Integration of Disaster Risk Reduction and Climate Change Adaptation in SAARC region







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INTRODUCTION AND BACKGROUND

- SAARC, Region gets affected with a multitude of climate related hazards i.e. cyclones, floods, drought, extreme temperature, storm surges and Glacial Lake Outburst Floods (GLOFs).
- There are a number of disaster risk hotspots in the region and it is expected that existing risk patterns will intensify as a result of climate change.
- This unprecedented increase is expected to have severe impact on the hydrological cycle, Glaciers / mountainous area, water resource (drought, flood, drinking water, forest & ecosystems, sea level / coastal area /losses of coastal wetlands and mangroves), food security, health and other related areas.
- The impact would be particularly disastrous for developing countries and further degrade the resilience of poor, vulnerable communities, which make up between <u>half of the population</u> of eight SAARC Countries, namely Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka

INTRODUCTION AND BACKGROUND

- The DRR and CCA represent policy goals, one concerned with an ongoing problem (disasters) and the other with an emerging issue (climate change).
- While these concerns have different origins, they overlap a great deal through the common factor of weather and climate and the similar tools used to monitor, analyze and address adverse consequences. It makes sense, therefore, to consider them and implement them in a systematic and integrated manner.
- Taking into account the evolving and rapidly increasing risks, the 16thSummit of the SAARC Heads of the State held in Thimphu in <u>2010</u> adopted Climate Change as the theme of the Summit and adopted the 'Thimphu Statement on Climate Change' as a milestone for making the South Asia, the disaster risk resilient under the different climate change scenario.

RATIONALE AND OBJECTIVES OF THE PROPOSED ACTIVITIES

Accordingly, the SDMC has proposed a plan of action and a Terms of Reference to address the clause xiv of the Thimphu Statement on Climate Change 'Commission a SAARC Inter-governmental Climaterelated Disasters Initiative on the integration of Climate Change Adaptation (CCA) with Disaster Risk Reduction (DRR) to be supported by SAARC Disaster Management Center', with the following main objectives:

 To prepare a comprehensive study of the policy, institutional landscape and resource allocation for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) projects in the Member States of the SAARC region

RATIONALE AND OBJECTIVES OF THE PROPOSED ACTIVITIES

- To analyze the issues of convergence and divergence of policies and institutions for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) in the Member States of the SAARC region
- To recommend how the diverse policy and institutional framework of DRR and CAA can be effectively integrated for reducing the risks of disasters in the SAARC region;
- To prepare an inventory of the DRR and CCA projects already implemented and under implementation in the Member States of the SAARC region

SPECIFIC OBJECTIVES

- To raise awareness among policy makers and local bodies in South Asia on risk sensitive integrated planning practices
- To develop a compendium to guide DRR-CCA integrated planning and investment allocation for SAARC member countries
- To Provide inputs and guidance on the SAARC regional perspective to the Post- 2015 DRR and Development Framework consultation process

OUTCOME of the Study

Integration of Disaster Risk Reduction and Climate Change Adaptation in SAARC REGION



Integration of Disaster Risk Reduction and Climate Change Adaptation

SAARC Region

Implementation of the Thimphu Statement on Climate Change A Comprehensive Study of the Policy, Institutional Landscape and Resource Allocation for Disaster Risk Reduction and Climate Change Adaptation in South Asia (Disaster Prevention, Preparedness & Management, Linkages with CCA)





•Climate Change adaptation:

An adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits benefit opportunities.

• Disaster Risk Reduction: The broad development and application of policies, strategies and practices to minimise vulnerabilities and disaster risks throughout society, through prevention, mitigation and preparedness?



