POST-2015 DRR FRAMEWORK
for
SAARC REGION (HFA2)
SDMC

MARCH, 2014

SAARC DISASTER MANAGEMENT CENTRE
New Delhi

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Preface

Disaster Risk Management in a very comprehensive manner started globally with the UN initiatives of International Decade for Natural Disaster Reduction (IDNDR) 1990-2000. The initiative got combined with Yokhama Strategy which was focused on risk reduction. It was a shift-in approach from post-disaster relief and response to pre-disaster risk reduction. Global community started taking initiatives in this direction and then they further committed to Hyogo Framework of Action – 2005-2015. Countries agreed to take the agenda of pre-disaster planning and risk reduction forward. In most of the countries policy shifts took place. This lead to the execution of new programmes, policy, institutional arrangements legislation, human resource and capacity development in many countries. Also a few remained unfinished.

The global discourse highlighted disaster as a development issue and for sustainable development it is more important to focus on ex-ante risk reduction, risk prevention and risk management leading to resilience. On the other hand, concern for climate change (IPCC-V Report) indicating the increase in intensity and frequency of hydro-meteorological and trans-boundary disasters highlighted for South Asia Region.

South Asia is striving for high growth rate to address poverty, malnutrition, unemployment, mortality as high Human Developed Index (HDI). Countries are also taking initiatives for reducing disaster risk as its priority. Sendai city of Japan is all set for organizing the World Conference for Disaster Risk Reduction in 2015. Co-incidentally, Global Commitment for CCA Adaptation and Millennium Development Goals are also converging in the same year 2015. The number of countries of the region are also defining their three dimensional priorities i.e Development, Climate Change Adaptation and Disaster Risk Reduction. Recognizing this, SDMC under the aegis of SAARC Secretariat, with the support of UNISDR had organized regional consultations and expert group meetings to develop paper on priorities for 2015 onwards i.e. HFA2. The current document is the outcome of the deliberations contributed by the Member States, experts and other stakeholders working in the sector.

SDMC is grateful and extends its heartfelt thanks and gratitude to all the Member States, SAARC Secretariat, UNISDR and other experts who have contributed extensively to come out with this document. I also express my thanks to the team of SDMC who worked tirelessly to make it possible to get the document out in time. I hope this document would be utilized by the global community in defining the global priorities of the World Conference and also by various stakeholders in the South Asia Region in setting their priorities for sustainable development.

(Prof. Santosh Kumar)
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New Delhi
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Section 1: Background

At the World Conference on Disaster Reduction (WCDR) in January, 2005,168 countries adopted the Hyogo Framework for Action (HFA) as a guiding framework on DRR for the period (2005-2015).The HFA aims at "Building Resilience of Nations and Communities to Disasters" and to achieve it, strategic goals, outcomes and five priority areas along with indicators have been identified. Although legally non-binding, it has proven to be a useful normative framework which provided a common set of actions to reduce disaster risks and also helped to generate political momentum as necessary to ensure that disaster risk reduction becomes the foundation for international and national development.

In 2006 a Regional Framework for Disaster Management was developed for South Asia region in line with the Hyogo framework for Action highlighting the following key areas:

- *Establish and strengthen the regional disaster management system to reduce risks and to improve response and recovery management at all levels*

- *Identify and elaborate country and regional priorities for action*

- *Share best practices and lessons learnt from disaster risk reduction efforts at national levels*

- *Establish a regional system to develop and implement regional programmes and projects for early warning*

- *Establish a regional system of exchanging information on prevention, preparedness and management of natural disasters*

- *Create a regional response mechanism dedicated to disaster preparedness, emergency relief and rehabilitation to ensure immediate response*

- *Create a regional mechanism to facilitate monitoring and evaluation of achievements towards goals and strategies.*

A number of efforts have been made by SAARC as a region to implement this framework. Nine roadmaps have been developed for the region to provide policy guideline and directions to the member states. The details of the Roadmaps provided below.

- Community Based Disaster Risk Management in South Asia.
- *Application of Science and Technology for Disaster Risk Reduction and Management*
- *Coastal and Marine Risk Mitigation Plan*
- *Integration of Disaster Risk Reduction and Climate Change Adaptation in South Asia*
- *Mainstreaming Disaster Reduction in Development in South Asia*
- *Earthquake Risk Management in South Asia*
- *Landslide Risk Management in South Asia*
- *Urban Risk Management in South Asia*
- *Drought Risk Management in South Asia*

Other key achievements include

- *Completion of Digital Vulnerability Atlas for 5 member states. (Afghanistan, Bhutan, India, Maldives, and Nepal)*

- *Development of South Asian Disaster Network (SADKN) on which all Member States have option to upload data and information related to disasters on the specific country pages and also share experiences, knowledge and good practices for cross learning.*

- *Development of a comprehensive tool for assessment of School and Hospital safety.*

- *Development of Regional Response Mechanism (under ratification process)*

In addition to this every country in the South Asia region has also been committed towards implementation of the Hyogo Framework for Action and has achieved varied level of success in this regard. The link between disaster and development has been appreciated by all the countries in the region and each of the countries has developed its own disaster management framework which emphasizes on mainstreaming disaster risk reduction in development planning process.

Some of the key challenges faced by the SAARC as a region are as follows:

- The implementation of the comprehensive regional DRR framework and the roadmaps developed for SAARC region has not made significant progress as there are limited resources available with most of the member states. Also these roadmaps are legally not binding resulting in lack of accountability by the member states in implementing them.

- South Asia is a data scarce region. The observational network for collection of hazard data is not adequate and hence datasets on natural hazards at micro level are not available. Member states are also conservative in sharing data, particularly on issues such as discharge and withdrawal of water from rivers and reservoirs and rainfall in upper catchment which are necessary for developing regional flood early warning systems. This also hampers the efforts made for trans-boundary risk assessment.

- There is a need to address the capacity gaps existing in the region systematically by building capacity both at regional and well as national level. It is necessary to provide training to various stakeholders from different member states as well as strengthening facilities of the various existing training institutions.

- At present there is no regional coordination mechanism to bring in all the stakeholders working in the region together. Although it was concluded during the EAS-India Workshop-2012 ("Building Regional Framework for Earthquake Risk Management" on 8-9 November, 2012) to set up a regional platform for DRR in the region, not much progress has been made in this regard till date. SDMC presently works as the regional institution for South Asia with a mandate to provide policy advice, capacity building services including training, information sharing, knowledge management and research. Being an inter-governmental organization which is bound by the rigid rules and procedures of the SAARC, it is difficult for SDMC to develop a regional platform for DRR for the SAARC region. Setting up of a regional coordination mechanism will help in bringing various regional and sub-regional organisations together and foster development of extensive collaborative action plans to address multi-sectoral as well as trans-boundary issues of disaster risk reduction on regional and sub-regional scale.

Following are some of the key trends and issues observed in South Asia at the national and sub-regional levels.

- Despite an increase in the number of specialized DRR/DRM policies, legislations, implementation remains a challenge in the region. The relationship between DRR, CCA and sustainable development has been understood conceptually but not translated into policies and programmes. Integration of DRR and CCA measures in different sectors such as infrastructure, housing construction, irrigation, agriculture, education and health has not taken place meaningfully.

- There has been progress in the area of comprehensive multi-hazard risk and vulnerability assessments and disaster loss databases. However, there is still significant room for improvement. In particular, greater emphasis is required in standardizing methodologies and tools, coordination amongst the agencies collecting risk information, and establishing mechanisms to make information accessible for planning purposes.

- Most of the countries in the region have some budget available for disaster response. However, constitution of dedicated budget for disaster mitigation remains a challenge. There is also not much clarity on investments being made on DRR through sectoral budgets in different countries.

- South Asia comprises eight countries which are diverse in terms of their size, population density, topography, geo-political situation, exposure and vulnerability. Hence there are existing capacity gaps at the national level which needs to be addressed through various capacity building initiatives and regional cooperation.

- The multi-stakeholder approach is gaining importance in the region. Countries in the region have established national platforms, forums and coordination mechanisms among various stakeholders. Civil Society Organizations (CSOs) and private sectors have been recognized as potential partners. However, more efforts are required to sustain this engagement and to involve community in the entire decision making and planning process.

- Progress in the area of gender and women's issues remains low and a number of countries accept that this is a gap. The low levels of involvement of women's groups in DRR forums, limited amount of sex-age disaggregated data are the key challenges. Social equity in DRR practice remains a concern. Measures that support social equity continue to be applied in an ad hoc manner with limited financial resources and are poorly integrated with other areas of social development. These gaps are reflected in lack of relief, recovery and reconstruction assistance.

So it is evident that although there has been some progress in the region in the area of risk assessment, knowledge management, issuing of regional policy guidelines and roadmaps, much more still need to be done. Particularly the progress under Priority Area 4, "reducing underlying risk factors", has been slow thereby clearly highlighting the fact that disaster risk reduction is yet not integrated into the development framework of the member states and is not considered as one of outcomes of sustainable development.Also there is a need for more concerted efforts to translate the various regional roadmaps and guidelines into action. SAARC as a region also needs to strengthen its monitoring mechanism to assess the progress made in implementation of HFA both at regional and sub-regional level and work closely with other regional institutions of SAARC to address the various regional issues pertinent in the context of DRR and CCA including trans-boundary issues.

Further, during the course of implementation of various objectives of HFA certain challenges have emerged in the region which the HFA presently fails to address. These are as follows.

a) **Increase in exposure and accumulation of new risks:** There is an increase in exposure to hazards in the region due to unsustainable development practices, ecosystem degradation, population growth, poverty and impacts of climate variability and extremes. Hence there is a continuous accumulation of new risks.

b) **Increase in economic losses:** With increase in economic growth, there has been an increase in investment in infrastructure development, industries and other revenue generating sectors and businesses in the region thereby increasing the exposure of economic assets to hazards. However, mere exposure of economic assets to hazards may not always lead to economic loss. Economic losses are incurred due to the existing vulnerabilities of these assets which are often not disaster resilient. Despite experiencing some of the worst disasters in the past very few concrete measures have been taken in the region to protect the economic assets and businesses from disaster impacts. For example, the Tourism industry in Maldives which is the key economic sector in the country was badly hit by the Indian Ocean Tsunami resulting in loss of more than 60% of its GDP. Pakistan lost 10 billion US$ in 2010 close to 5.8% of the country's GDP in the fiscal year 2009-2010 due to massive flood.

c) **Reducing vulnerabilities of community:** Although vulnerability reduction has been the key focus under HFA, the expanding exposure, prevailing socio-economic condition and the economic growth process over sustainable development have created obstacles in the path of vulnerability reduction. Even after vulnerabilities are reduced the overall risks of the communities still persist. Hence instead of identifying only the existing vulnerabilities it is important to also map out the existing coping skills in the community. Whereas enhancing of efforts to reduce vulnerability will always remain a priority, there is also a need to shift the focus from vulnerability reduction to building resilience particularly with increase in the number of frequent and high intensity climate extremes in the region.

The concept of resilience building should not only focus on building capacity to meet the immediate physical and safety needs of the community which arise during and after a disaster but should also focus on strengthening their capacity to plan, strategize and take part in the decision making process. It should try to build community cohesion so that community as a group can bounce back to normalcy after any extreme event. `

d) **Small scale recurrent disasters create substantive damage and loss to the economy:** HFA has given more emphasis on intensive risks (large scale disasters) than on extensive risks (small scale but frequent disasters) which often bring in more loss and damages over a period of time. For example, almost all the countries in South Asia (except the mountainous countries) experience regular riverine floods. Flash floods are also common in the hilly areas. These frequent but not so intense disasters account for a considerable loss in revenue over a period of time and bring in considerable damages to infrastructures, crops, businesses and livelihoods.

