

Water Related Side Event
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Remarks:

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Introduction

Excellencies I am honored to be here. Dr Han I wish to thank you personally for your persistence efforts over the last many years to keep this vital issue in front of the world.

Ladies and Gentlemen: To a large extent, disasters and relief are now globalized phenomena, and we need to rethink how to cooperate in prevention as well as reaction.

Today I will offer a reflection on a key public policy ethical issue behind our discussion; a short analytical reflection on resilience, and; 8 lesson/recommendations on what we might do in the coming UN decade of water.

An Ethical Public Policy Issue

We may be raising fears and anxieties over impacts of projected changes in climate while inadvertently denying means to cope with these impacts.

The major reasons repeatedly used in talking points of international officials, for why we should deal with climate change are potential water related events and their projected social impacts. They primarily are social impacts of; frequency and intensity of droughts and floods; sea level rise; water access and scarcity; water quality and health; increased frequency of torrential rain; intensification of typhoons/hurricanes, and; others. At the same time as we focus the world's efforts on mitigation and spend little on adaption we may inadvertently be denying adaptive means to cope with these projected impact events; events we know will occur. This raises an important ethical public policy issue. This importance is now born out through Paris accords: where recent French studies show that 90% of IDN's are actually water investments.

Most Reasons the Public Should fear Climate Change are Water Related

UNSG Address to the IPCC upon the release of the Fourth Assessment Synthesis Report



UNSG -BAN KI-MOON

“One crucial aspect of the Panel's assessment is that climate change will affect developing countries the most. Those who are most vulnerable are also the most at risk from this threat. Melting glaciers will trigger mountain

Ethical Dilemma of Climate Change Policy and Water
Climate, water and security debates are raising public anxiety about Change while inadvertently denying adaptive means to cope with projected events; thus raising questions about the ethics of adaptation vs. mitigation



DR. RAJENDRA PACHAURI
Chairman, Intergovernmental Panel on Climate Change (IPCC)

4 of 6 Major Reasons, repeatedly used in talking points of international officials, that the public should deal with climate change are water related:

- Droughts and floods: frequency and intensity
- Sea level rise
- Access and scarcity
- Quality and health
- Others...

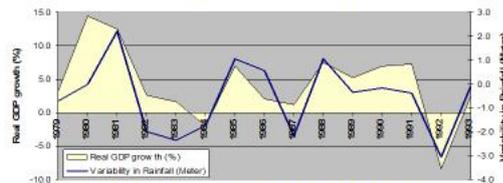
(COP 15/CMP6 ON DECEMBER 7, 2009 1 December 2008 and othes ++)

An analytical reflection on Resilience

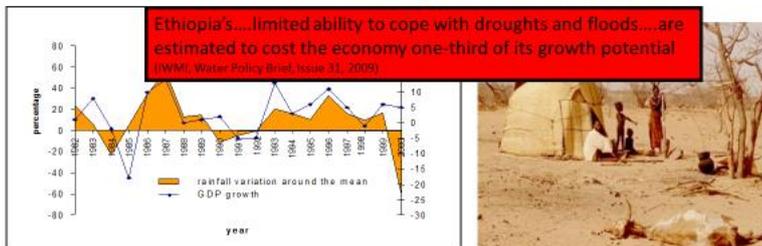
We know that managing risk and the uncertainties of the extreme events of floods, tsunamis and droughts is critical to achieving social stability, breaking fatalism, and facilitating growth and social transformation. Rich countries direct water investments manage to keep damages as % of GDP to 5% or less. Poor countries lack means to manage uncertainties/risk and GDP fluctuates with rainfall resulting in damages greater than 40% of GDP. AID often becomes primarily humanitarian helping the poor back to ex ante situations; often simple sustaining subsistence living rather imparting tools to escape this horror.