Climate Risk Management (including weather extreme)

> Risk Management of Geophysical hazards

CCA

DRR

OVERVIEW OF SAARC REGION

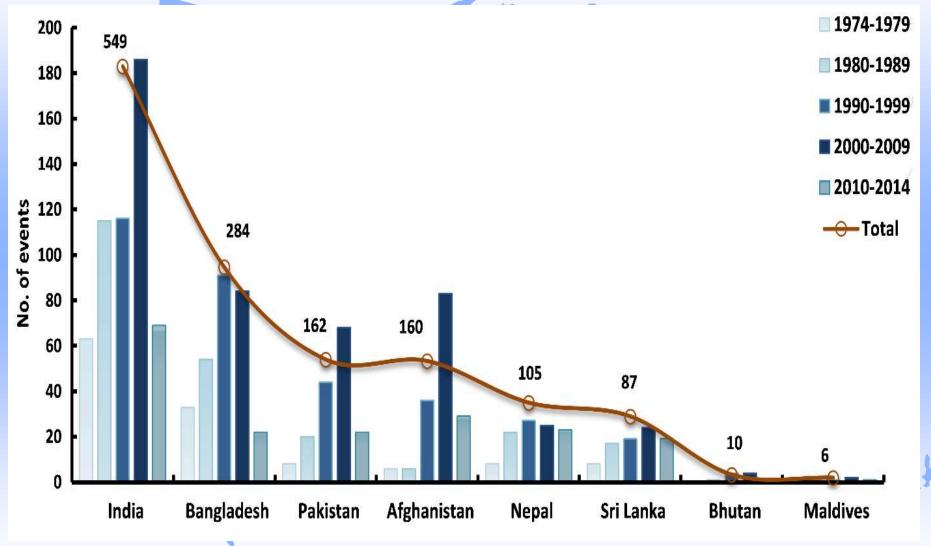
Some broad human development indicators of the SAARC member States

	Population (Millions) 2012 2030		GDP (2005 PPP \$ billion)	GDP per capita (2005 PPP \$)	HDI rank	* Pov erty line (%) \$1.25 per day	Land Area (Thou sand Sq. Km)	ForestAgri- culturaArea (%culturaof TotalLandLand(% of Area)Area)total land)		Number of deaths due to natural disaster
Afghanistan	33.4	53.3	37.2 ^в	1083 ^в	175	-	652	2.1	58.1	11
Bangladesh	152.4	181.9	236.0	1568	146	43.3	130	11.1	70.3	6
Bhutan	0.8	0.9	3.8	5096	140	10.2	47	69.1	13.2	1
India	1258.4	1523.5	3976.5	3203	136	32.7	3287	23.0	60.5	2
Maldives	0.3	0.4	2.5	7834	104		0.3	3.0	26.7	0
Nepal	31.0	39.9	33.6	1102	157	24.8	147	25.4	29.6	6
Pakistan	180.0	234.4	428.4	2424	146	21.0	796	2.2	34.1	3
Sri Lanka	21.2	23.1	102.9	4929	92	7.0	65.6	28.8	41.6	2
Total	1753.0	2141.8	5586.1	3241	-	-	5124.9	14.5	33.9	2

Potential Risks From Different Hazards

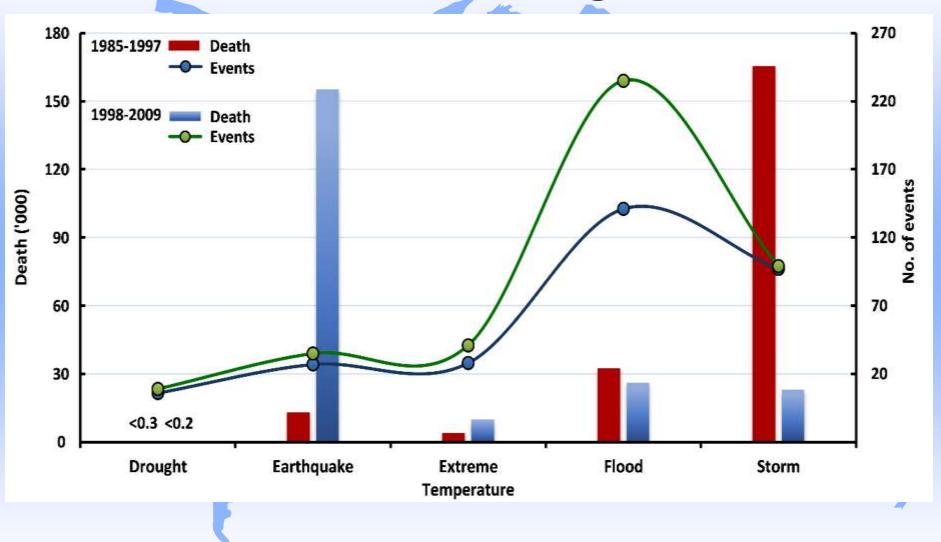
	Sea	Sea Glacier		Increase in	Temperatu	Cyclone
	Level Rise	Retreat & GLOFs	Intensity of Flood	Intensity of Drought	re Rise	
Afghanistan	No	Yes	-	Yes	Yes	No
Bangladesh	Yes	Yes	Yes	In some Parts	Yes	Yes
Bhutan	No	Yes	Yes	No	Yes	No
India	Yes	Yes	Yes	Yes	Yes	Yes
Maldives	Yes	No	Yes	No	Yes	No
Nepal	No	Yes	Yes	No	Yes	No
Pakistan	Yes	Yes	Yes	Yes	Yes	Yes
Sri Lanka	Yes	No	. 	No	Yes	Yes

