analysis and early warning and strengthening of plan activities for prevention and mitigation of disasters. However the plan stopped short of endorsing the recommendation of the Committee that at least 10 per cent of the plan funds at the national, state and district levels should be earmarked and apportioned for schemes which specifically address areas such as prevention, mitigation and preparedness of disasters.

The Tenth Plan noted that there already exist a number of plan schemes for addressing natural calamities such as floods and drought, under which a lot is being done and can be done. State

³⁴ Tenth Five Year Plan (2002-07) Vol -II, page – 202, Planning Commission, Government of India.

governments need to make full use of the existing plan schemes and give priority to implementation of such schemes that will help in overcoming the conditions created by the calamity. On its part 'the Planning Commission will aim at responding quickly to the needs of the Central Ministries/Departments/States in matters relating to the Plan for meeting situations arising out of natural disasters, by enabling adjustment of schemes to meet the requirements as far as possible. A mechanism will be evolved to take expeditious decisions on proposals which involve transfer of funds from one scheme to another, or any other change which involves departure from the existing schemes/pattern of assistance, new schemes and relaxation in procedures, etc. in the case of natural disasters'.

The Commission emphasized that each State needs to build a team of dedicated trained, skilled personnel, make provision for specialized equipments, efficient communication network, and relevant, intelligent and easily accessible database. For this purpose there is a need to consider creation of a plan scheme in each state to meet the minimum requirements for strengthening communications and emergency control rooms, thereby improving coordination and response to disasters.

'The message for the Tenth Plan', concluded the document 'is that in order to move towards safer national development, development projects should be sensitive towards disaster mitigation. With the kind of economic losses and developmental setbacks that the country has been suffering year after year, it makes good economic sense to spend a little extra today in a planned way on steps and components that can help in prevention and mitigation of disasters, than be forced to spend many multiples more later on restoration and rehabilitation. The design of development projects and the process of development should take the aspect of disaster reduction and mitigation within its ambit; otherwise, the development ceases to be sustainable and eventually causes more hardship and loss to the nation'. This message was however not supported by any fresh allocation for disaster risk reduction during the Tenth Plan over and above the schemes that are already under implementation.

B. Eleventh Five Year Plan

The eleventh plan aimed at consolidating the significant achievements made during the tenth plan period – the passage of Disaster Management Act 2005; the setting up of the new institutions of disaster management – the National, State and District Disaster Management Authorities, the National Institute of Disaster Management and the National Disaster Response Force and the new initiatives for disaster risk reduction such as development of national policies and guidelines on disaster management, introduction of disaster management in school, college, university and technical education; training and capacity development for disaster risk reduction; early warning system for tsunami and storm surges and launching of the National Cyclone Risk Mitigation Project, to name a few.

Eleventh Plan laid considerable emphasis on mainstreaming disaster management into the development planning. The Plan underscored the need to give priority for hazard identification and risk assessment. 'Hazard identification and risk assessment across the country must be bound by uniformly followed procedures, fine-tuned to local conditions. In the absence of such procedures, any sporadic activity based on some ad hoc procedure carries the potential of doing more harm than good'.

To assist the Planning Commission in appraisal of projects, broad and generic guidelines which are not disaster or theme specific have to be adopted. Every new development project must necessarily have elements of risk reduction built into the costs of the projects and accordingly the financial viability of the project, the cost-benefit ratio and the internal rate of return shall be worked out. For the already approved and ongoing projects, efforts shall be made to mainstream disaster reduction, particularly in sectors of education, health, housing, infrastructure, urban development and the like.

The Eleventh Plan considered the demand for investment on a number of national level initiatives for disaster risk mitigation, recommended by the Working Group and the NDMA for being taken up during the Eleventh Five Year Plan. This included the following:

- Cyclone Risk Mitigation Project
- Earthquake Risk Mitigation Project
- National Flood Mitigation Project
- Landslide Mitigation Project
- Disaster Communication Network
- Information, Education, and Communication (IEC) Programme
- Micro-zonation of Major Cities
- Vulnerability Assessment Schemes
- Upgradation of NIDM

Mainstreaming Disaster Management in Development

Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity's potential contribution to the hazard. Every development plan of a ministry/department should incorporate elements of impact assessment, risk reduction, and the 'do no harm' approach. Examples of this approach are urban planning and zoning, upgradation of building codes and their effective enforcement, adoption of disaster resilient housing designs and construction of school and hospitals, flood proofing, response preparedness planning, insurance, establishment of early warning systems for various types of disasters, generating community awareness, creating technical competence and promoting research among engineers, architects, health experts, and scientists.

Eleventh Five Year Plan (2007-12)

Without making any commitment for allocation of funds on these projects, the Eleventh Plan assured that details of these projects shall be worked out through preparation of project reports and thereafter, such schemes as are approved for implementation during the Eleventh Five Year Plan will be accommodated within the sectoral allocations of the Ministries concerned. Out of the nine projects mentioned above only the project on National Cyclone Risk Mitigation involving a total outlay of Rs. 1496.71 Cr. was approved and launched during the eleventh plan period.

C. Twelfth Five Year Plan

The Twelfth Five Year Plan (2012-17) is currently under formulation. The Working Group of on Disaster Management has deliberated on the issues that should receive priorities during the Twelfth Plan and submitted its report to the Planning Commission. The report inter alia made the following recommendations:

- a. Existing institutional arrangements for disaster management should be further streamlined
- b. Appropriate frame work should be developed for effective participation of the private sector in disaster management.
- c. Panchayati Raj and Urban Local Bodies should have major roles to play in disaster risk reduction and management of post disaster situation.
- d. An integrated framework of capacity development which would include training, education and awareness across all sectors and at all levels should be developed and implemented
- e. India's strength in various fields of science and technology should be harnessed for better management of all types of disasters
- f. All sectoral initiatives and projects particularly in the sectors of housing, infrastructure, education, health, environment, water supply, agriculture, insurance etc should be reviewed for incorporating elements that would reduce risks of disasters

- g. NDMA should take up for implementation 12 dedicated projects on disaster risk mitigation and preparedness involving total costs of Rs. 14190 Cr. during Twelfth Plan, as detailed in the table below.

Table 4. List of Proposed Dedicated Projects of NDMA during Twelfth Plan

	Name of Project	In Rs. Cr.
1.	National Cyclone Risk Mitigation	2900
2.	National Earthquake Risk Mitigation Project	600
3.	Landslide Risk Mitigation Projects	500
4.	Flood Risk Mitigation Project	300
5.	National Disaster Communication Network	1000
6.	Strengthening of District Disaster Management Authority and State Disaster Management Authority and setting up of Emergency Operation Centres	800
7.	Strengthening State Disaster Response Force	800
8.	A. National Disaster Management Training Institute B. National Disaster Response Force	500 2500
9.	National Programme on Disaster Knowledge Network	100
10.	National Programme on Disaster Awareness and Advocacy	1800
11.	National Programme on Disaster Education and Research A. School and Higher Education B. Technical Education C. Medical Education D. National Programme on Disaster Training of NGOs, Civil Society and Private Sector Groups, Government Officers and Strengthening Institutional Capacities	260 350 300 500
12.	Other Disaster Management Projects (ODMPs)	1700
	Total	14190

VI. DEDICATED SCHEMES ON DISASTER MANAGEMENT

Dedicated schemes on disaster management are those schemes and programmes of the government on which hundred per cent of the allocations are earmarked for disaster management. Scanning through the hundreds of items of expenditure under different schemes and programmes of all the Ministries and Departments of the Union government, we could identify 37 schemes of 8 Ministries/ Departments that are exclusively dedicated to disaster management. The total financial allocations on these schemes and programmes in the budget of 2011-12 are Rs. 11708.47 Cr., which is equivalent to USD 2341.69 millions. This works out to 0.94% of the Union Budget. Detailed allocations on these 37 schemes since 2005-06 are provided in the statement annexed – III. A summarized version of allocations for 2011-12 is given below:

Table 5. Allocations of Union Ministries/ Departments in Budget 2011-12 on Schemes Dedicated to Disaster Management (In Rs. Cr.)

	Plan	Non-Plan	Total
Ministry of Agriculture, Department of Agriculture and Cooperation			
Strengthening & Modernization of Pest Management	70.94	24.96	95.90
Crop Insurance Scheme	1150	0	1150.00
Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries			
Preparedness, Control and Containment of Avian Influenza	64.23	0	64.23
Ministry of Earth Sciences			
Tsunami and Storm Surge Warning System	12.00	0.00	12.00
Multi-hazards Early Warning Support System	5.00	0.00	5.00
Ministry of Finance, Department of Expenditure			
Grants in Aid to States for CRF/SDRF	0.00	4911.70	4911.70
Grants in Aid to States for Capacity Building	0.00	105.00	105.00
Grants in Aid for NCCF/NDRF	0.00	4525.00	4525.00
Tsunami Rehabilitation Programme	0.00	0.00	0.00
Brihan Mumbai Storm Water Drain Project	0.00	0.00	0.00
Long Term Reconstruction of flood damages, 2005-06	0.00	0.00	0.00
ACA for Drought mitigation in Bundelkhand Region	0.00	0.00	0.00
Ministry of Health and Family Welfare, Department of Health and Family Welfare			
Health Sector Disaster Preparedness & Management	80.50	0.00	80.50
National Integrated Disease Surveillance Programme	55.00	0.00	55.00
Ministry of Home Affairs			
National Disaster Management Authority	0.00	33.31	33.31
National Institute of Disaster Management	0.00	14.00	14.00
National Disaster Response Force	0.10	181.47	181.57
National Disaster Management Programme	0.00	0.36	0.36
Capacity Development of Engineers	0.00	0.00	0.00
Capacity Development of Architects	0.00	0.00	0.00
National Cyclone Risk Mitigation Project	246.00	0.00	246.00
National Earthquake Mitigation Project	10.00	0.00	10.00
Landslide Risk Mitigation Project	2.00	0.00	2.00
National Flood Disaster Management Project	2.00	0.00	2.00

	Plan	Non-Plan	Total
Disaster Management Communication Network	15.00	0.00	15.00
Other Disaster Management Projects	39.90	0.00	39.90
USAID Assisted Disaster Management Support Project	0.00	0.10	0.10
UNDP Assisted Disaster Risk Reduction Project	0.00	15.00	15.00
Building Capability for Rapid Intervention in Disasters	0.00	0.23	0.23
Civil Defence	2.00	4.14	6.14
National Civil Defence College	0.00	2.81	2.81
National Fire Service College	0.00	4.76	4.76
Strengthening of Fire and Emergency Services	20.00	0.00	20.00
Home Guards	0.00	39.39	39.39
Department of Space			
Disaster Management Support	34.37	0.00	34.57
Ministry of Water Resources			
Flood protection works in Eastern & Western Sectors	0.00	3.00	3.00
Flood Forecasting	34.00	0.00	34.00
Grand Total	1843.24	9865.23	11708.47

Source: Expenditure Budget 2011-12, Volume-II, Ministry of Finance, Government of India

During the course of the year one more scheme has been added – the National School Safety Project with total allocation of Rs. 48.47 Cr. over a period of three financial years, with a budget of Rs. 10 Cr. during the financial year 2011-12, thereby raising the total budget allocation on dedicated schemes to Rs. 11718.47 Cr. during 2011-12.

A. Trend of Investments on Dedicated Schemes

Since 2005-06 there been a sharp rise in Union government budget allocations and expenditure on dedicated schemes on disaster management as shown in the table given below. The year 2005-06 ushered a paradigm shift in disaster management in the country as close to the heels of Indian Ocean Tsunami of December 2004 and the Hyogo Framework of Action of January 2005 the Parliament of India passed the Disaster Management Act 2005. New policies, institutions and initiatives for holistic management of disasters were taken up throughout the country, which is reflected in rising allocations and expenditure on dedicated schemes on disaster management. The growth in allocations on dedicated schemes during the period was 83.3% of the Plan and 28.7% of the Non-Plan budget. There have been marginal fall in allocations in specific years due to the introduction of new scheme and closure of old scheme. The decline in plan budget allocations during 2011-12 was due to the closure of special Additional Central Assistance for Drought Mitigation in Bundelkhand region. The marginal decline in non-plan budget during 2007-08 and 2008-09 as compared to the previous years was due to decline in releases from National Calamity Contingency Fund during these two years when no major disaster struck the country.

The number of dedicated schemes on disaster management has also expanded during the period. While there were only 17 dedicated schemes on disaster management in 2005-06, 20 new schemes were added and 6 old schemes were closed during the course of next 6 years. So far only 8 eight out 75 Ministries/ Departments of Union government have initiated dedicated schemes on disaster management. Surely there are opportunities for other sectoral Ministries/ Departments to review the status of disaster risk management in their respective sector and come up with appropriate scheme for prevention, mitigation and preparedness for disasters in the respective sector. It can be expected that as the Ministries/ Departments complete preparation of disaster management plans in the respective sector, which is mandated under the Disaster Management Act, new sector specific dedicated schemes

shall be developed. The Working Group on Disaster Management has recommended launch of 9 new dedicated schemes on disaster management with total investment plan of Rs. 9500 Cr. during the Twelfth Plan period of next five years. Once approved these projects would be expected to augment significantly the quantum of investments on dedicated schemes.

Of the total allocations of Rs. 11718.47 Cr. on dedicated schemes, Rs. 1853.24 Cr. (15.81%) was allocated for Plan schemes and the rest are for Non-Plan schemes. The Plan schemes typically include those items of expenditure that are approved by the Planning Commission for the planned development of the country. The Non-Plan heads mainly include recurring expenses on salaries, maintenance, transfers to the States etc. In the parlance of disaster risk management, all expenses on prevention and mitigation would fall in plan schemes, while expenses on response, relief, rehabilitation and maintenance of the personnel and equipments deployed for response fall in the category of non-plan expenses.

Of the 38 dedicated schemes on disaster management, 20 are operated by the Ministry of Home which is the nodal Ministry on disaster management, but together these schemes account for only Rs. 632.57 Cr. (5.39%) of the total allocations on dedicated schemes. While the long awaited National Cyclone Risk Mitigation Project was launched during 2011-12 with an annual allocation of Rs. 246 Cr., three important mitigation projects, namely the National Earthquake Mitigation Project, the National Flood Mitigation Project and the National Landslide Mitigation Project that were initiated during 2006-07 are yet to take off. The projects were registered by the National Disaster Management Authority with token allocations of Rs. 5.5 Cr. essentially for the development of Detailed Project Reports which is necessary for securing approval of the projects and allocation in the budget. The process of development of the projects is still underway. It may be expected that once these projects are approved the relative share of allocations on dedicated schemes would go up substantially.

Table 6. Allocations on Dedicated Schemes on Disaster Management (2005-06 – 2011-12) (In Rs.Cr.)

Year	Plan	Growth	Non-Plan	Growth	Total	Growth
2005-06	143.6	-	5684.3	-	5827.7	-
2006-07	275.2	91.7%	6286.1	10.6%	6865.2	17.8%
2007-08	952.1	246.0%	5320.4	-15.4%	6273.5	-8.6%
2008-09	1806.4	89.7%	5253.1	-1.3%	7059.4	12.5%
2009-10	2206.0	22.1%	7379.8	40.5%	9585.8	35.7%
2010-11	2715.2	23.1%	8702.3	17.9%	11417.4	19.1%
2011-12	1843.2	-32.1%	9865.2	13.4%	11708.5	2.5%

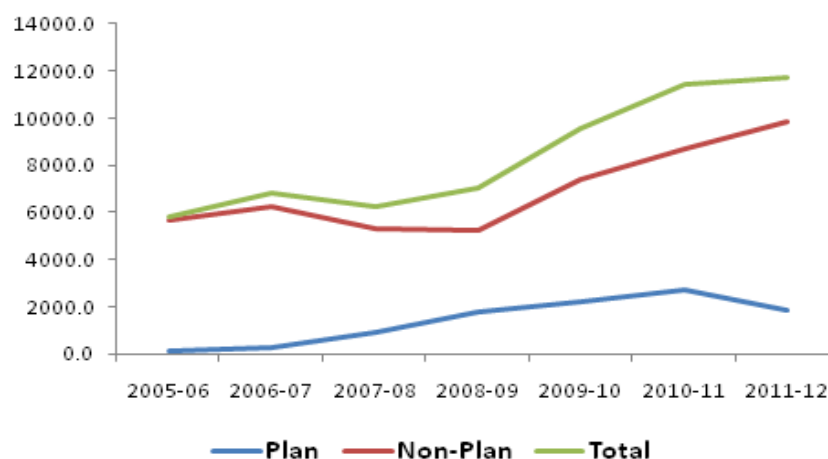


Figure 3. Allocations on Dedicated Schemes 2005-12

B. Focus on Response and Relief

As it exists today the focus of dedicated schemes on disaster management is overwhelmingly on disaster response and relief. The allocations on the twin flagship schemes of Calamity Relief Fund and National Calamity Contingency Fund (now christened as State Disaster Response Fund and National Disaster Response Fund) together constitute Rs. 9436.7 Cr. in the Union budget of 2011-12. This constitutes 80.5% of the total allocations on dedicated schemes. The Twelfth Finance Commission has further augmented the allocations on SDRF to Rs. 33,581 Cr. for the fiscal cycle 2010-15, averaging Rs. 6716.18 Cr. per annum. Besides the Union budget made a provision of Rs. 4525 Cr. on NDRF for the year 2011-12. Total releases from NDRF during 2010-11 were of the order of Rs. 2109.71 crores.³⁵

The specific items of expenditure on response and relief that can be charged on these two funds are decided periodically by the Ministry of Home Affairs in consultation with the National Disaster Management Authority and the Ministry of Finance. The present norms on SDRF/NDRF permit expenditure on only the following 25 items under 7 categories: response, immediate and gratuitous relief, assistance to vulnerable rural population and repair and restoration of damaged houses, infrastructure and equipments prepared and preparedness.

Table 7. Items of Permissible Expenditure under SDRF/NDRF

Type	Items of Permissible Expenditure	
1. Response	1. Evacuation 2. Search and rescue 3. Clearance of debris 4. Disposal of dead bodies/ carcasses	5. Draining of flood water 6. Hiring boats 7. Ambulance, temporary dispensaries 8. Air dropping of essential supplies
2. Immediate relief	1. Temporary shelter, food, clothing 2. Emergency supply of drinking water	3. Medicines, disinfectants, insecticide etc 4. Care of cattle/ poultry against epidemics
3. Gratuitous relief	1. Ex-gratia payment for deaths and injuries 2. Supplementary nutrition	
4. Rural population	1. Assistance to small/ marginal farmers 2. Input subsidy to other farmers 3. Assistance to sericulture farmers 4. Assistance to animal husbandry sector	5. Assistance to Fishermen 6. Assistance to artisans 7. Employment generation
5. Housing	1. Repair and restoration of damaged houses	
6. Infrastructure	1. Immediate repair/ restoration of damaged infrastructure seven sectors, such as (a) Roads & bridges (b) Drinking water (c) Irrigation (d) Power (e) Primary education (f) Primary Health Centre and (g) Community assets 2. Replacing damaged medical equipments	
7. Preparedness	1. Specialized training for disaster management 2. Procuring search & rescue and communication equipments	

Out these 7 categories, 'preparedness' is probably the only category on which SDRF fund can be utilized for pre-disaster risk reduction, but as per the norms not more than 10 per cent of total allocations on SDRF can be utilized for procurement of equipments and specialized training. The Twelfth Finance Commission has allocated an additional grant of Rs. 525 Cr. for capacity building, but the focus continues to remain on response as such trainings shall be imparted to deal with complex emergencies.

C. Classification of Dedicated Schemes as per HFA Matrix

It may be useful even though difficult to classify all the 38 dedicated schemes on disaster management in terms of the 5 priorities of the Hyogo Framework of Action. Many of the schemes would be

³⁵ Annual report, Ministry of Home Affairs, AppendixX.

overlapping. Further, it may not be correct to classify the entire expenses on response and relief as Priority-5 activity on ‘Strengthening disaster preparedness for effective response at all levels’. At the risk of simplification we may broadly classify the dedicated schemes in terms of HFA priorities, as shown in Table-8.

