

A Study on Mainstreaming DRR and CCA in Development Planning

by

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Abbreviations used

ASHA – Accredited Social Health Activist
CCA – Climate Change Adaptation
CSO- Civil Society Organisation
CSS – Centrally Sponsored Schemes
DDMA – District Disaster Management Authority
DPR – Detailed Project Report
DRR – Disaster Risk Reduction
GP – Gram Panchayat
Gol – Government of India
HFA – Hyogo Framework for Action
IAY – Indira Awaas Yojana
ICDS – Integrated Child Development Programme
ICPS – Integrated Child Protection Scheme
IPCC – Inter-governmental Panel on Climate Change
JNNURM – Jawaharlal Nehru National Urban Renewal Mission
MGNREGA – Mahatma Gandhi National Rural Employment Guarantee Scheme
MHA – Ministry of Home Affairs
NAP – National Afforestation Programme
NBA – Nirmal Bharat Abhiyan
NDMA – National Disaster Management Authority
NGO – Non-Governmental Organisation
NHM – National Health Mission
NIDM – National Institute of Disaster Management
NIRD – National Institute of Rural Development
NPCC – National Panel on Climate Change
NRDWP – National Rural Drinking Water Program
NRHM – National Rural Health Mission
PMGSY – Pradhan Mantri Gram Sadak Yojana
RAY – Rajiv Awaas Yojana
RKVY – Rashtriya Krishi Vikas Yojana
RMSA – Rashtriya Madhyamik Shiksha Abhiyan
SDMA – State Disaster Management Authority

SSA – Sarva Shiksha Abhiyan

UIDSSMT – Urban infrastructure Scheme for Small and Medium Towns

UNDP – United Nations Development Programme

UNISDR – United Nations Office for Disaster Risk Reduction

Executive Summary

In the last two decades India and the world have experienced an increase in the frequency and intensity of disasters whose economic impact has proved to be devastating for many a developing country. The lessons learned from the lengthening trail of disasters, have led to a gradual realisation that while hazards may be natural, disasters are largely 'man-made'. They largely result from the failures of development policies and practices that distort the trajectories of sustainable development, affecting the poorest sections the most.

The 10-year Hyogo Framework for Action (HFA) 2005-2015, endorsed by 168 countries including India, was the first global covenant to unambiguously enunciate the link between disaster risk reduction (DRR) and sustainable development while stating its central priority of building the resilience of nations and communities to disasters so as to substantially reduce disaster losses by 2015: "Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such an approach is to be recognised as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration." The increasing risk of disasters due to the impacts of climate change imparted a sense of urgency to the HFA declaration.

This perspective, spurred by India's own experiences of disasters such as the Odisha super cyclone of 1999, the Gujarat earthquake of 2001 and the Indian Ocean tsunami of 2004, prompted a shift in the approach of the Government of India (GoI):

- the enactment of the National Disaster Management Act, 2005, (DM Act, 2005) created a legal and institutional framework for comprehensive disaster management in the country at the national level;
- apart from directing every ministry/department of the GoI to take measures for disaster management, the DM Act, 2005, called for the

integration of preventive/mitigating measures in India's development plans;

- while the Tenth Five-Year Plan (2002-2007) for the first time included a separate chapter on taking the plan route to mainstream/integrate DRR measures, the Twelfth Five-Year Plan (2012-2017), too, devotes attention to looking at DRR measures in various sectors.

Comprehensive thrust required for DRR mainstreaming

However, it is the view of the Ministry of Home Affairs (MHA), the nodal ministry for disaster management, that in spite of the integration of some DRR measures in some sectoral programmes such as health and education, and despite the attempt of ministries/departments of the GoI to include aspects of risk reduction through the Environmental Impact Assessment, the schemes and programmes being implemented by them lack a clear statement on DRR and climate change adaptation (CCA) concerns which is required for a comprehensive thrust toward mainstreaming/integration of DRR principles into development planning.

It is the view of the GoI that the Centrally Sponsored Schemes or national flagship schemes are ideal vehicles for mainstreaming/integrating DRR/CCA principles and measures. Since the CSS programmes span sectors such as housing, health, rural development and urban infrastructure aimed at creating opportunities for the poor and marginalised sections to enter the socio-economic space, investing them with DRR elements has the potential to create resilience among the poor and disadvantaged sections, both in the sense of being able to withstand disaster risk and move towards sustainable development.

Therefore, in March 2014, the MHA (GoI), in collaboration with the United Nations Development Programme (UNDP), initiated a month-long study to:

- map the manner and extent to which DRR and CCA measures have been mainstreamed into the CSS or national flagship programmes that are largely aimed at the vulnerable and disadvantaged sections of society;

- find out if any measurable indicators have been developed to track progress in DRR and CCA;
- analyse the manner in which risk reduction and adaptation can be further mainstreamed into India's development plans; and
- identify entry points for mainstreaming/integrating DRR and CCA in ongoing programmes.

This report dwells upon the following aspects:

- Understanding disaster risk in the global and Indian context and the shifts in the Indian government's approach;
- Mainstreaming DRR and CCA into development plans in India;
- Objectives, scope and methodology of the study, which includes extensive review of existing literature; interactions with key officials/stakeholders in the Central ministries under whose aegis the national flagship programmes are implemented and a SWOT analysis; and
- The findings of the study as well as general and specific recommendations for strengthening DRR and CCA mainstreaming.

Findings of the study

The findings of the study comprise:

- an evaluation of the political environment and developments in policy, planning and implementation pertaining to DRR and CCA mainstreaming;
- the views that emerged in the course of interactions with key stakeholders; and
- an identification of the drivers of DRR and CCA mainstreaming as identified through a review of the existing literature.

Overall the study suggests that there is a positive and supportive environment for the idea of DRR and CCA mainstreaming and some actions as well although much

more requires to be accomplished on ground. The strengths pointed out by a SWOT analysis include:

- a facilitative environment;
- committed government funding;
- an understanding of DRR and CCA in ministries at the national level;
- existence of several good practices in ongoing programmes;
- an understanding about community partnerships;
- willingness and capacity to engage different stakeholders; and
- scope for PPP

The weaknesses pointed out by the SWOT analysis include:

- absence of policy direction on DRR and CCA;
- absence of a strong coordinating agency to mainstream DRR and CCA;
- inadequate capacities of stakeholder on the ground;
- inadequate knowledge, skills and lack of awareness, especially at the operational level;
- lack of scope to review DRR and CCA appraisal during review and monitoring;
- lack of concerted efforts to bring in NGO participation in a systematic and sustained manner; and
- lack of training material/curriculum and trainers, especially on the ground

On the basis of the SWOT analysis to increase the scope of mainstreaming DRR and CCA measures, the study makes some general recommendations:

- include DRR and CCA among the objectives of CSS programmes; include scope for mainstreaming in programme guidelines at the national level as well as the detailed project report (DPR) developed at the state level at the time of putting up a project proposal;
- include DRR and CCA experts in programme review committees;
- make DRR and CCA an integral part of the various stages of the programme management system such as programme appraisal, review, monitoring, evaluation, lessons learned exercises, and training and capacity building;

- create a framework that makes it possible to assess several programmes in a geographic area on an individual as well as cumulative basis to see that they do not contribute to disaster risk in any way;
- there is a need to design appropriate training modules for various levels of project staff and community volunteers to train them on DRR and CCA mainstreaming. There is also a need to build awareness about the link between macro issues and micro actions at an individual and community level with regard to both problems and solutions;
- there is a need for lessons learned and knowledge sharing workshops and seminars dedicated to DRR and CCA mainstreaming involving different government and non-government stakeholders. These workshops and seminars should be organised at the district, state and national level; and
- many DRR and CCA mainstreaming actions are based on local knowledge. To facilitate local action based on local knowledge and awareness, decision-making at the local level needs to be promoted.

Generic entry point activities recommended

Several entry point activities are pointed out by the study. A few are enumerated below:

- identify disaster-prone locations within each state as also a list of mitigation activities for different types of disasters that could be undertaken through one programme, say, Mahatma Gandhi National Rural Employment Guarantee Act;
- design a generic training module introducing concepts of DRR and CCA and their mainstreaming into train field level functionaries / volunteers, of all flagship programmes and PRI members; and

- identify and train suitable NGOs at state and district levels for curriculum development and translation of manuals in different languages, training, project design, social audit, review and monitoring.

Entry point for specific programmes

Entry points for specific programmes have also been mentioned. Some among them are as following:

- expand and strengthen drought or flood proofing activities under a programme such as MGNREGA;
- train farmers to track weather patterns to anticipate their impact on agriculture so that the necessary adaptive practices can be adopted, under the Rashtriya Krishi Vikas Yojana: and
- design bore-wells that do not submerge during floods with the idea of making them mandatory for flood-prone areas, under the National Rural Drinking Water Programme.

Above all, the study emphasises better governance holds the key to ensuring an unambiguous thrust toward mainstreaming DRR and CCA concerns in the flagship programmes for socio-economic development.