Frequencies of various disasters within SAARC member states



Source: South Asia Disaster Reports, SDMC & Other reports

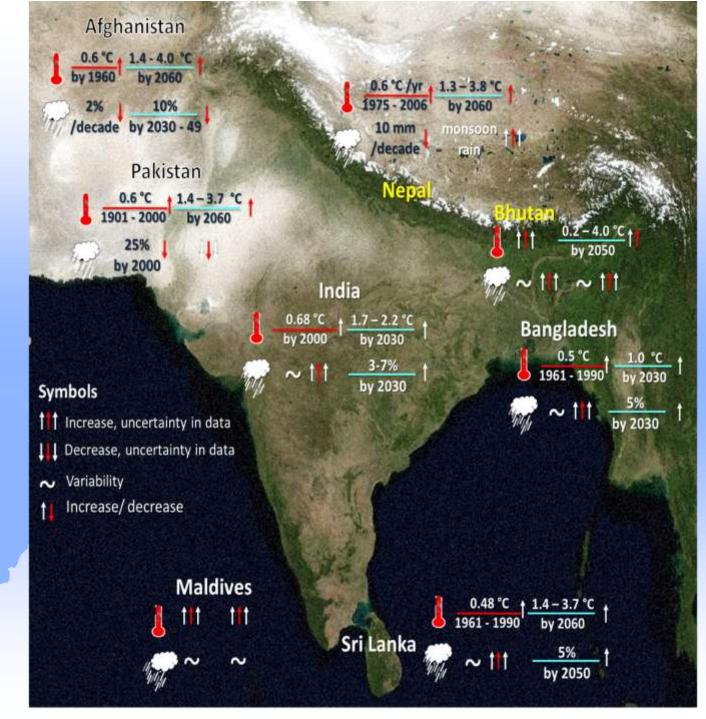
Occurrence and mortalities of various disasters within SAARC region.



Source: South Asia Disaster Reports, SDMC & Other reports

Observed and projected climate trends and variability among member countries of SAARC

based on published scientific literatures.



INITIATIVES TOWARDS DRR AND CCA

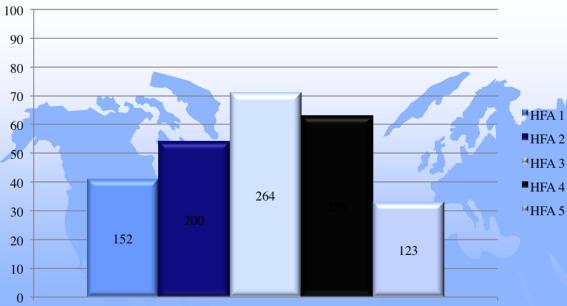
Projects in SAARC Countries (Sector wise)

		Sector									
Country (s)	Total No. Of Projects	Natural Resources (Agriculture/water/land/ biodiversity/forestry/ coastal/wetland)	Rural/Urban development	Health	Energy	Society	Communic-	DRM Flood, Droug			
Afghanistan	28	21	*	1		2	1	3			
Bangladesh	54	27	2	1	1917 - 1	9	-	15			
Bhutan	53	32	2	1	6	2	-	10			
India	53	33	2	-	1	5	1	10			
Maldives	28	16		1	1	5	1	4			
Nepal	21	13			1. 1.	<u>а</u>	1	7			
Pakistan	8	5	-	-		1	-	2			
Sri Lanka	10	8		-	(1 1 0)	-	-	2			
Regional CCA & DRR		26 (CCA Projects+ 90	DRR Proje	ects= 116						
Total			(255+1	16) 371							

