

The Problems and Consequences of the Poverty and Biodiversity Conservation: Case Studies from Bangladesh, India, Nepal and Pakistan

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Outline

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Definitions

- Biodiversity is the life support system of the earth and conservation includes the maintenance of the all ecosystems.
- An ecosystem is a community of interacting organisms and the physical environment they live in (WRI 2005).
- Poverty is ‘a pronounced deprivation in wellbeing (World Bank 2001)
- There is much research in their intersection

The diversity of wealth

Category of Wealth	Household Level	Community Level	National Level
Physical assets	Housing	Schools	Major infrastructure
	Tools	Hospitals	
	Animals	Infrastructure	
	Machines		
Financial assets	Cash	Access to credit/ insurance	Access to credit/ insurance
Human assets	Labor	Pooled labor	Labor markets
	Education		
	Skills		
	Health		
Environmental assets	Land	Common land	Rivers, seas, lakes
	Soil fertility	Fisheries	Large watersheds
	Woodlots	Forests	Minerals
		Water	Fuels
		Sanitation	Global climate
		Air quality	
		Watersheds	
Social assets*	Family	Community trust	Inter-community
	Trust	Security	links
		Governance	Trust
		Participation	Political freedoms
		Cultural assets	Rights
		Rights	Justice systems
		Justice systems	Markets
		Markets	

Source: Galizzi 2008

Poverty characteristics in South Asian context

Major Characteristics of poverty	The Major Concerns of the Poor
Remoteness; Absence of accessible road; No school or other educational facility; Absence of marketplace; No health center; Lack of potable drinking water; Absence of irrigation system; No development project; and Lack of arable land (ADB 2001)	Lack of food security Life crises and the lack of assets Access to and ownership of land Nonexistent or limited access to educational opportunities Flooding and drought Lack of micro-finance Poor physical infrastructure Decreasing access to community natural resources Social exclusion Disenfranchisement of land use rights and access to natural resources (ADB 2001)

Countries overview (Bangladesh, India, Nepal and Pakistan)

Category	Indicators	IND	PAK	BGD	NPL
Population	Territory (land surface in 000 Sq. Km.)	3287	796	144	147
	Population density (per Sq.km.) 2008	361	210	1120	195
	Total (million)	1181.4	184.4	160	28.9
	Rural (% of total)	71	64	73	83
	Over 65 years (% of total)	5	4	4	4
	Young	50	63	50	63
	Old	8	7	6	7
Economy	GNI/capita (US\$)	1,220	1,000	580	440
	PPP GNI/capita (US\$)	3,280	2,680	1,550	1,180
	Annual growth GDP (%)	7.3	2	6.2	5.3
	% male 15 years and older	81	85	84	76
	% female 15 years and older	33	21	58	63
	Extreme Poverty (% <US\$1.25 PPP)	41.6	22.6	49.6	55.1
Health Indicators	Mortality rate, infant (per 1,000 live births)	52	73	43	41
	Maternal mortality ratio (per 100,000 live births)	450	320	570	830
	Crude death rate (per 1,000 population)	7	7	7	6
	Life expectancy (years)	64	67	66	67
Health Services ^a	Hospital beds (per 10,000 populations)	7	10	3	2
	Physicians (Density per 10000 population)	6	8	3	2
Health Financing	Total expenditure on health (% of GDP)	4	2.9	3.5	4.9
	General government expenditure on health (% of total)	28	29.7	35.7	39
	Per capita total expenditure on health (US\$)	43	24	17	20