Chapter 1: Understanding Disaster Risk

1.1. Introduction

Historically, disasters have been perceived as devastating events that cause a break in the development of a country. In the last two decades, the combined insights gathered through national experiences, international dialogues and global initiatives have pointed to the fact that disasters “don’t just happen”; on the contrary, they often result from the shortcomings of development itself which increases vulnerability to hazards. Further, increased exposure and vulnerability to disaster risks is largely a consequence of lopsided development policies and processes such as rapid and unplanned urban expansion into hazardous terrain, expedient environment policies leading to degradation and the sheer inadequacy of livelihood opportunities for the poor, brought together by a lack of political will exhibited in governance.

Hence, when disasters strike they affect the poorest and marginalised sections of society the most, heightening existing socio-economic inequalities. Since developing countries have a relatively lower coping capacity, the poor tend to suffer more. Moreover, the damage caused by disasters impacts productivity and can set the clock back on agreed global objectives of sustainable development as articulated in the Millennium Development Goals, which seek inclusive growth for the poor. The considerable amounts spent on immediate relief measures never quite tackle the root of the problem.

The Hyogo Framework of Action (HFA) 2005-2015, which was adopted by 168 countries, including India, at the World Disaster Conference on Disaster Risk held in Kobe, Japan, from January 18-22, 2005, was the first to call for a comprehensive approach toward disaster management. The HFA delineated five priority areas to address disaster risk the first of which is to “ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation”. The other priorities include the following: “Assess, identify and monitor disaster risks and enhance early warning; use knowledge and education

and innovation to build a culture of safety and resilience at all levels; reduce underlying risk factors; and strengthen disaster preparedness for effective response at all levels.”

The essence of this approach is that since a disaster exposes the cumulative implications of many earlier decisions, investing in prevention and mitigation is economically and socially more beneficial than expenditure in relief and rehabilitation. Since skewed development processes themselves are the root of the problem, ‘giving development more security from natural hazard’ would be a more efficient and cost-effective way of reducing vulnerability to disaster risk and simultaneously addressing issues of poverty and inclusive growth. For instance, reducing livelihood vulnerability to natural hazards addresses the issues of disaster risk as well as poverty and inequity. Hence HFA’s call to ‘mainstream’ disaster risk reduction (DRR) in development and promote a culture of resilience.

The GoI has adopted the strategy of mainstreaming DRR through the developmental planning route, either through its Five-Year Plans or one-year plans or through its prestigious national flagship programmes most of which aim to create social infrastructure to bring the poor within the ambit of development or address the grave issue of unplanned urbanization in cities that are emerging as ‘hotspots’ for disaster risks.

What mainstreaming DRR means

Essentially, mainstreaming DRR means that “risk reduction becomes a practice of all partners involved in development work by institutionalising the process in planning and implementation and in policies” (Planning Commission Report of the Working Group on Disaster Management for the Twelfth Five-Year Plan). This calls for:

- building institutional capacity to assess all development projects for their ability to withstand hazard impacts such as taking care to provide housing in earthquake-prone zones with adequate earthquake-resistant features.
- a thorough attempt to ensure that the development project does not increase the risks and vulnerabilities of the area in any way; rather, it

focuses on reduce existing vulnerabilities. For instance, national highways must provide sufficient culverts to ensure proper drainage of water through existing drainage systems.

Disaster risk reduction and climate change adaptation

There is a general agreement among experts that disaster risk is bound to increase in the coming decades on account of climate variability, climate change and environmental degradation. The impact of climate change:

- will increase the frequency and intensity of hydro-meteorological hazards such as floods and cyclones and drought; and
- is expected to give rise to new socio-economic vulnerabilities with its impact on the hydrological cycle, forest and eco-systems, coastal areas and mangroves, food security, health and other related issues that are bound to impact poor and marginalised communities in India's rural and urban areas.

While the emphasis of DRR is on prevention, mitigation, preparedness and recovery from geological hazards such as earthquakes, landslides etc. as well as hydro-meteorological hazards such as floods cyclones, climate change adaptation (CCA) is mainly linked with hydro-meteorological disasters and aims at reducing vulnerability due to climate change/variability risk through adaptation to gradual changes in climate over a long period. IPCC 2012 'Special Report on Extreme Events' identifies effective adaptation strategies as those that "help manage disaster and offer near-term development benefits, while reducing vulnerability over the long term."

BOX: The relationship between DRR and development

Development and Disasters have both positive and negative connotations:

- Development can increase vulnerability of people and assets if DRR measures are ignored. Poor land-use planning, environmental mismanagement, lack of regulatory mechanisms and lack of enforcement

of rules/regulations (Building by-laws/building codes/coastal zone regulations etc.) lead to unsafe development.

- Development processes can also reduce the physical exposure to hazard e.g. earthquake resistant building code, flood protection measures etc. Development can reduce vulnerability if these factors are kept in mind.
- Disasters have the potential of wiping out and setting back years of efforts on development.
- Paradoxically, disasters also provide development opportunities in form of sustainable recovery.

1.2 Disaster risk in a global context

Data on disasters from the Centre for Research on Epidemiology of Disasters (CRED) indicates that:

- the annual average of disaster events has gone up from 73 in 1900-09 to 4,494 during 2000-09;
- of all the disasters that have occurred across the world, hydro-meteorological disasters are the most devastating. Long-term trends (1900-2009) indicate that hydro-meteorological disasters (47.94 per cent) , followed by geological (41.06 per cent) and biological disasters (10.99 per cent) have accounted for the maximum number of deaths; and
- there is a continuous increase (except between 1920-1929) in the frequency of occurrence of hydro-meteorological disasters, which comprise more than two-third of all major disasters.

Clear trends are visible in the nature and magnitude of disaster impacts across countries:

- developing countries have a higher rate of casualties as well as economic losses expressed as a proportion of GDP:

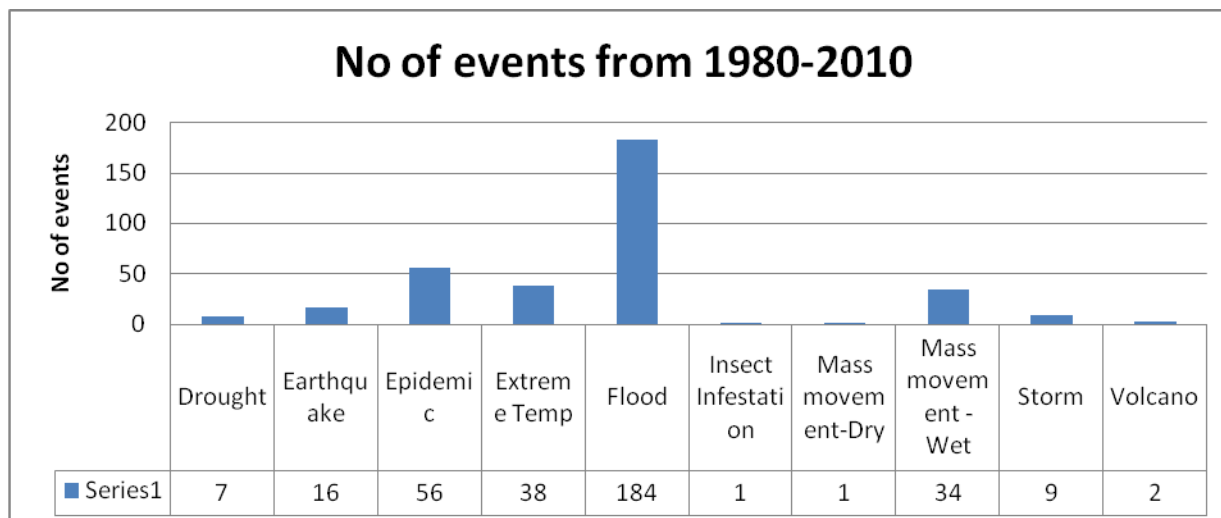
- between 1980-2010, low income countries have accounted for only 9 per cent of disaster events but 48 per cent of fatalities (Munich Re, 2012);
- the impact of disasters on GDP is 20 times higher in developing countries than in industrialised nations, according to a World Bank-Global Facility for Disaster Reduction and Recovery report, 'Natural Hazards, UnNatural Disasters' (2010); and
- the 2010 earthquake in Haiti killed 230,000 people, devastated its capital and suffered an estimated loss of \$7.8 billion, equivalent to 120 per cent of its 2009 GDP, while Japan's catastrophic earthquake and tsunami of 2011 resulted in 20,000 casualties and the costliest disaster in history suffered an estimated loss of \$210 billion which was 4 per cent of its GDP). The impact of the disaster would have been much higher had Japan not prioritised disaster prevention and preparedness (The Sendai Report: Managing Disaster Risks for a Resilient Future, 2012, prepared by WB GFDRR, with support from Japan).
- recent disasters have highlighted a new aspect of disaster impact, namely that the interconnectedness of business ensures that 'local' disasters have global impacts and countries have to face up to the challenge of globalisation of risk through the vulnerability of supply chains;
- in 2011, in the context of climate change impacts, 70 per cent of World Bank's Country Assistance Strategies and Country Partnership Strategies recognised natural disasters as a challenge to sustainable development as compared to 40 per cent in 2006. (Independent Evaluation Group); and
- while the impact and incidence of disasters is rising – according to Munich Re, economic losses in the 1990s were more than combined losses of the previous four decades, several small island nations have managed to bring down the average annual damage in GDP terms by mainstreaming DRR measures. Several studies of cost-benefit analyses of DRR activities have indicated that for every dollar invested in disaster risk reduction, between \$2 and \$4 dollars are returned in terms of avoided or reduced disaster impacts.