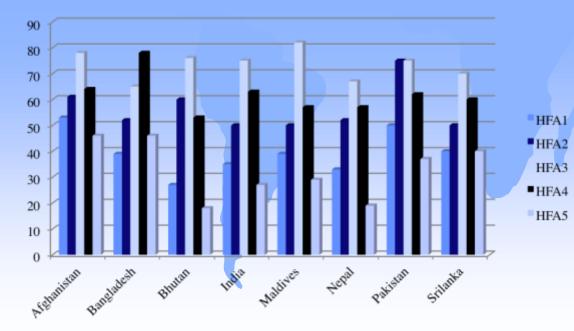
Projects in SAARC Countries (Funding organization wise)

SNo.	Total No. of Deojects Projects SAARC Countries Afghanistan		Type Of Organization									
			Regional Inter- Govern-mental Organi-zations	Regional Organizatic	United Nations Organi-zations	Regional Alliances and Network	Multilateral and bilateral funding Institutions	National Organizations	Non- governmental Organizations	Internation al Organizatio ns		
1			hanistan 4 - 10		10	14	1	· .				
2	Bangladesh		3	2	10	-2-	0 <u>-</u>	30	6	3		
з	Bhutan		~	7	39 - 1		1 1	13	1.75			
4	India		2	з	7	1	2	31	3	4		
5	Maldives		-	×	9	-	- 1	18	1.00	1		
6	Nepal	Nepal		<u> </u>	2		-	11	4	1		
7	Pakistan		2	8	2		-	2	1	1		
8	Sri Lanka		-	-	2	-	- 7		-	1		
Co	Country wise total		10	5	75	1	13	126	14	11		
9	Regional	Regional CCA		2	7	<u>ः</u>	-	4	1.52	17		
		DRR	20	28	20	2	10	8	2			
	Total	1	43	35	102	3	23	138	16	11		

- Regional Inter-Governmental Organizations: SAARC, DFID, CIDA, IWG, ASEAN
- Regional Organizations : ADPC, CARE, ICIMOD, IFRC, IUCN, SEI, CICERO, ICRISET, IWMI
- United Nations Organizations : UNISDR, UNDP, UNESCAP, UNEP, UNESCO, UNICEF, FAO, UNOCHA, WHO, WMO, UNITAR, IPCC, ADRC, World Bank, WWF, GEF
- Regional Alliances and Networks : ADRRN
- Multilateral and bilateral funding Institutions : ADB
- National Organizations: NSET, NDMA, ANDMA, Aus AID, Local Govt.
- Non-governmental Organizations : Practical Action
- International Organizations : GIZ, Catholic Relief Services (CRS)



HFA coverage of regional initiatives in South Asia



HFA

Priority for action 1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation

Priority for action 2: Identify, assess and monitor disaster risks and enhance early warning