Table 8. Classification of Allocations on Dedicated Schemes of 2011-12, According to HFA Priorities of Action

HFA Priority	Number of Schemes	Name of Scheme	Allocations (In Rs. Cr.)
Priority-1: Ensure that DRR is national and local priority with strong institutional basis for implementation	1	National Disaster Management Authority	33.31
Priority-2: Ensure that DRR is national and local priority with strong institutional basis for implementation	5	Tsunami and Storm Surge Warning System Multi-hazards Early Warning Support Flood Forecasting National Disease Surveillance Programme Disaster Management Support Project	143.57
Priority-3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels	6	National Institute of Disaster Management Grants in Aid to States for Capacity Building National Civil Defence College National Fire Service College Capacity Development of Engineers Capacity Development of Architects	126.57
Priority-4: Reduce the underlying risk factors	15	National Disaster Management Programme National Cyclone Risk Mitigation Project National Earthquake Mitigation Project Landslide Risk Mitigation Project Flood Disaster Management Project Disaster Communication Network Other Disaster Management Projects USAID Assisted DMS Project UNDP Assisted DRR Project Drought Mitigation in Bundelkhand Region Modernization of Pest Management Brihan Mumbai Storm Water Drain Project Flood protection works Crop Insurance Scheme National School Safety Project	1589.26
Priority-5: Strengthen disaster preparedness for effective response at all levels	11	Grants in Aid to States for CRF/SDRF Grants in Aid for NCCF/NDRF National Disaster Response Force Capability for Rapid Intervention in Disasters Long Term Reconstruction of flood damages Tsunami Rehabilitation Programme Health Sector Disaster Preparedness Preparedness and Control of Avian Influenza Civil Defence Strengthening of Fire & Emergency Services Home Guards	9837.76

It may be of interest to observe that many of the schemes classified as Non-Plan in the budget are pure examples of risk reduction. For example, all the schemes classified under Priority-1 and Priority-3 are non-plan schemes. Therefore characterizing the dichotomy of plan and non-plan in terms of risk reduction and response may not be correct.

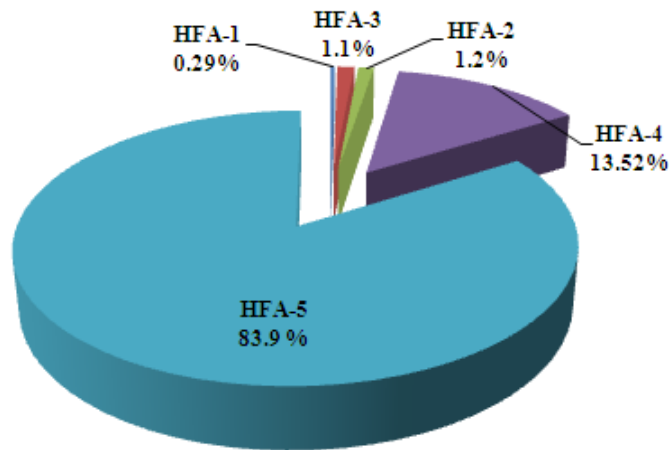


Figure 4. Dedicated Schemes on HFA Priorities

The pattern of investment on dedicated schemes shows that nearly 84 per cent of the allocations are on HFA Priority 5: *Preparedness for Effective Response*. These include specific allocations on response, relief, rehabilitation and reconstruction. This is in accordance with the global trend – allocations on disaster response and relief are mostly controlled by the response agencies and therefore these are more conveniently located and centralized in dedicated schemes that are easily identifiable and focused and can be operated conveniently by the response agencies. Contrarily allocations on risk reduction are more dispersed and decentralized across multiple sectors and therefore these are embedded in multiple schemes.

What is striking is substantial investment of Rs. 1579.17 Cr., equivalent USD 315.83 millions on Priority 4: *Reducing the Underlying the Risk Factors*. This is likely to go up substantially in the coming years as a number of mitigation projects that are already on the pipeline would become operational.

Allocations of dedicated schemes on Priority 1, 2 and 3 may not look very substantial, but these should not be seen in isolation of the totality of public investments on disaster management. Many embedded schemes have sizeable allocations that both complement and supplement the allocations on dedicated schemes.

D. Critical Gaps and Ways Ahead

Considering the magnitude of hazards, vulnerabilities and risks of disasters in a large and populous country like India, it is debatable whether the quantum and type of investments on dedicated schemes is adequate. There are no recognized criteria or yardsticks by which the adequacy of public investment on disaster management can be determined; however, judging by the impacts of disasters that regularly strike the country, the threats of potential disasters that exist and the scenarios developed on possible consequences of impending disasters it may be relatively easy to identify the critical gaps in the budgetary allocations and processes of dedicated schemes on disaster management. First of all, every mega disaster of the recent past – Latur and Bhuj earthquake, Orissa super cyclone and Indian Ocean tsunami – have exposed the lack of professionalism in the operations and management of the response system. The raising of the National Disaster Response Force, drawn from the central paramilitary forces, as a dedicated and trained cadre on disaster response, with equipment, outfit and mobility, for all types of search, rescue and evacuation operations was seen as a step in the direction of professionalism in response, but the ten battalion strong NDRF cannot be pressed into every disaster that the country faces - it can only supplement the normal state and district administrative machinery. The much coveted plan with USAID assistance to train 20000 administrators with the Incident Command System did not take off. Traditional dependence on the armed forces for response during major disasters continues almost unabated. Every scenario on catastrophic disasters, particularly earthquakes in mega cities, presents a

horrendous picture which is acknowledged much beyond the capacity of the normal system to cope with. Compounding the gaps are the threats of manmade disasters like the chemical, biological, radiological and nuclear disasters for which the country is far from equipped to respond effectively. All these challenges cannot be addressed overnight, but despite the significant efforts that are taking place, a clear road map with a definite time and budget line is far from visible. Almost the entire allocation on SDRF and NDRF are consumed on rescue, relief and rehabilitation operations and hardly any allocation is available for building long term systems and capacities. The annual capacity building grant of Rs. 105 Cr. to the States sanctioned by the Twelfth Finance Commission could be gainfully employed for this purpose, but this critical resource is frittered away on multiple activities that are not necessarily related to building capacities for disaster response.

Another serious gap in the system is that while budgetary allocations are available for temporary relief and rehabilitation, as per the physical and financial norms laid down for this purpose, hardly any allocation is available for long term reconstruction and recovery. The successive Finance Commissions have taken the stand that expenditure on long-term post-disaster reconstruction and recovery should be met out of the plan resources of the Union and the State governments. The plan funds are already committed to the ongoing schemes and programmes and it is practically impossible to locate plan fund for reconstruction purposes. Therefore either plan funds have to be diverted for reconstruction programmes which compromise the objectives of the plan or reconstruction is compromised by dropping the non-critical issues or dovetailing these with the plan programmes.

It is interesting to observe many of the disaster reduction schemes of great significance in a large country like India have token allocation which may not be able to justify the objectives of the project. For example, the combined allocations on Earthquake Mitigation Project, Flood Disaster Management Project, Landslide Risk Mitigation Project and Disaster Management Communication Network remained constant below Rs. 30 Cr. over the last five years. Discussion with the project authorities revealed that the token allocations had been made to initiate development of project reports. What is distressing is that the token allocations have been repeated for many years without the project coming to light for implementation. Long delay in project formulation and its approval by the competent authority needs to be seriously looked into and the decision making process streamlined for expediting the process. The National Cyclone Risk Mitigation Project took nearly 9 years to mature from the concept to the implementation phase. Similar experience must not be repeated for other risk mitigation projects that are on the pipeline.

It may be expected that once all these projects come to light there would be a substantial step up in public investments on disaster risk reduction. India has embarked on a development strategy in which public investments are highly responsive to public demands, as shown in significant expansion of investments on social sector schemes. Therefore the best strategy for increasing investments for risk reduction is to raise the demands for the same. The best strategy for raising the demand for risk reduction is to increase the level of education and awareness, improve the standards of risk assessment and analysis and develop sound and viable projects for mitigating the risks of various types of disasters. The country is on the track, although on a slow but steady pace, for building the resilience at all levels to the hazards and risks of natural disasters.

VII. EMBEDDED SCHEMES ON DISASTER RISK REDUCTION

Decoding the embedded schemes from the perspectives of disaster risk reduction is much more complex as most the schemes were formulated without any direct objective of risk reduction but the nature of the schemes are such that it has elements which serve to promote the cause of risk reduction. The methodology suggested in chapter 2 has been followed in selecting the schemes, identifying the elements that have potential for risk reduction, analyzing whether the risk reduction features are there by default or any conscious efforts have been made to mainstream the issues, analyze the trends, gaps and challenges.

Looking at the scope and objectives of the plethora of schemes and programmes of 75 Ministries/ Departments of Government of India we have identified the 85 plan and non-plan schemes that have the potential for reducing the risks of disasters.

Table 9. List of Schemes of Ministries/ Departments Government of India with Elements of Disaster Risk Reduction Embedded

Department of Agriculture and Cooperation	Ministry of Earth Sciences
1 National Programmes on Crop Husbandry	1 Oceanographic Research
2 Soil and Water Conservation	2 Meteorology
3 Agriculture Extension and Training	3 Centre for Climate Change
4 National Food Security Mission	4 National Centre for Medium Range Weather Forecasting
5 National Rainfed Area Authority	5 Indian Institute of Tropical Meteorology
6 Rainfed Area Development Programmes	Ministry of Environment and Forests
7 Other Agricultural Programmes	1 Education and Training on Forestry and Wildlife
8 Cooperatives	2 National Afforestation and Eco Development Programme
Department of Agricultural Research and Education	3 Forest Conservation, Development and Regeneration
1 Climate Resilient Agriculture Initiative	4 Research and Ecological Regeneration
2 Agricultural Research and Education	5 Mangroves Eco-Systems and Wetlands
Department of Animal Husbandry, Dairying and Fisheries	6 Climate Change Project
1 Veterinary Services and Animal Health	7 National Coastal Management Programme
2 Other National Programmes on Animal Husbandry	Ministry of External Affairs
3 National Programmes on Dairy Development	1 Aid for Disaster Relief
4 National Programmes on Development of Fisheries	Department of Economic Affairs
Department of Fertilizers	1 Technical and Economic Cooperation with other Countries
1 Subsidy on imported fertilizers	Department of Financial Services
2 Payment to manufacturers/Agencies decontrolled fertilizers	1 Financial & Trading Institutions- Social Security and Welfare
3 Subsidy on indigenous fertilizers	Department of Health and Family Welfare
Ministry of Consumer Affairs, Food and Public Distribution	1 Medical Education, Training and Research
1 Food Subsidy	2 Public Health
Department of Health Research	3 Hospitals and Dispensaries
1 Health Research including Research on Epidemics	4 National Rural Health Mission
Ministry of Housing and Urban Poverty Alleviation	Department of Science and Technology
	1 Modernization of Mapping Organisations

- 1 Integrated Low Cost Sanitation Programme
- 2 National Schemes on Housing and Urban Poverty Alleviation

Department of School Education and Literacy

- 1 Elementary Education
- 2 Secondary Education
- 3 Adult Education

Department of Higher Education

- 1 General Education
- 2 Technical Education

Ministry of Information and Broadcasting

- 1 Information and Publicity
- 2 Broadcasting

Ministry of Labour and Employment

- 1 Social Security for Labour
- 2 Employment and Training of Labour

Ministry of Micro, Small and Medium Enterprises

- 1 Micro, Small and Medium Enterprises
- 2 Khadi and Village Industries

Ministry of Panchayat Raj

- 1 Rashtriya Gram Swaraj Yojana
- 2 Mission Mode Project on e-Panchayats
- 3 Backward Regions Grants Fund

Department of Rural Development

- 1 Swarnajayanti Gram Swarozgar Yojana
- 2 National Rural Employment Guarantee Scheme
- 3 Indira Awas Yojana

Department of Land Resources

- 1 Integrated Watershed Management Programme

Department of Drinking Water and Sanitation

- 1 National Rural Drinking Water and Sanitation Programme

- 2 National Programmes on Science and Technology

Department of Scientific and Industrial Research

- 1 Assistance to National Laboratories under CSIR

Ministry of Social Justice and Empowerment

- 1 Social Security and Welfare
- 2 Welfare of Scheduled Castes
- 3 Welfare of Other Backward Classes
- 4 National Social Assistance Programme

Department of Space

- 1 Space Applications

Ministry of Textiles

- 1 Village and Small Industries
- 2 Consumer Industries

Ministry of Transport and Highways

- 1 Construction and Maintenance of Roads and Bridges

Ministry of Tribal Affairs

- 1 Welfare of Scheduled Tribes
- 2 Central Assistance for Tribal Sub Plans

Ministry of Urban Development

- 1 Programmes on Urban Development
- 2 Jawaharlal Nehru National Urban Renewal Mission
- 3 Capacity Building for National Urban Renewal Mission

Ministry of Water Resources

- 1 Major and Medium Irrigation Programmes
- 2 Minor Irrigation Programmes
- 3 Flood Control and Drainage Programmes
- 4 Central Assistance for Irrigation for Water Resources

Ministry of Women and Child Development

- 1 Programmes on Child Welfare
- 2 Programmes on Women Welfare

Ministry of Youth Affairs and Sports

- 1 Nehru Yuva Kendra Sangathan
- 2 National Service Scheme

Most of these schemes are taken in their generic forms which may include a number of sub-schemes and programmes. For example the Department of School Education and Literacy of the Ministry of Human Resource Development has a large number of programmes covering various aspects of school and informal education. These have been clubbed together under the three generic schemes of elementary education, secondary education and adult education, as per the broad classification in the budget. Similarly a large number of sub schemes and programmes of the Department of Rural Development have been classified under the three generic schemes of Swarnajayanti Gram Swarozgar Yojana, National

Rural Employment Guarantee Scheme and Indira Awas Yojana, as per the broad classification provided in the expenditure budget.

Budgetary allocation on each of these 85 generic schemes of 33 Ministries/ Departments of Government of India on both plan and non-plan heads for the years 2005-06 to 2011-12 have been compiled and the same is presented in Appendix - IV. The total allocations on these schemes for the year 2011-12 are Rs. 396272.26 Cr., which works out to 32.02% of the total budget of Government of India. This by no means suggests that nearly one-third of the total budget allocation of Union government is spent on disaster risk reduction; this only means that some parts or elements of these allocations have the potential for risk reduction. None of these schemes has any specific sub-component that deal exclusively with disaster management; otherwise these would have qualified for dedicated scheme. DRR elements are so embedded in the schemes that it may not be possible to quantify them precisely, unless a detailed work study is done on each scheme, which is beyond the scope of this study. For example, the Department of Space has a scheme called Disaster Management Support which is classified as a dedicated scheme. This scheme draws support from the satellite imageries that are available round the clock from the satellites on the orbit. Many of these satellites are so designed that these are able to capture the images of the disasters or impending disasters. Therefore some elements of DRR are embedded in the schemes which are not possible to be apportioned and therefore we have counted the total investment assuming that parts of it have the potential for risk reduction. Again, for example, the Ministry of Information and Broadcasting have the two generic schemes of Information and Publicity and Broadcasting. Many programmes and activities of these schemes serve to disseminate the knowledge and information on disasters and disaster risk reduction, but the exact expenditure on DRR related programmes or on the salaries of staff engaged on running these programmes would be difficult to be classified and therefore the entire allocations on these schemes are classified as embedded schemes. Total allocations on such embedded schemes across all the concerned Ministries/ Departments of Union government since 2005-06 and the share it works out of the total budget allocation is provided in the table below.

Table 10. Percentage of Allocations on Embedded Schemes (In Rs. Cr.)

Financial Year	Total Budget Allocations (Plan and Non-Plan)	Allocations on Embedded Schemes	% of Allocations
2005-06	514343.80	123574.71	24.03
2006-07	563991.13	150535.63	26.69
2007-08	680520.51	222789.81	32.74
2008-09	750883.53	230491.42	30.70
2009-10	1020837.70	330250.08	32.35
2010-11	1108749.20	372844.75	33.63
2011-12	1237728.83	396272.26	32.02

The share of allocations on embedded schemes with reference to total allocations has increased from 24.03 to 32.02 per cent during 2005-06 to 2011-12. It had in fact gone up to 33.63% during 2010-11, but declined marginally during the current year, mainly due to the fact that allocations under the generic scheme on 'General Financial and Trading Institutions- Social Security and Welfare' declined from Rs. 17200.08 Cr. in 2010-11 to Rs. 6689.08 Cr. in 2011-12. Under this scheme assistance is provided to the public sector financial institutions for redeeming their various social sector obligations that have accrued over a period of time. Allocations are provided in particular year for settlement of claims of previous years - these do not indicate any annual trend of expenditure.

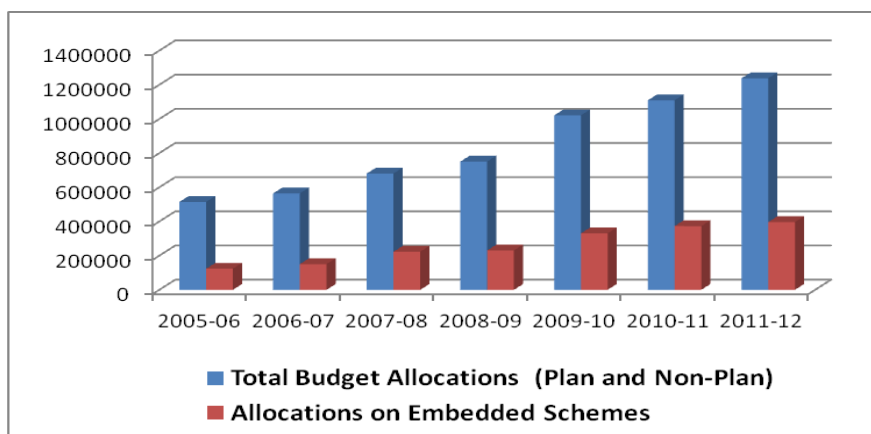


Figure 5. Total Budget Allocation and Allocations on Embedded Schemes

The Plan and Non-Plan schemes, with elements of disaster risk reduction embedded in them, may be broadly classified in at least five different types:

- a. Schemes that promote research and provide services for assessment, analysis and early warning of hazards and risks in different sectors;
- b. Schemes that seek to provide education and skill and enhance information and awareness to promote a culture of resilience among communities;
- c. Schemes whose objectives are to mitigate the risks of disasters;
- d. Schemes that are directly targeted to reduce social and economic vulnerabilities;
- e. Schemes that reduce the burden of payment on producers and consumers in certain sectors, which include a large sections of vulnerable population.

All these schemes have a wide range of objectives and some of these serve to promote, directly or indirectly, the cause of disaster risk reduction. The degrees to which these schemes relate to disaster management vary - in some of the schemes disaster management is clearly the focus, while in others it plays a marginal but none the less a significant role.

B. Risk Assessment and Early Warning of Disasters

A number of scientific, technical and research institutions in the country under various Ministries and Departments are engaged in fundamental and applied research on different aspects of assessment and analysis of natural hazards and risks and providing early warning and disaster management support services. The foremost among them are the institutions under the Ministry of Earth Sciences which include the India Meteorological Department (IMD), Indian Institute of Tropical Meteorology (IITM), National Centre for Medium Range Weather Forecasting (NCMRWF), Indian National Centre for Oceanic Information Sciences (INCOIS) etc. IMD is responsible for early warning of cyclones in India and South Asia, while INCOIS has developed a system for early warning of tsunamis. NCMRWF is engaged in medium range weather forecasting which is useful for agricultural activities particularly in the contexts of drought or drought like conditions. IITM is engaged in fundamental research on long term climate change and its implications on extreme weather events such as cyclones, flood, drought etc. The Central Water Commission under the Ministry of Water Resources has the nodal responsibility for early warning of flood while the Geological Survey of India under the Ministry of Mines has the responsibility for research, analysis and documentation of landslides and earthquakes. A network of seismic observatories functioning under IMD, GSI, DST etc provide valuable services in decoding the earthquakes based on their epicentre, intensities, focal depths etc and developing earthquake zonation and microzonation maps.

Scientific and technological establishments under the Ministry of Science and Technology such as the Survey of India, and the laboratories of the Council of Scientific and Industrial Research such as the Structural Engineering Research Centre, Central Building Research Institute, Central Road Research Institute etc, the Indian Institutes of Technologies and the Building Materials and Technology Promotion Council are doing pioneering works that have important bearing for reducing the risks of built environment. Similarly Indian Space Research Organisation (ISRO) and its units such as National Remote Sensing Centre are providing valuable support services for assessing the hazards and risks before, during and after disasters.

India has, over the past years, produced rich 'base maps' through systematic topographic surveys, geological surveys, soil surveys, cadastral surveys, various natural resources inventory programmes and the use of the remote sensing images. Further, with the availability of precision, high-resolution satellite images, use of Geographical Information System, combined with the Global Positioning System, the accuracy and information content of these spatial datasets is extremely high. Department of Science and Technology is encapsulating these maps and images into a National Spatial Data Infrastructure (NSDI) which would be shared appropriately with the concerned agencies in the government and outside, citizens, society, private enterprise for their works on various applications including disaster management.

The Indian Council of Agricultural Research (ICAR) and a large number of units under its jurisdiction are engaged in research on cereals, vegetables, horticulture and cash crops, particularly in the contexts of changing climate and vagaries of nature. ICAR played a prominent role in ushering in green revolution and it is now faced with formidable challenges of what has been described as 'second green revolution' when there are definite indications that tropical agriculture and horticulture would be affected by global warming. Although the share of agriculture in GDP of the country has been declining, agriculture remains the main source of livelihood and subsistence of an overwhelming majority of population. Natural disasters like flood, droughts and cyclone take a heavy toll on agriculture and therefore research on development of agricultural crops and practices that are resilient to the hazards continue to remain the focus of some of the activities of the ICAR and its laboratories.