In most of the South Asian countries not much systematic effort has been put till date to generate a national database of these small-scale events so as to do an analysis of the economic loss incurred due to such events.

e) **Lack of integration between DRR-CCA agenda:** Although HFA emphasized on natural resource management and protection of environment, it did not establish linkages with the climate change

community and the ongoing discourse on climate change. South Asia's susceptibility to climate change has been an agenda in SAARC forum since 1987.The SAARC Action Plan on Climate Change (2009-2011) and the Thimphu Statement on Climate Change (as adopted during the 16th SAARC Summit) provide the necessary strategies for mitigating impact of climate change in the region. However, very little progress has been made in implementing these action plans on ground. Most of the countries in the region have formulated their national action plans on climate change and national strategy/plan for DRR, but in practice both the subjects are dealt in a compartmentalized manner with a separate institutional and policy framework. To ensure integration of DRR and CCA into development framework it is not sufficient to have commitments only from the relevant ministries but also from key policy planners and decision makers across various departments.

f) **HFA does not address the vulnerabilities arising out of conflicts:** South Asia region is prone to civil conflicts. There is a need to address the conflict dimension as there is strong evidence that disasters can increase risk of conflicts and condition of conflict can increase the vulnerability to hazards.

g) **Lack of delegation of powers and allocation of functions and resources to Local Governments:** Although most of the countries in the region have enacted Disaster Management legislations along with institutional arrangements, the legislation in most of the cases has failed to allocate adequate functions, powers and resources to the local governments. Hence inspite of emphasis on local action, actual realization of local level initiatives has been hardly accomplished in the region. Although NGOs and international funding agencies have supported implementation of several local level DRR initiatives in the region, sustainability of such efforts is always under question.

h) **Regional trans-boundary issues did not find much scope for discussion:** The modalities for regional cooperation to address trans-boundary disaster risks are yet not fully explored in the SAARC region.

Hyogo Frame work for Action (2)

The Hyogo Framework for Action (HFA) is time bound and will come to an end in 2015. Also 2015 will mark the end of the Millennium Development Framework and globally a new direction will be charted out for sustainable development. During the World Conference on Sustainable Development (Rio+20), held in June 2012, it was decided that a set of sustainable development goals will be formulated which will build upon the Millennium Development Goals and converge with the post-2015 development agenda which will have sustainable development at its core. The outcome document of the United Nations Conference on Sustainable Development "Future we want" clearly states that "DRR and building of resilience to disasters has to be addressed with a renewed sense of urgency in the context of sustainable development and poverty eradication and to be integrated into policies, plans, programmes and budgets at all levels within relevant future frameworks"[1]. Hence 2015 is historically an important year as it will provide the opportunity to comprehensively consider the link between sustainable development, disaster risk reduction and climate change adaptation and discuss on how DRR and CCA can be outlined as important outcomes of global sustainable development framework.

It is in this context in December, 2012 the UN General Assembly Resolution (Resolution 67/209) decided to convene the 3rd World Conference on DRR in Japan in early 2015 to review the implementation of the HFA over its 10 years' term and develop a post-2015 framework for DRR referred to as HFA2. A number of consultations have been organised globally to discuss on future elements for consideration under HFA2. In

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[1] Report of the United Nations Conference on Sustainable Development;(Rio de Janeiro,Brazil,20-22 June,2012; Pg 35)

the context of the global efforts, SAARC as a region also started a consultation process to discuss on the Post-2015 DRR agenda for the South Asia Region. The consultation process included expert group meetings, online consultations through South Asia Disaster Knowledge Network (SADKN) and regional consultation workshop with the member states. Based on the inputs received from these consultations an input paper has been developed by the SAARC Disaster Management Centre highlighting the proposed areas of action post-2015 on DRR for the South Asia Region. The input paper includes the "Draft Post-2015 framework for DRR in the SAARC Region-HFA 2". The draft framework contains the proposed priority areas of focus beyond 2015 along with recommended actions, targets, timelines and implementation mechanism. This Post-2015 DRR framework is very contextual and timely for the SAARC region as the Regional DRR Roadmap for SAARC formulated during 2006 is also coming to an end and a guiding framework would be essential for the region to carry forward its DRR agenda post 2015.

Section 2: Overview of SAARC as a region

SAARC as a region is home to more than one-fifth of the world population (1.4 billion approximately) [2]and comprises eight countries: Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, Maldives and Sri Lanka. Geographically it is a land of physical diversity with mountains, coasts, forests, deltaic plains and deserts. The physiography of South Asia is dominated by the Himalayas which form a physical and cultural barrier separating South Asia from China. The major rivers flowing through this region are the Ganges, the Indus, and the Brahmaputra and a large section of the population in the region lives in the fertile valleys of these rivers. The region has poor indicators of human development and suffers from high level of poverty. It is the second poorest region in the world, with 38.6 per cent of the population living below the poverty line.[3] The region has a skewed sex ratio due to high preference for male child in many countries with high level of child and maternal mortality. Also almost 50per cent of the children under five are underweight. Agriculture is a primary economic activity in the region and more than 60 per cent of the total labour force is engaged in the agriculture sector. In terms of economic growth, the South Asia has experienced an impressive rate of growth during the last 20 years. The region also has the potential for higher economic growth in future due to its increasing geopolitical importance, demographic dividend and fast growth of the Indian economy which is the largest in the region. However, the economic growth in the region has come at a very high environmental cost resulting in groundwater mining, deforestation, deteriorating quality of aquifers, land degradation, soil degradation, water and air pollution which contributed significantly in making the region vulnerable to various risks including disasters and climate change.

Due to its geophysical and climatic condition South Asia is exposed to a number of natural hazards such as earthquakes, floods, flash floods, landslides, droughts, tsunami, storm surge and cyclones. The disaster risk in the region is high due to its increased exposure and high level of socio-economic vulnerability. The region has experienced some of the worst disasters in the past which resulted in unprecedented human and economic loss. During 1971-2009, 1017 natural disasters that meet the criteria of EMDAT occurred. These events have cumulatively affected two billion people and have caused 800,000 deaths in the region. Direct economic loss recorded amounted to over 80 billion US$.[4]This figure does not include the indirect loss. The indirect losses incurred due to disasters have larger implications like interruption of business operations, decrease in public and private revenues, unemployment and market destabilization. The key factors for increasing disaster risks in South Asia are fast population growth, urbanization, expansion of economic activities in hazard prone areas and environmental degradation. Flooding is the most common disaster in the region followed by cyclones. There is a high concentration of population in the fertile valleys of the Ganges, Brahmaputra and Indus. Development of settlements right on the flood plains, lack of infrastructural capacity to drain out flood waters and lack of regional cooperation on trans-boundary water management have resulted in regular occurrence of floods in the region. With more than 600 million people living in the Himalayan region earthquake exposure is very high. Lack of enforcement of building codes, land use planning regulations, construction of structurally unsafe buildings and other infrastructures and preparedness among the local community have made the region extremely vulnerable to this hazard. Increasing density of population and concentration of economic activities in major cities, across the region, such as Chittagong, Delhi, Dhaka, Karachi, Kathmandu, Lahore and Mumbai will continue to increase their exposure and vulnerability to natural hazards. Climate change and its

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[2] GFDRR-World Bank Publication; "Disaster Risk Management in South Asia- A regional overview"
[3] May 2012; NaseerMemon; "Disasters in South Asia; A Regional Perspective"
[4] GFDRR-World Bank Publication; "Disaster Risk Management in South Asia- A regional overview"

variability is also an emerging risk in the region and it is predicted that due to climate extremes there will be increase in the number of disaster events such as intense rainfall, floods and droughts. Climate change will also have impact on monsoon dynamics which will affect the rainfall pattern thereby affecting the overall agricultural production. Since the region has not managed its natural resources well some of the increasing problems faced in the region are water scarcity, food insecurity, loss of biodiversity , land and soil degradation, salinity intrusion etc. As per the World Risk Report 2012, the risk profiles of the SAARC countries are as follows:

Country	WRI (World Risk Index) (%)	Rank	Exposure (%)	Vulnerability (%)	Susceptibility (%)	Lack of Coping Capacities (%)	Lack of Adaptation capacities (%)
Afghanistan	9.79	40	13.17 (M)	74.32 (VH)	56.63 (H)	92.07 (VH)	74.26 (VH)
Bhutan	8.17	55	14.81 (H)	55.14(H)	35.06 (H)	77.31 (M)	53.05 (H)
Bangladesh	20.22	5	31.70 (VH)	63.78 (VH)	43.48 (VH)	86.84 (VH)	61.03 (VH)
India	7.28	73	11.94 (M)	60.95(H)	40.88 (H)	81.78 (H)	60.18 (VH)
Maldives	Data not available	Data not available	Data not available	Data not available	Data not available	Data not available	Data not available
Nepal	5.69	105	9.16 (L)	62.19 (H)	48.06 (H)	82.74 (H)	55.76 (H)
Pakistan	7.25	74	11.36(L)	63.86 (VH)	38.84(H)	87.39 (VH)	65.35 (VH)
Srilanka	7.79	63	14.79 (H)	52.67(M)	28.28 (M)	80.45 (H)	49.29 (M)

Source: 2012; World Risk Report, Page 63-64.

The world risk index is a tool to assess the disaster risk that a society or a country is exposed to by external and internal factors. The concept of index stresses that not only the magnitude of frequency of a natural hazard but also the social, economic, ecological factors characterizing a country essentially determine the disaster risk of a country. The index is derived on the basis of analysis of the following components which are as follows:

i. *Exposure towards natural hazards such as earthquakes, cyclones, flooding, drought and sea level rise*

ii. *Susceptibility as a function of infrastructure, nutrition, housing situation and economic framework conditions.*

iii. *Coping capacities as a function of governance, disaster preparedness and early warning, medical services and social and material coverage.*

iv. *Adaptive capacities relating to forthcoming natural events, to climate change and to other challenges.*

v. *Vulnerability as a sum of susceptibility, lack of adaptive capacities and coping capacities.*

The world risk index has been developed by using 28 indicators and global data available on natural disasters. The details of the methodology are available in the 2011 and 2012 World Risk Reports as well as in the website (www.worldriskreport.org). The above dataset clearly shows that all the SAARC countries are vulnerable to disasters with Bangladesh being the being the most disaster risk prone country in the region. Almost all the SAARC countries have high to very high level of lack of adaptation and coping capacities.

Reference:

WORLD RISK INDEX		EXPOSURE (Max .exposure equals to 100%)	
VERY LOW	0.10-3.65	VERY LOW	0.28-9.12
LOW	3.66-5.72	LOW	9.13-11.41
MEDIUM	5.73-7.44	MEDIUM	11.42-13.85
HIGH	7.45-10.58	HIGH	13.86-17.45
VERY HIGH	10.59-36.31	VERY HIGH	17.46-63.66
VULNERABILITY (Max. level of vulnerability equals to 100%)		LACK OF COPING CAPACITIES (Max. lack of coping capacities equals to 100%)	
VERY LOW	26.87-36.81	VERY LOW	35.75-55.45
LOW	76.82-46.50	LOW	55.46-68.89
MEDIUM	46.51-53.35	MEDIUM	68.90-77.85
HIGH	53.36-63.43	HIGH	77.86-84.86
VERY HIGH	63.44-75.35	VERY HIGH	84.87-92.07
SUSCEPTIBILITY (Max. Susceptibility equals to 100%)			
VERY LOW	9.61-16.55		
LOW	16.56-22.06		
MEDIUM	22.07-31.97		
HIGH	31.98-48.06		
VERY HIGH	48.07-76.63		

Thus important pointers which emerge from the analysis above are as follows:

a) Disaster risk in South Asia is high because of its unsustainable development practices, and occurrence of frequent disasters in the region is an indicator of it.

b) The key factors that enhance disaster risks are fast population growth, urbanization, expansion of economic activities in hazard prone areas and environmental degradation.

c) Climate change - and its variability - is an emerging risk in the region and will increase the impact of disasters.

d) The rapid pace of development across South Asia requires greater commitments and efforts to increase resilience to disasters and climate change.