1.3 Disaster risk in the Indian context

India's vulnerability to disaster risk is considerable on account of its geo-physical location and socio-economic profile. Consider these facts:

- almost 85 per cent of India lies in the probability zone of single or multiple disasters;
- about 58.6 per cent of its area falls in high seismic zones;
- approximately 40 million hectares of its land area (comprising 12 per cent of land) is prone to floods and river erosion;
- of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis;
- about 68 per cent of its cultivable area is susceptible to drought; and of India's 35 states and union territories, 27 are prone to one or more of these hazards. (Disaster Management in India, MHA, GoI, 2011)

Hydro-meteorological events such as floods, cyclones and drought are of common occurrence, whereas earthquakes, hailstorms and landslides occur suddenly, causing damage based on their intensity. Table 1.1 presents details of the number of events related to different disaster events from 1980-2010. **Table 1.1: Number of disaster events in India from 1980-2010**



Source: Working Group Report on Disaster Management for the Twelfth Five-Year Plan (Planning Commission, GOI)

The impacts of disaster events are felt in terms of substantial loss of life, property, livelihood and assets. The Working Group Report for the Twelfth Five-Year Plan quotes a 2003 World Bank report titled ‘Financing Rapid Onset Natural Disaster Losses in India: A Risk Management’ to state that “the economic losses are 2 per cent of the GDP and up to 12 per cent of the government revenues” for India. The following table from the Twelfth Five-Year Plan Working Group Report on Disaster Management gives a glimpse of the damages caused by disasters from 2001-2002 to 2010-2011.

In fact, in a 2011 survey of 196 countries on the basis of data for the years 2005-2010, British risk assessors Maplecroft rated India (along with Indonesia, Mexico, the Philippines, Turkey, Italy and Canada) as ‘high risk’ in absolute terms taking into account its economic exposure to disasters such as earthquakes, landslides and floods, among others. Moreover, as exemplified by the Mumbai floods (2005) as well as the Uttarakhand disaster (2013), the impact of climate change may lead to extreme events like cloud bursts/excessive rainfall leading to flood and landslides.

The National Policy on Disaster Management, 2009 recognises the challenges in the coming years and the need for more synergies in strategies for DRR and CCA.

Table 1.2 – Damages due to disaster in India from 2001-02 to 2010-11

Year	Loss of human lives	Lives of cattle Lost	Houses damages	Crops affected (in lakh hectares)
2001-02	834	21269	346878	18.72
2002-03	898	3729	462700	21
2003-04	1992	25393	682209	31.98
2004-05	1995	12389	1603300	32.53
2005-06	2698	110397	2120012	35.52
2006-07	2402	455619	1934680	70.87
2007-08	3764	119218	3527041	85.13
2008-09	3405	53833	1646905	35.56
2009-10	1677	128452	1359726	47.13
2010-11	2310	48778	1338619	46.25

Source: Ministry of Home Affairs, Government of India

1.4 Shift in the government approach

A combination of national experience, international interactions and global initiatives through the mid-1990s to 2005 catalysed a shift in India’s perspective on disaster management. On the national level, the experience of mega disasters such as Odisha’s super cyclone (1999), Gujarat earthquake (2001), exacerbated by the impact of the Indian Ocean tsunami (2004) prompted reflection on the most effective approach to disaster management. Globally, too, the 1990s -- observed by the UN as the International Decade for Natural Disaster Reduction – saw a shift in the disaster management perspective, from relief and rehabilitation to prevention and mitigation. This shift, emphasising legislation, policy and institutional arrangements as important ingredients of a holistic approach to disaster management, eventually culminated in the HFA framework, 2005, which stressed upon a key activity: “Adopt, or modify where necessary, legislation to support disaster risk reduction, including regulations and mechanisms that encourage compliance, and to promote incentives for undertaking risk reduction and mitigation activities.”

In India, the National Disaster Management Act, 2005 (DM Act, 2005) was enacted, providing for the first time a legal-institutional framework at the national level for comprehensive disaster management in India. It:

- provide for the establishment of key institutional structures such as the National Disaster Management Authority (NDMA), which is mandated to lay down policies and guidelines and prepare for disaster management plans for a prompt and effective response to disasters.
- provides a legal and policy basis for initiating action on mainstreaming DRR in development. It states:
 - i) The National Plan shall *inter alia* include measures to be taken for prevention/mitigation of disasters and integration of mitigation measures in development plans [Section 11(3)].
 - ii) The State Plan shall *inter alia* provide for inclusion of vulnerability assessment, measures for prevention and mitigation of disasters and the manner in which mitigation measures shall be integrated with development plans and projects [Section 23(3)]; and
- Sections 39.b and 40.a (ii) of the DM Act, 2005, holds state government departments responsible for integrating disaster prevention and mitigation measures into their development plans.
- to facilitate a way of mainstreaming DRR in various planning processes, development plans and budgetary provisions, the DM Act, 2005, also stated that that it was incumbent on every ministry or department of the GoI to take measures for disaster management.
- the National Policy on Disaster Management stresses the need for disaster management to be built in Development Plans. It states: “NDMA will ensure mainstreaming of DRR in the developmental agenda of all new & existing development programmes & projects which shall incorporate disaster resilient specifications in design & construction”. Further “The Planning Commission will give due weightage to these factors while allocating resources”

1.5 Purpose of the study

The view of the GoI comes out clear in the 2011 Report of the Working Group on Disaster Management for the Twelfth Five-Year Plan (2012-2017) by the Planning Commission: “If disaster risk reduction is taken as the common denominator of all developmental plans to achieve the objective of inclusive growth, keeping in view the geo-climatic vulnerabilities at (the) micro level and the needs of the socially and economically disadvantaged segments of (the) community who are the worst sufferers in case of any disaster, the objective of disaster risk reduction as well as multi-hazard preparedness can be met to a large extent.”

The MHA, which is the nodal ministry for disaster management, too, has emphasised that development and resilience are unlikely to be sustained unless disaster risk is explicitly addressed in all development initiatives. On their part, ministries/departments of the GoI have been making consistent efforts to factor risk reduction in developmental and sectoral programmes through Environmental Impact Analysis.

The CSS or national flagship programmes, some of which are funded entirely and some up to 75 per cent by the Central government, are ideal for the mainstreaming of DRR and CCA since they are aimed at the socio-economic development of the poor and disadvantages sections of society that are most vulnerable to disasters. However, considerations of DRR and CCA are not clearly articulated in the CSS programmes that are being implemented by the various ministries/departments. Therefore, the purpose of this study is:

- to conduct a baseline survey of the extent to which DRR and CCA measures are currently integrated into ongoing CSS programmes;
- to find out if any indicators have been developed by the implementing agencies to track progress in DRR and CCA; and
- explore ways in which DRR/CCA risk can be further mainstreamed into India’s development plans and identify entry points for the integration of disaster-resilience measures into specific programmes by the implementing agencies.

1.6 Structure of the report

This report is divided into four chapters:

- Chapter 1: Understanding disaster risk in the global and Indian context and objective of study.
- Chapter 2: Mainstreaming disaster risk reduction in India's development plans.
- Chapter 3: Methodology of the study.
- Chapter 4: Findings and recommendations.

BOX: Instruments of mainstreaming

Mainstreaming DRR and CCA would require:

- law/rules/regulations;
- appropriate policy interventions and guidelines; and
- adequate financial allocations in annual budgets.

Box: Steps for mainstreaming DRR and CCA

- risk assessment – understanding hazards, exposure, vulnerabilities and associated risks;
- integration of DRR and CCA at the policy, planning, institutional, programme/ project level;
- integration of DRR and CCA in sectoral/departmental development schemes/projects;
- financial allocations in budgets;
- advocacy for building awareness and political support;
- training and capacity development;
- tools, techniques and guidelines;
- continuous disaster risk audit; and
- knowledge management

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Chapter 2

Mainstreaming disaster risk reduction into development plans in India

2.1. Flagging vulnerability concerns

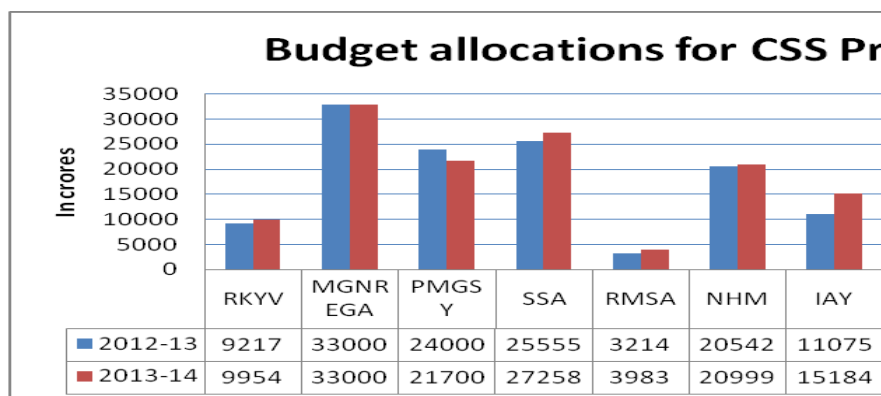
A developing country like India characterised by a multi-hazard profile and substantial poverty is bound to experience vulnerabilities at multiple levels -- economic, social, infrastructural or physical such as:

- disaster risks associated with changing socio-economic and environmental conditions as well as altered land use, which arise from the nature of development policies pursued;
- impacts of hazards linked to geological events, variability in weather or climate as well as climate change;
- factors such as poverty and inequity, social marginalisation and gender inequality that tend to further exacerbate vulnerabilities; and
- increasing exposure to disaster risks in cities owing to rapid and unplanned urbanisation.