Priority for action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels

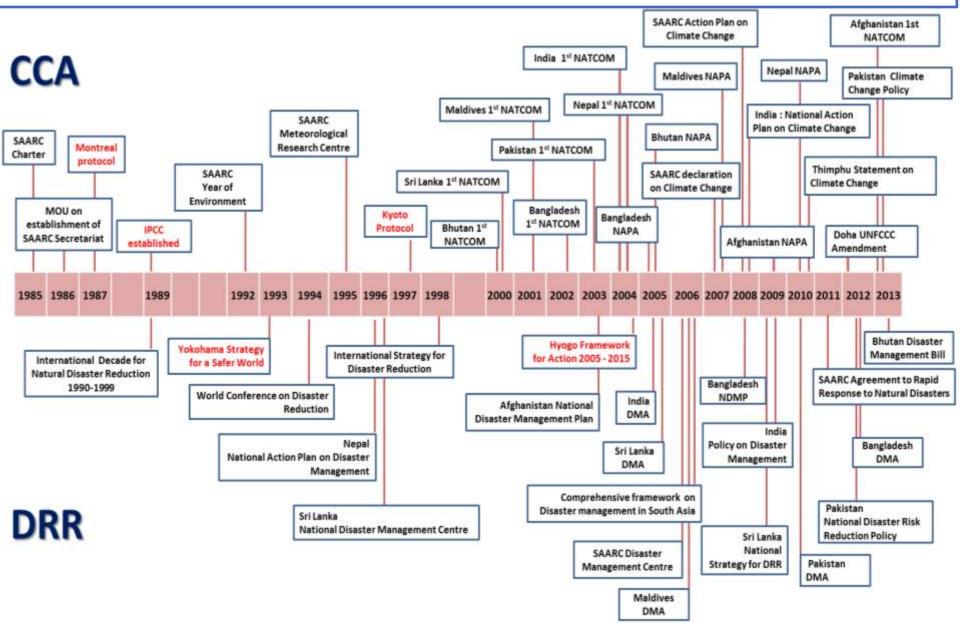
Priority for action 4: Reduce the underlying risk factors

Priority for action 5: Strengthen disaster preparedness for effective response at all levels

Key Activities	HFA 1	HFA 2	HFA 3	HFA 4	HFA 5
A. Mainstreaming in development					
National Policy plans and legal Framework	✓				✓
Rural and urban development planning				\checkmark	
Development in health sector				\checkmark	
Development in Education			\checkmark		
Mainstreaming DRR in Housing				 ✓ 	
Mainstreaming Livelihood				~	
Land use planning				\checkmark	
Natural Resource Management		\checkmark		\checkmark	
Socio-economic planning and development					
Integration of DRR and CCA	12			~	
Structural and non- structural measures			✓	\checkmark	
Rehabilitation and recovery planning				\checkmark	
Risk reduction measures				~	
B. Management of Knowledge and Awareness					
Disaster Database/Tools and Technology and Information System		~	\checkmark	2	
Information accessibility and management		 ✓ 	 ✓ 		 ✓
Development of information sharing system and management		~	~		
Sharing of Knowledge and Experience			 ✓ 	 ✓ 	
Strengthen the mechanism for risk, vulnerability and impact assessment			~		
Risk mapping, indicators, Disaster Statistics		\checkmark			
Dissemination of information through media and public awareness campaign			\checkmark		
Early Warning System		~			
C. Capacity Building					
Mechanisms and capacities of institutions for the		\checkmark			\checkmark
management of risk, early warning etc					
education and Training programmes for risk measurement			✓		~
Technical and scientific capacity for risk assessment			~		~
Enhancement of Emergency Response			~		 ✓
Strategies and Plans for Capacity Building	✓		\checkmark		
Responsibility and resource allocation	\checkmark				
Risk management/contingency plans				~	
D. Joint efforts and mutual cooperation					
Networking and Partnership of various Institutions,	 ✓ 		✓		T
Communities and Organizations Volunteerism, Community participation, Civil society	✓				
	~				
Regional cooperation and approaches	\checkmark	\checkmark			\checkmark
Collaboration of Public and Private Sectors				\checkmark	

CONVERGENCE AND DIVERGENCE OF POLICIES AND INSTITUTIONS

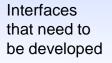
Time series for development of major approaches, legislations and institutions for CCA and DRR within SAARC region