Similarly, Indian Council of Medical Research (ICMR) and the laboratories under its jurisdiction and networking are working on various aspects of disease surveillance, mass casualty management, management of post disaster trauma etc. Based on the research many useful guidelines and modules have been developed for application on the ground by the health and disaster management institutions.

C. Education, Skill and Awareness for Building Resilience

India presents a contrasting scenario of a very high level of achievement and excellence in education and research in many fields but very low level of basic literacy and education among a large section of population who are also the most vulnerable socially and economically. Presently a lot of efforts are being made to target this population and achieve the objectives of universal literacy. The Constitution of India has been amended to guarantee the right to education and considerable resources are being allocated for the implementation of the flagship programme of *Sarva Shiksha Abhiyan* (Education for All). The programme provides for development of curriculum, building infrastructure and expanding the base of teachers and their capacities besides providing mid-day meals to the students. This provides opportunities for introducing disaster management in school education and teacher's education and ensuring safety of school building and its environment. Many initiatives have been taken up in this direction including the recently launched National School Safety Programme which seeks to mainstream disaster risk reduction with the *Sarva Shiksha Abhiyan*. Disaster management has been introduced in all central schools and schools under most of the State Boards of School Education.

Similarly efforts are being made to introduce disaster management in the curriculum of university education including technical and medical education through University Grants Commission (UGC), All India Council of Technical Education (AICTE) and Medical Council of India (MCI). UGC has developed a common syllabus on a basic module on disaster management which will be introduced compulsorily in all under graduate courses throughout the country. AICTE has developed courses on earthquake resistant constructions and designs which are compulsory for all civil engineering and architectural schools in the country. MCI has developed courses on mass casualty management for MBBS and nursing students.

Apart from the institutions of higher education there are national level training institutions in different sectors for capacity building of functionaries and other stakeholders. Many such institutions in sectors like health, forestry, rural and urban development, infrastructure etc have large budgets and they network with a number of related and downstream institutions for training and capacity building activities. Some of these institutions have developed, in collaboration with the National Institute of Disaster Management, sector specific training programmes on disaster risk reduction which are useful in building capacities across sectors.

Similarly public sector media like radio and television have large budgets a small fraction of which are being utilized in creating awareness among the masses and disseminating information and warning about disasters. Although the public broadcasting agencies in India, unlike their counterparts in Japan, like the NHK, do not have the statutory responsibility for dissemination of early warning of disasters, they can play important role in conjunction with concerned agencies in creating awareness about reducing the risks of disasters.

D. Mitigating Risks of Disasters

The schemes and programmes of Government of India which are dedicated to disaster risk mitigation have been listed under dedicated schemes. There are a number of other schemes and programmes under various Ministries that are not directly related to disaster risk mitigation but which nonetheless may serve to mitigate the risks of disasters in the long run. In this category fall a large number of development schemes under the Ministries of Agriculture, Animal Husbandry, Environment and Forests, Health & Family Welfare, Labour and Employment, Rural and Urban Development, Water Resources, Transport and Highways, Micro, Small and Medium Industries, Textiles, Panchayat raj, Tribal Affairs etc as detailed in Appendix-IV.

E. Reduction of Social and Economic Vulnerabilities

India is implementing number of flagship schemes for reducing the vulnerabilities of different social and economic sections of population. Budget allocations on ten top beneficiary oriented programmes for the year 2011-12 aggregated Rs. 74532.80 Cr. which is equivalent to USD 14.9 billion. Besides there are a number of other schemes and programmes with smaller allocations that specifically target vulnerable population.

Each of these schemes is playing its role, directly or indirectly, in reducing the risks of disasters. The National Rural Employment Guarantee Programme, for example, ensures that every able bodied individual would get employment of 100 days in a year, which would supplement various relief and rehabilitation measures to support families affected by natural disasters. Similarly, Integrated Child Protection Scheme provides health, nutrition, recreation and early education facilities to vulnerable children during normal times as well as during disasters. National Social Assistance programme support handicapped, orphans, widows and aged people for their sustenance. Indira Awas Yojana and Rajiv Awas Yojana provide grants to rural and urban poor and houseless families in constructing shelters. Many states have approved type design for such houses that are resistant to disasters. There is a need to extend such good practices in remaining states and periodically review the type designs and

specifications with reference to locally available building materials. A number plan schemes and programmes target specific vulnerable groups like the scheduled castes and tribes and other backward classes, women etc. Budgetary allocations are provided for implementing a number programmes for social security for labour.

Table 11. 10 Top Beneficiary Oriented Schemes for Reduction of Vulnerabilities

	Schemes/ Programmes	In Rs. Cr.
1.	National Rural Employment Guarantee Scheme	40000.00
2.	Welfare of Children	10404.08
3.	Indira Awas Yojana	8996.00
4.	National Social Assistance Programme	6107.61
5.	Welfare of Scheduled castes	3827.40
6.	Social Security for Labour	1646.00
7.	Welfare of Scheduled Tribes	1221.73
8.	Welfare of Women	930.48
9.	Rajiv Awas Yojana	813.00
10.	Welfare of Other Backward Classes	586.50
	Total	74532.80

F. Subsidizing Fertilizer and Food for Reducing Vulnerabilities

The Union Budget allocates huge amount every year for subsidy on fertilizers and food. The allocation was to the extent of Rs. 49998 Cr. for fertilizers and Rs. 60573 Cr. for food in the budget of 2011-12, which is equivalent to USD 10 and 12.1 billion respectively. While the subsidy on fertilizers are available to all farmers – large, medium, small and marginal - and for every type of fertilizers, imported and indigenous, subsidy on food is available for basic cereals – rice, wheat and millet – and to people living below poverty line.

The much-awaited National Food Security Bill, 2011 has recently been tabled in Parliament. The bill seeks to “provide food and nutritional security by ensuring access to adequate quantity of quality food at affordable prices to people to enable them to live a life with dignity.” The subsidy will be extended to up to 75 per cent of the rural population and up to 50 per cent of the urban population — with not less than 46 per cent of the rural population and 28 per cent of the urban population designated as priority households. The bill further seeks to confer legal rights on women, children and other special groups — destitute, the homeless, disaster-and-emergency-affected persons and persons living in starvation — to receive meals free or at an affordable price. Every pregnant woman and lactating mother will be entitled to meals free of charge during pregnancy and six months after childbirth, through the local anganwadis or child care centres. It is estimated that the food subsidy would climb to Rs. 100,000 Cr. (equivalent to USD 20 billion) annually for implementing the Food Security Bill.

Subsidies on fertilizers and food do not figure explicitly in the matrix of risk reduction activities of Hyogo of Framework of Action, but these do play very significant role, along with other programmes, for reducing the social and economic vulnerabilities of people, and preventing starvation, malnutrition, distressed sale of assets and forced migration on the onset or aftermath of disasters.

G. Classification of Embedded Schemes as per HFA Matrix

The plan and non-plan schemes of the Ministries/ Departments of Government of India that have elements of disaster risk reduction embedded in them may be classified in terms of Priorities of Action of Hyogo Framework of Action. It may be interesting to observe that none of the embedded schemes qualify to be classified under HFA Priority 1 and 5. These two priorities of action are covered under the dedicated schemes as discussed in the previous chapter. Again it would be a difficult to compartmentalize the schemes in terms of remaining three priorities of action, as many schemes may have features that cover more than one priority of action. Yet we have attempted such a classification at the risk of simplification to provide an idea about the range of schemes that are under implementation.

Many schemes have either very marginal elements or no element at all of disaster risk reduction, but if properly structured and implemented these may still have significant potentialities for mainstreaming disaster risk reduction in development without any or very marginal additional investment. There is a need to revisit these programmes and develop sector specific guidelines for mainstreaming and set up appropriate standards for benchmarking. These tasks may be undertaken by the National Disaster Management Authority in a systematic manner in collaboration with the concerned sectoral Ministries and Departments.

Table 12. Classification of Embedded Schemes according to HFA Priorities of Action

HFA Priority 1	
Ensure that DRR is national and local priority with strong institutional basis for implementation	
Nil	
HFA Priority 2	
Identify, assess and monitor disaster risks and enhance early warning	
<i>Department of Agricultural Research and Education</i>	4 National Centre for Medium Range Weather Forecast
1 Climate Resilient Agriculture Initiative	5 Indian Institute of Tropical Meteorology
2 Agricultural Research and Education	<i>Department of Science and Technology</i>
<i>Department of Health Research</i>	1 Modernization of Mapping Organisations
1 Health Research including Research on Epidemics	2 National Programmes on Science and Technology
<i>Ministry of Earth Sciences</i>	<i>Department of Scientific and Industrial Research</i>
1 Oceanographic Research	1 Assistance to National Laboratories under CSIR
2 Meteorology	<i>Department of Space</i>
3 Centre for Climate Change	Space Applications
HFA Priority 3	
Use knowledge, innovation and education to build a culture of safety and resilience at all levels	
<i>Department of Agriculture and Cooperation</i>	<i>Ministry of Information and Broadcasting</i>
1 Agriculture Extension and Training	1 Information and Publicity
<i>Department of School Education and Literacy</i>	2 Broadcasting
1 Elementary Education	<i>Department of Health and Family Welfare</i>
2 Secondary Education	1 Medical Education, Training and Research
3 Adult Education	<i>Ministry of Environment and Forests</i>
<i>Department of Higher Education</i>	1 Education and Training on Forestry and Wildlife
1 General Education	<i>Ministry of Urban Development</i>
2 Technical Education	1 Capacity Building for National Urban Renewal Mission
HFA Priority 4	
Reduce the underlying risk factors	
<i>Department of Agriculture and Cooperation</i>	3 National Programmes on Dairy Development
1 National Programmes on Crop Husbandry	4 National Programmes on Development of Fisheries
2 Soil and Water Conservation	<i>Ministry of Environment and Forests</i>
3 Agriculture Extension and Training	1 National Afforestation and Eco Development Programme
4 National Food Security Mission	2 Forest Conservation, Development and Regeneration
5 National Rainfed Area Authority	3 Research and Ecological Regeneration
6 Rainfed Area Development Programmes	4 Mangroves Eco-Systems and Wetlands
7 Other Agricultural Programmes	5 Climate Change Project
8 Cooperatives	6 National Coastal Management Programme
<i>Department of Agricultural Research and Education</i>	<i>Ministry of External Affairs</i>
1 Climate Resilient Agriculture Initiative	1 Aid for Disaster Relief
<i>Department of Animal Husbandry, Dairying & Fisheries</i>	
1 Veterinary Services and Animal Health	
2 Other National Programmes on Animal Husbandry	
<i>Department of Financial Services</i>	<i>Department of Economic Affairs</i>
1 Financial & Trading Institutions- Social Security and Welfare	1 Technical and Economic Cooperation with Countries

	<i>Department of Health and Family Welfare</i>		<i>Department of Drinking Water and Sanitation</i>
1	Public Health		National Rural Drinking Water and Sanitation Programme
2	Hospitals and Dispensaries	1	
3	National Rural Health Mission		<i>Ministry of Textiles</i>
	<i>Ministry of Housing and Urban Poverty Alleviation</i>	1	Village and Small Industries
1	Integrated Low Cost Sanitation Programme	2	Consumer Industries
2	National Schemes on Housing and Urban Poverty Alleviation		<i>Ministry of Transport and Highways</i>
	<i>Ministry of Micro, Small and Medium Enterprises</i>	1	Construction and Maintenance of Roads and Bridges
1	Micro, Small and Medium Enterprises		<i>Ministry of Tribal Affairs</i>
2	Khadi and Village Industries	1	Central Assistance for Tribal Sub Plans
	<i>Ministry of Panchayat Raj</i>		<i>Ministry of Urban Development</i>
1	Rashtriya Gram Swaraj Yojana	1	Programmes on Urban Development
2	Mission Mode Project on e-Panchayats	2	Jawaharlal Nehru National Urban Renewal Mission
3	Backward Regions Grants Fund		<i>Ministry of Water Resources</i>
	<i>Department of Rural Development</i>	1	Major and Medium Irrigation Programmes
1	Swaranjayanti Gram Swarozgar Yojana	2	Minor Irrigation Programmes
	<i>Department of Land Resources</i>	3	Flood Control and Drainage Programmes
1	Integrated Watershed Management Programme	4	Central Assistance for Irrigation for Water Resources
			<i>Ministry of Youth Affairs and Sports</i>
		1	Nehru Yuva Kendra Sangathan
		2	National Service Scheme

HFA Priority 5

Strengthen disaster preparedness for effective response at all levels

Nil

Based on the broad classification of the embedded schemes as per the matrix given above we may quantify the investments for these three HFA priorities, namely (a) Priority 2: *Identify, assess and monitor disaster risks and enhance early warning*; (b) Priority 3: *Use knowledge, innovation and education to build a culture of safety and resilience at all levels*; and (c) Priority 4: *Reduce the underlying risk factors*. Since the investments on beneficiary oriented programmes and subsidies on fertilizers and food grains serve to reduce the risks of vulnerable population these have been included it under HFA Priority 4.

It is interesting to observe that almost 80% of the total allocations on embedded schemes have significant elements that are in the nature of *reducing the underlying risk factors* under HFA Priority-4. This is contrary to the general findings in the Global Assessment Reports that governments tend to invest less on risk reduction. It may be necessary to look beyond the nomenclature or declared objectives of the schemes to discover the elements that do help to reduce the risks of disasters directly or indirectly. For example, if the droughts in India do no longer kill people in millions as it used to during the pre-independence period this can only be attributed to distribution of food grains at an affordable price to the vulnerable sections of the community all over the country. Therefore subsidies on food grains have directly contributed to the '*substantial reduction of disaster losses in lives*' which is the declared expected outcome of the Hyogo Framework of Action. Similarly, the Mahatma Gandhi National Rural Employment Guarantee Act provides livelihood security to people in rural areas by guaranteeing hundred days of wage-employment in a financial year to every adult member who volunteers to do unskilled manual work. This has provided valuable livelihood security to rural households who are affected by natural disasters at regular intervals. It is essential to capture such investments for reducing the underlying vulnerabilities of people, which budget analyses of DRR have generally tended to ignore. Likewise it is necessary to register every large or small initiative in every sector that contributes directly or indirectly to disaster risk reduction. This is possible only through detailed and comprehensive analysis of sectoral investments on disaster risk reduction.

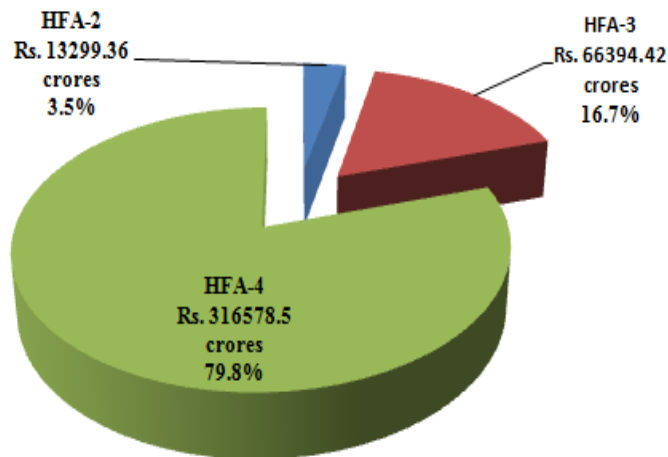


Figure 6. Embedded Schemes on HFA Priority 2, 3 & 4

H. Analysis of Sectoral Investments on DRR

Budget documents per se do not provide much information on the quantum and nature of all sectoral investments on DRR, as many embedded investments are not very explicit and remain hidden under broader plans and objectives of the schemes. It is necessary to unveil and capture the details of such sectoral initiatives under different nomenclatures that contribute to reduction of risks of disasters. It is only through detailed sectoral analysis that it would be possible to locate the exact investments, quantify them properly, identify the gaps and take corrective measures to address the gaps. It is beyond the scope of this study to conduct such sectoral analysis, which can be meaningfully undertaken only through the involvement and participation of the concerned stakeholders in each sector.

There should be an institutionalized system for conducting such sectoral analysis on a regular basis. The model of gender budgeting shall be the most appropriate for this purpose. Ministry of Finance being the nodal authority on budget may make it mandatory for each Ministry/ Department to set up a cell on disaster management (such cells are already in existence in many Ministries). One of the functions of the cell would be carry out analysis of the investments made on DRR by the Ministry and the agencies under its control, quantify them and assess the impact of such investments. Such analysis may be conducted under the guidance of the NDMA which may lay down general and sector specific guidelines for this purpose. Results of such analysis should be incorporated in the Outcome Budget of the Ministry, for which the Ministry of Finance may lay down detailed operational guidelines. Such a step would not cost any additional expenditure for the government, but it would help to set up a system which would generate very valuable information on a regular basis regarding all ongoing investments on disaster management in each Ministry.

I. Critical Gaps and Ways Ahead

Our analysis of the embedded schemes based on available information shows that there are significant investments in critical areas under different nomenclatures that have contributed to reduce the risks of disasters. At the same time there are critical gaps in almost every important sector. The country has developed significant scientific and technological capacity for risk assessment and early warning of disasters, but most of such assessments have validity on a macro and meso scale. Detailed scientific microzonation of risks at the level of habitats in urban and rural areas for most of the natural hazards is still a distant reality. The probable impacts of climate change on the risks of disasters at the local level are also not known to the extent that these can be factored in development projects. There are still significant gaps in observational networks for recording rainfall, climate and wind pressures on the basis which local level climate modeling can be done for local level early warning of hydro meteorological hazards.

There are significant knowledge and information of hazards, risks and vulnerabilities, but awareness and dissemination of risks to the vulnerable communities are not always taking place to the extent it is necessary. A community based disaster risk management programme initiated under UNDP sponsored programme did produce good results in selected areas, but upscaling of the pilot programme to cover the entire country is yet to take place.

Building bye laws for housing and infrastructure for different risk zones had been developed and updated for quite some time, but enforcement of regulations in new constructions is a major concern particularly in rapidly growing cities and towns. Retrofitting of existing structures in earthquake prone areas is another challenge which is yet to be addressed.

Barring some ad hoc and isolated investments on drought proofing and flood protection, there have practically been no coordinated efforts in mitigating the risks of other types of natural disasters such as earthquake, landslide, tsunami etc. NDMA has issued guidelines on practically every type of natural hazards, but none of these guidelines have been translated into concrete action plans and projects for mitigation. After years of deliberations, the National Cyclone Risk Mitigation Programme has finally been launched this year, but mitigation projects on other types of disasters are yet to be finalized.

There are tendencies of compartmentalization among the Ministries/ Departments, which do not always do justice to the cross-cutting theme of disaster risk reduction. There are overlapping of allocations on the same subject across different sectors and sometimes within the same sector; at the same time there are institutional barriers which restrict the outreach of activities of one sector to other related sectors. Therefore coordination among sectors becomes crucial for optimum utilization of the allocations and avoidance of duplication of initiatives and overlapping of investments.

Disaster risk reduction does not always require huge investments. Many activities/ sub-activities of the HFA, such development of legal and institutional framework etc do not require any fresh investment at all or may require only marginal investments. The allocation of resources in many sectors is quite substantial and the same may produce the desired results if the issues of disaster risk reduction are mainstreamed into the schemes and programmes.

There are enormous opportunities for mainstreaming disaster risk reduction in development through the embedded schemes and programmes of the different Ministries and Departments. Each of these schemes may be used as an entry point for this purpose. Each programme should be reviewed from the angle of disaster risk reduction and suitable changes may be suggested so that risk reduction becomes more explicit and gets built into the system. Practically nothing has been done in this regard and therefore one of the challenges of disaster management in India in the coming years would be to cover this gap and develop sector specific guidelines so that disaster risk reduction permeates into all sectors of development at all levels.

How India Assesses Itself

The UNISDR has developed a set of 22 indicators for self assessment of the progress in the implementation of HFA by the countries. Based on these indicators India has submitted two National Progress Reports on the Implementation of the Hyogo Framework of Action for the reporting cycles 2000-09 and 2009-11, which shows India's strength and weakness in specific areas. The details of India's own self assessment are provided in a matrix in Appendix V. On the key activity of HFA that 'dedicated and adequate resources are available to implement DRR plans and activities at all administrative levels' India has assessed itself 3 in a scale of 5. This adequately captures the position and achievement of the country on investments for DRR.

VIII. TRENDS OF INVESTMENTS ON DISASTER MANAGEMENT IN STATE AND LOCAL GOVERNMENTS

During 2010-11 the Budgets of all the 28 States put together amounted to Rs. 1174585 Cr., of which the States own revenue was Rs. 529,289 Cr. (45.06%). Therefore all the State governments look towards the devolution/ assistance from the Union Government for their sustenance. The extent of dependence of some of the States on Central assistance is almost total.

Table 13. Overview of State Finance 2010-11 (In Rs. Cr.)