The GoI has underscored the need for an integrated, multi-sectoral approach to DRR mainstreaming by strengthening risk reduction in key sectors such as education, agriculture, urban development, environment and health. The most disadvantaged groups, whose marginalisation is linked to their lack of access to social infrastructure, are also the most vulnerable to disasters. Flagship programmes that are animated by the objective of creating social infrastructure to enable such sections to be included in the growth process are thus ideal for mainstreaming DRR concerns and reducing vulnerability at various levels. As the GoI views it, DRR objectives are aligned to the vision, objectives and provisions of the CSS, which are aimed at reducing the socio-economic vulnerabilities of the poor sections of society.

With significant outlays, the CSS programmes have a substantial impact from the point of view of coverage and quality as they address issues of shelter, education, health, livelihoods, skill development, drinking water, sanitation, food security and integrated development of urban centres, among others. These programmes:

- are implemented by the Central government (through its concerned ministries/departments) in partnership with state governments;
- are either fully or partially funded by the Central government; and
- have large financial outlays. For instance, the total investment in the CSS for the Eleventh Five-Year Plan (2007-12) was estimated around Rs 2,90,317 crore¹. In the Twelfth Five-Year Plan, some select CSS programmes, which have a special bearing on DRR, continue to be emphasised. Large financial allocations were made in the financial years 2012-13 and 2013-14 for such CSS. Table 2.1 provides details of these allocations.



Source: Twelfth Five-Year Plan of Government of India

¹ 1 Crore = 10 million

Twelfth Five Year Plan on mainstreaming DRR

A development strategy under the planning process has risk management as one of its key components. Globally, there is an increasing recognition that disasters affect growth and the poorer sections of society gets a major share of the impact. Therefore, there is a consensus that investing in prevention and mitigation is economically and socially more beneficial than expenditure in relief and rehabilitation.

Second, mainstreaming disaster risk reduction in all major schemes would need to be an important area of focus.

The development programmes and policies would need specifically to keep disaster risk reduction in mind. Therefore, while, preparing programmes, risks emanating from natural hazards needs to be taken into account and mitigation measures incorporated in the concerned schemes.

Disaster risk reduction will need to be thus incorporated in all major schemes, specifically the flagship schemes, for reducing the vulnerability in the hazards prone areas of the country. For example, safety of the school buildings, especially in earthquake prone areas has to be ensured.

Individually as well as collectively, the national flagship programmes attempt to address different vulnerability issues:

- the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), which addresses the issue of rural livelihoods of the poorest of the poor, mitigates the impact of floods, drought, and vulnerabilities resulting out of a lack of physical access to structural measures such as ponds, embankments and roads, among others;
- the Indira Awaas Yojana (IAY) attempts to address the aspect of physical vulnerability (lack of proper housing) of the rural poor and its priority is to reach out to the socially marginalised sections with low cost and appropriate housing solutions.

2.2 Multi-dimensional approach to DRR

While specific DRR actions taken for flood mitigation or seismic safety, among others, may be of a techno-legal nature, they need to be perceived in a larger context of socio-economic, operational and managerial aspects such as:

- inclusion of the socially marginalised;
- gender inequality;
- behavioural change;
- institutional capacities;
- community participation;
- learning and implementing lessons; and
- governance.

Therefore, to understand mainstreaming of DRR, it is essential to review the strategic intent of development plans and programmes. The following factors are crucial for the successful mainstreaming of DRR concerns in development programmes:

- the capacities of the implementing organisation and other stakeholders involved in implementation; and
- approaches to planning DRR actions and their alignment with strategic intent?

It is possible that the strategic intent of the programme may get diluted in the absence of a proper management structure resulting in a wasteful expenditure of resources. It is important to ensure that the link between strategic intent and programme actions are maintained for any DRR activities to be successful.

Climate change concerns of India

In view of the observed changes, India has reasons to be concerned about climate change. Its large population depends upon climate-sensitive sectors like agriculture and forestry for its livelihood. Any adverse impact on water availability due to recession of glaciers, decrease in rainfall and increased flooding in certain pockets would threaten food security, cause loss of natural eco-systems...that sustain the livelihoods of rural households and adversely impact the coastal system due to sea-level rise and increased extreme events. This aside, achievement of vital national development goals related to... habitats, health, energy...infrastructure...would be adversely affected. Climate variability and change can slow down the pace of development either through adverse impacts on natural ecosystems or erosion of the adaptive capacity of people and society. Climate change is, therefore, not only a major global environmental problem, but an issue of great concern to a developing country like India. Given the lack of resources, and access to technology and finances, developing countries such as India have limited capacity to develop and adopt strategies to reduce their vulnerability to changes in climate.

Source: XII Five Year Plan, sub-group on climate change, Planning Commission of India

Chapter 3

Objectives, scope and methodology of the study

3.1 DRR mainstreaming in national flagship programmes

In March 2014, the Disaster Management Division (DM Division), MHA, GoI, and UNDP initiated a study to examine the extent to which DRR and CCA concerns are being **mainstreamed/integrated** into development planning through the CSS programmes that are fully or partially funded by the Central government. The idea was to:

- examine the manner and extent to which DRR and CCA measures have been mainstreamed/integrated into the national flagship programmes that are aimed at sustainable development and inclusive growth keeping in mind the needs of the poor, who also happen to be the worst affected in the event of a disaster;
- see if any tangible indicators have been developed to measure the extent and pace of DRR and CCA mainstreaming into the CSS; and
- explore ways in which risk reduction and adaptation can be further mainstreamed into India's development plans.

3.2 Objectives of the study

The specific objectives of the study were to:

- collect and compile information on various initiatives and actions taken by concerned Central ministries/departments regarding DRR and CCA;
- review the status of integration/incorporation of DRR and CCA into the major schemes /programmes being implemented by the respective ministries/departments in key sectors that are closely linked to the sustainable development agenda; and
- recommend measures to strengthen DRR and CCA mainstreaming based on this analysis.

3.3. Scope and coverage of the study

The study focused on a representative sample of CSS programmes being implemented by the following Central ministries/departments in various sectors:

- Ministry of Rural Development:
 - Indira Awaas Yojana (IAY);
 - Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA); and
 - Pradhan Mantri Gram Sadak Yojana (PMGSY).
- Ministry of Urban Development:
 - Jawaharlal Nehru National Urban Renewal Mission (JNNURM);
 - Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT); and
- Ministry of Health and Family Welfare: National Health Mission (NHM).
- Ministry of Agriculture and Cooperation:
 - Rashtriya Krishi Vikas Yojna (RKVY); and
 - National Food Security Mission (NFSM)
- Ministry of Human Resource Development:
 - Sarva Shiksha Abhiyan (SSA); and
 - Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
- Ministry of Environment and Forests:
 - National Afforestation Programme (NAP);
- Ministry of Drinking Water and Sanitation:
 - National Rural Drinking Water Programme (NRDWP); and
 - Nirmal Bharat Abhiyan (NBA)

3.4. Methodology of the study

The methodology included:

- desk research comprising an extensive review of literature, including reports of the National Panel on Climate Change (NPCC) and 2011 Report of the Working Group on Disaster Management for the Twelfth Five-Year Plan (2012-2017);
- interviews of key officials/stakeholders from Central ministries/departments conducted by the consultant with support from the DM Division, MHA, with separate questionnaires formulated for the purpose; and
- personal interaction with experts in the field.

3.5. Limitations and challenges

There are several reasons for the limited scope of the study:

- one of the reasons for the limited scope of the study was that it involved meetings with key officials mainly at the national programme management level but not at the level of state or district or at the level of communities which are recipients of the products and services delivered by these programmes. Therefore the findings and recommendation are mainly based on secondary research and on information provided by key stakeholders at the level of director or under-secretary in the GoI;
- the study was conducted at a time when the General Elections of 2014 were underway, hence scheduling meetings with key officials/stakeholders posed a considerable challenge. Also in some cases scheduling meetings involved bureaucratic procedures, leading to delays;
- in spite of repeated attempts by the consultant and the MHA staff, meetings with the key officials/stakeholders of the Ministry of Women and Child Development could not be arranged. Hence the study was unable to review the following programmes falling within the purview of the ministry:
 - Integrated Child Development Services (ICDS) Scheme
 - Integrated Child Protection Scheme (ICPS)

- SWADHARA Scheme for women in difficult situations
 - UJJWALA.
-
- on certain occasions more than one meeting was required with key officials/stakeholders. However, given the time constraint, this could not be achieved. The total time available for the study was 30 working days over a period of two months and this window of time was found to be somewhat inadequate for accommodating an entire range of activities, from desk reviews to formulation of questionnaires and setting up meetings and accomplishing interactions, among others.