Poverty Trends

Poverty Indicator	Bangladesh	India**	Nepal	Pakistan
Individual poverty indicators				
Population under the total poverty line (%)	41.2	41.73	33.8	32.00
Population under the food poverty line (%)	66.08	25	34.4	
Population under the non-food poverty line (%)	6.8		40.15	
Access to basic facilities				
Population with improved source of drinking water (%)	11.25		79.3	48.9
Population with toilet facilities (%)	25.45		34.00	57.9
Population with electricity (%)	36.85	50	29.85	16.25
Basic facility factor (mean)	0.11		-0.11	-0.26
Accessibility			Hours	KM
Distance to nearest drivable road in km (mean)			10.05	
Time to get to nearest permanent food market >1h (%)			4.2	
Assets and liabilities				
Owned land in ha per head (mean)	0.07	0.10	0.76	1.22
Livestock per head (mean)	1.49		1.75	
Household composition				
HH with female head (%)	9.2	15.6	14.3	9.55
Dependency rate (mean)	0.85	0.81	1.1	1.19
Percentage of HH members in non-agricultural professions (mean)	25.55	15.27		25.65
Social status				
Uneducated head of HH (%)	57.85	54.23	60.7	58.35
Percentage of literate HH members >5 years (mean)	43.85	67.17	46.05	41.4

Comparative overview of biodiversity distribution

Country	Geographical Area (Sq. Km)	Number of Flowering Plants & Ferns	Birds	Mammals	Reptiles	Amphibians	Fish
Bangladesh	143,998	7,400	632	125	154	23	736
India	3,287,263	17,000	1,200	350	453	272	748
Nepal	147,181	5,568	844	181	100	43	185
Pakistan	796,095	6,000	666	188	174	16	156
South Asia			3400	1044	900	351	1900
World			4,629	9,672	6,900	4,522	25,000

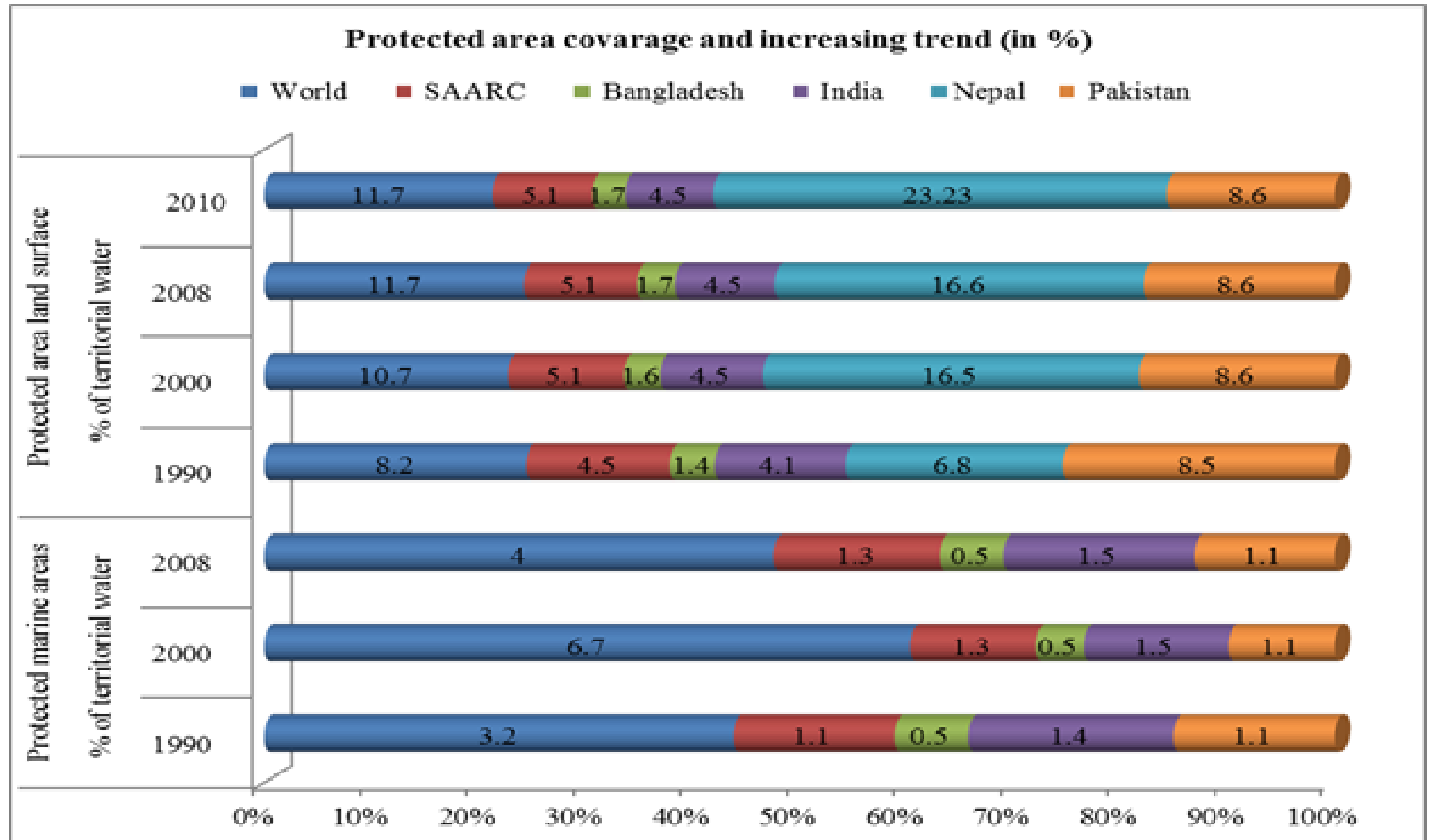
Source: Statistical Yearbook for Asia and the Pacific 2009