Section 3: Post-2015 framework for Disaster Risk Reduction (HFA2) in SAARC region

- *Post-2015 framework for Disaster Risk Reduction (HFA2) in the SAARC region will focus on anticipatory/ prospective disaster risk management and sustainable development. Priority Area 4 of HFA –"Reducing underlying risk factors" - which has made very slow progress till date will be the overarching goal of HFA 2 in the South Asia region. To address the existing residual risks there will be focus on risk management practices and resilience building.*

- *Instead of treating disaster risk reduction as a separate sector, the new framework will consider disaster risk reduction as a prerequisite for sustainable development. All the sectoral policies and plans both at regional and national level in the SAARC region will include hazard and climate risk assessment and integration of disaster risk reduction and climate change mitigation and adaptation measures as essential components in their development framework. Environment, urban development, Infrastructure and other social sectors will be targeted.*

- *Since South Asia as region is yet to complete the implementation of various priority areas of HFA, the post-2015 DRR Framework will complete the unfinished tasks and build upon the learnings of HFA.*

- *The priority areas of HFA2 will take into account different national realities, capacities and level of development and will also respect the national policies and priorities.*

- *While incorporating DRR measures in sectoral development plans, there will be emphasis on both intensive and extensive disaster risks and impact of sudden and extreme climate events.*

- *Climate change and variability will be considered as important drivers of disaster risk in the region and appropriate measures will be adopted to reduce their impacts. The Roadmap will emphasize on integration of DRR and CCA into the overall development framework of the region and focus on implementation of the Thimphu Statement for Climate Change. Regional policies on water, food and energy will be targeted to address the challenges of DRR and CCA and regional institutions will be involved to implement the various priority areas in the region.*

- *Inclusiveness will be an essential principle to be incorporated at all levels with special reference to community participation.*

- *Although the duration of the Roadmap has not yet been decided, it will be a long-term one with short, medium- and long-term goals.*

- *The Roadmap will address trans-boundary risks through regional and sub-regional cooperation. The SAARC as a region will work along with the member states in addressing regional issues like data sharing, early warning mechanism, regional response mechanism, knowledge management etc.*

- *The Roadmap will address the vulnerabilities arising out of conflicts at the community level.*

- *Regional cooperation modalities like south-south cooperation and triangular cooperation will be promoted in order to facilitate sharing of experiences, knowledge, skills and expertise.*

Identification of priority areas forPost-2015 framework for Disaster Risk Reduction (HFA2) in the SAARC region:

In the context of the global efforts, consultations were organized in Asia-Pacific Region during March 2012 – April 2013 to identify the key areas of interventions under Post-2015 Framework for DRR in Asia Pacific. The consultations were held at different levels (regional, national, community) and also with relevant stakeholders and on specific thematic areas. Participants from various member states of the SAARC region attended these consultations and contributed to the discussions. Multi-stakeholder national level consultations were held in all the SAARC member states (except Bhutan) and local consultations were held in India and Pakistan. Community consultation was organized in Srilanka with support from the International Federation of Red Cross and Red Crescent Societies. Based on these consultations the following broad areas were identified:

1) Integrating DRR, climate change and sustainable development

2) Local Level Action

3) Turning vulnerability to resilience

4) Multi-stakeholder engagement

5) Risk governance and accountability mechanism

6) Knowledge based decision making through science and research.

Keeping in view these broad areas which came up during the Asia-Pacific Consultation and the gaps and challenges faced in implementing HFA in the SAARC region, more specific priority areas along with recommendations were identified. This exercise was carried out along with the member states of SAARC. A regional consultation workshop was organized by the SAARC Disaster management Centre (SDMC) during 20-21 February 2014 to discuss the priority areas as well as the recommended actions.

The proposed priority areas for the Post-2015 framework for DRR in the SAARC region are as mentioned below:

i. Building Community Resilience

ii. Ensuring school safety

iii. Reducing urban risks

iv. Integrating DRR ,Climate Change and Sustainable Development Framework

v. Recognizing Women's Leadership role in DRR-CCA and promoting gender equality

vi. Strengthening Local level Governance

vii. Strengthening partnership with Private Sector and CSOs for risk prevention, reduction and resilience building.

These priority areas will address the existing gaps and new challenges which have come up during the course of implementation of HFA in the South Asia region and also contribute to achieving the proposed strategic goals of HFA2 as outlined below:

Proposed Strategic Goals of HFA 2:

- *Risk prevention (no risk is accumulated in future)*
- *Risk reduction (to reduce existing risks)*
- *Resilience building*

Whereas reducing urban risks, strengthening local level governance and integrating DRR, CCA into sustainable development will help in achieving the strategic goal of risk prevention, building resilience of local community, recognizing women as leaders and promoting gender equality and implementation of school safety as priority areas will help to achieve the strategic goals of resilience building and risk reduction. One of the most vulnerable groups during any disaster, namely, children will be targeted holistically by implementing school safety as a priority area. Private Sector and CSOs will be recognized as potential stakeholders along with governments to achieve all the three strategic goals. In South Asia CSOs can play a very important role in policy advocacy, governance and making other stakeholders accountable for risk prevention, reduction and building resilience. Also, while gender equality will be implemented as a priority area, efforts will be made to address gender issues under each priority area as relevant.

PRIORITY AREA 1: Building Community Resilience

Community Based Disaster Risk Management (CBDRM) finds a prominent place in the national disaster management frameworks of all the eight countries of South Asia. A regional roadmap has also been developed for the SAARC region on CBDRM. The first CBDRM programme in the region was implemented in Bangladesh (Cyclone Preparedness Programme) during 1972 with initial support from the International Federation of Red Cross and Red Crescent Society. Later on during 1973 the programme was adopted by the Government of Bangladesh and presently it is being jointly implemented by the government and the Red Cross Society. During 2003 Government of India implemented a Disaster Risk Management Programme (2003-2008) in 17 states and 176 districts across the country with support from the United Nations Development Programme. At present several state governments in India are implementing state level CBDRM programmes with their own funds and human resources. Similar programmes have also been implemented in Srilanka, Pakistan, Maldives and Nepal with support from UN organizations and non-governmental organizations. Because of being largely supported by external agencies and donors, CBDRM programmes implemented in the region often did not have sustainability. Also, most of these programmes focused on disaster preparedness and effective response. These programmes were designed with the premises that communities are vulnerable to hazards, that they lack capacity and that a very few of them targeted the most vulnerable.

The post-HFA framework for the SAARC region will have "building community resilience" as one of the priority areas reaffirming the role and importance of community in reducing disaster risks in the region. It will acknowledge the potential of community in managing its own risks. Community will be considered as a heterogeneous group (comprising diverse groups representing various castes, gender and age groups) and focus on the most vulnerable. From vulnerability reduction the focus will shift towards resilience building and emphasis will be placed on building capacity of community to anticipate risk, limit its impact and bounce back to normalcy rapidly. HFA2 will recognize the different perceptions that communities have on risks as well as their differential vulnerabilities and will emphasize on community participation at local level development planning and decision making process.

Community resilience building will focus on three components:

a) **Addressing the physiological and safety needs of community so that the community is able to survive and recover:** This will include providing basic needs (water, food and shelter) and ensuring personal safety, health safety and protection against illness and accidents. It will include implementation of such measures like improvement in delivery of utility services, construction of flood barriers, construction of hazard resistant houses, strengthening of early warning systems and social safety nets.

b) **Preparing the community to effectively respond to a disaster event:** This will include development of risk information, risk maps, disaster preparedness plans, enabling policy for community involvement and regulations.

c) **Strengthening community cohesion:** This will include building local leadership, networks and community groups so that community can work together to fight a disaster and gain normalcy.

The Key recommended actions are as follows:

National level:

a) Involving Communities in Local Level Development Planning processes and integrating DRR and CCA measures into the local Level Development Plans.

b) Strengthening Local Level Risk Governance structure including functioning of local level disaster management committees, preparation of local level disaster management plans and allocation of local level funds.

c) Promoting micro insurance and risk pooling mechanism.

d) Developing local level disaster risk database, community risk maps and disseminating it widely through media, CSOs, governments, private sectors and youths. This will also include strengthening capacities of weather forecasting agencies at local level for effective dissemination of early warnings to the last miles.

Local level:

e) Increasing risk awareness through community education and awareness programmes.

f) Ensuring high level of family preparedness by providing training on basic lifesaving skills such as first aid, search and rescue, and firefighting.

g) Promoting volunteerism and establishing institutional mechanism for volunteer management.

h) Building capacities of local level disaster management institutions, community based organizations, CSOs and other informal groups and community networks.

Implementation Mechanism:

National governments of respective member states, non-governmental organizations and community networks will be responsible for implementing this priority area. Capacity of local self-government entities will be strengthened and dedicated budget will be allocated at the local level for implementation of various measures. Government functionaries will be oriented on resilience building processes.

Accountability Mechanism:

To make local governments accountable amendment of legislations relating to local government organizations would be necessary in which disaster risk reduction and community capacity building will be identified as important functions. As a short-term measure, local level community monitoring committee could be set up which will be responsible for monitoring various measures.

Commitments and timeline:

SAARC as a region will develop a Regional Framework by 2017 along with indicators of progress for building community resilience. Every member state will refer to this framework for developing national action plan for building community resilience and implement national level community resilience building programmes. Every national government will refer to the indicators provided in the framework while measuring progress at the national level.

Indicators of Progress:

a) Allocation of dedicated budget at the local level for implementing community resilience building measures such as preparation of risk maps, strengthening of local level warning systems, training on family preparedness etc.

b) Percentage of local government functionaries imparted training/orientation in disaster risk reduction and community capacity building.

Means of verification:

a) Regional Framework for building community resilience

b) National Level resilience index

PRIORITY AREA 2: School Safety

Time and again disasters in Asia have caused catastrophic damage to schools including death and injury of innocent children, teachers and non-teaching staff. Lack of school level preparedness, improper siting of school buildings and unsafe construction practices were the key factors behind such loss and destruction. When schools are damaged due to disasters, there are cumulative long-term impacts on the community. There could be loss of learning time, increase in drop outs, distortion of learning environment and also loss of community assets as schools are often used as emergency shelters and health clinics in a post-disaster situation. Lastly Schools are valuable local investment of a nation and also house an entire generation and a community's future.

Loss of lives and damage of school infrastructure in some of the past disasters in Asia:

1	Bhuj Earthquake, 2001	971 students killed and 11,600 schools destroyed or damaged.
2	Fire in Lord Krishna School of Kumbakonam in Tamil Nadu,2004	94 students killed
3	Bangladesh Flood, 2004	A total of 1,259 school buildings were lost and 24,236 buildings damaged.
4	Pakistan Earthquake,8th October,2005	Over 17,000 school children perished
	Bangladesh Cyclone, 2007	Destroyed 496 school buildings and severely damaged approximately2110 buildings
5	Wenchuan Earthquake in May 2008 in China	7000 children killed

A number of important declarations outlining the important actions to be undertaken to ensure safe school environment had been formulated in past for example "The Ahmadabad Agenda of Action for School Safety"(January2007),"Bangkok Action Agenda" (November2007) and "Islamabad Declaration on School Safety",(May2008).School Safety Programmes are also being implemented in the countries of South Asia focusing on different aspects such as promoting safe construction practices, disaster education, training and capacity building, retrofitting, and awareness generation. Some of the important initiatives on School Safety in South Asia are as follows:

- The School Earthquake Safety Program (SESP) implemented by the National Society for Earthquake Technology (NSET), Nepal in1999.

- The Urban Earthquake Vulnerability Reduction Project (2003-2008), jointly implemented by Government of India and UNDP which had school safety as an important component.