Chapter 4

Findings of the study and recommendations

4.1. Relevance of disaster risk reduction and climate change adaptation

There is a considerable body of literature at the global and national level which provides insights into the various dimensions of DRR in the present-day context. At the international level:

- the United Nations Office for Disaster Risk Reduction (UNISDR) defines disaster risk reduction thus: “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” (2009); and
- in its 2009 report, the UN Global Assessment Report on Disaster Risk Reduction pointed out that disaster risk is fundamentally associated with poverty at the global and local level and identified vulnerable rural livelihoods, poor urban governance, ecosystem decline and climate change as the drivers of the disaster risk-poverty nexus. The report suggests that strengthening livelihoods, providing good urban and local governance, adopting microfinance and micro-insurance, ecosystem services, community and local-level approaches have the potential to address the poverty-disaster risk nexus.

In India:

- the Second India Disaster Management Congress, held from November 4-6, 2009, comprised discussions on mainstreaming DRR:
 - several speakers highlighted the fact that development processes are not only generating different patterns of vulnerability but also

altering and magnifying hazard patterns, and this argument is especially relevant in light of the impact of global climate change;

- some speakers argued that development does not simply connote growth; it is equally linked to the quality of life, among them safety and security of life, protection of livelihoods and homes. Some speakers also observed that there is a need to look critically at each development activity from the perspective of reducing its disaster vulnerability as well as from the point of its potential to increase disaster risk in any manner; and
- a recent training manual, 'Mainstreaming Climate Change Adaptation and Disaster Risk reduction in District Level Development Plan', published by the National Institute of Disaster Management (NIDM), India, underlines an integrated approach that seeks to bring together policy makers, planners, experts and communities to develop appropriate strategies for mainstreaming DRR and CCA in the development planning process.

4.1.1 Identifying indicators of DRR/CCA mainstreaming

Following a review of the available literature, the following indicators of mainstreaming/integrating DRR and CCA were identified:

- political commitment;
- regional linkages;
- legislation;
- emergency powers;
- existence of a National Disaster Mitigation Committee;
- evidence of national disaster mitigation planning;
- policy statements of key institutions;

- public participation in policy development and planning;
- integration of risk reduction into development plans and sector development plans;
- a well-funded institutional mechanism for disaster management;
- awareness and critical understanding of risk and vulnerability on the part of all stakeholders, in particular those involved in formulation and implementation of developmental plans/programmes;
- action research on linkages between DRR and CCA with development plans and programmes;
- presence of effective local disaster management committees;
- build back better approach for reconstruction and compliance of building codes;
- inclusion of the subject of disaster mitigation at various levels of academics;
- active involvement of media in disseminating information about DRR to raise the awareness of communities;
- presence of effective community networks for DRR activities;
- provision of risk insurance; and
- a well-developed poverty reduction strategy.

4.2. Findings of the study

The findings of the study are presented in three parts:

- the first section provides an environmental analysis, i.e., an assessment of developments in the political environment as well as in the areas of policy, planning and implementation, capacity building and training ;

- the second section elaborates on the findings that emerged in the course of interactions with respondents; and
- the third section presents a list of drivers identified through a review of the existing literature.

4.2.1. Section I: Environment analysis

Political environment: From a review of literature on India's presence in international covenants and national legislation, documents relating to Five-Year Plans, annual budgets as well as relief and rehabilitation measures, it is clear that there is considerable political commitment to issues of mainstreaming DRR and CCA in development planning. Strong references to these issues animate:

- the Tenth, Eleventh and Twelfth Five-Year Plan documents;
- budgetary provisions in 2014-2015 and 2013-2014; and
- the National Disaster Management Act, indicating the presence of a clear commitment on DRR mainstreaming.

However, the political commitment seems to be stronger at the national level as compared to state and district levels.

Policy environment: There is a noticeable commitment at the policy level for reducing vulnerabilities through different development programmes aimed at the poorer sections of society. Similarly, there is also a commitment to increase public facilities, use clean fuel in mass transportation to reduce the overall carbon footprint, improve infrastructure, undertake research relating to agriculture and food production in a context of adverse impacts of climate change, efforts to increase forest cover and promote green buildings, all of which do address the issue of DRR/CCA.

- documents of ministries such as the Ministry of Agriculture have observed a significant need to address disaster risk arising from climate change as a matter of concern;

- the Ministry of Rural Development has also made special provisions for communities affected by disasters such as increasing the number of days of work under MGNREGA and providing financial support under IAY to reconstruct houses;
- the Ministry of Roads and Highways has a well-accepted quality benchmark fixed by Bureau of Indian Standards (BIS) in infrastructure building;
- the BIS benchmarks are also followed by Central Public Works Department (CPWD) in their infrastructure building projects. BIS codes are periodically reviewed and updated. These departments as well as programmes such as JNNURM go by standard practices related to Environment Impact Assessment and rehabilitation of displaced populations wherever required;
- the Ministry of Human Resource Development (MoHRD), which provides for the repair of dilapidated schools under SSA, has a policy that construction of SSA schools should be undertaken by the community rather than by contractors, and it emphasises the need to involve the community in school development planning; similarly, RMSA, another flagship programme of MoHRD, addresses various disaster risks through its Environment Management Framework.
- there is also a clearly articulated policy for a review of vulnerabilities that may emerge as a result of the creation of new infrastructure or the need for special standards for lifeline buildings that are critical during emergency response.
- the Ministry of Finance has made a provision for 10 per cent of the CSS funds to be converted into a flexi fund in order to introduce pilot innovations, improve efficiency in meeting the overall objective and to undertake mitigation / restoration activities in line with the activity of the respective CSS in case of a natural calamity; and

- while the DM Act, 2005, envisages the preparation of focused Disaster Mitigation Plans and approaches to mainstream / integrate them into programmes being implemented by the ministries / departments, such strategic articulation of approach towards DRR and CCA mainstreaming is weak in the programme documents.

Planning and implementation environment: Programme guidelines and the DPR are critical tools of planning and implementation. It is here that efforts to mainstream DRR in the programme must begin. In addition, ministries such as the Ministry of Agriculture, while formulating its overall national strategy is also guided by meteorological reports, the findings of the National Action Plan on Climate Change (NAPCC) and Inter-governmental Panel on Climate Change on climate change. A study of the programme guidelines and DPRs indicates the following:

- while DPRs do capture some elements to assess and mitigate disaster risks, they do not comprehensively study, assess and respond to issues relating to existing disaster risks or climate induced risks; and
- the review and monitoring mechanism is weak in most of the programmes excepting a few such as SSA and RMSA. One of the reasons ascribed for it is the perception that the role of the national management of CSS is limited to managing project appraisal processes and financial releases, with very limited scope for technical reviews or withholding financial releases based on findings.

Capacity building and training environment: As regards this aspect, the study found an uneven pattern across the flagship schemes:

- while some flagship programmes such as SSA have budgetary allocations for training (mostly functional training related to teaching and education), none of the CSS has a well-defined budget for training on DRR or CCA mainstreaming; and

- these programmes also lack DRR and CCA mainstreaming material/curriculum for training staff or community-level workers. However, there is great scope for such efforts because community-level workers such as ASHA, teachers, paramedics, PRI elected representatives and volunteers involved in many of the CSS programmes are regularly trained in capacity building, and it would be easy to integrate a well-designed curriculum pertaining to DRR and CCA into these trainings. During the study it came to light that there is a shortage of qualified personnel to hold trainings that can integrate aspects of DRR and CCA into their curriculum.

PPP environment: The idea of Public-Private Partnership has been gaining steady acceptance in India:

- with a recent amendment to the Companies Act, the GoI has made it mandatory for companies above a prescribed level of turnover and profits to support social development initiatives. This positive environment could be used to leverage private resources for DRR and CCA mainstreaming initiatives for companies would not find it hard to grasp the adverse consequences of disasters on their supply chains as well as on market demand.

Lack of coordinated effort in providing enabling environment for DRR and CCA mainstreaming: While the Ministry of Finance has made an innovative provision of a 10 per cent flexi fund under the CSS to be used for DRR innovations:

- in the absence of a well-coordinated effort to provide an enabling environment for mainstreaming DRR and CCA, it is largely left to individual ministries to assess the situation and take steps toward change. A well-articulated strategy to make use of the provisions of the flexi fund would go a long way in making a constructive and creative use of the flexi fund. The strategy can be formulated by taking into account the views of the MHA or the Planning Commission or NDMA.

4.2.2. Section II: Summary of responses of key stakeholders

Although none of the national flagship programmes have an articulated position on DRR and CCA or clear indicators to measure the extent of mainstreaming of these issues, almost all CSS programmes, such as RKVY, MGNREGA, SSA, RMSA, IAY and NAP, address disaster vulnerabilities in their own ways.