Protected Areas

Categories	India	Bangladesh	Nepal	Pakistan	4 Countries Total	World
Total Land Area (000 ha)	328,759	14,400	14,718	79,610	437,487	13,328,979
Protected Areas (PA) % (2010)	4.5	1.7	23.23	8.6	9.50	11.7
Number of PA (2010)	545	11	22	205	783	100000
Extent of PA by IUCN Category (000 ha), 2003:						
Nature Reserves, Wilderness Areas, and National Parks (categories I and II)	3,578	0	1,029	714	5321	438,448
Natural Monuments, Species Management Areas, and Protected Landscapes and Seascapes (categories III, IV, and V)	11,730	66	98	2,794	14688	326,503
Areas Managed for Sustainable Use and Unclassified Areas (category VI and "other")	336	0	1,537	4,152	6025	692,723
Total PA (all categories)	15,644	66	3,418	7,660	26033	1,457,674
Marine and Littoral PA {a}	1,593	46	0	218	1857	417,970
Number of Areas >100,000 ha, 2003	23	0	8	16	47	2,091
Biosphere Reserves, 2002: Number of Sites	3	0	0	1	4	408
Total Area (000 ha) Biosphere	1,515	0	0	66	1581	439,000

Source: Statistical Yearbook for Asia and the Pacific 2009

Protected area system increasing trend from 1990-2010



Source: ESCAP 2010

CBD Expert Group Meeting on Biodiversity for Poverty Eradication and Development

Policy instruments for biodiversity conservation

Bangladesh

1994 CBD Signed
 1995 Environment Conservation Act (ECA)
 1997 Environmental Conservation Rules (ECR)
 2004 National Biodiversity Strategy Action Plan (NBSAP)
 2004 Cartagena Protocol ratification
 Biodiversity and Community Knowledge Protection Act (draft 1998)

India

1993 CBD Signed
 1999 National Policy and Macro-level Action Strategy on Biodiversity issued. NBSAP process initiated within MoEF
 2000 National Biodiversity Strategy Action Plan (NBSAP) process begins Biodiversity Bill placed before Parliament, Parliamentary committee accepting depositions
 2003 Cartagena Protocol ratification

Nepal

1992 CBD Signed
 1996 Biodiversity Action Plan begins
 1996 Environment Protection Act enacted
 1997 Endorsement of the Environment Protection Regulations
 1998 Endorsement of the Ninth Plan (1998-2002)
 2000 Completion of the National Biodiversity Action Plan preparation
 The National Conservation Strategy (1988)
 Master Plan for the Forestry Sector (1989)
 Nepal Environmental Policy and Action Plan (1993)
 National Biodiversity Strategy Action Plan (2002)