States	Budget Estimates (BE)			State Own Revenue	Central Assistance	% of Own Revenue to BE
	Plan	Non-Plan	Total			
I. Non-Special Category States						
1. Andhra Pradesh	39,928	70,732	110,660	62,702	57,223	56.66
2. Bihar	20,000	33,759	53,759	11,851	48,669	22.04
3. Chhattisgarh	13,600	11,808	25,408	11,826	16,849	46.54
4. Goa	2,522	4,133	6,655	3,786	3,393	56.89
5. Gujarat	26,896	41,786	68,682	36,445	24,410	53.06
6. Haryana	11,864	23,091	34,955	20,018	10,729	57.27
7. Jharkhand	10,304	11,993	22,297	9,097	18,391	40.80
8. Karnataka	27,082	41,632	68,714	39,048	22,730	56.83
9. Kerala	8,048	34,068	42,116	23,198	13,789	55.08
10. Madhya Pradesh	21,939	31,490	53,429	22,992	34,959	43.03
11. Maharashtra	36,598	89,902	126,500	74,054	45,259	58.54
12. Orissa	12,902	26,094	38,996	13,526	28,625	34.69
13. Punjab	5,567	32,729	38,296	22,957	15,162	59.95
14. Rajasthan	14,709	39,639	54,348	23,997	29,062	44.15
15. Tamil Nadu	26,377	56,682	83,059	45,539	29,232	54.83
16. Uttar Pradesh	45,645	95,054	140,699	57,291	86,570	40.72
17. West Bengal	19,048	56,755	75,803	23,526	35,607	31.04
II. Special Category States						
1. Arunachal Pradesh	3,187	3,740	6,927	527	8,821	7.61
2. Assam	12,566	24,194	36,760	7,758	32,040	21.10
3. Himachal Pradesh	3,133	11,946	15,079	4,735	13,748	31.40
4. Jammu & Kashmir	7,901	17,687	25,588	4,812	34,047	18.81
5. Manipur	2,919	3,027	5,946	746	8,669	12.55
6. Meghalaya	2,582	2,348	4,930	723	6,713	14.67
7. Mizoram	1,317	2,261	3,578	284	5,521	7.94
8. Nagaland	2,349	3,586	5,935	369	9,408	6.22
9. Sikkim	1,713	2,307	4,020	1,486	4,940	36.97
10. Tripura	2,684	4,010	6,694	857	8,371	12.80
11. Uttarakhand	5,117	9,635	14,752	5,139	12,785	34.84
All States	388,497	7,86,088	1,174,585	529,289	665,722	45.06

Source: State Finances-A Study of State Budgets of 2010-11, Reserve Bank of India, 2011

Contrarily the States have been vested with all the major responsibilities of governance. There is hardly any sector in which the States can govern without central assistance. Disaster management is one of the subjects on which the State governments have the primary responsibilities, while the Central government plays a supportive role. The most important support function of the Central government is the devolution of annual financial grants under State Disaster Response Fund (formerly CRF) to the States, as awarded by the Finance Commission, on 75:25 sharing basis between the Centre and the States (90:10 for Special Category States). Besides Central government releases funds to the States under the National

Table 14. Central Allocation State Expenses on Disaster Management 2005-10 (In Rs. Cr.)

	States	Central Grants			State Share SDRF*	State Expenses	
		SDRF*	NDRF**	Total		Total***	(+) (-)
1.	Andhra Pradesh	1425.93	1242.01	2667.94	475.31	3437.04	-293.79
2.	Arunachal Pradesh	112.55	142.51	255.0625	37.52	318.72	-26.14
3.	Assam	767.88	300	1067.88	255.96	1436.29	-112.45
4.	Bihar	592.37	1000	1592.373	197.46	3339.07	-1549.24
5.	Jharkhand	444.45	0	444.45	148.15	663.19	-70.59
6.	Goa	8.73	4.04	12.77	2.91	13.01	+2.67
7.	Gujarat	1019.48	850	1869.475	339.83	2514.17	-304.87
8.	Haryana	515.46	0	515.46	171.82	1082.95	-395.67
9.	Himachal Pradesh	400.51	217.61	618.1175	133.50	741.31	+10.31
10.	Jammu & Kashmir	343.91	323.28	667.185	114.64	1364.51	-582.69
11.	Karnataka	501.46	1852.36	2353.818	167.15	1406.55	+1114.42
12.	Kerala	475.16	804.1	1279.263	158.39	3783.26	-2345.61
13.	Madhya Pradesh	354.32	58.47	412.785	118.11	625.8	-94.91
14.	Chhattisgarh	1011.28	30.85	1042.128	337.09	1620.32	-241.10
15.	Maharashtra	923.76	1598.17	2521.93	307.92	5909.14	-3079.29
16.	Manipur	22.11	6.35	28.46	7.37	37.96	-2.13
17.	Meghalaya	44.88	0	44.88	14.96	60.13	-0.29
18.	Mizoram	26.18	58.41	84.585	8.73	97.33	-4.02
19.	Nagaland	15.22	9.28	24.4975	5.07	37.08	-7.51
20.	Orissa	1199.37	201.62	1400.99	399.79	2028.19	-227.41
21.	Punjab	605.16	0	605.16	201.72	1121.6	-314.72
22.	Rajasthan	1722.51	215.46	1937.97	574.17	2672.8	-160.66
23.	Sikkim	69.73	13.56	83.2875	23.24	114.27	-7.74
24.	Tamil Nadu	866.46	1654.42	2520.88	288.82	3517.86	-708.16
25.	Tripura	51.11	0	51.105	17.04	80.98	-12.84
26.	Uttar Pradesh	1177.12	148.96	1326.078	392.37	1891.03	-172.58
27.	Uttaranchal	369.29	7.06	376.345	123.10	1388.07	-888.63
28.	West Bengal	933.65	166.86	1100.505	311.22	1412.56	-0.84
	Total	16000.00	10905.38	26905.38	5333.33	42715.19	-10476.4

* Ministry of Finance, Department of Expenditure, Releases under CRF 2005-2010

** Annual Reports of Ministry of Home Affairs, 2005 to 2009

*** Reserve Bank of India: State Finances- Study of State Budgets, 2005-6 to 2009-10

Disaster Response Fund (formerly NCCF) when the SDRF is inadequate to deal with major disasters. During the fiscal cycle 2005-10 total grants under CRF/SDRF and NCCF/NDRF released to the States amounted to Rs. 26905.38 Cr. while total expenditure incurred by the States amounted to Rs. 42715.19 Cr. In order to meet this gap the Central government released Additional Central Assistance to some of the States - Rs. 635.88 Cr. was released to the Jammu & Kashmir Government after the earthquake of 2005 and Rs. 5323.26 Cr. was given to 12 States after the monsoon floods of 2005-06. Still a gap of Rs. 4517.26 Cr. was left uncovered which the States had to meet from other sources. This amounted to 10.5% of the total State expenses on disaster management.

The norms of SDRF and NDRF permit expenditure on only 26 items under 7 categories, which are limited to response, relief, rehabilitation and short term reconstruction. The successive Finance Commissions have taken the stand that expenditure on long-term reconstruction and recovery cannot be charged on CRF/NCCF (now SDRF/NDRF) and should be met out of the plan resources of the respective ministries of the Union and the States. Since the plan resources are already committed to the ongoing schemes and programmes it is practically impossible to locate plan fund for reconstruction purposes. Therefore either plan funds have to be diverted for reconstruction programmes which compromise the objectives of the plan or reconstruction is compromised by dropping the non-critical issues or dovetailing these with the plan programmes.

A clear pattern emerges from India's long experiences with long term post-disaster reconstruction: (a) reconstruction after mega disasters like Bhuj earthquake, Indian Ocean Tsunami, Orissa Super cyclone are funded with soft loans from multilateral financial institutions like the World Bank, Asian Development Bank etc; (b) reconstruction programmes after large or medium scale disasters are taken up by dovetailing existing plan and non-plan schemes and taking additional central assistance outside the framework of existing funding arrangements, such as Kashmir earthquake, Mumbai floods, Koshi flood etc; (c) reconstruction after small scale disasters are either or not taken up or taken up with half-hearted and ad hoc arrangements by pooling resources from the plan/ non-plan schemes. The key lesson is that India does not have a clear policy for funding post-disaster reconstruction. This is surely a critical gap of existing arrangements of financing disaster management in India.

If the States do not have regular budgets for reconstruction, most of them do not have 'dedicated' budgets for prevention and mitigation as well, apart from the assistance they receive for the implementation of central sector and centrally sponsored schemes. Many of the 'embedded' schemes on disaster risk reduction of Government of India are implemented in collaboration with the State governments. Many plan and non-plan schemes of the State governments, like those of Government of India, have very significant elements of risk reduction, but very little efforts have been to mainstream the issues of risk reduction in a systematic manner.

The urban and rural governments in India generate their own resources, but for most of the local governments such internal resources are hardly ever adequate even for payment of salaries to the employees. Therefore the local governments depend heavily on grants from the States, which take place either under general or specific devolution of funds from the States or share of Non-Plan grants or Plan assistance from the Union government for the implementation of various schemes and programmes within the jurisdiction of the local governments. For many local governments the share of Non-Plan grants and Plan assistance from the Union government constitutes the main resources for the development activities in their respective areas.

Therefore *mainstreaming disaster risk reduction in development* is the key element that would simultaneously benefit the Central, State and Local governments. Clearly the central government has to take the leadership role as the state and local governments do not have any significant resources of their own for risk reduction and depend almost totally on central devolution and assistance for both post-disaster response, relief and rehabilitation and pre-disaster prevention, mitigation and preparedness. The central devolution and assistance can be designed in such a manner that state and local action for mainstreaming becomes mandatory for accessing such resources. This would require sector specific detailed guidelines on how such mainstreaming efforts shall be planned, designed, implemented and monitored by all concerned agencies at all levels.

IX. ACHIEVEMENTS AND CHALLENGES OF DISASTER RISK REDUCTION IN INDIA

Four mega disasters that each claimed more than ten thousand lives—the earthquakes of Latur and Bhuj of 1993 and 2001, the super cyclone of Orissa of 1999, and the Indian Ocean Tsunami of 2004—triggered a gradual but consistent shift in public policy on disaster management in India. No longer focused primarily on relief and rehabilitation efforts, policy approaches now seek holistic management of disasters that addresses pre-disaster issues of prevention, mitigation and preparedness as well as post-disaster issues of response, recovery, and reconstruction. Heralding this paradigm shift in public policy, the Tenth Five-Year Plan laid down a blue-print for the future:

The future blue-print for disaster management in India rests on the premise that in today's society while hazards, both natural or otherwise, are inevitable, the disasters that follow need not be so and the society can be prepared to cope with them effectively whenever they occur. The need of the hour is to chalk out a multi-pronged strategy for total risk management, comprising prevention, preparedness, response and recovery on the one hand, and initiate development efforts aimed towards risk reduction and mitigation, on the other. Only then can we look forward to “sustainable development.”³⁶

A. New Initiatives

Based on this philosophy, a holistic National Disaster Management Framework has been developed, which highlights the interdependence of economy, environment, and development. This framework also links the issues of poverty alleviation, capacity building, community empowerment and other structural and non-structural issues of prevention and preparedness, response and recovery for effective disaster risk mitigation and management.³⁷

A comprehensive legal and institutional framework for disaster management has been set up through the Disaster Management Act passed by the Indian Parliament in 2005. Through this Act a National Disaster Management Authority (NDMA) is headed by the Prime Minister at the centre, a State Disaster Management Authority (SDMA) with Chief Minister as its chair in the provinces, and a District Disaster Management Authority (DDMA) under the co-chairmanship of the District Magistrate and President of the elected district councils in the districts. The Act has defined the functions and responsibilities of these bodies, prescribed the process to be followed for the preparation of Disaster Management Plans at all levels and provided for dedicated funds for disaster response and mitigation at all levels.³⁸

A National Policy on Disaster Management³⁹ has been approved by the Union Government in November 2009. Various provincial governments have announced their own policies on disaster management. The National Disaster Management Authority has issued comprehensive guidelines for the management of every major natural and man-made disaster. Based on these policies and guidelines National Plans of Action are being drafted for every sector. The focus is clearly on mitigation and preparedness. It can be expected that major public investments shall be made for mitigating the risks of disasters in different areas in the coming years. Already a National Cyclone Risk Mitigation (NCRM) project costing US \$1,600 million has been taken up with assistance from the World Bank. Similar projects for earthquake risk mitigation, school and hospital safety, and urban risk mitigation are on the

³⁶ Tenth Five Year Plan (2002-07) Vol -II, page – 202

³⁷ Disaster Management in India: A Status Report, Ministry of Home Affairs, Government of India

³⁸ Disaster Management Act 2005, Ministry of Law, Government of India

³⁹ <http://ndmindia.nic.in/NPDM-101209.pdf>

anvil. Disaster risk audit has been made mandatory for each development project costing more than INR 100 million.

Early warning systems for hydro-meteorological disasters are being modernized with a network of doplar radars, automated rain gauge and weather stations to monitor rainfall and temperature and track cyclonic depressions. A state-of-the-art tsunami warning system has been commissioned. Flood forecasting centres have been stationed all along the major river basins to monitor the water level of rivers and reservoirs. A medium range weather forecasting system is in place for monitoring the drought situation on a weekly basis and giving advisories to farmers in the concerned regions.

The Ministry of Home Affairs has set up a National Emergency Operation Centre (EOC) that has a satellite based voice-data-communication network with triple redundancy for fail-proof communication. Similar EOCs are being set up in State capitals and district headquarters. Arrangements for emergency airlifting of mobile EOCs at disaster sites are also in place. An on-line India Disaster Resource Network (IDRN) links 565 districts to more effectively locate and coordinate public and private equipment and other material resources needed for responding to emergency situations.⁴⁰ Another on-line India Disaster Knowledge Network (IDKN) portal provides a platform for practitioners and technical institutes to share tools, formats, guidelines and other resource material necessary at various phases of the disaster management cycle.

Education and training is another important initiative for disaster management in India. The National Institute of Disaster Management (NIDM) has been established to formulate and implement a comprehensive human resource development plan on disaster management, develop training modules and undertake research and documentation work on disaster management, mainstream disaster management in education at every level, and provide assistance in national level policy formulation on disaster management. Disaster management has been included in the curriculum of middle and high schools, engineering and architectural courses and similar curriculum is being developed for medicine and nursing courses.

Eight battalions of highly specialized National Disaster Management Force (NDRF) have been raised with state-of-the-art equipment to respond to any natural or manmade disasters. Four of these battalions have been trained and equipped to deal with nuclear, biological and chemical disasters while two battalions have been raised for mountain and marine search and rescue operations respectively.

A community based Disaster Risk Management Programme has been implemented in 169 multi-hazard prone districts in 17 States and Union Territories. This program trains villagers to assess their own risks in a participatory framework and develop a Village Level Disaster Management Plan (VDMP) that includes, inter alia, a resource map, risk and vulnerability map, shelter and evacuation map and identifies hazard specific mitigation activities. The villagers conduct mock drills to validate their plan and remain in a state of preparedness. The VDMPs are integrated horizontally with block and district plans, and vertically with the sectoral plans of concerned line departments.

B. Impact of the Initiatives

All these measures have reduced the loss of lives and property during and after disasters, as demonstrated during the recent devastating floods, cyclones and drought in various parts the country. The most glaring example is the Koshi flood of 2008 that affected close to three million people, but casualties were restricted to less than 300.⁴¹ But disasters continue to inflict substantial damages to the life and economy of the communities in different parts of the country.

⁴⁰ www.idrn.gov.in

⁴¹ www.ndmindia.nic.in

The social consequences of disasters have been fairly well documented through many case studies of post disaster situations. Disasters have been found to have disrupted the social lives of communities, but the more vulnerable sections - the poor, marginalized, women, children, disabled and the aged - have suffered the most in disasters. Various innovative schemes for mainstreaming disaster risk reduction in poverty alleviation programs have been implemented successfully in different areas. These need to be upscaled through community-based inclusive disaster risk management programs. The potentialities of micro-finance and micro-insurance in enhancing the resilience of the poor have been demonstrated in many areas. Proactive involvement of self help groups of women in the micro credit movement have been useful in mobilizing the poor and creating awareness about the risks of disasters and their mitigation through better management of available natural resources. There are many success stories of community-based drought and flood management in high risk areas. Lessons learned from these projects need to be replicated in other areas.

The political implications of catastrophic disasters are well known in many countries. The emergence of Bangladesh as an independent nation in 1971 is attributed inter alia to cyclone Bhola, that a year before consumed nearly five hundred thousand lives. In India the consecutive droughts in the mid-sixties are known to have contributed to the end of a two decade long Congress rule of the Central government. The super cyclone of 1999 led to the downfall of the Giridhar Gomango government in Orissa. All these experiences have been useful in designing systems and institutions that would ensure that disasters are managed well to neutralize disaffections among the sufferers. In this context, politically, post-disaster response and relief have received priorities over pre-disaster prevention and mitigation, which is a common experience throughout the world. Again, the provinces and communities that have suffered disasters have been found to have been more proactive in preparedness. One of the challenges of disaster management is how to transfer the experiences of suffering communities to the complacent areas. This is a political challenge that very few leaders have been interested to take on.

Economically, disasters have been draining scarce national resources, not only through the damages and losses of lives, livelihood and infrastructure, but also through mounting expenses on relief, rehabilitation, and reconstruction. Unfortunately, there has not been adequate acknowledgement of the long term economic consequences of disasters, leading to inadequate investments in risk reduction. As the economy grows, more and more investments, particularly in the private sector, will be exposed to the risks of disasters and, therefore, there is need to retrofit such investment by better business continuity practices, which can reduce the risks of disasters and at the same time put in place disaster contingency plans for better preparedness and response. As the BCM Survey 2009⁴² indicates, there is growing awareness, but it is still not adequate.

C. Emerging Challenges

While today India is better prepared to manage disasters than ever before, there is evidence that the frequency and intensity of disasters may increase with very serious consequences for affected areas and communities. The challenges of reducing the risks of and managing disasters are becoming so complex and uncertain that it is impossible to suggest that losses due to disasters will be significantly reduced in the foreseeable future. Urban growth and climate change are the two main factors that could significantly alter the disaster risk scenarios in India in the coming years and decades. During the last census, conducted in 2001, India had 285 million people living in urban areas, almost 40 percent of which lived in slum settlements. Every projection indicates that the urban population will rise to close to 600 million by 2021, due largely to migration of poor people from rural areas in search of

⁴² Business Continuity Survey 2009, NIDM and BCMI.

employment. Never before in the history of human civilization has such a massive shift of population taken place in such a short period. The increased population pressure is likely to severely stress the country's already overstressed urban infrastructure in terms of housing, transport, water, and sanitation, and will adversely impact the deteriorating environmental conditions of urban areas. Most of these migrants will be converging in the already crowded metropolitan cities, with an average density close to 16,000 people per sq. km—compared to 1,150 in USA, 4,100 in UK, 6,650 in Latin America and 8,200 in Africa.⁴³ Further densification of the cities will add to their vulnerabilities.

It is sheer providence that India has not faced any major urban earthquake in the past, despite the high risk of catastrophic earthquakes occurring in many of India's cities. There are thirty-five major towns with populations of more than half a million each, including the four mega cities of Delhi, Kolkata, Mumbai and Chennai, located in seismic zones III, IV and V. The combined population of these towns is more than 100 million. Various earthquake risk scenarios developed for these cities indicate huge stocks of extremely unsafe houses that would not be able to withstand moderate to heavy shocks. A major earthquake with an epicentre close to any of these cities would surely lead to loss of lives in the thousands and millions affected, for which the search, rescue, and emergency medical infrastructure are not at all equipped.

The pressure of urban growth on city drainage systems and solid waste management are clearly visibly in every urban centre of India. The recent spate of urban floods in Mumbai, Kolkata, Chennai, Hyderabad, Bangalore, Delhi, and Surat have demonstrated the extreme fragility of drainage systems that are unable to withstand heavy rainfall or discharge from upstream reservoirs. Rapid urban growth would further accelerate the crisis.⁴⁴

Climate change is the second most important factor that will alter the hazards and risks of disasters, particularly hydro-meteorological disasters, in the Indian sub-continent. The following trends, well documented in the Fourth Assessment report of the IPCC,⁴⁵ would have far reaching implications on disaster risk management in India, as in other countries of the region:

The glaciers of the Himalayas are melting due to the impact of climate change. There is evidence that the size of many existing glacial lakes is expanding due to release of larger volumes of water from the glaciers, and new moraine lakes are forming in many places, creating the dangers of Glacial Lake Outbursts Floods (GLOFs). This poses a major threat to downstream settlement and infrastructure in the hills.

The incidence of flash floods is increasing, enhancing the risks of landslides and erosion, and increasing silt loads on rivers and reservoirs. This would reduce the carrying capacity of rivers and increase the risks of riverine floods.