- National School Safety Programme, implemented by Government of India during 2011-2013.

- National Action plan for School Earthquake Safety 2013, Government of Bhutan.

In addition to this, a several local levels school safety initiatives have been implemented by various international donors and nongovernmental organizations. However, the task is huge and more concerted efforts are required both at regional as well as national level across the South Asia region.

Post-2015 DRR Roadmap for the South Asia region will have School Safety as a priority area of action in support to the global campaign on safe school. The definition of school safety post 2015 in the SAARC region will focus on "**home to home safety**" and will go beyond the school premise and include the entire journey of a child from home to school and back home. It will not only focus on protection of children and school against natural hazards but will also take into account other risks to which a child gets exposed during his/her journey to school, e.g. road accidents, fire accidents, health risks and physical exploitation. The scope of school safety will include the following:

- Structural Safety

- Disaster Education

- Disaster Preparedness.

- Transportation safety (safety tips while walking to school, riding the bicycle to school or riding the bus to school)

- Ensuring a clean and hygienic environment (water and sanitation facilities)

- Protection against any kind of physical exploitation.

- All new schools will be safe, multi-hazard resistant ensuring safe access to all.

- Disaster Education will focus on building a culture of safety in the schools through basic awareness, development of competencies and skills to respond effectively to disasters and development of positive attitude towards disaster preparedness.

- The existing risks in schools will be reduced by school level preparedness planning, mockdrills and training of various stakeholders.

The key recommended actions are as follows:

Regional Level:

a) Designing a regional demonstrative school safety programme to facilitate cross-learning and sharing of knowledge within the region.

National level:

a) Formulation of school safety policy in all the member states along with regional guidelines setting minimum standards for school safety in the region.

b) Inclusion of Disaster Education in the National Education Policy of the member states.

c) Developing long-term National Action Plans on School Safety in all the member states-*Implementation of the National Action Plans should be ensured by designing annual/periodic school safety programmes. Such programmes will cover both rural and urban schools.*

d) Developing country specific Standard Guidelines for construction of schools along with simplified usable manuals.

e) Strengthening mechanism to ensure enforcement of the construction guidelines and introducing periodic audit system to ensure compliance.

Local Level:

a) Developing a robust school level database (including information on the structure and physical condition of schools) to support risk assessment and retrofitting of schools.

b) Capacity Building of all the key stakeholders such as architects, engineers, contractors, masons, electricians, teachers and line department officials.

c) Ensuring preparedness planning in every school of the region by developing school level preparedness plan and organizing periodic mock drills.

Implementation Mechanism:

National governments and local governments of respective member states along with other stakeholders like nongovernmental organizations, Red Cross and School Authorities will be responsible for implementing this priority area. National governments will design their own National Action Plans on School Safety which will have definite targets along with timelines to implement the various recommended actions. Formulation of policy, integration of DRR into school curricula, development of construction guidelines and national action plan will be the responsibility of national governments. However, a participatory approach will be followed to develop these policy guidelines and plans. Local government units along with NGOs and other community groups will be responsible for implementation of the national action plans, policy and programmes. At the regional level SDMC will develop standard policy guidelines for effective implementation of the priority area at the national level. In addition to it, a pool of experts/advisory committee will be set up at regional level for overall technical guidance on the subject.

Accountability mechanism:

Ministry of Education/Human Resource Development, departments involved in construction of schools, departments of Fire, Police, Health and Transportation will be accountable for effective implementation. Local governments and the school administration will be accountable for ensuring effective implementation of this priority area at the local level. The school level database will be reviewed periodically to assess the number of vulnerable schools existing in the country and accordingly appropriate policy measures will be developed. It will also help in allocation of budget for school safety in the national development plan. A National level monitoring mechanism will be developed to ensure the implementation of various recommended actions.

Target, timeline and commitments:

- Setting up of a Regional Advisory Committee by 2016.

- Regional Policy guideline on school safety by 2017**:** *Whereas it is difficult to set country-wise targets at this point of time, SAARC as a region is committed to develop a regional policy guideline on school safety by 2017.*

Indicators of Progress:

1) School Safety Policy in place in all the member states.

2) National Action Plans prepared by all the member states.

3) Standard Guidelines developed on structural safety for the region

4) Monitoring and periodic audit mechanism in place at the national level.

5) Regional Capacity Building Programmes organized targeting different aspects of school safety.

6) Regional School Safety Programme implemented for cross learning and sharing of knowledge.

Means of verification:

1) Number of school safety programmes implemented in the region.

2) Number of countries with School Level Disaster Information systems in place.

3) Number of people trained in the region on school safety.

PRIORITY AREA 3: Reducing urban risks

The total population living in urban areas of South Asia has increased from 15.6 percent in 1950 to 30.1 percent in 2010. In absolute number the total urban population was 485.79 million in 2010 and it is estimated that it will increase to approximately to 1.32 billion by 20505.The urbanization pattern in the region is characterized by two important features:(a) Increasing concentration of people in comparatively large cities, and(b) Growing number of megacities. In 2001 the number of cities having more than one million population in the region was 42 which increased to 58 in 2010 and is projected to rise further to 73 by 2020. Also there are five cities with more than 10 million population located in the region - Mumbai, Delhi, Dhaka, Kolkata and Karachi. Many of the cities in South Asia like Bangalore, Colombo, Dhaka, Hyderabad, Karachi, Kathmandu and Mumbai are also important centers for business and trade and house important industries and multinational corporations. These cities are the economic engines and have been contributing towards the economic growth of the region. However, unlike in advanced countries where cities develop because of "pull factor" (availability of better standards of living and infrastructure) cities in South Asia have grown because of "push" of poverty-stricken rural population to cities. Most of the cities in the region lag behind infrastructural facilities with inadequate service delivery mechanism which have impacted growth, productivity, and competitiveness of these cities and also affected the quality of life of the people. There is also stagnation in public sector investment in basic infrastructure services in the region, and investment from private sector is also limited due to unclear guidelines and policies towards instruments such as build-operate –transfer (BOT) and Public Private Partnership (PPP). Migrations of population from rural areas, high population density and lack of basic services in cities have resulted in growth of slums and informal settlements. Further, improper land use planning and lack of implementation of basic urban planning guidelines, non-enforcement of building regulations and poor urban management practices have led to a chaotic development making the cities vulnerable to various risks including disasters. Some of the urban risk reduction initiatives implemented in the region in past were either specific to particular hazards like earthquakes and floods or focused on preparedness, mitigation and mainstreaming. These programmes were definitely useful and also contributed towards creating awareness on urban disaster risks and its impact.

Post-HFA DRR Roadmap for the South Asia region will consider Reducing Urban Risks as a priority area and challenges of disaster risks in urban areas will be addressed by ensuring risk sensitive urban development planning and management. Central to the urban risk reduction approach will be building community resilience through enhanced citizens' participation in local level development planning and strengthening of local level disaster risk governance through devolution of power, resources and functions. This priority area will focus on actions such as *improvement of solid waste management, public health and sanitation, enforcement of building and zoning regulations, removal of encroachments from public places, repair and removal of old and dilapidated buildings, prevention and control of fire, preparation of risk sensitive land use plans and protection of ecosystem.* It will also consider the impact of climate variability and extreme weather events like sudden heavy rainfall, heat waves and extreme cold. There will be focus on integrating appropriate climate change adaptation measures within the urban development framework.

Risk Reduction measures will be implemented not only in mega cities but will cover other cities with a population size of more than 1 million.

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[5] See Asian Development Bank,2008. Managing Asian Cities: Sustainable and Inclusive Urban Solutions; UN-ESCAP. 2010. State of the Asian Cities 2010/2011; and UN-ESCAP.2010;Emerging challenges in inclusive and sustainable urban development in Asia and the Pacific: 2010: World Bank-GFDRR Publication; "South Asia Regional Review."

"**Kathmandu Risk-Sensitive Land Use Planning" Programme"** which aimed at mainstreaming disaster risk reduction in the development strategies and legislations of Kathmandu Metropolitan City (KMC) through the development of a risk-sensitive land-use plan, advocacy campaigns, policy formulation, inter-institutional coordination and strengthening of local institutions.

"Comprehensive Disaster Management Program (CDMP)" of Bangladesh was implemented in three cities of Dhaka, Sylhet and Chittagong. The programme aimed at preparation of the earthquake emergency plans with a view to strengthening the capacity of the city dwellers to face, manage and operate the plan effectively in the event of the earthquakes. It was a multi agency collaborative initiative by Oyo International Corporation (OIC)-Japan; Asian Institute of Technology (AIT)-Thailand; National Society for Earthquake Technology (NSET)-Nepal; Dhaka University, Chittagong University, Shajalal University of Sylhet; and Bangladesh Disaster Preparedness Centre (BDPC).

"Urban Earthquake Vulnerability Reduction Project" implemented in 38 cities across the country in India during (2004-2008). The programme aimed at reducing earthquake risks and important components were awareness generation, capacity building, and preparation of Disaster Management Plans and advocacy for bringing in necessary amendments in the building regulations/Town Planning Act /Zoning Regulations to ensure structural safety

"Urban Risk Mitigation through School Safety Programme in Delhi", aiming at developing a culture of disaster safety in schools. The broad objectives of the programme were sensitization of students and teachers towards safety issues and making school premises safe against impending disasters. Under the programme retrofitting was carried out in one of the public schools in Delhi. The programme was implemented by Government of NCT, Seeds India and Geo-Hazard International with support from USAID.

In Pakistan after the unprecedented rainfall on July 23, 2001, the flood in Nullah Lai produced catastrophic damage including death of 74 people and the destruction of about 3000 houses. In response to this event two important programmes were implemented which are as follows:

Improvement in the Flood Forecasting & Warning System in Lai Nullah Basin in Rawalpindi and Islamabad" to enhance early warning time period and availability of more accurate hydrological data b)"Flood Risk Assessment and Management of Lai Nullah",

"Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE)"- which aimed at reduction of vulnerability of urban communities through enhanced preparedness and mitigation of hydro meteorological disasters .This programme covered three countries of South Asia viz Bangladesh, Pakistan and Srilanka.

"**Asian Program for Regional Capacity Enhancement for Landslide Impact Mitigation (RECLAM)--Phase II"** was conducted by the University of the Philippines and Kasetsart University to promote a dialogue between decision makers and professionals about the theoretical and practical aspects and issues related to landslide hazard mitigation. The programme activities were designed to be implemented in three-years involving national partners from Bhutan, India, Indonesia, Nepal, the Philippines, Thailand and Sri Lanka.

Source: "Reducing Urban Risk in Asia- A status Report and Inventory of Initiatives –A publication by Kyoto-University and UNSIDR

The definition of urban risk will not only cover natural and human induced hazards (earthquakes, floods, landslides, droughts, cloudbursts, industrial accidents) but also focus on other day-to-day risks existing in urban areas of South Asia like lack of availability of clean and safe drinking water, air pollution, road accidents, lack of pedestrian infrastructure, health problems like malaria, swine flu, dengue, influenza, skin diseases, diarrohea and other diseases arising out of inadequate water and sanitation facilities and poor air quality.