A series of interactions with key stakeholders in the Central ministries brought forth a range of observations – from specific aspects of their programmes to the overall climate of governance and its impact on DRR and CCA mainstreaming in the CSS: Interactions with key stakeholders brought forth a range of observations:

- a response heard from many was that since the CSS programmes are implemented by state governments or district administrations or specific agencies, there is less scope to intervene in efforts to mainstream DRR or CCA at the national level. Such ideas need to be taken up at the design stage and implementation levels;
- due to the federal structure of governance in India, Central ministries implementing the schemes do not have a strong monitoring role during project implementation. However, in the case of SSA and RMSA, it was found that Central ministries have an adequate monitoring role as they are part of a well-conceived project implementation mechanism stretching from the national to block level; hence, they have adequate scope to influence the implementation of the project;
- some responses were to the effect that many states and districts lack the capacity to prepare a well-articulated proposal and thus need support for completing their detailed project report guidelines. Key officials at the CSS national management level were of the view that when a project or programme/scheme is being conceptualised and planned, the impact of such schemes on DRR and CCA should be clearly articulated and addressed.

Therefore the focus of efforts has to be on generating awareness and capabilities in the agencies operating on the field;

- while most respondents mentioned a need for improvement in the overall governance and management of the programmes to achieve the desired objectives, they did not reflect an adequate understanding of the various provisions of the DM Act, 2005 or the need for a disaster mitigation strategy. However, respondents from the Ministry of Agriculture as well as the Ministry of Urban and Rural Development did show a grasp of the need for mitigation planning, which they put down to the fact that they had provided inputs to the preparation of National Disaster Management Plan;
- most of the respondents highlighted the fact that apart from some CSS programmes such as those relating to roads and highways, most other programmes have a strong community-level component in design, implementation and monitoring (including social audit); apart from this, their programmes are also marked by the participation of NGOs and CSOs. However, in the absence of a well-articulated strategy either to ensure effective participation or training in aspects of disaster risk mitigation, the benefits of a community-level component are not fully realised;
- there was a perception among most respondents that there is a lack of political will to implement provisions that are politically sensitive. By way of example several of them mentioned the implementation of building codes – even after they are adopted, the implementation of these provisions is diluted by a lack of will and weak technical or bureaucratic capabilities to implement such provisions. The respondents felt this is one of the biggest areas of concern, particularly in earthquake-prone areas in particular;
- some programme staff also felt that the practice of tying up budgets to the financial year cycle puts stress on them for releasing a financial allocation within the budget year without even providing them the scope for seeking clarifications or reviews;
-

- several positive responses, too, emerged from the interactions with stakeholders across Central ministries. For instance, the Ministry of Health was found to be very proactive in looking at emergency health needs and actively taking steps to increase their response preparedness. Similarly, the Ministry of Agriculture has been prompt in tracking drought and other weather phenomena which could impact food production and it has even prepared a drought manual to respond to such situations; and
- as regards the ministries dealing with roads, highways and urban development, the respondents stated that the structural safety of infrastructure projects is guided by BIS codes and other relevant codes that are mandatorily followed. However, the respondents mentioned that there was a need for guidelines or codes for non-structural mitigation methods and retrofitting.

4.2.3. Section III: Drivers of DRR and CCA mainstreaming

In the course of desk research for this study, a list of drivers or facilitators promoting DRR and CCA mainstreaming were identified. Most of these were echoed by the key respondents as well:

- **Strategic thinking:** Articulation of objectives at a strategic level is a significant driver in the process of DRR and CCA mainstreaming. It ensures allocation of adequate resources and evaluation of activities based on the objectives.
- **Comprehending disaster risk and climate change impact:** Various stakeholders need to have a good understanding of the impact of natural disasters and climate change for mainstreaming DRR and CCA concerns. Currently, the understanding of these issues is limited to some sections of the management whereas the need of the hour is to promote this understanding across the board through orientation training and capacity building programmes.
- **Well-defined programme implementation and management mechanism:** A mechanism that provides space for stakeholder participation during the stages of design, appraisal, implementation and review is important for

DRR and CCA mainstreaming. A mechanism that is able to bring together the knowledge and skill sets, concerns and ideas of relevant stakeholders would work toward mainstreaming DRR and CCA. One example of a strong implementation mechanism is to be found in SSA which provides for an active participation of Gram Panchayats (GP)/elected local bodies in the formulation of proposals at the local level. Experts on DRR and CCA should be included in different phases to play a role in such a mechanism to ensure mainstreaming of these concepts.

- **Linkages with global concerns, covenants and agreements:** A clear understanding and appreciation of global concerns, covenants and agreements builds adequate pressure and motivation to address issues such as DRR and CCA mainstreaming. This has been one of the critical drivers for the Ministry of Agriculture as well as the Ministry of Environment and Forests to invest in various programmes addressing issues related to food security and climate change. Being a signatory to international treaties and agreements (such as MDGs) also influences the government of the day to initiate programmes that have the idea of vulnerability reduction at their core. Programmes such as SSA and NHM, too, exemplify these concerns in their objectives of universalising primary education and providing healthcare to all, respectively;
- **Provision for entry-level activities:** Provisions for flexible entry-level activities as in NAP or financial provisions for the preparation of programme design at an operational level such as in SSA have the potential to increase the possibility of mainstreaming DRR and CCA by making it a bottom-up process. NAP has a financial provision for taking up an activity identified in the community where the social forestry programme is to be undertaken. Such an entry-level activity helps the community to address its existing vulnerabilities, be it the lack of drinking water or the need for a warehouse or embankment and enhances its ownership of the entire programme. This kind of a resource allocation at the planning phase provides an opportunity to bring in key stakeholders to the planning process and increases the quality of the programme designing process;

- **Community participation:** Community participation at various stages of the programme, that is, design, implementation, review, audit, evaluation, concurrent monitoring and participatory lessons, are powerful tools to create a facilitative environment required for mainstreaming DRR and CCA. For example SSA and RMSA incorporate parameters such as vulnerability assessment and environment impact assessment that requires the local community to identify a site for the school.
- **Knowledge, skills and awareness:** Knowledge, skills and awareness can be considered 'hygiene' factors that empower communities and act as multipliers of development gains. Absence of these factors makes implementation difficult and minimises the impact of the programmes. These hygiene factors also motivate communities to demand better conditions and actions from public agencies, facilitating advocacy efforts. Therefore programmes comprising a strong component of knowledge, skills and awareness such as NHM provide an ideal platform for mainstreaming DRR and CCA through its army of rural volunteers in ASHA workers with knowledge, skills and awareness about the health needs of communities.
- **Training and capacity building:** Appropriate training and capacity building of staff, especially at the operational level, is important not only for programme implementation but also for DRR and CCA mainstreaming. A GoI-UNDP Disaster Risk Management Project which provides training to masons in earthquake-prone regions in post-disaster reconstruction and prepares communities by raising their awareness and training them in first aid, among others, has demonstrated this fact adequately. Training and capacity building has to be a part of the strategic intent to create a generic training curriculum and qualified trainers at various levels. The curriculum requires periodic evaluation and the trainers also need retraining. The sheer diversity of the country is a pointer to the fact that training modules need to be translated in different languages to facilitate training at the community level;

- **Governance, political and administrative will:** Strong governance as well as political and administrative will is key to mainstreaming DRR and CCA. Moreover, commitment at the highest level needs to be communicated adequately at every level. When knowledge, skills and awareness are combined with political and administrative commitment, it leads to change. Lack of will to govern, on the other hand, leads to leakages, corruption and misdirected programme implementation at the operational level. Ultimately, the programme fails to achieve its objectives in spite of expending all the resources allocated to it. Further, addressing governance issues is mainly a top-down process and requires significant administrative and political thought and intervention;
- **Funding cycle:** There is a view that annual funding cycles put enormous pressure on national managers to release funds within the budget year failing which they would lapse. However, that prevents the national managers from ascertaining if the requisite objectives have been met. In programmes such as NAP, the funding cycle is linked to the programme cycle, which is one option, or there should be scope to defer the release of funds to the next fiscal year pending a confirmation of the accomplishment of the planned targets.

DRR Mainstreaming through CSS – Example of a Good practice from JNNURM

Surat is the second most populated city in Gujarat and is well known for its diamond business. Forty per cent of the world's (diamond trade) and 70 per cent of India's diamond trade happens in Surat. Surat is also highly hazard-prone as it is bordered by 83 km of a sea stretch making it prone to cyclone, and sea water surge into the city during high tide. River Tapti flows through the city and poses a threat of floods in the monsoon season. The city has also suffered a plague epidemic in the past.

During these calamities the Surat Municipal Corporation (SMC) has initiated many relief and rehabilitation efforts. (But) the SMC was prepared only for floods and the departmental plans did not address inter-departmental coordination issues.

In 2009-10, recognising its vulnerability to different hazards and appreciating the weakness of its existing plans, the SMC embarked on preparing a comprehensive disaster preparedness plan. The plan included identifying physical and human resources and preparing plans to deal with flood, earthquake, cyclone, chemical and industrial calamities, drought, epidemic, fire, accidents...