In the long run, the glacial melts will reduce the net flow of water to the river systems and badly affect the recharging of underground aquifers. It is apprehended that many perennial rivers, which were the mainstay of civilization of the Indian sub-continent, may become seasonal. This would undermine the irrigation system and pose serious threats to agriculture and food security in the region. Rising temperatures would also affect the agro-horticultural productivity in many parts of the country, particularly the wheat growing areas of the north.

Rising sea temperatures will create more atmospheric depressions on the oceans. More frequent and intense cyclonic storms are projected to hit the coastal areas. As the long coastline of India and its hinterland have concentration of both economic activities and human settlement this would cause more

⁴³ This is based on a study of urban thresholds across continents. www.demographia.com

⁴⁴ Urban Floods in India, Forthcoming publication of National Institute of Disaster Management

⁴⁵ Climate Change 2007: Synthesis Report, Summary for Policy Makers, IPCC Fourth Assessment Report

devastations. Increasing off-shore drilling and growing volume of maritime trade would also be subjected to more risks of disasters.

Coastal areas, especially the heavily populated mega delta regions of West Bengal and Andhra Pradesh and the islands of Andaman, Nicobar, and Lakshadweep would be at great risk due to sea level rise, storm surge and river flooding. Coastal areas would also face increasing salinity of ground water and surface water resources due to increasing ingress of sea water.

Although significant changes in the overall rainfall have not been predicted, heavier precipitation over a shorter period of time and longer duration of dry spells would increase the incidence of both drought and flood, as was demonstrated by the extremely erratic behavior of Indian monsoon in the recent years, for example, the Mumbai flood of 2005 and more recently the flood of Karnataka and Andhra Pradesh in 2009 when traditionally drought prone districts faced unprecedented rainfall and flood.

Increasing temperature would alter the disease portfolio with new vector borne diseases spread their network in regions that were hitherto immune to them.

While all these trends are clearly seen at the regional level, there is very little information on how climate change will impact communities at the grassroots level in rural and urban areas. Such uncertainties will continue to prevail for quite some time, until local level climate modeling is able to predict in precise and clear terms the impact of climate change over space and time. This would remain a major handicap in designing programs to reduce the risks of climate change, even though available information suggests that many innovative programs can be developed to test adaptation to climate change and the integration of such adaptations with disaster risk reduction.

The urban risks are well known, but there cannot be any quick fix solutions to these risks. Such risks can be reduced only through sustained campaigns for safe houses and habitats, which would require years of effort, awareness and capability, more particularly economic capability of people to enable them to invest in risk reduction through safer buildings and insurance. This is going to be a long and drawn out affair, but there are many risks that can be reduced by public investment in critical areas, better governance and enforcement. These would remain the focus areas of government at all levels for quite some time.

D. Opportunities Ahead

India has put in place a credible system of disaster management. A legal and institutional set up has been established and policies and guidelines for holistic management of various types of natural and manmade disasters have been formulated. This has set in motion demands for allocation of funds for disaster risk reduction across sectors. National Cyclone Risk Mitigation Project has been launched recently and similar projects for earthquake, flood, landslide etc are on the anvil. Strong institutionalized arrangements for allocation of funds for disaster management are already in place. Sizeable allocations are being made for disaster response, relief, rehabilitation and early recovery, which have helped to reduce the loss of lives and property during disasters. India is also investing huge amounts for social and economic developments across many sectors. Many of these schemes contain elements that have potential for reducing the risks of disasters. The National Policy on Disaster Management and the Five Year Development Plans have laid considerable emphasis on mainstreaming as the key strategy for risk reduction. Not much effort in mainstreaming disaster risk in various sectors of development has been made. There are tremendous scopes and huge challenges in mainstreaming and the future success of reducing the risks of disasters would depend on a large extent how the critical needs of prevention, mitigation and preparedness are built into the process of development across all sectors.

X. MAINSTREAMING DISASTER RISK REDUCTION IN DEVELOPMENT

Our analysis of the Union Budget since 2005-06 shows that budgetary allocations on schemes dedicated to disaster management has almost doubled in absolute terms during the last seven years, but the relative share of such allocations to the total budget has marginally declined to less than 1%. In relation to GDP investments on dedicated schemes remained more or less constant at 0.1% during the last four years. Allocations on embedded schemes, on the contrary, are substantial and constitute more than 30 per cent of the total Union Budget and almost 5 per cent of the GDP of the country. An overview of the total allocations on dedicated and embedded schemes on disaster management is given in the Table below.

Table 15. Overview of Allocations on Disaster Management in Union Budget (In Rs. Cr.)

Financial Year	GDP*	Total Budget Allocations	Dedicated Schemes			Embedded Schemes		
			Allocations	% of Budget	% of GDP	Allocations	% of Budget	% of GDP
2005-06	3692485	514343.8	5827.7	1.1	0.2	123574.71	24.03	3.3
2006-07	4293672	563991.1	6865.2	1.2	0.2	150535.63	26.69	3.5
2007-08	4986426	680520.5	6273.5	0.9	0.1	222789.81	32.74	4.5
2008-09	5582623	750883.5	7059.4	0.9	0.1	230491.42	30.70	4.1
2009-10	6550271	1020837.7	9585.8	0.9	0.1	330250.08	32.35	5.0
2010-11	7875627	1108749.2	11417.4	1.0	0.1	372844.75	33.63	4.7
2011-12	-	1237728.8	11708.5	0.9	-	396272.26	32.02	-

* Handbook of Statistics on Indian Economy, Reserve Bank of India, September 2011

The study shows that 35 Ministries/ Departments of Government of India are implementing as many as 85 schemes/ programmes that can be classified as ‘embedded’ schemes. None of these schemes has been designed with the stated objective of disaster risk reduction, but each scheme has critical elements that may serve to promote the cause of disaster risk management. Therefore *mainstreaming disaster risk reduction in development* is the key strategy by which sectoral development plans and programmes can be reviewed and strengthened so that each sector is able to protect the gains of development from disasters and further contribute to the overall cause of disaster reduction.

Disaster Management Act 2005 has endorsed this strategy. Section 36 of the Act has provided that it shall be the responsibility of every Ministry or Department of the Government of India to:

- take measures necessary for prevention of disasters, mitigation, preparedness and capacity building in accordance with the guidelines laid down by the National Disaster Management Authority (NDMA);
- integrate into its development plans and projects, the measures for prevention or mitigation of disasters in accordance with the guidelines laid down by the NDMA;
- review the enactments administered by it, its policies, rules and regulations, with a view to incorporate therein the provisions necessary for prevention of disasters, mitigation or preparedness;
- allocate funds for measures for prevention of disaster, mitigation, capacity building and preparedness.

Section 37 of the Act further provides that every Ministry or Department of the Government of India shall-

- a. prepare a Disaster Management Plan specifying the following particulars,
 - i. measures to be taken by it for prevention and mitigation of disasters in accordance with the National Plan;
 - ii. specifications regarding integration of mitigation measures in its development plans in accordance with the guidelines of the NDMA;
 - iii. its roles and responsibilities for preparedness and capacity building to deal with any threatening disaster situation or disaster;
 - iv. its roles and responsibilities for promptly and effectively responding to any threatening disaster situation or disaster;
- b. make provisions for financing the activities specified therein; and
- c. submit the plan so prepared for the approval of the NDMA and review and update it annually.

None of the Ministries/ Departments of Government of India has so far drafted such a plan, as the National Plan on the basis of which the sectoral plans shall be prepared is yet to be finalized. However a National Policy on Disaster Management has been released⁴⁶ and a series of hazard-specific guidelines on disaster management have been issued by the NDMA.

The National Policy on Disaster Management announced: ‘In order to bring about a paradigm shift from the relief-centric approach to one covering prevention, preparedness and mitigation, efforts would be made to mainstream prevention and mitigation measures into the developmental plans and programmes by enlisting cooperation from all stakeholders. NDMA will ensure mainstreaming of disaster risk reduction in the developmental agenda of all existing and new developmental programmes and projects which shall incorporate disaster resilient specifications in design and construction. The Planning Commission will give due weightage to these factors while allocating resources’. The approach of the Planning Commission for the last two Five Year Plans had been strongly in favour of mainstreaming, as detailed in chapter 5 of the study.

The NDMA has issued a series of guidelines on disaster management⁴⁷ which include guidelines on management of natural hazards such as earthquake, tsunamis, landslides, cyclones, drought, flood and urban flood, and guidelines on thematic issues like medical preparedness, psycho-social support, role of NGOs for disaster management etc. NDMA is yet to formulate any general or specific guidelines on mainstreaming disaster risk reduction in development for any sector. Probably there is a strong need and urgency to mainstream the mainstreaming process.

The Ministry of Finance has come out with, in consultation with NDMA, regulations which stipulate that any new project costing more than Rs.100 Cr. shall be reviewed by the Expenditure Finance Committee (EFC) of the Government from the angle of disaster management before it is considered for approval. Every such project proposal must necessarily have a *Check List for Natural Disaster Impact Assessment* which would provide complete information on the hazards, risks and vulnerabilities of the project and the measures proposed to be taken for prevention and mitigation of disasters.

This would include not only the probable effects of natural disasters on the project but also the possible impacts of the project in creating new risks of disasters. The costs involved in the prevention and

⁴⁶ National Policy on Disaster Management, October 2009

⁴⁷ <http://ndma.gov.in/ndma/guidelines.html>

mitigation of both types of impacts shall be built into the project costs and accordingly its economics and viability shall be worked out.

Check List for Natural Disaster Impact Assessment

(Adopted from the Office Memorandum No. 37(4)/ PF-2003 dated 19 June 200 of the Ministry of Finance, Department of Expenditure, Government of India)

1. Siting of the Project:
 - i. Location: Latitude - Longitude - Height above mean sea level
 - ii. Earthquake Zone (Any known geological fault nearby may be listed)
 - iii. Flood Proneness & Vulnerability: Past history of floods in the area Observed Highest flood level - Frequency of flooding - Depth of flooding - Duration of flooding - Damage/loss (maximum, average, potential)
 - iv. Cyclone Proneness & Vulnerability: Frequency and Intensity - Wind speed zone - information on highest wind speed - Distance of site from sea coast - Record of past storm surge
 - v. Landslide Proneness & Vulnerability: Location of hill slope vis-a-vis project location - Past history of landslides - Possibility of mud flows/rock falls/snow avalanches etc.
 - vi. Tsunami proneness (If close to sea coast) & Vulnerability: Past history
 - vii. Existence of Dams or Barrages upstream: Distance from the project. Was dam breach effect considered on the project? If so, have the dam break analyses been carried out? Has their impact on safety of the project been evaluated?
2. Nature/Type of Project
 - i. Communications: towers, lines, building
 - ii. Transportation: Roads, Railways, Bridges, Tunnels
 - iii. Power: Power houses, sub stations, power lines
 - iv. Water Resources: Dams, barrages, river training structures, Canals
 - v. Habitations: townships, housing, buildings, related infrastructures
 - vi. Water supply and sanitation projects including sewer lines
 - vii. Ports & Harbours
 - viii. Building projects
 - ix. Any other
3. Hazards Risk to the Project: Have the following been evaluated:
 - i. Probable maximum seismicity at site
 - ii. Probable Maximum storm surge,
 - iii. Probable Maximum wind speed
 - iv. Probable Maximum precipitation
 - v. Probable maximum flood discharge and level
 - vi. Probability of floods, earthquakes, landslides, mudflows, avalanches, cyclones, tsunamis
 - vii. Soil liquefaction proneness under probable earthquake intensities

4. Mitigation/ Reduction of Risk:

There are specific codes, manuals, guidelines etc. developed by Bureau of Indian Standards, NDMA, and concerned organizations for sitting, design, construction and maintenance of various types of infrastructures⁴⁸. Have the relevant BIS codes and guidelines been complied with?

5. Impact of the Project on the Environs and the People

Has the impact of the project on the environment and the people been studied with the respect to the following and what mitigation measures have been adopted? An illustrative list of scenarios could be as stated below:

- i. The earthquakes and landslides may damage the pipelines to transport and storages to store harmful and inflammable materials and gases in the project area. Has any study been made to assess the danger to the environment and the people posed by those occurrences? And if so what measures have been proposed?
- ii. The railway lines and roads run across the drainage lines and if adequate waterways at appropriate locations are not provided, it may result in rise in water level and drainage congestion in upstream areas. Has this aspect been studied and if so, what mitigation measures have been proposed?
- iii. Landslides triggered by earthquakes as well as due to inherent instability of slopes accentuated by rains may lead to blockage of drainage channels and accumulation of water up-stream. These blockages may collapse due to their inherent instability or aided by rains. Men, machines and explosives can also be used to remove blockages and reduce flooding upstream. These lead to sudden release of water and flooding and erosion in down-stream areas. Has any study has been carried out in this regard and what mitigation measures have been proposed?
- iv. As all the projects involve acquisition of land, it may result in deforestation and soil erosion. Has any study been carried out in this regard and what mitigation measures have been proposed?
- v. If the project involves storage of water, failure of any component may cause flooding and large scale damage to lives, property, infrastructure etc. Has any study been made and if there is a possibility thereof, what measures have been proposed to meet the eventuality?

6. Costing of the Project

Costs involved in prevention and mitigation of disaster(s) (natural and man-made) would need to be included fully in the project cost and accordingly the viability of the project, its cost effectiveness and internal rate of return shall be worked out.

These regulations are significant as for the time ever every new scheme/programme/ project of every department costing more than Rs. 100 Cr. and above must necessarily be assessed from the perspectives of the twin impact of disasters on the project and project on disasters. This will ensure that the design and other parameters of the project conform to the standards and specifications to withstand the worst case scenarios of disasters. This will also ensure that all probable impacts of the project in creating new disasters or precipitating the existing level of risks of disasters are studied in detail before the project is taken up. This will further ensure that costs of prevention and mitigation become part of the project cost so that it does not create residual obligations on government or the society to take care in future. However the regulation suffers from a number of shortcomings. First, the assessment is in the nature of self-assessment as the responsibility of disaster impact assessment has been left to the same authorities who initiate the proposals. No separate independent regulatory body has been created for Disaster Impact Assessment (DIA) on the pattern of Environment Impact Assessment (EIA). Secondly, the scope of the regulation does not cover projects costing less than Rs. 100 Cr. as hundreds of such projects are taken up under various schemes/ programmes of government. Thirdly, the parameters of risk

⁴⁸ Indicative and not exhaustive list of some of them is at Annex-V

assessment focus mostly on the hazards and do not take adequate cognizance of the vulnerabilities. The on-site risks of disasters can be integrated within the project, but the off-site risks which are more in the nature of impacts on communities and environment are more difficult to be assessed and remain uncovered.

In September 2010 the NDMA issued guidelines on 'Ensuring Disaster Resilient Construction of Buildings and Infrastructure Financed through Banks and Other Lending Institutions'. The Guideline provides that (a) the individual/business enterprise seeking financial support from the bank to undertake any new construction or to make any addition, alteration, modification or retrofitting of existing construction will submit to the bank or lending institution the complete architectural and structural designs of the said construction demonstrating that the proposed structure/alteration is capable of withstanding all the natural hazards posing risk and vulnerability to the region where the construction of the building is proposed, and (b) the bank or lending institution will undertake independent technical review of the complete architectural and structural designs of the proposed construction, with the assistance of its own internal peer reviewers, and take a decision on the loan application based on the outcome of such review and other relevant factors related to the proposed construction⁴⁹. Based on these guidelines, the Reserve Bank of India advised all scheduled commercial banks in the country that 'they should adopt the NDMA guidelines and suitably incorporate them as part of their loan policies, procedures and documentation'⁵⁰.

It is matter for consideration whether such guidelines should be considered as an example of mainstreaming disaster risk reduction in development. Those in support point out that the guidelines involved the banking institutions and integrated market forces to reduce risks of disasters. Critics point out that this is municipal function which should better be left with the municipalities. Discussion with bank officials reveal that they find it difficult to get the project reviewed in-house as they do not have technical staff to do such job and the loanees are reluctant to bear the cost of independent reviews. Probably a much more meaningful mainstreaming exercise would have been to upgrade the capacities of the municipalities to enable them to deal with such functions more effectively rather than to create parallel institutions within the banking system to deal with municipal functions.

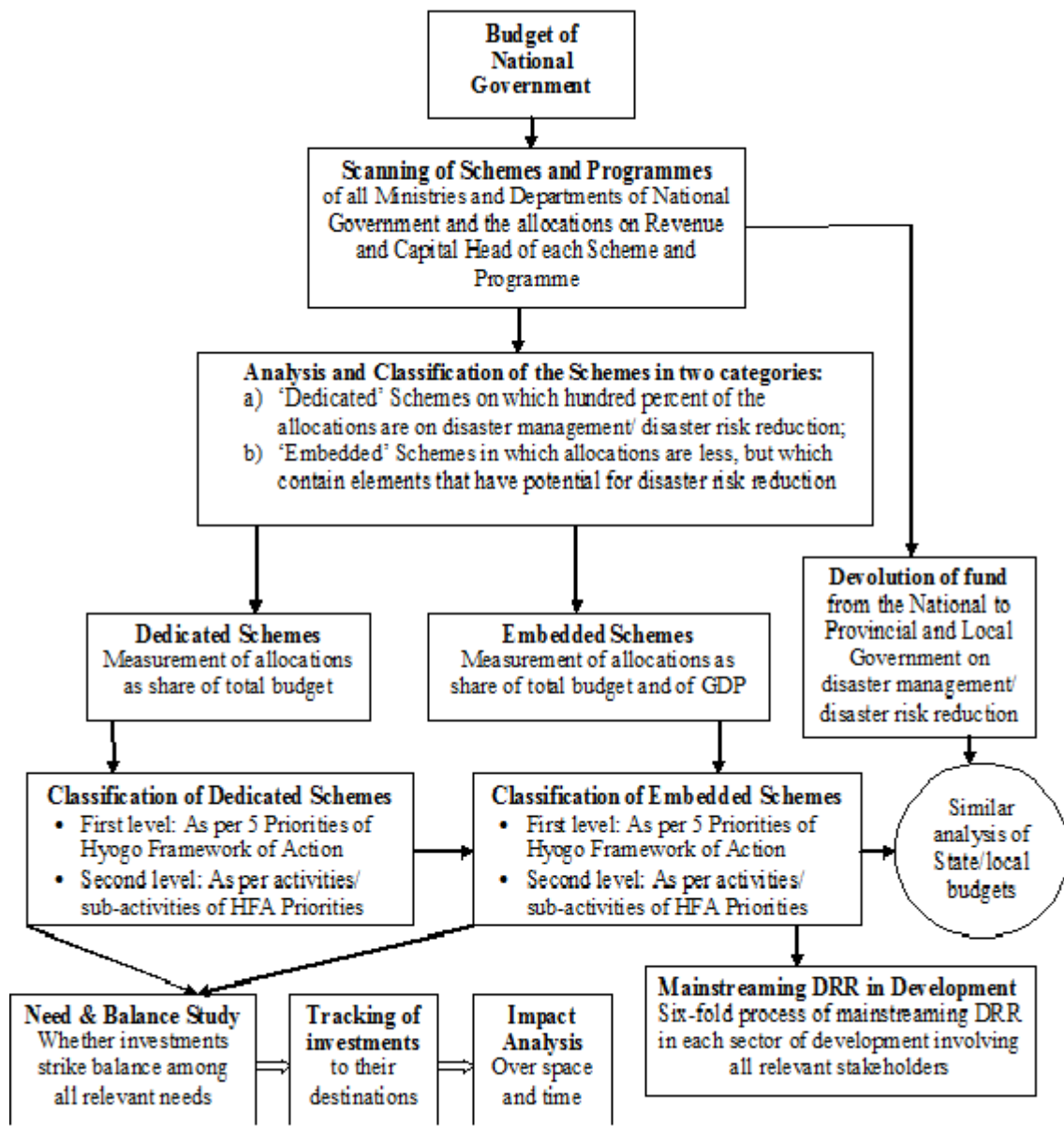
⁴⁹ Guidelines on Ensuring Disaster Resilient Construction of Buildings and Infrastructure financed through Banks and Other Lending Institutions, National Disaster Management Authority, September 2010, page-13.

⁵⁰ Reserve Bank of India no. RBI/2010-11/525 DBOD.Dir.BC.No.93 /08.12.14/ 2010-11 May 12, 2011

XI. DEVELOPING A FRAMEWORK FOR ALLOCATION AND TRACKING OF PUBLIC INVESTMENTS ON DISASTER RISK REDUCTION

Based on our study of the classification, measurement and accounting of public investments on disaster risk reduction in India, we can develop a framework on allocation and tracking of government expenditure on DRR.

Framework for Allocation, Measurement and Tracking of Public Investments on DRR



The framework is simple, transparent and easy to be followed in any national government irrespective of the nature and type of government. However the systems and processes of public investments in the country need to be studied in detail before the framework is applied.