Economy-wide impacts

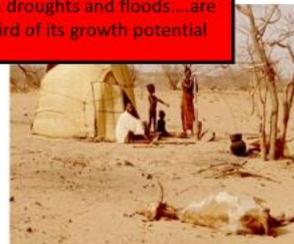


Rainfall & GDP growth: Zimbabwe 1978-1993



Rainfall & GDP growth: Ethiopia 1982-2000

Ethiopia's...limited ability to cope with droughts and floods...are estimated to cost the economy one-third of its growth potential (WFP, Water Policy Brief, Issue 31, 2009)



Grey and Sadoff World Bank

One hundred years of U.S. data, post war Japanese data and modern Chinese data show that while damages may increase investment in water infrastructure to deal with variability has resulted in decreased damages as percentage of GDP to steadily decline. As the index of damages as percentage

of GDP lowers it also is an indicator of increased resilience; resilience to allow the social systems to continue functioning even under the stress of large scale natural events.

We might ponder: do the rich countries have high resiliency because they are rich or did they become rich because they invested in resilience measures?

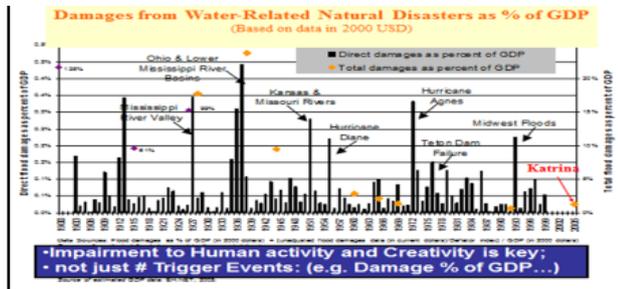


Figure 14

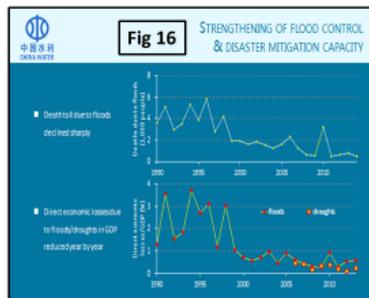
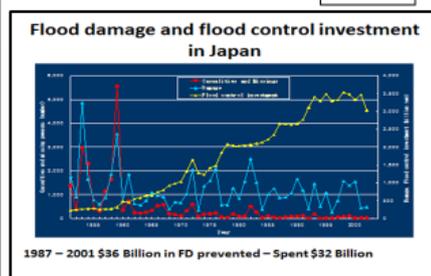
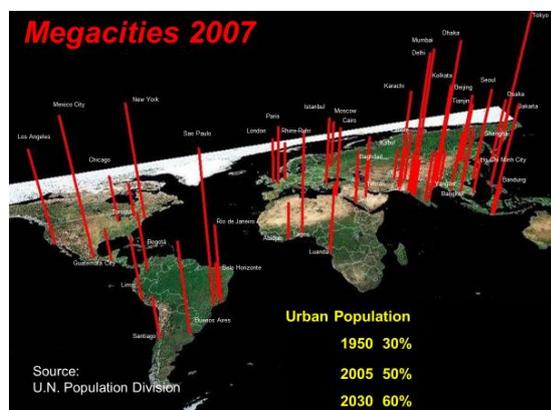


Figure 15



12 Recommendations/lessons learned from recent mega-disasters

1) Within the next generation, more than 70% of the global population will be living in vulnerable coastal areas and the large floodplains of numerous rivers. At the same time there is growing rich-poor gap of who realizes reimbursements for disaster losses. **We must better plan for prevention in the growing mega-cities around the globe and not just view them in terms of humanitarian post-disaster responses alone.** Mega-cities will require more infrastructure investment to protect against such events, together with more restrictive land-use controls and zoning to avoid increases in damages.