Adapted from a case study that appeared in, "Documentation of best practices, Peer Experiences and Reflective Learning (PEARL), JNNURM, Volume III, 2010, published by National Institute of Urban Affairs, New Delhi

4.2.4. Good practices

A review of documents pertaining to the CSS shed light on a number of good practices. Some of them are as follows:

1. Design of eco-friendly housing models under IAY;
2. Strong emphasis on community, NGO participation in SSA and RMSA;
3. Emphasis on decentralised decision-making in MGNREGA;
4. Focus on mitigation efforts using MGNREGA funds;
5. Focus on PPP in JNNURM and UIDSSMT projects, especially in solid waste management;
6. Provision for entry-level activities to address local needs in NAP;
7. Availability of toilet designs suited to different geographical terrains under NBA;
8. Provision for increasing the eligible working days in MGNREGA from 100 to 150

- for disaster-affected communities;
9. Five per cent of IAY funds are reserved to reconstruct houses of BPL families that are damaged in a disaster;
 10. JNNURM promotes mass rapid transportation projects (such as the Metro projects and CNG buses) using clean energies as a step toward decreasing the use of fossil fuels as well as the carbon footprint;
 11. Local sanitation projects under UIDSSMT address issues of water logging;

12. Focus on mutual learning and lesson sharing in JNNURM and UIDSSMT;
13. Adoption of the Environment Management Framework by RMSA;
14. Individuals over 60 are accorded top priority for allocation of IAY houses in Rajasthan (30 per cent), Chhattisgarh (17.5 per cent), Maharashtra (16.3 per cent), and Himachal Pradesh (12.5 per cent). Similarly, widows are given top priority in allotment in states such as Himachal Pradesh (32.5 per cent), Kerala (26.3 per cent), Rajasthan (21.5 per cent), Odisha 15 per cent), and Chhattisgarh (13.7 per cent).
15. In Karnataka, IAY keeps a waiting list of potential allottees that is periodically updated by GPs and Gram Sabhas.

4.3. Issues and challenges

During discussions with key stakeholders, the following issues and challenges in the task of mainstreaming DRR and CCA were flagged:

Limited scope for interventions by Central ministries: Owing to the federal structure of governance, there is not much scope for the Central Government to amend programme guidelines in order to incorporate DRR features such as review and monitoring when it comes to projects being implemented by the state or district administrations and more so in cases where the programme is being co-funded by the states. It is worth thinking whether linking the release of funds to such reviews will help increase the scope for effective mainstreaming of DRR and CCA in such cases.

Inadequate capacity, knowledge and skills at the operational level: Inadequate capacity, knowledge or skills related to DRR and CCA, especially at the operational level, prevent an effective understanding of disaster risk. There is an urgent need for well-trained trainers who can help staff from the sub-district level up to understand the significance as well as aspects of DRR and CCA mainstreaming. It would be all the better if this training on DRR and CCA were to be combined with their capacity building training where issues of mainstreaming DRR and CCA are brought within their functional domain.

Issues related to governance and political interference: Along with the inadequacy of capacity at an operational level, lack of will and political interference were cited as the most critical challenges to be overcome in DRR and CCA mainstreaming.

Integrated planning and coordination: Another issue that seems to be affecting efforts at DRR and CCA mainstreaming is the lack of integrated planning and a well-coordinated mechanism starting from block / district level to ensure inter-departmental coordination not only on the issues of DRR mainstreaming and CCA issues but also on other functional issues to increase overall efficiency.

Sensitivity towards DRR and CCA issues: The single biggest continuing challenge is of a lack of sensitivity towards DRR and CCA across all levels. The challenge is to find effective ways of communicating the urgency of DRR and CCA issues to all stakeholders in a way that they do not seem remote from their lives at all.

4.4. SWOT Analysis based on the present-day situation

Based on the understanding gained about issues related to DRR and CCA mainstreaming, a strengths, weaknesses, opportunities and threat (SWOT) analysis was prepared collectively for all the programmes. The findings of the SWOT analysis are reflected below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Facilitative environment • Understanding of disaster risk and CCA in ministries at the national level • Reference to disaster concerns in some DPRs • Understanding about Community partnership and other DRR and CCA drivers by the Ministries • Existence of several good practices • Committed government funding • Many good practices in ongoing programmes • Willingness and capacity to engage different stakeholders • Ability to use capacity of business and civil society sectors • Scope for PPP 	<ul style="list-style-type: none"> • Lack of articulation of strategic intent on DRR and CCA in project documents • Absence of policy direction on DRR and CCA • Absence of a strong coordinating agency to mainstream DRR and CCA • Weak connections between national entities like NDMA and MHA for disaster management and programme implementing Mission Directorates • Inadequate capacities of stakeholder on the ground • Inadequate knowledge, skills and lack of awareness, especially at the operational level • Lack of scope to review DRR and CCA appraisal during review and monitoring • Lack of concerted efforts to bring in NGO participation in a systematic and sustained manner • Lack of training material/curriculum and trainers, especially on the ground
Opportunities	Threats

<ul style="list-style-type: none"> • Inclusion of strategic intent in programme documents • Design curriculum and train the trainers on DRR and CCA mainstreaming • Showcase models for DRR and CCA mainstreaming at state / district levels • Hold knowledge, information, lesson sharing workshops • Identify and train NGOs • Promote integrated planning for convergence and synergy • Utilise 10 per cent flexi fund to address DRR and CCA 	<ul style="list-style-type: none"> • Increase in leakages and corruption due to deterioration in governance • Social conflicts due to disasters and climate change risk, making community participation difficult • Increasing inequities leading to deepening of poverty • Declining interest in India as a business destination due to the risk of disasters and climate change impacts. •
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4.5. Recommendations for strengthening DRR and CCA mainstreaming

Mainstreaming DRR and CCA involves a set of macro as well as micro actions and a convergence of both. While a facilitative environment needs to be created or strengthened, project-specific actions, too, are essential. Based on an analysis of programme documents, the findings of this study and existing literature, a set of recommendations are being made to strengthen DRR and CCA mainstreaming in the national flagship programmes that have been examined in this study. The recommendations are divided into three parts:

- the recommendations in the first part are of a general nature, showing a concern for addressing challenges discussed in the environment analysis;
- the recommendations the second part set forth a series of actions that can help initiate the process of DRR and CCA mainstreaming; and
- the recommendations in the third part discuss each flagship programme specifically.

The general recommendations and entry points are captured within this chapter and the specific recommendations focused at CSS are captured as annexure I.

4.5.1. General recommendations

Include scope for DRR and CCA mainstreaming in programme guidelines and DPR:

Programme Guidelines are made at the national level while proposals for projects under the flagship programme are developed at state/district levels. Hence it is important to include DRR and CCA mainstreaming concerns, actions, indicators and review mechanism in the Guidelines as well as the DPR in order to ensure DRR and CCA mainstreaming from the design stage onwards. There is a need to strengthen programme guidelines as well as DPR documents toward this end.

Inclusion of DRR and CCA experts in programme review committees: The inclusion of DRR and CCA experts in the programme review committee would ensure a systematic review of integration of DRR and CCA components in the programmes submitted for review and increase the scope for achieving this objective.

Ensure DRR and CCA mainstreaming as part of the programme management system: DRR and CCA should be an integral part of different phases of the programme such as appraisal, review, monitoring, evaluation, lessons learned exercises, and training and capacity building. To this end, DRR and CCA mainstreaming should be included in the list of criteria against which a programme is evaluated. The review should focus especially on the project's ability to reduce current and future vulnerabilities and mitigate risks generated by the project, if any, including during the implementation period. DRR and CCA mainstreaming evaluation should become an integral part of mid-term reviews and also focus on whether the project is exacerbating the existing vulnerabilities of large sections of society. Findings from such reviews should be used to make mid-course corrections.

Focus on regional planning or cumulative planning: When a programme is assessed on a standalone basis, it may seem safe for implementation. However,

when it is evaluated along with other programmes in the region / geographic unit, a disaster risk may emerge from it, making some programmes unviable. Therefore, there is a need to establish a framework that guides regional planning and lays emphasis on the assessment of infrastructure programmes on an individual as well as cumulative basis. The regional planning exercise should be periodically updated and only those activities that are part of them should be allowed to be implemented as part of the programmes.

Strengthen coordination: There is a need to strengthen inter-departmental coordination in order to avoid duplication of activities and prevent resource wastage. Through effective inter-departmental coordination, training and capacity needs at the departmental as well as community level could be addressed effectively.

Increased focus on the safety of lifeline buildings and infrastructure: At present, the construction of public buildings and infrastructure works is handled by different government agencies such as Central Public Works Department, State Public Works Department, National Highways Authority of India and Border Roads Organisation, among others. They follow standard BIS codes which are reviewed and updated periodically or in the event of a major disaster. However, in light of the role of critical lifeline and infrastructure buildings at all times, during normal times and during disasters, their safety factor needs to be higher. Similarly, infrastructure works constructed in hazard-prone locations, such as hills, coastal regions, and river basin regions, should be carefully assessed for their safety aspect. Similarly, guidelines for retrofitting old structures and lifeline buildings should be in place to facilitate strengthening of existing structures.