The first step in the process of application of this framework is the scanning of the schemes and programmes of all the Ministries and Departments of national government and computation of the allocations on revenue and capital head of each scheme and programme.

The second step is the analysis of the schemes and programmes and their classification in broad categories: (a) 'Dedicated' Schemes on which hundred percent of the allocations are on disaster management/ disaster risk reduction; and (b) 'Embedded' Schemes on which allocations are less, but which contain elements that have potential for disaster risk reduction.

The third step is the computation of total allocation of fund under 'dedicated' and 'embedded' schemes and measurement of such allocation as percentage of total budget and of the Gross Domestic Product of the country.

The funds that are devolved or transferred from the Central governments to the provincial and local governments under both 'dedicated' and 'embedded schemes' can be computed and the share of such devolution/ transfer to the total budgets of the provincial and local government budgets can be worked out.

The next step in the analysis would be to further classify the allocations under both 'dedicated' and 'embedded' schemes in terms of the Priorities of Action of the Hyogo Framework of Action. In the first level of classification only the five priorities of action shall be considered, while in the second level the activities and sub-activities of the each of the priority of action may be considered. Typically most of the allocations on 'dedicated' schemes are on HFA-1 and HFA-5, while allocations on 'embedded' schemes are on HFA-2, HFA-3 and HFA-4. The first level of classification would be relatively simple as there would be only five boxes in which the schemes shall be classified. The second level analysis would be rather complex as allocations would overlap on number of activities and sub-activities and many of the activities may not need any budgetary allocations at all.

Detailed classification of the schemes and programmes would clearly indicate the relative share of the schemes on different priorities of action. These may be further analyzed as per the felt needs of investments in particular sector to see whether the investments are need based and whether there is a balance in investments across sector on the cross-cutting issue of disaster risk reduction.

Another difficult is tracking of investments from the source to their destinations. It is relatively easy to track the movement of funds from the central to the provincial and local governments, and governments at each level to the schemes and programmes, but it is infinitely more complex to track investments from the schemes and programmes and to the projects and beneficiaries. The system generates information but the system does not capture all the information on a computable tracking format. If the schemes, programmes, projects and further downstream beneficiaries are coded and the entire process is computerised the task of tracking can become a reality. Such a computerised tracking system is being attempted in a limited scale and once these are tested and made operational the task of classification, measurement, tracking and monitoring of public investments on disaster risk reduction would become easy.

Mere classification of the 'embedded' schemes and programmes on disaster risk reduction would not serve the purpose unless serious efforts are made to mainstream disaster risk reduction in various sector of development. A six-fold process of mainstreaming may be followed. These are:

- a. identification of the existing systems, processes, schemes and programmes in each sector that can have a potential role for risk reduction;
- b. review of how such role is being performed at present;
- c. analysis of the shortcomings and critical gaps;

- d. prescription of how such gaps can be addressed within the framework of the systems and processes;
- e. suggestion of changes in the systems or processes by way of additions, amendments or revisions that can optimally utilize the available resources; and
- f. evaluation of impact of these changes.

These involve very comprehensive and incisive exercise within each sector with complete participation of all the stakeholders. Budgetary allocations within each sector can be revised, re-appropriated or supplemented on the basis of such exercise. There are inhibitions within each sector for such exercises which is seen as interference in the normal functioning of the sectoral ministries and departments. Therefore designated national authorities on disaster management with clear mandate of coordination across sectors can take up such exercises in a systematic manner.

Disaster Management Act 2005 has clearly given such mandates to the National Disaster Management Authority but serious efforts for mainstreaming DRR in specific sectors of development is a task that is yet to be taken up by the NDMA in a systematic manner.

REFERENCES

- Government of India, Ministry of Environment and Forests, India's Expenditure on Adaptation Related Activities, 2008.
- Government of India, Ministry of Finance, Department of Expenditure, Expenditure Budget, 2005-06, 2006-07, 2007-08, 2008-09, 2009-2010, 2010-11, 2011-12
- Government of India, Finance Commission, Report of Thirteenth Finance Commission, 2009
- Government of India, Finance Commission, Report of Twelfth Finance Commission, 2004
- Government of India, Finance Commission, Report of Eleventh Finance Commission, 1999
- Government of India, Finance Commission, Report of Tenth Finance Commission, 1994
- Government of India, Finance Commission, Report of Ninth Finance Commission, 1989
- Government of India, Ministry of Home Affairs, Annual Reports 2005-06, 2006-07, 2007-08, 2008-09, 2009-2010
- Government of India, Ministry of Home Affairs, Disaster Management in India: A Status Report, 2004
- Government of India, Ministry of Home Affairs, Disaster Management in India, 2011
- Government of India, National Disaster Management Authority, National Policy on Disaster Management.2009
- Government of India, National Disaster Management Authority, National Guidelines for Management of Earthquake, Flood, Landslides, Tsunami, Drought, Cyclones, Urban Flood,
- Government of India, National Institute of Disaster Management, Financing Disaster Management in India, 2009
- Government of India, Planning Commission, Eleventh Five Year Plan, 2007
- Government of India, Planning Commission, Tenth Five Year Plan, 2007
- Government of India, Planning Commission, Report of the Working Group on Disaster Management, 2011 (unpublished)
- Government of India, PMO, National Action Plan on Climate Change, 2009
- ProVention Consortium, Tools for Mainstreaming Disaster Risk Reduction-Guidance Notes for Development Organizations, by Charlotte Benson and John Twigg, 2007.
- Reserve Bank of India, State Finances-A Study of State Budgets of 2010-11, 2011
- United Nations Development Group, Indicators for Monitoring the Millennium Development Goals: Definitions, Rationale, Concepts and Sources, 2003.
- UNIFEM-UNFPA, Gender Responsive Budgeting-Resource Pack, 2006.
- UNISDR, 2009 UNISDR Terminology, 2009
- UNISDR, Effective Financial Mechanisms at the National Level for Disaster Risk Reduction, by David Jackson, 2011, paper written for mid-term review of HFA, (unpublished).
- UNISDR, Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate-Invest Today for a Better Tomorrow,2009

UNISDR, Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development, 2011

UNISDR, Hyogo Framework of Action 2005-2015: Building the Resilience and Commitments to Disasters, Priority Action

UNISDR, Mid-Term Review 2010-11 of Hyogo Framework for Action: Building the Resilience of Nations and Communities to Disasters,

World Bank, Financing Rapid Onset Natural Disaster Losses in India: A Risk Management Approach, 2003.

World Bank, Natural Hazards, Unnatural Disasters: the Economics of Effective Prevention, 2010

World Bank, Public Expenditure Management Handbook, 1998.

**APPENDIX I. OVERVIEW OF THE DEMANDS OF GRANTS OF
THE MINISTRIES AND DEPARTMENTS OF UNION
GOVERNMENT FOR THE FINANCIAL YEAR 2011-12 (IN RS. CR.)**

Demand For Grants	Ministries/ Departments	Plan	Non-Plan	Total	Revenue	Capital
	Ministry of Agriculture					
1	Dept of Agriculture and Cooperation	17122.87	400.00	17522.87	17450.67	72.20
2	Dept of Agricultural Research and Education	2800.00	2157.60	4957.60	4957.60	0.00
3	Dept of Animal, Dairying and Fisheries	1600.00	96.25	1696.25	1679.51	16.74
	Department of Atomic Energy					
4	Atomic Energy	3991.00	3611.41	7602.41	4198.06	3404.35
5	Nuclear Power Schemes	1609.00	141.05	1750.05	662.65	1087.40
	Ministry of Chemicals and Fertilisers					
6	Dept of Chemicals and Petrochemicals	800.00	22.00	822.00	799.88	22.12
7	Department of Fertilisers	225.00	50020.00	50245.00	50027.46	217.54
8	Department of Pharmaceuticals	175.00	38.00	213.00	190.50	22.50
	Ministry of Civil Aviation					
9	Ministry of Civil Aviation	1700.00	693.88	2393.88	1000.88	1393.00
	Ministry of Coal					
10	Ministry of Coal	420.00	48.72	468.72	468.72	0.00
	Ministry of Commerce and Industry					
11	Department of Commerce	2000.00	4511.58	6511.58	5580.60	930.98
12	Dept of Industrial Policy and Promotion	1300.00	189.00	1489.00	1481.00	8.00
	Ministry of Communications and Information Technology					
13	Department of Posts	800.00	5027.67	5827.67	5309.55	518.12
14	Department of Telecommunications	3418.00	4255.78	7673.78	6645.82	1027.96
15	Department of Information Technology	3000.00	48.61	3048.61	2871.21	177.40
	Ministry of Consumer Affairs, Food and Public Distribution					
16	Department of Consumer Affairs	225.00	355.56	580.56	557.10	23.46
17	Department of Food and Public Distribution	120.00	61486.01	61606.01	61527.68	78.33
	Ministry of Corporate Affairs					
18	Ministry of Corporate Affairs	28.00	210.94	238.94	199.94	39.00
	Ministry of Culture					
19	Ministry of Culture	785.00	553.00	1338.00	1298.00	40.00
	Ministry of Defence					
20	Ministry of Defence	...	4156.81	4156.81	2474.81	1682.00
21	Defence Pensions	...	34000.00	34000.00	34000.00	0.00
22	Defence Services-Army	...	64251.55	64251.55	64251.55	0.00
23	Defence Services-Navy	...	10589.06	10589.06	10589.06	0.00
24	Defence Services-Air Force	...	15927.95	15927.95	15927.95	0.00
25	Defence Ordnance Factories	...	-1176.75	-1176.75	-1176.75	0.00
26	Defence Services – Research and	...	5624.87	5624.87	5624.87	0.00

Demand For Grants	Ministries/ Departments	Plan	Non-Plan	Total	Revenue	Capital
	Development					
27	Capital Outlay on Defence Services	...	69198.81	69198.81	69198.81	0.00
	Ministry of Development of North Eastern Region					
28	Ministry of Development of North East Region	1741.00	21.58	1762.58	1631.58	131.00
	Ministry of Earth Sciences					
29	Ministry of Earth Sciences	1220.00	347.00	1567.00	1282.80	284.20
	Ministry of Environment and Forests					
30	Ministry of Environment and Forests	2300.00	191.97	2491.97	2411.29	80.68
	Ministry of External Affairs					
31	Ministry of External Affairs	800.00	6306.00	7106.00	6315.00	791.00
	Ministry of Finance					
32	Department of Economic Affairs	2040.00	8193.24	10233.24	5908.03	4325.21
33	Department of Financial Services	7850.00	9855.94	17705.94	9891.94	7814.00
34	Appropriation - Interest Payments	...	267986.17	267986.17	267986.17	0.00
35	Transfers to State and UT Governments	80741.61	49623.62	130365.23	121365.23	9000.00
36	Loans to Government Servants, etc.	...	-190.00	-190.00	-190.00	0.00
37	Appropriation - Repayment of Debt		
38	Department of Expenditure	5.00	96.97	101.97	99.97	2.00
39	Pensions	...	16000.00	16000.00	16000.00	0.00
40	Indian Audit and Accounts Department	...	2253.08	2253.08	2243.40	9.68
41	Department of Revenue	...	12990.93	12990.93	12973.04	17.89
42	Direct Taxes	...	3879.55	3879.55	2975.85	903.70
43	Indirect Taxes	...	3378.39	3378.39	3250.84	127.55
44	Department of Disinvestment	...	62.63	62.63	62.63	0.00
	Ministry of Food Processing Industries					
45	Ministry of Food Processing Industries	600.00	10.09	610.09	514.58	95.51
	Ministry of Health and Family Welfare					
46	Dept of Health and Family Welfare	23560.00	3337.00	26897.00	24907.92	1989.08
47	Department of Ayurveda, Yoga etc (AYUS)	900.00	188.00	1088.00	1064.00	24.00
48	Department of Health Research	600.00	171.00	771.00	771.00	0.00
49	Department of AIDS Control	1700.00	...	1700.00	1699.00	1.00
	Ministry of Heavy Industries and Public Enterprises					
50	Department of Heavy Industry	399.00	456.65	855.65	415.75	439.90
51	Department of Public Enterprises	11.00	7.69	18.69	18.69	0.00
	Ministry of Home Affairs					
52	Ministry of Home Affairs	3237.00	1713.39	4950.39	4921.54	28.85
53	Cabinet	...	434.61	434.61	330.54	104.07
54	Police	6435.00	33224.99	39659.99	31187.47	8472.52
55	Other Expenditure of the Ministry of Home Affairs	328.00	1416.86	1744.86	1640.87	103.99
56	Transfers to UT Governments	1562.29	568.00	2130.29	2058.29	72.00
	Ministry of Housing and Urban Poverty Alleviation					
57	Ministry of Housing & Urban Poverty Alleviation	1100.00	7.60	1107.60	1107.60	0.00
	Ministry of Human Resource Development					

Demand For Grants	Ministries/ Departments	Plan	Non-Plan	Total	Revenue	Capital
58	Dept of School Education and Literacy	38957.00	2494.00	41451.00	41451.00	0.00
59	Department of Higher Education	13100.00	8812.00	21912.00	21912.00	0.00
	Ministry of Information and Broadcasting					
60	Ministry of Information & Broadcasting	861.00	1782.64	2643.64	2056.10	587.54
	Ministry of Labour and Employment					
61	Ministry of Labour and Employment	1248.25	1861.00	3109.25	3104.36	4.89
	Ministry of Law and Justice					
62	Election Commission	...	25.93	25.93	25.93	0.00
63	Law and Justice	1000.00	432.30	1432.30	1417.28	15.02
64	Appropriation - Supreme Court of India	...	95.22	95.22	95.22	0.00
	Ministry of Micro, Small and Medium Enterprises					
65	Ministry of Micro, Small and Medium Enterprises	2700.00	301.29	3001.29	2834.49	166.80
	Ministry of Mines					
66	Ministry of Mines	214.00	440.28	654.28	615.07	39.21
	Ministry of Minority Affairs					
67	Ministry of Minority Affairs	2850.00	16.00	2866.00	2751.00	115.00
	Ministry of New and Renewable Energy					
68	Ministry of New and Renewable Energy	1198.00	14.38	1212.38	1146.88	65.50
	Ministry of Overseas Indian Affairs					
69	Ministry of Overseas Indian Affairs	...	81.00	81.00	71.80	9.20
	Ministry of Panchayati Raj					
70	Ministry of Panchayati Raj	5250.00	0.65	5250.65	5250.65	0.00
	Ministry of Parliamentary Affairs					
71	Ministry of Parliamentary Affairs	...	10.48	10.48	10.48	0.00
	Ministry of Personnel, Public Grievances, Pensions					
72	Ministry of Personnel, Public Grievances and Pensions	260.00	506.78	766.78	692.16	74.62
	Ministry of Petroleum and Natural Gas					
73	Ministry of Petroleum and Natural Gas	40.00	23676.20	23716.20	23716.20	0.00
	Ministry of Planning					
74	Ministry of Planning	1600.00	76.00	1676.00	944.39	731.61
	Ministry of Power					
75	Ministry of Power	9642.00	-135.01	9506.99	6644.83	2862.16
	President, Vice President Parliament, UPSC					
76	President	...	27.67	27.67	27.67	0.00
77	Lok Sabha	...	400.00	400.00	400.00	0.00
78	Rajya Sabha	...	224.35	224.35	224.35	0.00
79	Appropriation - Union Public Service Commission	...	146.58	146.58	146.58	0.00
80	Secretariat of the Vice-President	...	2.99	2.99	2.99	0.00
	Ministry of Road Transport and Highways					
81	Ministry of Road Transport and Highways	22247.75	4190.00	26437.75	16743.31	9694.44
	Ministry of Rural Development					
82	Department of Rural Development	74100.00	43.72	74143.72	74143.72	0.00

Demand For Grants	Ministries/ Departments	Plan	Non-Plan	Total	Revenue	Capital
83	Department of Land Resources	2700.00	6.20	2706.20	2706.20	0.00
84	Dept of Drinking Water and Sanitation	11000.00	5.24	11005.24	11005.24	0.00
	Ministry of Science and Technology					
85	Department of Science and Technology	2349.00	384.00	2733.00	2686.25	46.75
86	Dept of Scientific & Industrial Research	1930.00	1455.00	3385.00	3378.50	6.50
87	Department of Biotechnology	1400.00	26.92	1426.92	1426.92	0.00
	Ministry of Shipping					
88	Ministry of Shipping	743.00	1063.00	1806.00	1277.93	528.07
	Ministry of Social Justice and Empowerment					
89	Ministry of Social Justice and Empowerment	5375.00	78.00	5453.00	5183.00	270.00
	Department of Space					
90	Department of Space	5700.00	926.00	6626.00	3677.47	2948.53
	Ministry of Statistics and Programme Implementation					
91	Ministry of Statistics & Programme Implementation	2180.00	347.36	2527.36	2505.79	21.57
	Ministry of Steel					
92	Ministry of Steel	40.00	70.76	110.76	109.76	1.00
	Ministry of Textiles					
93	Ministry of Textiles	5000.00	855.75	5855.75	5767.48	88.27
	Ministry of Tourism					
94	Ministry of Tourism	1100.00	70.76	1170.76	1166.75	4.01
	Ministry of Tribal Affairs					
95	Ministry of Tribal Affairs	3723.01	17.00	3740.01	3670.01	70.00
	Union Territories (Without Legislature)					
96	Andaman and Nicobar Islands	1430.45	1173.90	2604.35	2005.03	599.32
97	Chandigarh	661.89	1646.53	2308.42	2053.33	255.09
98	Dadra and Nagar Haveli	334.14	97.30	431.44	275.11	156.33
99	Daman and Diu	324.95	105.40	430.35	253.09	177.26
100	Lakshadweep	388.79	385.76	774.55	504.18	270.37
	Ministry of Urban Development					
101	Department of Urban Development	6068.76	786.47	6855.23	1270.98	5584.25
102	Public Works	210.99	1378.01	1589.00	1105.21	483.79
103	Stationery and Printing	...	97.23	97.23	97.10	0.13
	Ministry of Water Resources					
104	Ministry of Water Resources	720.00	502.73	1222.73	1125.13	97.60
	Ministry of Women and Child Development					
105	Ministry of Women & Child Development	12650.00	83.00	12733.00	12733.00	0.00
	Ministry of Youth Affairs and Sports					
106	Ministry of Youth Affairs and Sports	1000.00	121.00	1121.00	1116.98	4.02
	Total	421546.75	816182.08	1237728.83	1166171.05	71557.78

Source: Expenditure Budget, Volume – II, Government of India 2011-12

APPENDIX II. BUDGET AND ACCOUNTS CODE ON DISASTER MANAGEMENT

MAJOR / SUB-MAJOR HEADS MINOR HEADS

2245 Relief on account of Natural Calamities

<i>01 Drought</i>	101 Gratuitous Relief
	102 Drinking Water Supply
	103 Special Nutrition
	104 Supply of Fodder
	105 Veterinary Care
	282 Public Health
	800 Other expenditure
	901 Deduct-Amount met from Natural Calamities unspent Margin Money Fund.
	902 Deduct-Amount met from the Famine Relief Fund
<i>02 Floods, Cyclones, etc.</i>	101 Gratuitous Relief
	102 Drinking Water Supply
	104 Supply of Fodder
	105 Veterinary care
	106 Repairs and restoration of damaged roads and bridges
	107 Repairs and restoration of damaged Government Office Buildings
	108 Repairs and Restoration of damaged Government Residential buildings
	109 Repairs & restoration of damaged water supply, drainage, sewerage works
	110 Assistance for repairs, restoration of damaged water supply, drainage & sewerage
	111 Ex-gratia payments to bereaved families
	112 Evacuation of population
	113 Assistance for repairs/reconstruction of Houses
	114 Assistance to Farmers for purchase of Agricultural inputs
	115 Assistance to Farmers to clear sand/silt/salinity from land
	116 Assistance to Farmers for repairs of damaged tube wells, pump sets etc.
	117 Assistance to Farmers for purchase of live stock
	118 Assistance for repairs/replacement of damaged boats, equipment for fishing

	119 Assistance to artisans for repairs/replacement of damaged tools and equipments
	120 Assistance to owners of salt works
	121 Afforestation
	122 Repairs and restoration of damaged irrigation and flood control works
	193 Assistance to Local bodies and other non-Government Bodies/Institutions
	282 Public Health
<i>03 Unspent Margin Money Fund</i>	101 Transfers to Reserve funds and Deposit Accounts-Natural Calamities unspent Margin Money Fund
<i>04 Famine Relief Fund</i>	101 Transfers to Reserve Funds and Deposit Accounts-Famine Relief Fund
<i>05 Calamity Relief Fund</i>	101 Transfer to Reserve Funds and Deposit Accounts-Calamity Relief Fund
	901 Deduct - Amount met from Calamity Relief Fund.
80 General	001 Direction and Administration
	101 Centre for Training in disaster preparedness
	102 Management of Natural Disasters, Contingency Plans in disaster prone areas
	800 Other expenditure

Notes: (1) All expenditure incurred directly for the relief of distress shall be debited to this major head. Expenditure incurred indirectly due to any natural calamity shall be debited to appropriate functional major head.