Key Recommended Actions:

National Level:

a) Strengthening local level disaster risk governance structure by providing adequate powers, functions and financial resources to the local authorities to perform various functions relating to disaster risk management. *(The disaster management system at the local level should engage local communities and non-governmental organizations in disaster preparedness and mitigation planning).*

b) Bringing in necessary amendments to the existing urban planning guidelines, legislations and building regulations/byelaws to ensure risk sensitive urban planning and development.

c) Strengthening the institutional mechanism for effective enforcement of building codes, land using zoning regulations and building bye-laws

d) Developing standard guidelines for construction of critical social infrastructures like schools and hospitals.

e) Developing an integrated framework to address public health safety, urban physical planning and delivery of services to reduce urban risks.

f) Strengthening capacity of emergency services such as Fire, Health and Police and creation of facilities like warehouses for stock piling of all supplies, stores and equipment for effective disaster response.

g) Strengthening early warning systems by introducing measures like automated urban flash flood monitoring system.

h) Building capacity of architects, engineers and urban planners through education and training programmes. *(The existing curriculum of various Technical Education Courses like architecture, engineering and urban planning) should be reviewed and necessary revisions should be made so to include disaster education).*

Local level:

a) Building resilience of local urban community by ensuring their participation in local level development planning process and by increasing their coping capacity through enhanced disaster preparedness, risk assessments and early warning dissemination.

b) Conducting risk assessment of critical infrastructures (housing and other critical infrastructures)

c) Integrating DRR and CCA measures in the City Development Plans/City Master Plans.

d) Implementing slum upgradation programmes to improve the physical and social conditions in these settlements.

Implementation Mechanism:

Local governments /Municipal Administration and the Department of Urban Development, Housing, Police,Fire,Health at the national/state level in each member state along with other stakeholders like NGOs, private sector and academic institutions will be responsible for implementation of this priority area.

Accountability Mechanism:

Local governments as well as professionals involved in preparation of land use plans, building regulations and construction of built environment will be made accountable through necessary executive orders and regulations to ensure successful implementation of various actions in different member states.

Targets, timeline and commitments:

- Developing a regional framework on Urban Risk Reduction for the SAARC region by 2016.
- Bringing in necessary amendments to the building regulations/byelaws of member states to ensure structural safety against natural hazards and impact of climate change by 2017.
- Conducting risk assessment of critical infrastructure (located in the capital) in various member states by 2020.

Indicators of Progress:

1) Regional framework on Urban Risk Reduction for the SAARC region in place.
2) Regional Capacity Building Programmes organized for relevant stakeholders.
3) Risk Assessment of Critical infrastructure in capital cities of the region conducted.

Means of verification:

1) Standardized training module on urban risk reduction existsat the regional level.
2) Reviewing the revised building regulations of member states.

PRIORITY AREA 4: Integrating Climate Change Adaptation and Disaster Risk Reduction into Sustainable Development Framework

In addition to disasters, South Asia region is also increasingly affected by impact of climate change and climate variability. Although it is difficult to quantify the direct contribution of climate change to disaster risk, there is an increasing realization that disasters are exacerbated by the effects of climate change.IPCC-SREX report (2012) states that climate extremes will play an increasingly significant role in disaster impacts and highlights the need to improve existing risk management practices by including climate change adaptation measures.[6] An analysis of a set of data as published in the IPCC 4th Assessment Report, 2007 shows that there has been a rise in temperature across the region along with increase in severe extreme events like Heatwaves, Cyclones, Intense rains , Floods and Droughts. It is projected that increase in temperature will result in melting of glaciers and rise of sea-level thus increasing the vulnerability of Small Island states like Maldives and coastal region of Bangladesh, Srilanka, India and Pakistan. With the islands of Maldives being low lying, rise in sea level will result in salinity intrusion and depletion of freshwater. As per the National Adaptation Action Plan of Bangladesh, 2005, one third of Bangladesh's coastline could be flooded if the Bay of Bengal rises by one metre, displacing up to 20 million people of Bangladesh. Temperature rise will also result in glacial retreat and GLOFs. Countries like Bhutan, Nepal, parts of India, Pakistan, Bangladesh and Afghanistan are prone to GLOFs. There are 20 potentially dangerous glacial lakes in Nepal and 25 in Bhutan.[7]

According to the IPCC Fourth Assessment Report by 2050 climate change will have the following impacts in South Asia[8]:

a) *Freshwater availability particularly in large river basins is projected to decrease.*

b) *Coastal areas especially heavily populated mega delta regions will be at greatest risk due to increased flooding from sea and in some mega deltas flooding from rivers.*

c) *Climate change is projected to compound the pressure on natural resources and the environment associated with urbanization, industrialization and economic development.*

d) *Endemic morbidity and mortality due to diarrheal diseases primarily associated with floods and droughts are expected to rise due to projected change in hydrological cycle.*

It is also projected that impact of climate change will result in food insecurity, water scarcity, loss of biodiversity, degradation of land and coastal ecosystem. (Please see Tables 1, 2, and 3 below).

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[6] Intergovernmental Panel on Climate Change, Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (New York, IPCC, 2012).

[7] Jack D. Ives, Rajendra B. Shrestha, and Pradeep K. Mool. May 2010. Formation of glacial lakes in the Hindu Kush-Himalayas and GLOF (glacial lake outburst flood) risk assessment. Kathmandu. ICIMOD.

[8] See Synthesis Report-IPCC 4TH Assessment Report, 2007; pg50.

TABLE 1: Summary of key observed past and present climate trends and variability

Region	Change in temperature	Change in precipitation	References
India	0.68°C increase per century, increasing trends in annual mean temperature, warming more pronounced during post monsoon and winter	Increase in extreme rains in north-west during summer monsoon in recent decades, lower number of rainy days along east coast	Kripalani et al., 1996; Lal et al.,1996; Lal et al., 2001b; Singh and Sontakke, 2002; Lal, 2003
Nepal	0.09°C per year in Himalayas and 0.04°C in Terai region, more in winter	No distinct long-term trends in precipitation records for 1948 to 1994	Shrestha et al., 2000; Bhadra, 2002;Shrestha, 2004
Pakistan	0.6 to 1.0°C rise in mean temperature in coastal areas since early 1900s	10 to 15% decrease in coastal belt and hyper arid plains, increase in summer and winter precipitation overthe last 40 years in northern Pakistan	Farooq and Khan, 2004
Bangladesh	An increasing trend of about 1°C in May and 0.5°C in November during the 14 year period from 1985 to 1998	Decadal rain anomalies above long term averages since 1960s	Mirza and Dixit, 1997; Khan et al., 2000; Mirza, 2002
Srilanka	0.016°C increase per year between 1961 to 90 over entire country, 2°C increase per year in central highlands	Increase trend in February and decrease trend in June	Chandrapala and Fernando, 1995; Chandrapala, 1996

Source: Table 10.2; Page 475; Chapter 10; IPCC 4th Assessment Report

Table 2: Vulnerability of key sectors to the impacts of climate change –South Asia

Sub region	Food and Fibre	Biodiversity	Water resources	Coastal ecosystem	Human Health	Settlements	Land degradation
South Asia	-2/VH	-2/H	-2/H	-2/H	-2/M	-2/M	-2/H
Vulnerability				Level of confidence			
-2 – Highly vulnerable -1 – Moderately vulnerable 0 – Slightly or not vulnerable +1 – Moderately resilient +2 – Most resilient				VH- Very high H - High M - Medium L - Low VL - Very low			

Source: Table 10.11; Page 497; Chapter 10; IPCC 4th Assessment Report

Table 3: Summary of observed changes in extreme events and severe climate anomalies-South Asia

Events	Key Trend	Reference
Intense Rain and floods	Serious and recurrent floods in Bangladesh, Nepal and north-east states of India during 2002, 2003 and 2004; a record 944 mm of rainfall in Mumbai, India on 26 to 27 July 2005 led to loss of over 1,000 lives with loss of more than US$250 million; floods in Surat, Barmer and in Srinagar during summer monsoon season of 2006;17 May 2003 floods in southern province of Sri Lanka were triggered by 730 mm rain.	India Meteorological Department, 2002 to 2006; Dartmouth Flood Observatory, 2003.
Droughts	50% of droughts associated with El Niño; consecutive droughts in 1999 and 2000 in Pakistan and N-W India led to sharp decline in water tables; consecutive droughts between 2000 and 2002 caused crop failures, mass starvation and affected ~11million people in Orissa; droughts in N-E India during summer monsoon of 2006	Webster et al., 1998; Lal, 2003; India Meteorological Department, 2006
Cyclone and Typhoons	Frequency of monsoon depressions and cyclones formation in Bay of Bengal and Arabian Sea on the decline since 1970 but intensity is increasing causing severe floods in terms of damages to life and property	Lal, 2001, 2003
Heat waves **(India)**	Frequency of hot days and multiple-day heat wave has increased in past century; increase in deaths due to heat stress in recent years	De and Mukhopadhyay, 1998; Lal, 2003

Source: Table 10.3; Page 476; Chapter 10; IPCC 4th Assessment Report

Improved understanding of the climate change impacts, vulnerability and the adaptation practices to cope with climate change, and disaster risk reduction measures will help to reduce the overall vulnerability of South Asia Region to climate change and disasters. Also there is a need to understand the inextricable link between DRR, CCA and sustainable development. The inter-linkage between DRR, CCA and sustainable development is well understood at the conceptual level but in practice all the three areas are dealt in a compartmentalized manner. A major part of disaster risk reduction and climate change adaptation has to do with reduction of communities' vulnerabilities whose underlying factors, in fact, often rest in the development deficit, requiring that the deep structural issues at the core of inequity and poverty in a country are addressed"[9].

There are some challenges in effectively integrating CCA, DRR into the development framework at the operational level which are mentioned below.

1) Lack of knowledge, policy guideline and institutional capacity

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[9] Paper by UNESCAP,"Integrating disaster risk reduction and climate change adaptation for sustainable development"; September 2013.

2) Lack of information (rainfall data, historic climatic data, socio-economic data required to design local level adaptation measures etc.)

3) Lack of community participation

4) Lack of sub-national, sub-regional and regional cooperation mechanism

5) Lack of political will as well as less interest shown by the policymakers to invest on DRR and CCA measures.

South Asia's susceptibility to climate change has been an agenda in SAARC forum since 1987. In 2007, the South Asian Association for Regional Cooperation (SAARC) Council of Ministers adopted the SAARC Declaration on Climate Change calling on SAARC leaders to collectively assess and respond to climate change risks and impacts. In 2008, the SAARC Environment Ministers in the Dhaka Declaration on Climate Change included a 3-year action plan that urges the international community to promote partnership and provide additional finance to address climate change. In their 25th Jubilee Year, the SAARC Summit in 2010 concluded with the Thimphu Declaration on Climate Change, which emphasizes on renewable energy, cutting carbon emissions, and reducing poverty while strengthening resilience to climate change. Although not much progress was made in implementation of the SAARC Action Plan on Climate Change as well as Dhaka Declaration on Climate Change, SAARC Disaster Management Centre has commissioned a study in 2013 to understand the institutional and policy landscape for DRR-CCA in the region based on which an action plan will be developed for implementation of the Thimphu Statement.

At the sub-regional level country specific national action plans on Climate Change have been developed. Details of these action plans have been provided in the table (4) below. However these action plans are implemented by the department handling the subject of environment at the national level. There is a need to adopt an integrated approach to bring in all the sectoral departments together and integrate DRR-CCA measures in their sectoral development plans.

Table 4: Country Specific Action Plans to address Climate Change impacts

Country level initiatives	
BANGLADESH	A Climate Change Unit was established in the Ministry of Environment and Forest in 2010. The National Adaptation Programme of Action (NAPA) was developed in 2005 and further updated in 2009. In 2008, the government adopted the Bangladesh Climate Change Strategy and Action Plan (BCCSAP),focusing on six priorities: food security; social protection and health; comprehensive disaster management; infrastructure development; research and knowledge management; mitigation and low-carbon development; capacity building and institutional strengthening
BHUTAN	Bhutan completed its National Adaptation Programme of Action in 2006. The National Environment Commission (NEC) serves as the focal agency for climate change. Bhutan's policy guidelines of Vision 2020 and Good Government Plus emphasize ramping up climate change mitigation by developing hydropower and solar energy resources.