Pakistan

1994 CBD Signed
 1992 National Conservation Strategy
 1997 Pakistan Environment Protection Act
 1999 Biodiversity Action Plan (BAP)
 2000 Biodiversity Action Plan
 2005 Pakistan Environmental Policy
 2005 Plant Breeders' Rights Act (draft), the Biosafety Rules

Source: Carew-Reid 2002; Desai et al. 2011

Problems

- Governance as the major problem

	VA		PA		GE		RQ		RL		CC	
	2008 Rank	Score est.	2008 Rank	Score est.	2008 Rank	Score est.	2008 Rank	Score est.	2008 Rank	Score est.	2008 Rank	Score est.
India	59	0.45	17	-0.99	54	-0.03	47	-0.21	56	0.12	44	-0.37
Bangladesh	31	-0.61	10	-1.54	26	-0.73	35	-0.47	27	-0.7	29	-0.68
Nepal	25	-0.79	8	-1.69	24	-0.75	27	-0.66	25	-0.76	25	-0.77
Pakistan	19	-1.01	1	-2.5	23	-0.77	21	-0.82	19	-0.92	11	-1.1

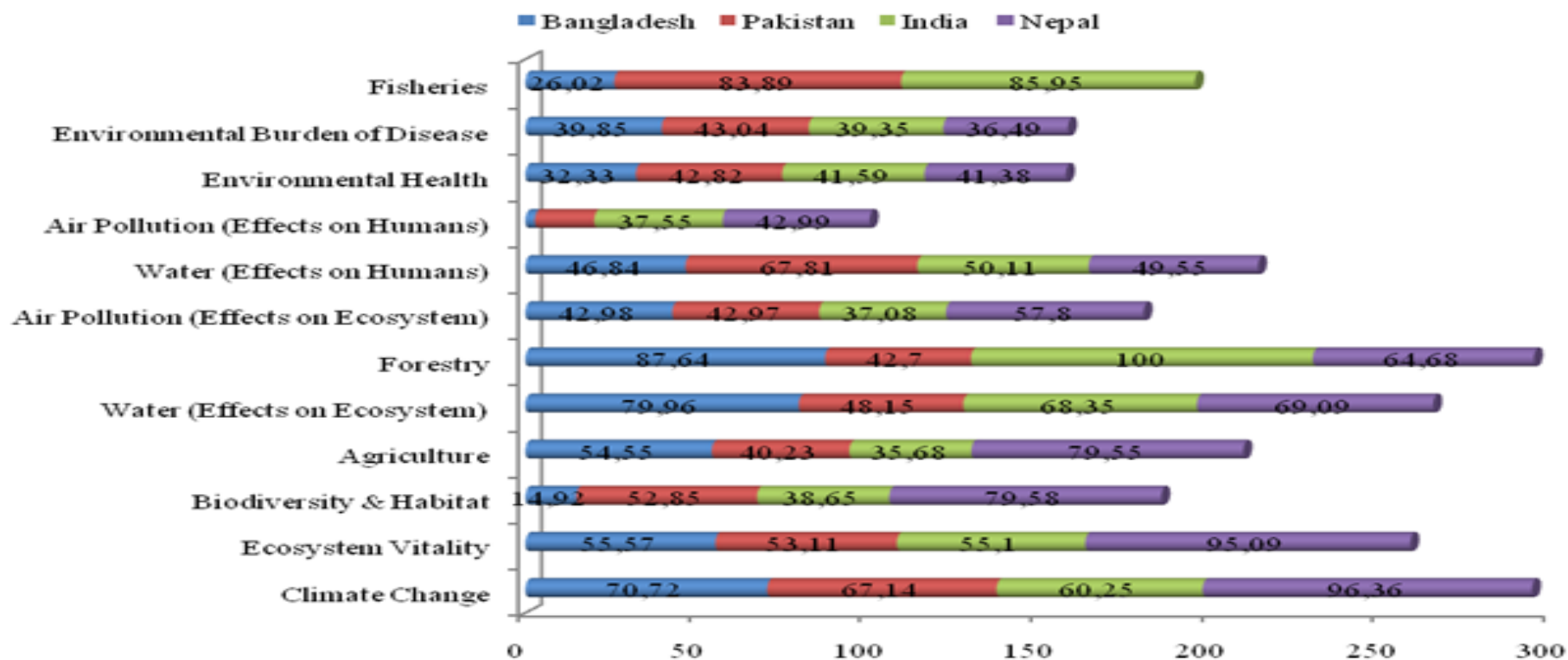
VA= Voice and Accountability (rank and estimation); PA= Political Stability and Absence of Violence; GE= Government Effectiveness; RQ= Regulatory Quality; RL= Rule of Law; CC= Control of Corruption; Est. =score estimate of 2008; Rank =0-100;