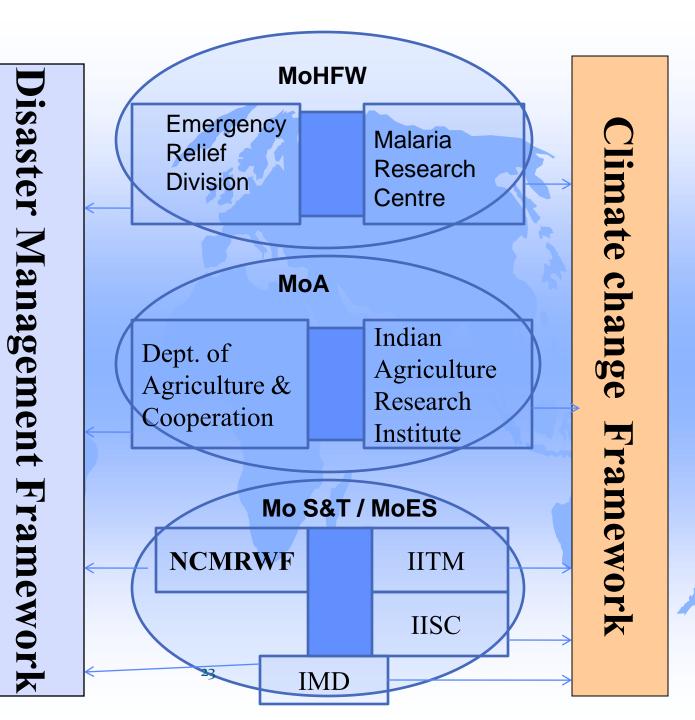


Common Stakeholders and Parallel Interfaces: DRR and Climate Change Frameworks

Dis	<	Monitoring and forecasting of extreme weather events such as cyclones, thunderstorms, floods and droughts		Ministry of Science & Tech AND MoES	the of th	nate change modelling, forecasting change in weather nents such as temperature, rainfall, over longer time scales	>	
Disaster Management structure		Policies and measures for drought management and building the resilience of farmers and to deal with drought, pestilence, etc.		Ministry of Agriculture	clima tempon ag	ct of extreme weather events and tic variability in form of droughts, erature extremes and rainfall shifts riculture sector, constructing impact ulnerability scenarios	>	Climate
agement str		Representation in the NCMC and national executive council under the NDMA. Providing monitoring and forecasting inputs in times of flood emergencies.	&	linistry of Water Resourc linistry of Rural Dev.		Rainwater harvesting, Watershed Management, Drought proofing & flood control		imate change st
ructure	<	Satellite observations and monitoring of weather parameters; satellite based communications during disasters		Department of Space	m	limate change nodelling and impact cenarios		structure
	<	Impact of disasters on public health, epidemics and pandemics; post disaster emergency medical response mechanisms		Ministry of Health & Family Welfare	Ext rain eve mo	pact of climatic variability such as treme temperatures nfalls and extreme ents on pubic health, mortality and orbidity; construction and pact scenarios		

Missing links in the Institutiona I Interfaces





Schematic diagram showing holistic approach for integrating DRR with CCA for SAARC region

Integration of DRR & CCA

Disaster Risk Reduction (DRR)

- Early warning systems (EWS) Strategies
- HVR assessment /monitoring
 Response strategies
- Mitigation & preparedness

Integration of technologies

- Targeting climate related disaster risks
- Designing risk reduction strategies
- Integrating climate & EWS information in decision making
- Minimizing duplication of efforts
- Efficient use of scarce resources
- Guidance to national/ local government
- Considering economics for increased integration of DRR and CCA

Institutional networking

Climate Change Adaptation (CCA)

- Human health
- Environment security
- Green energy
- Agriculture & forestry

Area of convergence

- Climate information
- Watershed & coastal zone development
- Land use planning
- Settlement, physical and social
- infrastructure planning
- Flood plain management
- Bottom-up approach

Regional level

1. Regional level.

- 2. Setting regional up coordination mechanism.
- 3. Creating pool of regional experts for capacity building.
- 4. Long term and non lapsable fund.
- 5. Evolving new tools and techniques.
- 6. Creation of regional response facility.
- 7. Implementation of DMRC at regional level.

- Eco tourism
 - Food security
 - Land use planning
 - Water conservation

- National level
- 1. Institutional linkage.
- 2. Mechanism for converging policy, planning and programs
- 3. Setting du knowledge managements.
- 4. Mechanism for self-assessment monitoring tool and for evaluation of activities.
- 5. Sectoral capacity development through national pool of experts.
- 6. Implementation of Disaster Management Response cycle (DMRC) at national level.

- Diverse institutional structure
- Disconnected policies, platforms for and planning
- - - Separate global and regional framework for CCA & DRR
- communication & dialogues
- Lack of information

Area of divergence

- Capacity constraints

Priority areas Lack of inter sectoral