Country level initiatives	
INDIA	India launched its National Action Plan on Climate Change in June 2008 under which it has established eight national missions to address various aspects of climate change mitigation and adaptation. These are: the National Missions on Solar Energy, Enhanced Energy Efficiency, Sustainable Habitat, Water, Sustaining the Himalayan Ecosystem, Greening India, Sustainable Agriculture, and Strategic Knowledge for Climate Change.
NEPAL	Nepal finalized its National Adaptation Programme of Action in 2010. The Ministry of Environment serves as a focal ministry of climate change related activities and has recently established a climate change management division. A multi-stakeholder Climate Change Initiatives Coordination Committee was set up in April 2009 to foster a unified and coordinated climate change response. Nepal launched a 3-year interim sustainable development plan (2007–2010) that focuses on improving environmental management and sustainable natural resource use with the aim of maintaining a 39.6% forest cover. The plan also includes upgrading the country's water infrastructure and weather forecasting facilities, and developing Clean Development Mechanism-eligible renewable energy and community forestry projects.
SRILANKA	The Mahindra Chintana 10-year plan sets out the overarching development strategy of the country and acknowledges the importance of sound environment management. The Sri Lankan government's National Action Plan for the Haritha (Green) Lanka Programme provides a framework for environmental issues and programs, including climate change. A section is dedicated to dealing with climate change and references have been made to policies and actions to counter its impacts like development of renewable energy resources, energy efficiency, carbon sequestration, waste management, infrastructure vulnerabilities, zoning, rainwater harvesting, and adaptation measures to increasing vectors and food security measures. Sri Lanka's National Environment Policy reinforces these initiatives.
MALDIVES	The Maldives prepared its National Adaptation Programme of Action in 2006; identifying 11 priority adaptation projects focused on coastal and coral reef protection, adaptation in agriculture, freshwater and fishery sectors, food security and health. Developing the resilience of the country's economically vital tourism industry is also a priority, especially the protection of access infrastructure and island beaches. The implementation of the Maldives' NAPA has been boosted by signing in a 4-year initiative called "Integrating Climate Change Risks into Resilient Island Planning in the Maldives in 2009" The project, co financed by the United Nations Development Programme (UNDP)and the Global Environmental Facility (GEF) will systematically assess the costs and benefits of different adaptation options and develop the necessary institutional capacity to implement the NAPA.

Source: ADB Document; Publication Stock No. ARM102196; "Climate Change in South Asia-Strong responses for building a sustainable future".

Post-HFA SAARC DRR Roadmap will have "Integrating DRR and CCA into the development framework" as a priority area. This priority area will have a few general recommendations followed by specific recommendations on implementation of the Thimphu Statement and will also focus on the issue of water insecurity which is projected to increase in the region due to impact of climate change. There will be specific recommendations on trans- boundary water resource management. The purpose

of addressing the issue of water insecurity is to showcase how trans- boundary water resource management can address the risks arising out of climate change and disasters and ensure sustainable development in the region.

The general actions recommended under this priority area are as follows:

a) Developing regional principles and policy guidelines/briefs on integrating DRR and CCA into sustainable development. This will include reviewing the existing national policies, legislations and National Action Plan on Disaster Risk Reduction, Climate Change, Water, Forestry and Agriculture in the region to identify potential entry points for integration and thereby developing sector specific policy briefs.

b) Ensuring allocation of budgets at the national level for implementing policies on DRR and CCA in practice. Also to focus on securing funding for adaptation projects through international climate finance windows.

c) Capturing the existing good practices and identifying the potential options for regional collaboration to support national efforts in the South Asia region.

d) Promoting integration of local knowledge with additional scientific and technical knowledge to address DRR and CCA.

e) Building an evidence base with respect to losses and damage related to disasters and climate change, and encourage the sharing of information across the region, particularly for disasters that may be trans-boundary in nature. This will also include conducting Climate Risk Assessment of vulnerable districts.

f) Investing in strengthening of hazard monitoring and climate monitoring systems.

g) Build Institutional capacity to integrate DRR-CCA into national development plans as well as in sectoral programmes.

Trans-boundary Water resource Management:

South Asia which was once water abundant is increasingly facing the challenge of water insecurity. "The effect of climate change in the form of melting glaciers, changing precipitation patterns, extreme weather events and sea level rises, on water resources and systems negatively affects people's wellbeing in South Asia. The region has a challenge to reduce poverty and deprivation and promote human development in face of climate change. This requires the mainstreaming of adaptation and mitigation practices into sustainable development strategy."[10] South Asia has a large number of trans-boundary Rivers. In terms of hydrography almost all the countries in the region share common river basins. India, Pakistan and Afghanistan share the Indus River Basin. India, China, Nepal, Bhutan and Bangladesh share the Ganga Brahmaputra Meghna River Basin. Increasing water demand and water management interventions like river diversions, construction of dams, barrages have often led to trans-boundary conflicts. The key trans-boundary water sharing issues are:

• Lack of institutional mechanism

• Political division created by two riparian states'- territorial issue

• Lack of mechanism to share hydrological data and related information.

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[10] "See Report "Human Development in South Asia 2013-Water for Human Development" ;MahbubUlHaq Human DevelopemntCentre,Lahore,Pakistan

Inspite of having several trans-boundary rivers in the region, only five major water sharing agreements between the riparian states. Also these agreements are only bilateral in nature. There is no multilateral framework for effective management of River Basins. Also none of the countries in South Asia have a water sharing agreement with China inspite of the fact that sources of all the major rivers flowing through the region lie in China. Hence with increasing trend in water scarcity due to impact of climate change, population increase, industrialization and economic growth, trans-boundary water resource management is an essential action required to ensure sustainable development of South Asia region.

The key recommended actions to handle trans-boundary water management issues are:

a) Developing a multilateral framework for effective management of trans-boundary river basins.

b) Promoting good watershed management practices- *which will help in increasing water resources, and maximize water infiltration into the soil and reduce surface run-off.*

c) Strengthening mechanism for sharing of hydrological data within the region.

d) Strengthening Flood early warning mechanism.

e) Investing on research to gauge the impact of Climate Change on glaciers/water resources.

PRIORITY AREA 5: Women's Leadership role in DRR-CCA and gender equality

Gender dimensions of disaster risk reduction have gained increasing recognition since 1990. In HFA gender has been included as a cross-cutting issue and gender concerns are integrated as one of the components of community resilience building approach. However, this commitment so far has been poorly translated into action and most of the programmes and initiatives implemented on ground have often been ad hoc and inconsistent. In various disaster management programmes women's capacity is mainly focused at culturally constructed gender roles such as caregivers. There is also a tendency to categorize women as vulnerable and grouped along with young girls, elderly and disabled as vulnerable groups. It is, of course, a fact that women have often been found to be more vulnerable than men during disasters due to various factors like having fewer skills, less access to risk information, restricted spatial mobility due to socio-cultural practices and physical and biological factors. But women also play an active role in preparing their families to face disaster risks; they also participate in post-disaster recovery activities. There are several instances across the world where women have led their communities to adapt, prevent and overcome disasters. In India, post Latur Earthquake women played an active role in supervising, monitoring and undertaking housing reconstruction work. But unfortunately women's vulnerability to disasters is often highlighted but their role in fostering a culture of resilience has not been adequately recognized. Lack of proper monitoring and evaluation mechanism as well as documentation of the leadership role played by women also make their contribution in resilience building invisible.

By and large, in South Asia, the reason for women's greater socioeconomic marginalization and hence vulnerability stem from the following reasons:

Having less access to resources and opportunity – skills, literacy, decision-making, mobility, employment, freedom from violence – that are vital for responding to circumstances created by disasters.

Socio-cultural practices that restrict women's spatial mobility, limit their ability to earn cash income, and limit their independent engagement in decision-making that affects their lives and health conditions (In addition, because children are the primary responsibility of their mothers and female kin, women's social and economic statuses have a profound impact on children's ability to cope with and survive disasters.)

Carrying the double burden of productive and reproductive (domestic) work; and being over-represented in the informal economy and agricultural sectors which, in addition to being underpaid and having little security, tend to be most affected by natural disasters.

Having primary responsibility for domestic work and caring for children and elders which, along with socio-cultural constraints on their physical mobility, give them little flexibility to pursue employment opportunities following disasters.

Having their needs for economic support overlooked by relief and rehabilitation initiatives.

Source: April 2007; Manjarai Mehta; "Gender Matters-Lessons for Disaster Risk Reduction in South Asia"; International Centre for Integrated Mountain Development (ICIMOD) Kathmandu, Nepal

Women can become powerful agents of change and their unique knowledge and skills can play a crucial role in addressing and managing risks. Women, if given opportunities, can perform multi-functional roles as managers, decision makers and leaders. Some of the skills that women have which can make them good managers and leaders in community resilience building process are as follows:

1) *Good Knowledge of their surroundings and use of natural resources.*

2) *Can play an important role in family preparedness and emergency management.*

3) *Women have community roles and can become risk communicators and also impart community education.*

4) *They having informal physical and mental health care skills and experience.*[11]

5) *They are safety conscious and 'risk averse*[12]

In terms of gender equality, the South Asia region is far behind. Across South Asia women face deficits in health and education and in their access to power, voice and rights. In many countries in the region there is strong preference for male children and this is evident from the skewed sex ratio. Male-female sex ratio in South Asia is 105.7 compared to the world average of 101.7.Maternal mortality is also high. A continuing problem in many countries in the region is gender based violence.

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[11] Centre for Integrated Mountain Development (ICIMOD) Kathmandu, Nepal; page 20.
[12] Source: April 2007; Manjarai Mehta; "Gender Matters-Lessons for Disaster Risk Reduction in South Asia"; International Centre for Integrated Mountain Development (ICIMOD) Kathmandu, Nepal; page 20.

This includes physical and sexual violence from intimate partners and others, and can be a reflection of social norms and the relative powerlessness of women in the home. However, there is a steady progress in narrowing the gender gap in education. Around two-thirds of women's employment in South Asia is in agriculture, yet percentage of women having ownership of land is only 7%.Similarly, the percentage of women engaged in non–agricultural wage employment is also low. Also women's participation in politics which is considered an indicator of gender equality is low. Compared to other regions, Asia-Pacific has the world's second lowest percentage of women parliamentarians'.[13].

The SAARC DRR Roadmap Post-2015 will focus on leadership role of women in addressing disaster and climate risks and also promote gender equality. Through gender equality it will be ensured that both men and women have equal access to rights, opportunities and resources and have equal say in the development process.

The key recommended actions:

National Level:

a) Develop a set of common targets and indicators to achieve women's empowerment and facilitate women to become a force in resilience building, through the implementation of HFA2, CC frameworks and post 2015 development agenda- *Reaffirm national commitment to all relevant international instruments such as Convention on the Elimination of all Forms of Discrimination against Women,(CDAW-1979), Convention against Torture and Other Cruel, Inhuman or Degrading Treatment of Punishment, Convention on the Rights of Persons with Disabilities(2006),Beijing Platform for Action(1995), The Programme of Action of The International Conference on Population and Development and the Declaration on the Rights of Indigenous Peoples.*

b) Develop policy guidelines on the role of gender in DRR and CCA- *Review national policies, strategies and plans and take actions to mainstream gender into national development policies, plans and programmes.*

c) Conduct assessment and evaluation of various disaster risk reduction programmes by using gender sensitive indicators to find out whether changes in gendered-power relations are taking place.

d) Ensure systematic and coordinated collection of data at the national level disaggregated by sex, age and disability - this data will inform risk assessment, policies, programmes and Monitoring and Evaluation Frameworks.

e) Integrate gender issues into all aspects of governance and ensure that government budgets, planning, programming and monitoring frameworks are gender sensitive.

f) Develop procedural guidelines and gender sensitization training to build capacity of service providers including police, healthcare services to provide gender sensitive services.

g) Engage partnerships with media including national and sub-national broadcasting organizations to promote messages on gender equality, nonviolence and women's empowerment.