Regardless of various efforts, the countries of this study are behind in maintaining governance pillars and creating cooperative environment to tackle the loss of biodiversity, associated with poverty.

Source: World Bank Report of 2010 by Kaufmann *et al.* 2010

Weak environmental performance

Environmental Performance Index (EPI) Score (% proximity to target)



	Climate Change	Ecosystem Vitality	Biodiversity & Habitat	Agriculture	Water (Effects on Ecosystem)	Forestry	Air Pollution (Effects on Ecosystem)	Water (Effects on Humans)	Air Pollution (Effects on Humans)	Environmental Health	Environmental Burden of Disease	Fisheries
Bangladesh	70,72	55,57	14,92	54,55	79,96	87,64	42,98	46,84	2,78	32,33	39,85	26,02
Pakistan	67,14	53,11	52,85	40,23	48,15	42,7	42,97	67,81	17,38	42,82	43,04	83,89
India	60,25	55,1	38,65	35,68	68,35	100	37,08	50,11	37,55	41,59	39,35	85,95
Nepal	96,36	95,09	79,58	79,55	69,09	64,68	57,8	49,55	42,99	41,38	36,49	

Source: EPI 2010

CBD Expert Group Meeting on Biodiversity for Poverty Eradication and Development

Problems (cont.)

- Chronic poverty-(**vicious circle of poverty**) lack of assets (Nurkse 1952)
- Lack of institutional architecture: Weak status of institutional framework
- Human concerns given precedence over biodiversity -livelihood aspects of biodiversity not considered
- Weak understanding of CBD and country obligations and Inadequate understanding of the concept of biodiversity
- Missing, incomplete or inaccurate baseline data on biodiversity
- Insufficient coverage of biodiversity in regulations -NBSAPs not recognized
- Conservation problem: how to define and measure biodiversity, and how to optimize the *in situ* conservation of biodiversity
- Most Vulnerability to climate change (both poor and biodiversity)

Conclusion

- Biodiversity and poverty issues cannot be addressed in isolation
- Unprecedented levels of cooperation, collaboration and resource mobilization are needed
- Existing mechanisms of cooperation need to develop special provisions to help the poor people towards conserving biodiversity

Conclusion (cont.)

- To address overall poverty problems, countries have to develop programs and policies:

Which can create:

- Macroeconomic stability
- Business environment
- Good governance and strong institutions
- Instituting social reforms to improve equity
- Managing the environment
- And mechanism to create cooperation with all concerned stakeholders