(2) This will be sub-divided into:

- | | |
|--|-----------------------------------|
| (i) Cash doles | (v) Supply of medicines |
| (ii) Food and clothing Agricultural implements | (vi) Supply of seeds, fertilizers |
| (iii) Housing | (vii) Supply of fodder and |
| (iv) Educational Concessions | (viii) Other items |

(3) This minor head will record expenditure on prevention of cattle epidemic and other miscellaneous expenditure not identifiable with other sub-major/minor heads.

**APPENDIX III. THIRTEENTH FINANCE COMMISSION
ALLOCATION ON STATE DISASTER RESPONSE FUND AND
CAPACITY BUILDING GRANT AND APPORTIONMENT OF
CENTRAL AND STATE SHARES FOR THE SAME 2010-15 (IN
RS. CR.)**

	State	State Disaster Response Fund			Capacity Building Grant		
		Central Share	State Share	Total	Central Share	State Share	Total
1.	Andhra Pradesh	2108.73	702.91	2811.64	30.00	0	2841.64
2.	Arunachal Pradesh	182.74	20.30	203.04	5.00	0	208.04
3.	Assam	1311.76	145.75	1457.51	25.00	0	1482.51
4.	Bihar	1386.20	462.05	1848.25	25.00	0	1873.25
5.	Jharkhand	627.11	209.03	836.14	20.00	0	856.14
6.	Goa	12.27	4.10	16.37	5.00	0	21.37
7.	Gujarat	2080.90	693.64	2774.54	30.00	0	2804.54
8.	Haryana	799.44	266.48	1065.92	25.00	0	1090.92
9.	Himachal Pradesh	650.30	72.26	722.56	20.00	0	742.56
10.	Jammu & Kashmir	857.64	95.29	952.93	20.00	0	972.93
11.	Karnataka	1075.22	358.39	1433.61	25.00	0	1458.61
12.	Kerala	667.07	222.34	889.41	20.00	0	909.41
13.	Madhya Pradesh	543.22	181.07	724.29	20.00	0	744.29
14.	Chhatisgarh	1627.65	542.55	2170.2	25.00	0	2195.2
15.	Maharashtra	1834.60	611.51	2446.11	25.00	0	2471.11
16.	Manipur	35.90	4.00	39.9	5.00	0	44.9
17.	Meghalaya	72.86	8.09	80.95	5.00	0	85.95
18.	Mizoram	42.54	4.72	47.26	5.00	0	52.26
19.	Nagaland	24.72	2.74	27.46	5.00	0	32.46
20.	Orissa	1622.82	540.93	2163.75	25.00	0	2188.75
21.	Punjab	923.84	307.94	1231.78	25.00	0	1256.78
22.	Rajasthan	2489.27	829.73	3319	30.00	0	3349
23.	Sikkim	113.14	12.56	125.7	5.00	0	130.7
24.	Tamil Nadu	1216.43	405.47	1621.9	25.00	0	1646.9
25.	Tripura	96.03	10.67	106.7	5.0	0	111.7
26.	Uttar Pradesh	1597.14	532.37	2129.51	25.00	0	2154.51
27.	Uttaranchal	585.14	65.01	650.15	20.00	0	670.15
28.	West Bengal	1263.25	421.10	1684.35	25.00	0	1709.35
	Total	25847.93	7733	33580.93	525.00	0	34105.93

Note: The total allocations for the fiscal cycle 2010-15 are divided equally for each of the five financial

APPENDIX IV. BUDGETARY ALLOCATIONS OF VARIOUS MINISTRIES/ DEPARTMENTS OF GOVERNMENT OF INDIA ON DEDICATED SCHEMES ON DISASTER MANAGEMENT (2005-06 TO 2011-12) (IN RS. CR.)

Financial Years		2005-2006			2006-2007			2007-2008			2008-2009			2009-2010			2010-2011			2011-2012		
Ministries/ Departments	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
Ministry of Agriculture, Department of Agriculture																						
1	Strengthening & Modernization of Pest Management	29.1	16.99	46.1	33.3	17.66	50.96	34.72	17.73	52.45	37.45	17.69	55.14	38.45	26.76	65.21	51.73	26.61	78.34	70.94	24.96	95.9
2	Crop Insurance Scheme	0	0	0	0	0	0	0	0	0	694	0	694	694	0	694	1050	0	1050	1150	0	1150
	Total	29.1	16.99	46.1	33.3	17.66	50.96	34.72	17.73	52.45	731.45	17.69	749.14	732.45	26.76	759.21	1101.73	26.61	1128.34	1220.94	24.96	1245.9
Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries																						
1	Preparedness, Control and Containment of Avian Influenza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49.31	0	49.31	64.23	0	64.23
Ministry of Earth Sciences																						
2	Tsunami and Storm Surge Warning System	20	0	20	95	0	95	35	0	35	15	0	15	15	0	15	12	0	12	12	0	12
2	Multi-hazards Early Warning Support System	0	0	0	0	0	0	0	0	0	1	0	1	10	0	10	5	0	5	5	0	5
	Total	20	0	20	95	0	95	35	0	35	16	0	16	25	0	25	17	0	17	17	0	17
Ministry of Finance, Department of Expenditure																						
1	Grants in Aid to States for CRF/SDRF	0	2958.32	2958.32	0	3073.34	3073.34	0	3194.14	3194.14	0	3320.97	3320.97	0	3453.23	3453.23	0	4677.82	4677.82	0	4911.7	4911.7
2	Grants in Aid to States for Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	105	0	105	105

Financial Years		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012								
	Building																					
3	Grants in Aid for NCCF/NDRF	0	2583 .12	2583 .12	0	3061 .44	3061 .44	0	1962 .65	1962 .65	0	1800	1800	0	3560	3560	0	3560	3560	0	4525	4525
4	Tsunami Rehabilitation Programme	0	0	0	304	0	304	326	0	326	460	0	460	0	0	0	0	0	0	0	0	0
5	Brihan Mumbai Storm Water Drain Project	0	0	0	0	0	0	400	0	400	100	0	100	0.5	0	0.5	0.5	0	0.5	0	0	0
6	Long Term Reconstruction of flood damages, 2005-06	0	0	0	0	0	0	0	0	0	325.11	0	325.11	0	0	0	0	0	0	0	0	0
7	ACA for Drought mitigation in Bundelkhand Region	0	0	0	0	0	0	0	0	0	0	0	0	1200	0	1200	1200	0	1200	0	0	0
	Total	0	5541 .44	5541 .44		6134 .78	6438 .78	726	5156 .79	5882 .79	885.11	5120 .97	6006 .08	1200 .5	7013 .23	8213 .73	1200 .5	8342 .82	9543 .32	0	9541 .7	9541.7
Ministry of Health and Family Welfare, Department of Health and Family Welfare																						
1	Health Sector Disaster Preparedness & Management	14	0	14	49	0	49	9	0	9	6.3	0	6.3	96	0	96	96	0	96	80.5	0	80.5
2	National Integrated Disease Surveillance Programme	48.5	0	48.5	55	0	55	40	0	40	53	0	53	29	0	29	29	0	29	55	0	55
	Total	62.5	0	62.5	104	0	104	49	0	49	59.3	0	59.3	125	0	125	125	0	125	135.5	0	135.5
Ministry of Home Affairs																						
1	National Disaster Management Authority	0	46.9 3	46.9 3	0	48.8 5	48.8 5	0	70	70	0	46.3 9	46.3 9	0	48.0 6	48.0 6	0	49.4 2	49.4 2	0	33.3 1	33.31
2	National Institute of Disaster	5	0	5	5	0	5	0	8	8	0	7.44	7.44	0	9	9	0	10	10	0	14	14

Financial Years		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012									
	Management																						
3	National Disaster Response Force	0	0	0	0	0	0	0	0	0	0	0	0	5	218.57	223.57	4	207.71	211.71	0.1	181.47	181.57	
4	National Disaster Management Programme	1.95	15	16.95	3.43	15	18.43	0	0	1	0	1.1	1.1	0	0.51	0.51	0	0.25	0.25	0	0.36	0.36	
5	Capacity Development of Engineers	0	3.5	3.5	0	2	2	0	3	3	0	1	1	0	3.76	3.76	0	0.01	0.01	0	0	0	
6	Capacity Development of Architects	0	3.5	3.5	0	2	2	0	3	3	0	1.5	1.5	0	2	2	0	0.01	0.01	0	0	0	
7	National Cyclone Risk Mitigation Project	0	0	0	10.1		10.1	15	0	15	15	0	15	15	0	15	100	0	100	246	0	246	
8	National Earthquake Mitigation Project	0	0	0	0	0	0	2	0	2	2	0	2	5	0	5	5	0	5	10	0	10	
9	Landslide Risk Mitigation Project	0	0	0	0	0	0	1.5	0	1.5	1.5	0	1.5	1	0	1	2	0	2	2	0	2	
10	National Flood Disaster Management Project	0	0	0	0	0	0	2	0	2	2	0	2	4.5	0	4.5	2	0	2	2	0	2	
11	Disaster Management Communication Network	0	0	0	0	0	0	1.5	0	1.5	1.5	0	1.5	4.5	0	4.5	2	0	2	15	0	15	
12	Other Disaster Management Projects	0	0	0	0	0	0	3	0	3	3	0	3	10	0	10	30	0	30	39.9	0	39.9	
13	USAID Assisted Disaster Management Support Project	0	0	0	0	0.01	0.01	0	0.01	0.01	0	0	0	0	1.28	1.28	0	0.1	0.1	0	0.1	0.1	
1	UNDP Assisted	0	0	0	0	0.01	0.01	0	0.01	0.01	0	0.03	0.03	0	0.01	0.01	0	10	10	0	15	15	

Financial Years		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012								
14	Disaster Risk Reduction Project																					
15	Building Capability for Rapid Intervention in Disasters	0	0	0	0	0	0	0	0	0	0	0	0	0.23	0.23	0	0.23	0.23	0	0.23	0.23	
16	Civil Defence	0	4.85	4.65	0	3.14	3.14	0	4.54	4.54	0	5.47	5.47	0	6.67	6.67	0	4.53	4.53	2	4.14	6.14
17	National Civil Defence College	0	1.33	1.33	0	2.36	2.36	0	1.31	1.31	0	1.43	1.43	0	1.8	1.8	0	2.14	2.14	0	2.81	2.81
18	National Fire Service College	0	3.8	3.8	0	3.25	3.25	0	3	3	0	2.19	2.19	0	2.94	2.94	0	3.43	3.43	0	4.76	4.76
19	Strengthening of Fire and Emergency Services	0	0	0	0	0	0	0	0	0	5	0	5	5	0	5	5	0	5	20	0	20
20	Home Guards	0	44	44	0	54	54	0	50	50	0	44.87	44.87	0	42	42	0	42	42	0	39.39	39.39
	Total	6.95	122.91	129.66	18.53	130.62	149.15	25	142.87	168.87	30	111.42	141.42	50	336.83	386.83	150	329.83	479.83	337	295.57	632.57
Department of Space																						
1	Disaster Management Support	25	0	25	24.35	0	24.35	70	0	70	65	0	65	40	0	40	38.62	0	38.62	34.57	0	34.57
Ministry of Water Resources																						
1	Flood protection works in Eastern & Western Sectors	0	3	3	0	3	3	0	3	3	0	3	3	0	3	3	0	3	3	0	3	3
2	Flood Forecasting	0	0	0	0	0	0	12.34	0	12.34	19.5	0	19.5	33	0	33	33	0	33	34	0	34
	Total	0	3	3	0	3	3	12.34	3	15.34	19.5	3	22.5	33	3	36	33	3	36	34	3	37
	Grand Total	143.55	5684.34	5827.7	275.18	6286.06	6865.2	952.06	5320.39	6273.45	1806.3	5253.08	7059.44	2205.95	7379.82	9585.77	2715.16	8702.26	11417.4	1843.24	9865.23	11708.47

APPENDIX V. BUDGETARY ALLOCATIONS OF MINISTRIES AND DEPARTMENTS OF GOVERNMENT OF INDIA ON PLAN AND NON-PLAN SCHEMES WITH SIGNIFICANT ELEMENTS OF DISASTER RISK REDUCTION EMBEDDED IN THEM 2005-06 TO 2011-12 (IN RS. CR.)

Financial Years		2005-2006			2006-2007			2007-2008			2008-2009			2009-2010			2010-2011			2011-2012		
Ministries and Departments	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total	
Ministry of Agriculture, Department of Agriculture and Cooperation																						
1	National Programmes on Crop Husbandry	2633.7	323.31	2956.9	3239.8	320.5	3560.3	3766.9	324.32	4091.2	5106.8	565.01	5671.8	5379.8	512.38	5892.2	6311.8	511.9	6823.7	7215.8	293.47	7509.3
2	Soil and Water Conservation	38	1.7	39.7	51	1.68	52.68	50.75	1.7	52.45	51	1.81	52.81	54	2.76	56.76	55.78	2.45	58.23	65	2	67.6
3	Agriculture Extension and Training	0	0	0	0	0	0	0	0	0	268	0	268	268	0	268	338.26	9	347.26	617.5	12.63	630.13
4	National Food Security Mission	0	0	0	0	0	0	0	0	0	993	0	993	1260	0	1260	1220.5	0	1220.5	1250	0	1250
5	National Rainfed Area Authority	0	0	0	0	0	0	1.5	0	1.5	4	0	4	4	0	4	20	0	20	0	0	0
6	Rainfed Area Development Programmes	0	0	0	0	0	0	40	0	40	25	0	25	25	0	25	9	0	9	1	0	1
7	Other Agricultural Programmes	167.07	25.68	192.75	183.65	26.54	210.19	162.02	27.47	189.49	155.2	27.71	182.91	156.2	41.86	198.06	257.8		257.8	336	0	336
8	Cooperatives	162.5	0	162.5	138	0	138	124.31	0	124.31	137	0	137	137	0	137	82.55	0	82.55	222	0	222
	Total	3001.2	350.69	3351.8	3612.4	348.72	3961.2	4145.5	353.49	4498.9	6740	594.53	7334.5	7284	557	7841	8295.7	523.35	8819.1	9707.4	308.1	10016
Ministry of Agriculture, Department of Agricultural Research and Education																						
1	Climate Resilient Agriculture Initiative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180	0	180	130	0	130
2	Agricultural Research and Education	1150	792	1942	1350	810	2160	1620	840	2460	1760	920	2680	1760	1481.4	3241.1	2300	1518.1	3818.1	2800	2157.6	4956.6

	Total	1150	792	1942	1350	810	2160	1620	840	2460	1760	920	2680	1760	1481.4	3241.1	2480	1518.1	3998.1	2930	2157.6	5086.6
Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries																						
1	Veterinary Services and Animal Health	114.3	0	114.3	114.5	0	114.5	151.05	0	151.05	162	0	162	305.04	0	305.04	400.31	0	400.31	431.86	0	431.86
2	Other National Programmes on Animal Husbandry	15.55	0	15.55	22.5	11.31	33.81	236.37	19.64	256.01	297	25.74	322.74	246.72	32.55	279.27	359.3	32.62	391.92	419.72	36.36	456.08
3	National Programmes on Dairy Development	78.5	0	78.5	68.5	0	68.5	80.15	0	80.15	88.55	7.73	96.28	88.54	16.15	104.69	76.55	9	85.55	222.75	8.3	231.05
4	National Programmes on Development of Fisheries	168.58	17.59	186.15	264	17.9	281.9	193.53	18.36	211.89	201.45	21.39	222.84	276.2	47.58	323.78	241.77	43.58	285.35	270.2	37.04	307.24
	Total	376.93	17.59	394.55	469.5	29.21	498.71	661.1	38	699.1	749	54.86	803.86	916.5	96.28	1012.8	1077.9	85.2	1163.1	1344.5	81.7	1426.2
Ministry of Chemicals and Fertilizers, Department of Fertilizers																						
1	Subsidy on imported fertilizers	0	943.53	943.53	0	1093.5	1093.5	0	2703.5	2703.5	0	7238.9	7238.9	0	5500	5500	0	5500	5500	0	6983	6983
2	Payment to manufacturers/Agencies for concessional sale of decontrolled fertilizers	0	5200	5200	0	5749	5749	0	8347.1	8347.1	0	10847	10847	0	28500	28500	0	28500	28500	0	29707	29707
3	Subsidy on indigenous fertilizers	0	10110	10110	0	10410	10410	0	11400	11400	0	12900	12900	0	15980	15980	0	15980	15980	0	13308	13308
	Total	0	16253	16253	0	17252	17252	0	22451	22451	0	30986	30986	0	49980	49980	0	49980	49980	0	49997	49997
Ministry of Consumer Affairs, Food and Public Distribution																						
1	Food Subsidy	0	26200	26200	0	24200	24200	0	25696	25696	0	32666	32666	0	55578	55578	0	55578	55578	0	60572	60572
Ministry of Earth Sciences																						
1	Oceanographic Research	340	0	340	438	0	438	365	26.59	391.59	294	41	335	509.62	38.25	547.87	597.55	39.88	637.43	816	39.88	855.88
2	Meteorology	85	126.05	211.05	83	146.75	229.75	301	152.67	453.67	432	155.26	587.26	310.38	236.1	546.48	321	218.01	539.01	352	256.84	608.84
3	Centre for Climate Change	0	0	0	0	0	0	0	0	0	11	3.9	14.9	20	4.65	24.65	45	0	45	50	0	50

4	National Centre for Medium Range Weather Forecasting	20	2	22	23	2.25	25.25	11	2.31	13.31	11	3.9	14.9	11	4.12	15.12	25	4.12	29.12	15	4.88	19.88
5	Indian Institute of Tropical Meteorology	8	2.75	10.75	9	2.2	11.2	13	4	17	13	9	22	60	12	72	56.45	17	73.45	37	21.4	58.4
	Total	453	130.8	583.8	553	151.2	704.2	690	185.57	875.57	761	213.06	974.06	911	295.12	1206.12	1045	279.01	1324.01	1270	323	1593
Ministry of Environment and Forests																						
1	Education and Training on Forestry and Wildlife	15	6.04	21.04	14.7	7.02	21.72	11.5	7.07	18.57	26.5	8.45	34.95	26.31	14.59	40.9	78.79	17.91	96.7	93.89	21.29	115.18
2	National Afforestation and Eco Development Programme	260.85	0	260.85	295.1	13.5	308.6	320.69	10.01	330.7	331.02	10	341.02	319.62	11	330.62	263.5	11	274.5	242	11	253
3	Forest Conservation, Development and Regeneration	41	0	41	77.15	0	77.15	76.28	0	76.28	96.5	0	96.5	69.03	0	69.03	56.7		56.7	56.7		56.7
4	Research and Ecological Regeneration	19.5	0	19.5	19.5	0	19.5	22.05	0	22.05	25.75	0	25.75	28.3	0	28.3	31.6		31.6	28.6		28.6
5	Mangroves Eco-Systems and Wetlands	2	0	2	2	0	2	3.99	0	3.99	3	0	3	3	0	3	3	0	3	3	0	3
6	Climate Change Project	2.16	0	2.16	5.67	0	5.67	2.65	0	2.65	3.5	0	3.5	7	0	7	7	0	7	7	0	7
7	National Coastal Management Programme	0	0	0	0.1	0	0.1	0.1	0	0.1	1.37	0	1.37	150	0	150	150	0	150	267.6	0	267.6
	Total	340.51	6.04	346.55	414.22	20.52	429.07	437.26	17.08	454.34	487.64	18.45	506.09	603.26	25.59	628.85	590.59	28.91	619.5	698.79	32.29	731.08
Ministry of External Affairs																						
1	Aid for Disaster Relief	0	0	0	0	0	0	0	0	0	0	58.67	58.67	0	40	40	0	40	40	0	40	40
Ministry of Finance, Department of Economic Affairs																						
1	Technical and Economic Cooperation with other Countries	0	15.18	15.18	0	14.51	14.51	0	16.66	16.66	0	54.08	54.08	0	41.64	41.64	0	45.08	45.08	0	38.11	38.11
Ministry of Finance, Department of Financial Service																						
1	Financial & Trading Institutions- Social Security and Welfare	0	1485	1485	0	80	80	0	40000	40000	1900	0	1900	1542	625	2167	50	17150	17200	6050	639.08	6689.08