Local Level:

a) Conduct Gender Analysis-*this analysis will help to identify the different skills, capacities and aspirations*

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[13] Asia-Pacific Aspirations: Perspectives for a Post-2015 Development Agenda- Asia-Pacific Regional MDGs Report 2012/13

of men and women; the difference in access to and control over resources enjoyed by men and women; status of women and their ability to exercise their human rights; the difference in level of participation and leadership enjoyed by women.

b) Strengthen women's capacity by providing them with knowledge (information and training), financial (gender budgeting) and social capital (recognition by local governments).

c) Ensure full participation and contribution of women in community resilience building process and identify women champions, networks and associations who are active at the community level to create effective mechanism for participation.

d) Increase women's participation in post-disaster reconstruction and recovery and ensure that a right based approach is practiced for disaster response and recovery.

e) Ensure safety and rights of women during conflicts and humanitarian situations.

f) Develop regional policy guidelines to address the issue of women trafficking during post-disaster situation- *During a post-disaster situation women are trafficked from one region to another or sometimes from one country to another. A regional policy guideline needs to be developed to address this issue.*

Implementation Mechanism:

Local governments along with community based women groups and NGOs will be involved in implementation of this priority area. National government of each member state will have to create enabling policy environment and build capacities of local governments (financial and technical) to implement the local level actions. In addition, effectiveness of existing instruments such as gender budget, gender-audit, will be monitored. Census/National Sample Surveys, Post-Disaster Damage and Need Assessment (PDNA) will mandatorily capture the gender disaggregated data.

Accountability mechanism:

Local governments, non-governmental organizations and community groups will be accountable for implementation of this priority area. Periodic audit should be conducted to review the expenditure pattern of the gender budget.

PRIORITY 6: Strengthening Disaster Risk Governance (local level)

Learning from HFA indicates that DRR is an issue of development and governance. An analysis of the disaster risk governance structure shows that most of the countries in South Asia have come up with an institutional and legislative framework for disaster management with a central apex body responsible for overall coordination. Countries such as India, Srilanka, Pakistan, Bhutan have taken legislative actions (formulation of acts/ ordinances) to establish institutional arrangements for DRR. The legislations provide the institutional roles and responsibilities, funding arrangements and the mechanism for effective coordination and planning of various DRR activities. Other countries like Bangladesh and Afghanistan have come with standing orders (executive orders) which provide the overall structure for disaster management in the country including functions and responsibilities. Government of Nepal has the National Calamity Relief Act which does not have a DRR focus. But although most of the countries have constituted legislation, policy and institutions, the

institutional and legislative framework have failed to influence the decisions related to integration of DRR into national development planning and ensuring sector wise investments in DRR.Also not enough resources and functions have been allocated to local governments for DRR.This clearly reflects that mere enactment of laws -and even institutional mechanism - is often not enough to ensure a good disaster risk governance structure. An effective disaster risk governance structure should aim at

- Ensuring DRR as a policy priority
- Generate political commitment
- Promote disaster risk management as a multi-sectoral responsibility
- Assign accountability for disaster losses and impacts
- Allocate resources
- Enforce the implementation of DRR measures
- Facilitate participation of civil society and private sector

With the increasing realization that disasters are fundamentally local in nature and local governments and communities are the first responders, the need for strengthening local governance structure is well understood. During any disaster situation local governments along with community bear the primary responsibility to respond. Also during post-disaster reconstruction phase local governments are often involved in the rebuilding exercise. Local governments collect the local level damage data and the various line departments get involved in restoring the critical infrastructures in place. Also since DRR is now considered a development issue, there is an emphasis on integrating DRR in the local level development planning stage and involve community in the decision making process to ensure sustainability of such measures. Hence there is a need for devolution of powers, functions and funds to the local governments to enhance their role in DDR and CCA. However, such devolution should take place gradually while taking into account the limited capacity of the local governments. Since DRR is a relatively new mandate for local governments in the region it will take time for the local authorities to gain experience, and develop capacities and institutions. National Governments should play a supportive role and provide the necessary financial and technical support to the local governments.

Local governments should be strengthened and made accountable to undertake various functions relating to disaster risk reduction:(a) generating risk information,(b) creating data of economic loss,(c) awareness building,(4) Community education and training,(5) Engaging multi stakeholders such as private sector, CSOs, Academia, Community groups and Volunteers, and (6) Strengthening enforcement and compliance of various regulations in the context of DRR for e.g. enforcement of building regulations, fire safety orders, school safety orders, rainwater harvesting, solid waste management, pre-monsoon preparedness measures etc.

The Post-2015 framework for Disaster Risk Reduction (HFA2) in SAARC region will focus on strengthening capacity of local governments for effective implementation of DRR and CCA measures.

The key recommended actions are:

a) Ensure that national policies and legislations in the region for DRR and Climate Change provide adequate functions and responsibilities to the local government units.

b) Build capacity of local government functionaries on DRR and CCA -*national governments should play*

an active role in building capacities of local authorities by providing appropriate financial and technical support. Training programmes should be organized for local level functionaries to ensure that local level budgeting, planning, programming and monitoring frameworks are risk sensitive.(disasters and climate change)

c) Increase the level of accountability of local governments by strengthening local level enforcement and compliance mechanism (e.g. setting up system for sanctioning of building plans, systems for periodic audits of building under construction, empanelment of practicing engineers and architects, fire safety audits, inspection of schools to ensure basic minimum standards for safety, organizing pre-monsoon preparedness meetings with community, solid waste management and its treatment etc.)

d) Create institutional mechanism along with appropriate budget to Integrate DRR and CCA measures into the local development planning process and implement them- *this will include inclusion of DRR and CCA measures in the workplans of all line departments like water supply, roads and buildings, health, social welfare, environment etc.*

e) Allocate separate budget for contingency planning and disaster preparedness- *this budget will be used for setting up of local level warning systems, volunteer management, preparation of disaster preparedness and response plans, identification of emergency and temporary shelters, procurement of emergency equipment as required for effective response etc.*

f) Develop an information management system and communication mechanism at the local level to strengthen coordination among various stakeholders.

g) Engage media, private sector, CSOs and communities in decision making, planning and implementation of local level risk reduction initiatives.

Implementation mechanism:

Local governments along with civil society organizations, private sectors, and community networks will be responsible for implementation of this priority area. National Governments will be responsible for building capacity of the local level institutions and functionaries.

Accountability mechanism:

Local governments and community groups will be accountable for implementation of this priority area. Periodic audit should be conducted to review the expenditure pattern of the budget allocated for DRR. Community level disaster preparedness meetings should be organized to assess the level of preparedness, and damage and economic loss data should be collected after every incident. Analysis of this data will help to identify the challenges existing at the local level, and also to measure the progress achieved in reducing disaster risks.

Indicators of progress:

1) Number of Local level functionaries trained on DRR and CCA.

2) Amendment to legislations relating to local government organizations so as to allocate functions and resources for DRR to the local governments.

PRIORITY AREA 7: Strengthening partnerships with Private Sector and CSOs

Partnership is considered as one of the most participatory and effective mechanisms to implement sustainable development practices. Partnering with stakeholders across sectors such as health, education, environment, energy agriculture, water and sanitation, housing and infrastructure development is an integral part of the process of reducing the risk of disasters and climate change.

Post-2015 framework for Disaster Risk Reduction (HFA2) in the SAARC region will focus on strengthening partnership with Private Sector and Civil Society Organizations (CSOs) for effective implementation of DRR and CCA measures.

The topic of private sector involvement in DRR has been discussed for several years and gained prominence during the United Nations International Decade for Natural Disaster Reduction which called upon national governments to "encourage their local administrations to take appropriate steps to mobilize the necessary support from the public and private sectors and to contribute to the achievement of the purposes of the Decade".[14]

However till date private sector involvement in disaster management seems to have focused on disaster response, relief and reconstruction. Immediately after any major disaster in the South Asia region, private sectors have extended their support in distributing relief and restoring critical infrastructures including housing, schools, roads, dams, bridges, telecom and power. But not much progress has been made in extending this partnership further. However, under the present economic development scenario, with increase in the number of extensive events (like localized, less intense but frequent disasters), disaster risk is becoming a growing concern to business.

With a substantial increase in investment and economic activity in South Asia several private sector entities with global operations are having their base in the region. Higher interdependencies in the production process have increased the risk of global supply chain interruptions due to disasters or emergencies anywhere in the region. Any interruption in the power supply or transportation facility will directly interrupt the production process thereby affecting the profit of these companies. "Critically, global trade, financial markets and supply chains have become increasingly interconnected. When local disasters occur in globally integrated economies, the impacts ripple through regional and global supply chains causing indirect losses to businesses on the other side of the globe."[15] In addition to big corporate companies with global operations South Asia also has large number of small and medium scale enterprises and informal business sector. Compared to global businesses, SMEs and informal sectors are far less resilient to disaster risks. A single disaster event can wipe out their entire business capital. The SMEs and informal sectors often are reluctant to spend on risk protection schemes (e.g. insurance) and that is why after Pakistan flood of 2010, uninsured SMEs took longer to recover than larger businesses; a good majority of SMEs did not survive (Asgary et al., 2012)[16].Also many large global businesses rely on SMEs as partners and suppliers, which means that supply chain risk is directly related to the capacity of SMEs to manage their disaster risks. The business investment decisions also have the potential to increase the disaster risks. Setting up of industries in flood plain zone and cyclone prone coastline due to

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[14] 2009,UNSIDR Publication- "THE DEVELOPMENT OF A PUBLIC PARTNERSHIP FRAMEWORK AND ACTION PLAN FOR DISASTER RISK REDUCTION (DRR) IN ASIA
[15] 2013;Global Assessment Report; page;23
[16] 2013;Global Assessment Report; page;26

availability of labour force and market increase the risk of the business.

Hence there are a range of issues to be looked into to understand the importance of private sector engagement in disaster risk reduction which are as follows:

- Disasters can affect the global supply chain and interrupt business operations resulting in economic loss and thereby affecting the overall economy of the region.

- Small and medium scale enterprises and informal sector generate significant business for the South Asia region and if affected by disasters can lead to serious disruption of the economy leading to unemployment and increasing poverty.

- Investments made by private sector can further increase the disaster risks.

- Operational failure in manufacturing industries can also lead large scale disasters (e.g. gas leak, oil spillage and release of chemical substances).

The key areas of interventions are as follows:

1) **Business Continuity Management Planning:** To avoid supply chain interruptions private sectors including SMEs should develop their own BCM plans and also opt for risk insurance.

2) **Reduce the exposure:** Private sectors should ensure that their investment decisions donot add on to any further disaster risks.

3) **Corporate social responsibility:** Private sector through its corporate social responsibility can help in building community resilience and company employees can also volunteer to implement various mitigation measures including participation during disaster response coordination.

4) **Public-Private Partnerships:** Private sectors can partner with public sector organizations (PPP) to design and implement mitigation and preventive measures. (Risk insurance, ICT measures for early warning, forecasting, loss modeling, infrastructure building, including utilities and transportation facilities).

5) **Protect the informal sector through micro insurance**: Since South Asia has a large informal business sector, there is a need to develop an institutional mechanism to protect this sector from incurring losses due to disasters through enabling policies and risk management tools like micro insurance programmes.