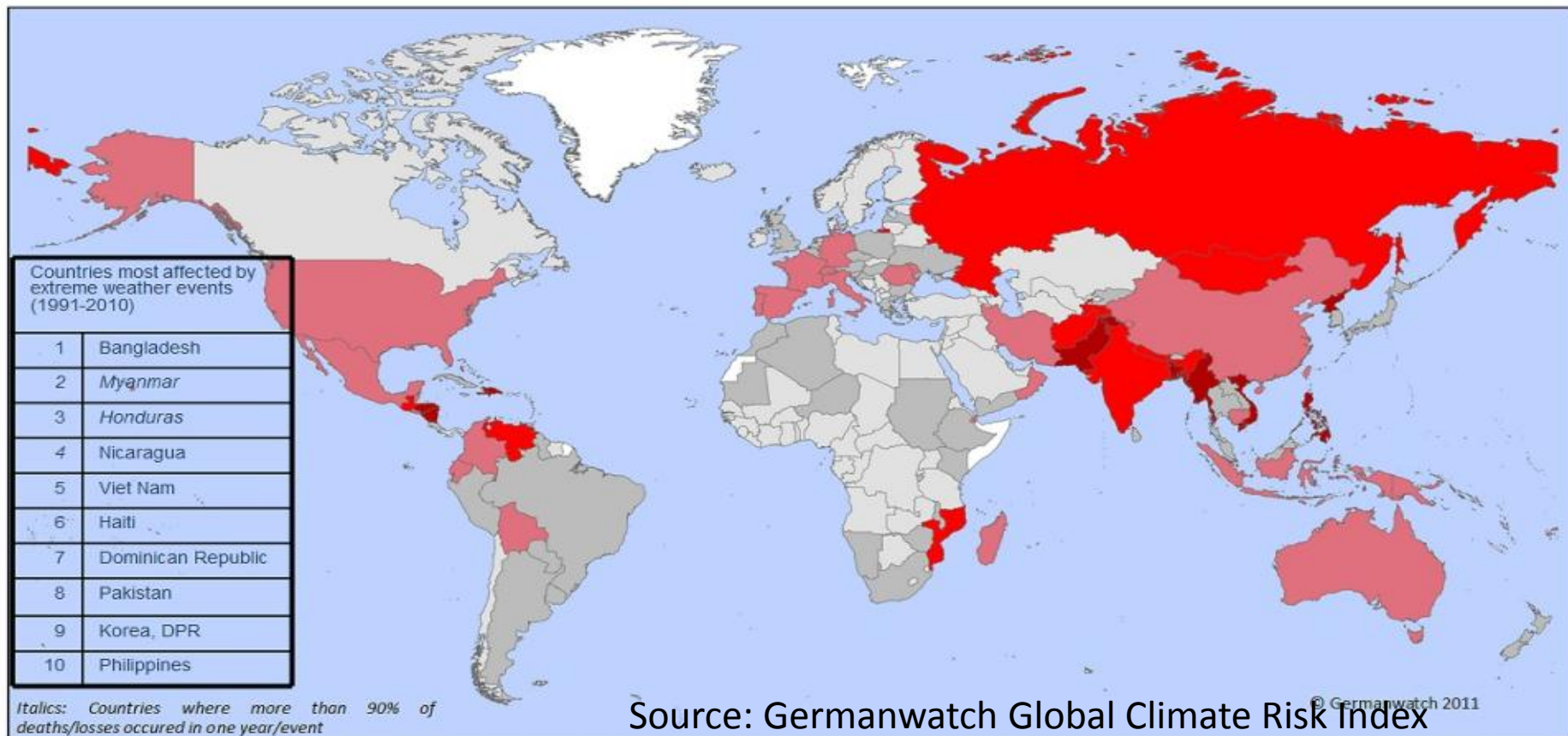
Conclusion (cont.)

- As long as there are no alternatives to support living conditions of poor people who depend on primary economic activities, these communities will be reluctant to participate in the conservation of biodiversity.
- Corrective measures are needed to involve all concerned stakeholders and governments in the biodiversity conservation bandwagon.
- Developing a strong institutional architecture for biodiversity conservation would help to achieve the common goals through the sharing of highly reliable and meaningful information system at different levels.

Thank you

Global Climate Risk Index 2012 (covering 1991–2010)

Source: Germanwatch and Munich Re NatCatSERVICE



Climate Risk Index: Ranking 1991 – 2010