Establish indicators of DRR and CCA mainstreaming for projects in different sectors: The concept, ideas and methods of DRR and CCA as they exist at present, do not provide clear indicators for different sectors to act upon. Designing DRR and CCA tools for each sector, providing specific indicators, identifying departments that need to coordinate among themselves at various levels, would help promote DRR and CCA mainstreaming. Such indicators are needed for each programme. If the programme involves an activity such as house construction

which is a significant human life cycle event, it would provide an excellent opportunity for initiating positive action vis-à-vis mainstreaming DRR, for there would be a receptivity to know about risk and safety factors. Moreover, it would be an opportunity to make people aware of the need to use material such as bamboo/timber that they can replenish during their lifetime through their actions, which also has a high salvageable value (especially in earthquake-prone areas). This opportunity can also be used to educate people about actions which impact the environment. Educational activities and training activities can further be used to reinforce these issues and bring the necessary changes in societal thinking.

Promote lessons learned and exchange of practices workshops and seminars:

The national flagship programmes in India are executed on a vast scale, which provides an excellent scope for learning lessons and identifying good practices that can be scaled up. It is strongly recommended that there should be lessons learned and knowledge sharing workshops and seminars dedicated to DRR and CCA mainstreaming involving different government and non-government stakeholders. These workshops and seminars should be organised at the district, state and national level. The information and awareness generated at such workshops should be made accessible on a wider scale through print and online publications. Moreover, the information should be communicated in a manner that is easily comprehensible to the community. There should be a mention of local practices wherever suitable.

Training institutions need to focus on DRR and CCA mainstreaming: There is a need to design appropriate training modules (sectoral, departmental and general) for various levels of project staff and community volunteers to train them on DRR and CCA mainstreaming. There is also a need to build awareness about the link between macro issues and micro actions at an individual and community level with regard to both problems and solutions. To achieve this, an appropriate generic and specific training curriculum for DRR and CCA mainstreaming should be designed and shared with all ministries and departments at the central and state level. Trainers from different training academies such as the National Institute of Disaster Management, Lal Bahadur

Shastri Academy of Administration, National Police Academy, National Institute of Rural Development, among others should be trained in order to gain a deeper understanding, knowledge, and skills.

Establish project management guidance units for DRR and CCA mainstreaming:

There is a potential to promote a shared services approach where knowledge inputs in DRR and CCA mainstreaming are shared among various ministries/departments so as to bring them on the same page on the actions that are required. This is a good way to tide over issues of resource availability. A shared services unit for DRR and CCA mainstreaming could be established in the MHA or NDMA or SDMAs to reach out to different ministries and departments to provide access to common resource tools, methodologies and technology.

Strengthen decentralised decision-making: Many DRR and CCA mainstreaming actions are based on local knowledge. To facilitate local action based on local knowledge and awareness, decision-making at the local level needs to be promoted. MGNREGA promotes this by reserving 50 per cent of its funds for activities suggested at the GP level. The flexi fund has a potential to encourage actions at the local level in order to strengthen DRR/CCA integration.

Focus on local innovations and practices for their DRR potential: There should be an effort to evaluate the suitability of local, terrain-specific practices in the form of action research projects to see if they can be scaled up within the same flagship programme. For example, indigenous design and building practices can be explored to build housing models with local and energy efficient material / technology to see if they hold up to standards of resilience so that they can be popularised among local communities. Similarly, efforts can be made to design different types of borewell pumps for flood-prone areas to ensure that they remain operational even during a flood.

Strengthen institutional mechanism: There is a need to strengthen the institutional mechanism by making SDMAs and DDMAAs operational, equipping them with experts who can assist the state and district administrations with the various dimensions of DRR and CCA mainstreaming. The experts with the SDMAs and DDMAAs should be empowered to review ongoing programmes for the

implementation of its stated DRR actions and also help the departments establish linkages with other pertinent departments to promote coordination.

Constitute a team at national and state level to undertake DPR to move to a risk-sensitive planning process: As the social and economic contexts of a society change over time, it is important that the management practices and mechanisms governing those contexts evolve in tune with those contexts. Hence, it would be a good idea to set up a team at the national and state level to explore ideas and mechanisms that could facilitate a shift from mere quantitative aspects of planning to a more holistic idea of DRR as the “common denominator” of developmental plans to achieve the goal of inclusive growth, as articulated by the 2011 Report of the Working Group on Disaster Management for the Twelfth Five Year Plan (2012-2017).

4.5.2. Entry points activities

To facilitate a beginning to the list of actions that need to be undertaken, the study has identified certain entry points of action for the DRR and CCA mainstreaming process. These entry point activities are listed below:

- include mainstreaming DRR and CCA as one of the objectives of the CSS programmes;
- DRR and CCA experts should provide inputs at the design stage and at the stage of updating project guidelines and frameworks as well as during appraisals, reviews and monitoring;
- include a chapter on DRR and CCA mainstreaming in State and District Disaster Management Plans for programmes funded by the Central government, state governments as well as those started under the PPP model;
- identify disaster-prone locations within each state as also suitable mitigation activities for different types of disasters that could be undertaken through one programme, say, MGNREGA;
- design a generic training module introducing concepts of DRR and CCA and their mainstreaming to train field level functionaries / volunteers, of all flagship programmes and PRI members
- institutionalise the practice of carrying out periodic studies to understand the condition and functioning of emergency services such as drinking water, sanitation and emergency shelter, among others, during a disaster and undertake required design modifications;
- identify and train suitable NGOs at state and district levels for curriculum development and translation of manuals in different languages, training, project design, social audit, review and monitoring;
- initiate a scoping study to establish a shared services unit for DRR and CCA mainstreaming at all levels; widely disseminate lessons and good practices;
- design and establish a website that provides instances of DRR and CCA integration and mainstreaming actions;
- identify specific changes/additions in the guidelines and actions of earmarked CSS programmes to promote DRR and CCA mainstreaming;

- Identify low cost, green building models suitable for disaster-prone areas and popularise them using flexi fund;
- all flood prone-zones should initiate a programme to increase the bore well pump heights to ensure that they remain operational during floods;
- there should be a standardised management mechanism for emergency shelters and commitment of funds to manage them in normal times and during emergency response;
- an acceptable trigger mechanism should be institutionalised to increase MGNREGA working days for affected communities in the event of a disaster;
- state and district level activity calendars for PPP through CSR funds should be institutionalised to enable interested companies to reach out and partner DRR and CCA mainstreaming efforts; and
- district planning committees should be trained on issues and approaches related to DRR and CCA mainstreaming.

4.5.3 Entry point activities for specific projects

Listed below are entry points of action for the DRR and CCA mainstreaming process for some of the projects which present a representative sample of the flagship programmes:

Indira Awaas Yojana

- design and popularise low cost multi-hazard resistant housing designs;
- construct low cost, multi-hazard resistant houses in all district and block headquarters to promote awareness;
- use the flexi fund to incorporate risk reduction features;
- coordinate IAY construction with NBA and rural drinking water programmes to ensure necessary amenities;
- train masons on hazard-resistant construction practices;
- establish hubs that supply material required for green houses; and

- identify NGOs that can train communities, volunteers and construction workers on aspects of DRR and CCA.

Mahatma Gandhi National Rural Employment Guarantee Act

- expand and strengthen drought proofing activities;
- implement effective flood proofing action including activities such as preparation of homesteads, connecting roads and water drainages;
- prepare hazard-specific modules for integrating DRR and CCA in MGNREGA;
- prepare modules to strengthen awareness among the beneficiaries;
- establish a trigger mechanism to enhance the number of eligible working days in the event of a disaster; and
- establish a separate list of actions such as construction of bunds and strengthening embankments, among others, that can be operationalised by the same trigger mechanism that is applicable for increasing the number of eligible working days in the event of a disaster.

Pradhan Mantri Gram Sadak Yojana

- identify habitations that tend to get cut off during heavy rains as a part of the village HRVA to prioritise build connecting roads to such habitations.

National Health Mission

- various categories of community-level health workers should be trained in aspects of DRR and CCA; and
- new hospitals being constructed should conform to hazard-resistant standards, incorporate applicable codes and also practice a green approach.

Rashtriya Krishi Vikas Yojana

- a number of action research projects exploring varieties of flood and salinity-resistant seeds should be undertaken; and
- farmers should be trained to track changes in weather patterns to anticipate their impact on agriculture so that the necessary adaptive practices can be adopted.

Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan

- train habitation planning committees on DRR and CCA mainstreaming; and
- prepare a list of activities that could be undertaken to strengthen DRR and CCA mainstreaming using the 10 per cent flexi fund.

National Rural Drinking Water Programme

- design borewells that do not submerge during flood events and make it mandatory for flood-prone areas; and
- increase the borewell cost based on the design required for a particular region.

4.6. Concluding remarks

The study reveals that there is a strong appreciation of DRR and climate change induced risk concerns and the need to mainstream them in national flagship programmes such as the CSS. To achieve this there has to be a strengthening of strategic articulation combined with training and development. The management frameworks of CSS programmes need to initiate the participation of DRR and CCA experts from the design stage of implementation and appraisal. Similarly, there should be a move to introduce a certain degree of flexibility in financial allocations for addressing DRR and CC risks, of which the recent flexi fund provision is an example. A generic curriculum module on DRR and CCA as well as training of different levels of government functionaries, NGOs, and field-level stakeholders, including PRIs, is crucial for the mainstreaming process.

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