Ministry of Health and Family Welfare, Department of Health and Family Welfare																						
1	Medical Education, Training and Research	949.6	447.73	1397.33	815.66	620.98	1436.64	850.45	669.96	152.041	107.06	588.3	1658.91	2079.52	117.6.4	3255.94	1748.26	930.58	2678.84	2738.92	132.3	406.1.92
2	Public Health	783.85	107.87	891.72	1075.5	120.04	1195.54	170.1.85	145.44	184.7.29	200.4.8	159	2163.8	1759.79	225.32	1985.11	2951.37	230.3	3181.67	1906.26	254.16	216.0.42
3	Hospitals and Dispensaries	123.51	145.19	268.7	110.19	153.06	263.25	88.7	172.7	261.4	139.2	196.2	335.4	181.3	663.53	844.83	281.79	700.31	982.1	394.22	979.5	137.3.72
4	National Rural Health Mission	647.7.01	31.04	6508.05	8108.47	33.43	8141.9	980.1	38	983.9	107.42	44.2.5	1078.6.2	1245.7	72	1252.9	1383.6	74.4.5	1391.0.4	1605.6	84.7.6	161.40.7
	Total	833.3.97	731.83	9065.8	1010.9.8	927.51	1103.7.3	124.42	102.6.1	134.68.1	139.56	987.75	1494.3.7	1647.7.6	213.7.2	1861.4.8	1881.7.4	193.5.6	2075.3.0	2109.5.4	264.1	237.36.4
Ministry of Health and Family Welfare, Department of Health Research																						
1	Health Research including Research on Epidemics	0	0	0	0	0	0	0	0	0	420	111.75	531.75	420	186	606	500	160	660	600	171	771
Ministry of Housing and Urban Poverty Alleviation																						
1	Integrated Low Cost Sanitation Programme	30	0	30	30	0	30	40	0	40	150	0	150	60	0	60	71	0	71	71	0	71
2	National Schemes on Housing and Urban Poverty Alleviation	500	12.03	512.03	421.67	10	431.67	500	9.75	509.75	850	6.5	856.5	850	7.97	857.97	878	3.14	881.14	969.5	3.31	972.81
	Total	530	12.03	542.03	451.67	10	461.67	540	9.75	549.75	1000	6.5	1006.5	910	7.97	917.97	949	3.14	952.14	1040.5	3.31	1043.81
Ministry of Human Resource Development, Department of School Education and Literacy																						
1	Elementary Education	112.17	2.5	1121.9.5	1536.7	2.6.1	1537.0.6	169.31.1	3	169.34.1	197.74	3.2	1977.7.2	1967.7.7	5.2	1968.2.9	2266.1.5	5.7	2266.7.2	2912.3.1	6.4	291.29.5
2	Secondary Education	787.51	804.1	1591.61	960.3	877.08	1837.38	284.7.6	946	379.3.6	409.8.6	104.1.1	5139.7	4184.07	228.6.13	6470.2	4207.44	216.4.66	6372.04	5591.7	247.8.5	807.0.5
3	Adult Education	261	2.2.4	263.24	211.95	2.1	214.05	360.9	2.2.2	363.12	405.9	2.4	408.3	405.9	3.83	409.73	1170	3.48	1173.48	540	3.66	543.66
	Total	122.65	808.87	1307.3.8	1654.0	881.79	1742.1.7	201.39.6	951.2	210.90.8	242.78	104.6.7	2532.4.7	2426.7.7	229.5.1	2656.2.8	2803.9	217.3.8	3021.2.8	3525.4.8	248.8.6	377.43.4
Ministry of Human Resource Development, Department of Higher Education																						

1	General Education	171 6	219 2.7	3908 .7	2420 .1	245 9.9	4880	291 0.03	175 5	466 5.03	394 6	213 7.6	6083 .6	5108 .59	386 9.69	8978 .28	5648 .97	387 5.54	9524 .51	6602 .88	657 1.53	131 74.4
2	Technical Education	733. 4	867 .33	1600 .73	841. 88	876 .52	1718 .4	292 8.97	941 .03	387 0	288 8.51	107 4.74	3963 .25	3524 .72	189 0.02	5414 .74	4266 .03	174 5.52	6011 .55	5210 .22	216 2.22	737 2.44
	Total	244 9.4	306 0.1	5509 .5	3262 .1	333 6.4	6598 .5	583 9	269 6.1	853 5.1	683 4.5	321 2.4	1004 6.9	8633 .3	575 9.7	1439 3	9915	562 1	1553 6	1181 3.1	873 3.75	205 46.8
Ministry of Information and Broadcasting																						
1	Information and Publicity	419. 34	227 .65	593. 39	239. 79	242 .14	481. 93	371. 85	246 .06	617. 91	521. 24	246. 35	767. 59	586. 79	345. 84	932. 63	279. 88	349. 64	629. 52	789. 36	369. 63	115 9.63
2	Broadcasting	162. 66	847 .35	1009 .61	298. 21	935 .86	1234 .07	103. 15	960 .78	106 3.93	178. 76	963. 65	1142 .41	213. 21	142 2.16	1635 .37	193. 5	124 7.22	1440 .72	71.6 4	141 2.37	148 4.01
	Total	582 5	107 .5	1603 .61	538 .1	117 8	1716 .5	475 9	120 6.8	168 1.8	700 4.5	121 2.4	1910 6.9	800. 00	176 8.00	2568 .00	473. 38	159 6.86	2070 .24	861	178 2	264 3.64
Ministry of Labour and Employment																						
1	Social Security for Labour	0	713 .5	713. 5	4	853 .44	857. 44	5	854 .8	859. 8	205	982. 63	1187 .63	308	101 0.9	1318 .9	314. 89	131 7.14	1632 .03	279. 94	136 6.5	164 6.44
2	Employment and Training of Labour	43.5 4	44. 2	87.7 4	98.1 6	48	146. 16	80.0 8	54. 9	134. 98	282. 94	63	345. 94	349. 59	91.4 7	441. 06	352. 69	50.6	403. 29	395. 36	46.7	442. 06
	Total	43.5 4	757 .7	801. 24	102. 16	901 .44	1003 .6	85.0 8	909 .7	994. 78	487. 94	104 5.6	1533 .5	657. 59	110 2.37	1759 .96	667. 58	136 7.74	2035 .32	675. 3	141 3.2	208 8.5
Ministry of Micro, Small and Medium Enterprises																						
1	Micro, Small and Medium Enterprises	408. 91	51. 39	460. 3	466. 33	57. 91	524. 24	476. 15	50. 83	526. 98	530. 75	53.6 9	584. 44	531	88.1 5	619. 15	733. 5	89	822. 5	808. 3	95.7 9	904. 09
2	Khadi and Village Industries	510. 89	67. 56	578. 45	598. 12	74. 9	673. 02	661. 6	84. 82	746. 42	103 2.4	83.8 2	1116 .22	1032 .4	130. 02	1162 .42	1374 .3	138. 86	1513 .16	1436 .3	183. 27	161 9.57
	Total	919. 8	118 .95	1038 .75	1064 .4	132 .8	1197 .2	113 7.75	135 .65	127 3.4	156 3.1	137. 51	1700 .66	1563 .4	218. 17	1781 .57	2107 .8	227. 86	2335 .66	2244 .6	279. 06	252 3.66
Ministry of Panchayat Raj																						
1	Rashtriya Gram Swaraj Yojana	0	0	0	50	0	50	67.9	0	67.9	30	0	30	39	0	39	43	0	43.5	73.5	0	73.5
2	Mission Mode Project on e-Panchayats	0	0	0	0	0	0	0	0	0	5	0	5	20.6	0	20.6	21.6	0	21.6	36	0	36
3	Backward Regions Grants Fund	0	0	0	3750	0	3750	467 0	0	467 0	467 0	0	4670	4670	0	4670	5050	0	5050	5050	0	505 0
	Total	0	0	0	3800	0	3800	473 7.9	0	473 7.9	470 5	0	4705	4729 .6	0	4729 .6	5114 .6	0	5115 .1	5159 .5	0	515 9.5

Ministry of Rural Development, Department of Rural Development																						
1	Swaranjayanti Gram Swarozgar Yojana	862.24	0	862.24	1080	0	1080	1620	0	1620	1933	0	1933	2114	0	2114	2675.18	0	2675.18	2621.6	0	2621.6
2	National Rural Employment Guarantee Scheme	0	0	0	10170	0	10170	12000	0	12000	16000	0	16000	39100	0	39100	40100	0	40100	40000	0	40000
3	Indira Awas Yojana	2497.6	0	2497.6	2625.05	0	2625.05	3636	0	3636	4859	0	4859	7918	0	7918	8996	0	8996	8996	0	8996
	Total	3359.84	0	3359.84	13875	0	13875	17256	0	17256	22792	0	22792	49132	0	49132	51771.1	0	51771.1	51617.6		51617.6
Ministry of Rural Development, Department of Land Resources																						
1	Integrated Watershed Management Programme	446	0	446	453	0	453	1088.55	0	1088.55	1692.5	0	1692.5	1776.9	0	1776.9	2214.1	0	2214.1	2295.08	0	2295.08
Ministry of Rural Development, Department of Drinking Water and Sanitation																						
1	National Rural Drinking Water and Sanitation Programme	4275	0.07	4275.07	5400	0.08	5400.08	7560	0	7560	8500	0	8500	9200	0	9200	9522	0	9522	9900	0	9900
Ministry of Science and Technology, Department of Science and Technology																						
1	Modernization of Mapping Organisations	19.55	149.8	169.35	20	150.81	170.81	30	165.6	195.6	16	169.37	185.37	16	264.02	280.02	16	259.85	275.85	25	288.7	311.7
2	National Programmes on Science and Technology	1135.45	96.4	1231.85	1237	81.6	1318.6	1496	55.4	155.4	1514	50.76	1564.76	1759	43.75	1802.75	2009	37	2046	2324	51.5	2375.55
	Total	1155	246.2	1401.2	1257	232.41	1489.41	1526	221	1747	1530	220.13	1750.13	1775	307.77	2082.77	2025	296.85	2321.85	2349	340.25	2687.25
Ministry of Science and Technology, Department of Scientific and Industrial Research																						
1	Assistance to National Laboratories under CSIR	797.53	705.9	1503.43	940	769.75	1709.75	1035	826.21	1861.21	1155	873	2028	1300	1332.5	2632.5	1335	785	2120	1500	812.68	2312.68
Ministry of Social Justice and Empowerment																						
1	Social Security and Welfare	313.4	38.98	352.38	313.7	35.84	349.54	263.8	32.92	296.72	302.3	30.89	339.19	310	48.11	358.11	559.5	40.18	599.68	499	40.12	539.12
2	Welfare of Scheduled Castes	947.61	0	947.61	1070.88	0	1070.88	1395.07	9.36	1404.43	1677.2	11.17	1688.37	1756	11.69	1767.69	3142	12.75	3154.75	3814	13.4	3827.4

3	Welfare of Other Backward Classes	89.9 6	10. 52	100. 48	92.1	13. 4	105. 5	134. 75	2.4 5	137. 2	182. 25	2.8	185. 05	189	3.47	192. 47	413. 5	2.8	416. 3	583. 5	3	586. 5
4	National Social Assistance Programme	118 2.58	0	1182 .58	1430 .97	0	1430 .97	239 1.91	0	239 1.11	344 2.2	0	3442 .24	5109 .24	0	5109 .24	5710	0	5710	6107 .61	0	610 7.61
	Total	253 3.55	49. 5	2583 .05	2907 .65	49. 24	2956 .89	418 5.53	44. 73	422 9.46	560 3.9	44.8 6	5654 .85	7364 .24	63.2 7	7427 .51	9825	55.7 3	9880 .73	1100 4.1	56.5 2	110 60.6
Department of Space																						
1	Space Applications	281. 18	56. 49	337. 67	343. 16	65. 27	408. 43	324. 25	86. 89	411. 14	279. 34	95.9 2	375. 26	383. 19	163. 49	546. 68	575. 04	172. 09	747. 13	629. 09	219. 74	848. 83
Ministry of Textiles																						
1	Village and Small Industries	309	196 .31	505. 31	355. 05	235 .35	590. 4	523	244 .45	767. 45	543. 5	258. 27	801. 77	588. 5	387. 15	975. 65	968	357. 07	1325 .7	904	369. 07	127 3.07
2	Consumer Industries	724. 92	194 .26	919. 18	858. 5	450 .91	1309 .41	149 6	336 .25	183 2.25	170 6.5	314. 26	2020 .76	3461 .5	330. 67	3792 .17	3284 .5	410. 08	3694 .58	3596	413. 09	400 9.09
	Total	103 3.92	390 .57	1424 .49	1213 .55	686 .26	1899 .81	201 9	580 .7	259 9.7	225 0	572. 53	2822 .53	4050	717. 82	4767 .82	4252 .5	767. 15	5020 .28	4500	782. 16	528 2.16
Ministry of Transport and Highways																						
1	Construction and Maintenance of Roads and Bridges	976 4.28	850 0	1826 4.28	1065 0.78	350 0	1415 0.78	140 66	209 0	161 56	151 21.6	410 0	1922 1.64	1752 0.06	500 0	2252 0.06	1989 3.75	745 5	2734 8.75	2224 7.75	750 0	297 47.7
Ministry of Tribal Affairs																						
1	Welfare of Scheduled Tribes	94.4 1	5.5	99.9 1	144. 91	4.9 3	149. 84	187. 01	5.3 6	192. 37	375	4.46	379. 45	350. 55	5.22	355. 77	1008 .5	4.66	1013 .16	1215 .6	6.13	122 1.73
2	Central Assistance for Tribal Sub Plans	110 7.01	0	1107 .01	1216 .71	0	1216 .71	121 6.71	0	121 6.71	131 6	0	1316	2400 .5	0	2400 .5	2006	0	2006	2293 .01	0	229 3.01
	Total	120 1.42	5.5	1206 .92	1361 .62	4.9 3	1366 .55	140 3.72	5.3 6	140 9.08	169 1	4.46	1695 .45	2751 .05	5.22	2756 .27	3014 .5	4.66	3019 .16	3508 .61	6.13	351 4.74
Ministry of Urban Development																						
1	Programmes on Urban Development	155 4.51	877 .48	2431 .99	1297 .27	999 .4	2296 .67	169 3.5	286 5.7	455 9.25	216 5.5	297 8.3	5143 .86	2552 .09	222 4.1	4776 .24	4418 .22	220 5.7	6623 .97	5020 .88	184 4	686 4.88
2	Jawaharlal Nehru National Urban Renewal Mission	0	0	0	4595 .93	0	4595 .93	498 7.5	0	498 7.5	624 7.9	0	6247 .98	1161 8.6	0	1161 8.6	1161 9	0	1161 9	1252 2	0	125 22
3	Capacity Building for National Urban Renewal Mission	0	0	0	0	0	0	30	0	30	15	0	15	15	0	15	17	0	17	49	0	49

	Total	1554.51	877.48	2431.99	5893.2	999.4	6892.6	6711	2865.75	9576.75	8428.4	2978.3	11406.8	14185.7	2224.1	16409.86	16054.22	2205.7	18259.97	17591.88	1844	19435.8
Ministry of Water Resources																						
1	Major and Medium Irrigation Programmes	82.83	117.41	200.24	111.52	121.57	233.09	128.91	132.27	261.18	204.4	134.97	339.37	215.7	183.5	399.2	247.5	176.27	423.77	273.89	206.99	480.88
2	Minor Irrigation Programmes	72.64	49.51	122.51	80.94	51.16	132.1	61.05	55.7	116.75	100.9	57.7	158.6	74	94.99	168.99	112.5	98.31	210.81	130.4	105.02	235.44
3	Flood Control and Drainage Programmes	168.87	34.29	203.16	194.99	35.09	230.08	32.04	39.24	71.28	105.5	40.4	145.9	149.3	61.45	210.75	166	59.74	225.75	161	78.35	239.35
4	Central Assistance for Irrigation for Water Resources	0	0	0	2350	0	2350	3580	0	3580	5550	0	5550	9700	0	9700	11500	0	11500	12620	0	12620
	Total	324.34	201.21	525.91	2737.45	207.82	2945.27	3802	227.21	4029.21	5960.8	233.07	6193.87	10139	339.94	10478.9	12026	334.32	12360.3	13185	390.36	13575.3
Ministry of Women and Child Development																						
1	Programmes on Child Welfare	3361.65	23.67	3385.32	4191.16	24.63	4215.79	5027.2	26.13	5053.33	6058.6	21.43	6080.03	6383.6	22.15	6405.75	9255.86	19.83	9275.69	10383	21.48	10404.4
2	Programmes on Women Welfare	120.79	17.32	138.11	119.03	16.1	135.13	179.11	16.37	195.48	409.5	17.7	427.2	220.4	26.33	246.73	343.19	22.05	365.24	900.8	29.68	930.48
	Total	3482.4	40.99	3523.43	4310.1	40.73	4350.83	5206.31	42.5	5248.81	6468.1	39.13	6507.23	6604	48.48	6652.48	9599.05	41.88	9640.93	11284	51	11333
Ministry of Youth Affairs and Sports																						
1	Nehru Yuva Kendra Sangathan	34	18	52	45	18.02	63.02	58.5	20.27	78.77	68	22	90	70	32	102	82	29.5	111.5	93.9	29.5	123.4
2	National Service Scheme	26.1	5.55	31.65	31.5	5.66	37.16	48	6.55	54.55	86	6.6	92.6	86	7	93	63.64	4.99	68.63	81	6.87	87.87
	Total	60.1	23.55	83.65	76.5	23.68	100.18	106.5	26.82	133.32	154	28.6	182.6	156	39	195	145.64	34.49	180.13	174.9	36.37	211.27
	Grand Total	60715.31	62913.16	123574.71	93686.69	56854.61	150535.63	119240.11	103550.5	222789.81	147970.5	82514.93	230491.42	197813.12	132437.26	330250.08	222376.02	150467.65	372844.75	252532.19	143742.11	396272.26

APPENDIX VI. PRIORITIES FOR ACTION, KEY ACTIVITIES, SUB- ACTIVITIES, CORE INDICATORS AND LEVELS OF PROGRESS IN THE IMPLEMENTATION OF HYOGO FRAMEWORK OF ACTION 2005-2015 IN INDIA

Priorities for Action: 1 - Ensure that DRR is a national and a local priority with a strong institutional basis for implementation			
Key Activities	No. of Sub-Activities	Core Indicators	Progress (Scale of 5)
National institutional and legislative frameworks	4	National policy and legal framework for DRR exists with decentralized responsibilities and capacities at all levels A national multi sectoral platform is functioning	2007-2009: 4
			2009-2011: 4
Resources	3	Dedicated and adequate resources are available to implement DRR plans and activities at all administrative levels	2007-2009: 3 2009-2011: 3
Community participation	1	Community participation and decentralization is ensured through the delegation of authority and resources to local levels	2007-2009: 3 2009-2011: 3
Priorities for Action: 2 - Identify, assess and monitor disaster risks and enhance early warning			
National and local risk assessments	3	National and local risk assessments based on hazard data & vulnerability information are available and include risk assessment for key sectors Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities	2007-2009: 4
			2009-2011: 4
Early warning	5	Early warning systems are in place for all major hazards, with outreach to communities	2007-2009: 4
Capacity	4		2009-2011: 4
Regional and emerging risks	3	National and local risk assessments take account of regional/ trans boundary risks, with a view to regional cooperation on risk reduction	2007-2009: 3 2009-2011: 3
Priorities for Action: 3 - Use knowledge, innovation and education to build a culture of safety and resilience at all levels			
Information management and exchange	7	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, information sharing systems etc)	2007-2009: 4 2009-2011: 4
Education and training	6	School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices	2007-2009: 4 2009-2011: 4
Research	2	Research methods and tools for multi-risk assessments and cost-benefit analysis are developed and strengthened	2007-2009: 2 2009-2011: 2
Public awareness	1	Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities	2007-2009: 3 2009-2011: 4
Priorities for Action: 4 - Reduce the underlying risk factors			
Environmental and natural resource	3	Disaster risk reduction is an integral objective of environment related policies and plans, including for land use resource	2007-2009: 3

management		management and adaptation to climate change	2009-2011: 3
Social and economic development practices	9	Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk Economic and productive sectoral policies and plans have been implemented to reduce the vulnerability of economic activities	2007-2009: 3 2009-2011: 3
			2007-2009: 4 2009-2011: 4
Land use planning and other technical measures	5	Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure	2007-2009: 3 2009-2011: 3
			2007-2009: 4 2009-2011: 4
			2007-2009: 4 2009-2011: 3
Priorities for Action: 5 - Strengthen disaster preparedness for effective response at all levels			
Disaster preparedness for effective response	6	Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes Financial reserves and contingency mechanisms are in place to support effective response and recovery when required Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews	2007-2009: 4 2009-2011: 4
			2007-2009: 4 2009-2011: 4
			2007-2009: 4 2009-2011: 4
			2007-2009: 4 2009-2011: 4

Sources:

Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, United Nations ISDR, Geneva, 2005

Indicators of Progress: Guidance on Measuring the Reduction of Disaster Risks and the Implementation of the Hyogo Framework for Action, United Nations ISDR, Geneva, 2008

India: National progress report on the implementation of the Hyogo Framework for Action 2007-2009 <http://www.preventionweb.net/english/countries/asia/Ind/>

India: National progress report on the implementation of the Hyogo Framework for Action 2009-2011 <http://www.preventionweb.net/english/country>