Key recommended Actions are as follows:

National level

a) Develop enabling national policies and guidelines on engaging private sectors.

b) Strengthen partnership with private sector for technology transfer, information sharing and capacity building in various countries within the SAARC region.

c) Leverage private sector expertise and strengths to make communities safer and more resilient, especially in housing sector by setting standards and norms.

d) Create mandatory provision on preparation of BCM plans for the global businesses as well as the SMEs working in the region to ensure continuity of their production during an emergency.

e) Promote public-private partnership for DRR and develop suitable policy guidelines for the same.

f) Introduce policy guidelines to ensure disaster safety audits and mandate private industries to practice occupational safety measures, develop offsite plans to protect the community from any kind of industrial accidents through appropriate regulatory framework.

g) Build societal resilience through engagement with private sector-*Private sector through its corporate social responsibility arm can bolster societal resilience. A wide range of disaster preparedness activities - examples- school safety, community awareness programmes, green campaigns and local mitigation measures (e.g. planting of trees, waste segregation, water and sanitation facilities and health campaigns) can be carried out with the help of private sectors.*

h) Generate data on the economic loss incurred due to extensive risks like frequent low intensity disaster events, particularly on the SMEs and informal sector, for policy feedback and advocacy for more public sector investments in building disaster resilient infrastructures and safety nets.

Regional level:

a) SAARC as a region will develop a Regional policy guideline on how to engage private sectors in disaster response and recovery particularly when the disaster is trans-boundary in nature- *Private sector can play an important role during post-disaster response particularly with reference to supply of products like food, medicine, equipment and restoration of utility services. The regional response mechanism which is being set up for the SAARC region may focus on engaging private sector as a responsible party and formulate negotiating contracts for goods and services before emergencies. During recovery phase as well private sectors can play a major role in rebuilding various critical infrastructures and housing.*

b) Develop a Regional Business Continuity Management Framework in association with SAARC Chamber of Commerce particularly focusing on small businesses, to reduce the economic impact during a disaster situation and recover and sustain business functions quickly upto an accepted level.

Functional partnership should be established with CSOs which will help to achieve the DRR agenda in an inclusive manner. Civil Society in South Asia is an amalgam of stakeholders ranging from eminent South Asian intellectuals to think-tanks, research institutions, non-governmental organizations (NGOs), activist groups and grassroots-level networks. CSOs can play an important role in the following areas:

• **Policy and advocacy** –intellectuals, think-tanks and research organizations can play an important role in policy planning and advocacy.

• **Knowledge and education**-NGOs and grassroots-level organizations can implement community education programmes

• **Community-based risk and vulnerability assessment**-NGOs and grassroots-level networks can play an active role in risk assessment.

• **Community-based mitigation and preparedness**- NGOs have already been playing an important role in implementing community based preparedness and mitigation programmes in the region.

Key Recommended Actions:

a) Develop enabling national policies and guidelines on engaging CSOs.

b) Identify community champions and networks and build their capacity systematically on various aspects of DRR.

c) Strengthen GO-NGO coordination for implementation of community based disaster risk reduction programmes, and engage NGOs in developing community risk maps, gender disaggregated data and providing technical assistance to local community in implementing various DRR measures.

d) Involve NGOs in monitoring community based disaster risk reduction programmes.

e) Strengthen collaboration with academia and think-tanks for research, education and policy advocacy.

Section 4: Role of SDMC as an Intergovernmental Body

SDMC as an intergovernmental body will primarily perform the following functions:

1) Will act as a knowledge platform and help in sharing of knowledge and good practices among member states of SAARC.

2) Will conduct regional training programmes and provide technical support to the member states on different priority areas.

3) Will conduct research studies and develop regional policies and guidelines as required for implementation of the post-2015 framework for DRR (HFA2).

4) Will promote regional cooperation particularly to resolve trans-boundary intergovernmental issues.

5) Leverage SAARC Development Fund for disaster risk management activity and also advocate for creation of a SAARC Disaster Recovery Fund to address the recovery needs of the member states in a post-disaster phase.

Specific responsibilities of SDMC to ensure successful implementation of the various priority areas have been mentioned below. In order to perform these functions SDMC will work and collaborate along with other SAARC regional institutions, as well as experts, non- governmental institutions, research organizations and academic institutions existing in the region.

Priority Area 1

1) Developing a framework on community resilience for the SAARC region which will highlight the methodology, indicators of progress and means of verification. This framework will act as a guiding document for the member states to implement their national action plan on building community resilience.

2) Facilitating knowledge sharing and capturing the existing good practices from the region. It will also set up a regional monitoring mechanism to assess the progress made at national level and identify the gaps, challenges and commonalities existing in the region.

Priority Area 2

1) Promoting cross-learning among different countries in the region on various aspects of school safety. SDMC will also implement a Regional Programme on School safety to demonstrate good practices and share learnings among SAARC countries.

2) Forging partnerships and creating networks with institutions and experts working in the region for technical assistance as well as to promote research in the field of disaster education and policy planning.

3) Carrying out a study to analyse the school curriculum across the South Asia Region and develop regional guidelines on DRR curriculum development and curriculum integration.

4) Organizing regional capacity building programmes for the member states and develop regional guideline, for setting the minimum standards for school safety in the region.

Priority Area 3

1) Policy Advocacy

2) Creating networks (bring in institutions, experts, and academia) for learning, knowledge management and implementation of demonstrative, replicable innovative measures.

3) Developing urban disaster database including local extreme weather events and other incidents like road accidents and disease outbreaks for the region.

4) Documenting the urban community based disaster risk management programmes implemented across the region.

5) Conducting a study to understand the disaster risk governance structure in the South Asia region with particular reference to Local Level governance.

6) Conducting research to understand the techno-legal regime of each country in the region.

7) Develop Regional Capacity Building Programmes for corporators, urban management professionals and government functionaries.

Priority Area 4

8) Developing regional principles and policy guidelines/briefs on integrating DRR and CCA into sustainable development.

9) Reviewing the existing national policies and legislations on Disaster Risk Reduction, Climate Change, Water, Forestry and Agriculture in the region to identify potential entry points for integration and thereby developing sector specific policy briefs.

10) Advocacy for constitution of DRR funds with member states.

Priority Area 5:

1) Providing an outline for community resilience framework along with indicators for measuring progress.

2) Capturing of good practices across the region and facilitate knowledge sharing.

Priority Area 6:

1) Conducting a regional study to understand the disaster risk governance structure in the SAARC region.

Priority Area 7:

1) Acting as a platform for cross learning among the SAARC countries and facilitating dialogues between governments, private sectors and CSOs.

2) Developing a regional strategy on involving CSOs in implementation of the Regional Road Map for DRR post-2015.

3) Developing Specific regional guidelines for the SAARC region on Corporate Social Responsibility and Business Continuity Management in association with the SAARC Chamber of Commerce.

Section 5: Trans-boundary issues, intergovernmental challenges and recommended actions

Disasters do not conform to national boundaries and many a time the impact is trans-boundary in nature affecting more than one nation at a time. For example, excessive rainfall in upstream area may lead to flooding in downstream areas affecting more than one country at a time. Impact of an earthquake in the Himalayas can be felt in India, Pakistan, Bhutan and Nepal together. Further, it is projected that with increasing impact of climate change, the region will experience differential rainfall pattern resulting in drought like condition, accelerated glacial melt resulting in glacial outburst floods, riverine floods and sea level rise, and all these events may not necessarily restrict themselves to one country but affect more than one member states or several member states at a time. The impact of climate change may also result in food insecurity and cross-border migrations. Climate Change, food security and migration are trans-boundary issues and regional cooperation is essential to find solutions to these problems.SAARC Member States unanimously have accepted the idea of adopting a holistic framework for Regional Rapid Response Mechanism for the mutual benefit of Member States to address to tackle various trans-boundary disasters. The regional response mechanism is under ratification by member states.

Apart from disasters there are other trans-boundary issues in the South Asia region such as air pollution, deforestation, loss of biodiversity and water management which if not handled strategically will add to the risk of disasters and create obstacles in the path of sustainable development in the SAARC region.

The specific recommendations for handling these trans-boundary issues are as follows:

1) Training in environmental management across the region.

2) Cooperative management of mountain ecosystems, watersheds, coastal ecosystems and conservation of wildlife and their habitat.

3) Creating an air pollution impact network and improvements in pollution monitoring systems; this will also include review of policy and preparation of national and sub-regional action plans to tackle air pollution.

4) Developing a multilateral framework for effective management of trans-boundary river basins.

5) Promoting good watershed management practices, which will help in increasing water resources, maximize water infiltration into the soil and reduce surface run-off.

6) Strengthening mechanism for sharing of hydrological data within the region.

7) Strengthening Flood early warning mechanism.

8) South-South Cooperation and Triangular Cooperation for capacity building and technology transfer.

Intergovernmental challenges: Some of the inter-governmental challenges highlighted by the member states are as follows:

1) Lack of political commitment and confidence for building cooperation within member states.

2) Lack of data and information sharing mechanisms.

3) Lack of funding for local level implementation.

4) Lack of sharing of trans-border information.

5) Non-implementation of policies and plans due to capacity gaps-DRR being comparatively new academic disciplines in the region, very few experts/professionals available working on this field

6) Lack of technology to develop hazard monitoring systems and satellite database.

7) No mechanism for knowledge sharing and to learn from each other.

Key recommended Actions:

1) Development of regional agreements will help in enhanced coordination, information sharing and coherent policy planning within the region.

2) Creation of a pool of DRM experts at the SAARC level as well as networking with the other SAARC regional Institutions will help to overcome the problem of capacity gaps and address the intergovernmental challenges and trans-boundary issues.

About SDMC:

SAARC Disaster Management Centre (SDMC), a Inter Governmental Body, was set up in October 2006 at the premises of National Institute of Disaster Management in New Delhi. The Centre has the mandate to serve eight Member Countries of South Asia Association of Regional Cooperation (SAARC) – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka – by providing policy advice and facilitating capacity building services including strategic learning, research, training, system development and exchange of information for effective disaster risk reduction and management in South Asia. The Centre is a sleek body of professionals working on various dimensions of disaster risk reduction and management in South Asia. The Centre is networking through the National Focal Points of the Member Countries with the various Ministries, Departments and Scientific, Technical, Research and Academic institutions within and outside the Government working on various aspects of disaster risk reduction and management. The Centre conducts studies and research, organizes workshops and training programmes, publishes its reports and documents provide policy advisory services to the Member Countries.

Vision

The SAARC Disaster Management Centre is a vibrant centre of regional cooperation for holistic management of disasters in South Asia.

Mission

The SAARC Disaster Management Centre would serve the Member Countries by providing policy advice and facilitating capacity building services including strategic learning, research, training, system development, expertise promotion and exchange of information for effective disaster risk reduction and for planning and coordinating a rapid regional response mechanism to disasters within the region.

Functions

The functions of the SAARC Disaster Management Centre are:

a) To collect, compile, document and disseminate data, information, case studies, indigenous knowledge and good practices relating to disaster management particularly from the Member Countries;

b) To analyze information, undertake research and disseminate research findings on disaster management among the Member Countries;

c) To develop educational materials and conduct academic and professional courses on disaster management;

d) To organize training and awareness programmes for various stakeholders on disaster management for the Member Countries;

e) To develop training modules on various aspects on disaster management and conduct programmes of Training for Trainers including simulation exercises;

f) To provide assistance in the formulation of policies, strategies, disaster management framework and any other assistance as may be required by the Member Counties or organizations and institutions nominated by the Member Counties;

g) To undertake, organize, facilitate and participate in workshops, conferences, seminars, lectures on various aspects of disaster management in the Member Counties;

h) To undertake publications of journals, research papers and books and establish and maintain online resource centre in furtherance of the aforesaid objects;

i) To collaborate with SAARC Centres, particularly SMRC, SCZMC and SAARC Forestry Centre to achieve synergies in programmes and activities;

j) To promote and enhance regional cooperation for holistic management of disasters in all its phases;

k) To conduct studies on assessment of risks of natural and manmade disasters in South Asia;

l) To develop regional standards, guidelines, tools, techniques and methodologies for reducing the risks of disasters in South Asia;

m) To coordinate regional response to disasters in a planned and effective manner to reduce loss of lives and to provide humanitarian assistance to people affected by disasters

SAARC

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