The costliest floods in the 21st century

(original values in US\$ million, not adjusted for inflation)

Year	Disaster	losses in m US\$*	total	insured	(% ins)
2000	Japan: Typhoon Saoma	1,400	1,050		75
2002	China (Yangtze)	8,200			<1
2003	China (Yangtze, Huai)	7,890			<1
2004	China (Yangtze, Yellow, Huai)	7,800			<1
2004	India, Bangladesh, Nepal	5,000			<1
2005					15
2006					8
2006					24
2007	Tajikistan	1,000			<1
2007	India	2,600			<1
2007	Oman: Tropical Cyclone Gonu	3,900	650		17
2007	China (Huai)	6,800			<1
2007	Pakistan: Tropical Cyclone Yemyin	990			<1
2007	Bangladesh: Tropical Cyclone Sidr	3,775			<1
2007	USA: Tropical Storm Allison (Houston, TX)	6,000	3,500		58
2007	USA: Hurricane Katrina (Gulf Coast)	125,000	61,600		49
2000	United Kingdom	1,500	1,100		73
2002	Central Europe (Elbe, Danube)	21,500	3,400		16
2003	France (Rhône)	1,600	900		56
2005	Romania, Bulgaria	2,440	15		<1
2005	Switzerland, Austria, Germany (Bavaria)	1,300	1,790		52
2007	United Kingdom	8,000	6,000		75
2001	USA: Tropical Storm Allison (Houston, TX)	6,000	3,500		58
2001	Argentina	750			<1
2005	Canada (Alberta)	860	190		22
2005	USA: Hurricane Katrina (Gulf Coast)	125,000	61,600		49
2007	Australia (East Coast)	1,300	880		52
2007	Australia (East Coast)	1,300	880		52
2008	Australia (Queensland)	2,000	1,600		>80
2000	Mozambique, Zimbabwe, South Africa	715	50		7
2007	Madagascar	240			<1
2007	Sudan	300			<1

* including wind-storm losses

☐ = High % Reimb

2) Because people bear the risks, their participation in the tough operational decisions made during the process of planning for mitigation of potential events is critical to the health of a accountable political systems. But this is not easy; leaders are awakened during disasters but quickly forget once disasters subside.

3) Residual risk is almost always underestimated and poorly understood: we need to find better methods

4) Rather than being defined purely by engineering solutions, we now understand that all stakeholders contribute to risk reduction through a variety of structural and non-structural measures.

5) Multiple and integrated defenses around cities are critical. This means creating packages of natural and human processes such as evacuation routes, elevated and flood-proofed buildings, pumping stations, levees, flood gates, highways, natural ridges, wetland nourishment, barrier islands, outer shelf activities and compartmentalization of polder areas.

6) Relief, response and prevention must be integrated in a system of risk management, where citizens actively participate and countries need to mobilize before disasters strikes to reduce risks.

7) Countries and mega cities need benefit cost analysis (BCA) of disaster risk reductions (DRR) investments in mega cities which are becoming increasingly vulnerable

8) Countries need to prioritize and build systems to forecast, inform, alert and evacuate

9) Countries and donors should incorporate disaster risk reduction and climate change adaptation as integral to development planning

10) Safe water and sanitation must be provided quickly when disaster/conflict strikes as part of humanitarian

12) Hydro-climatic data needs to be seen as public goods to be shared at all levels (regional, national)

Final Thoughts

The Global Water Partnership (GWP) TEC, which I chair, continues to actively pursue this issue. Let me mention 3 products currently being develop.

1. A background paper and workshops on tools for Collaborative modeling (CM). Through hardware and soft advances along with participatory stakeholder planning, CM tools now facilitate “real time” integration and participation of stakeholders in the actual technical modeling and algorithms to be used that support eventual trade-of decisions.
2. A perspective paper and case studies on BCA of DRR in mega cities worldwide.
3. A perspective paper that asks the question: can new forms of risk pooled insurance (reinsurance) help development processes in poor countries – a dialog among insurance experts and water resources experts.

We at GWP and GWP TEC welcome the participation of any new knowledge partners in such endeavors. Thank you for your attention