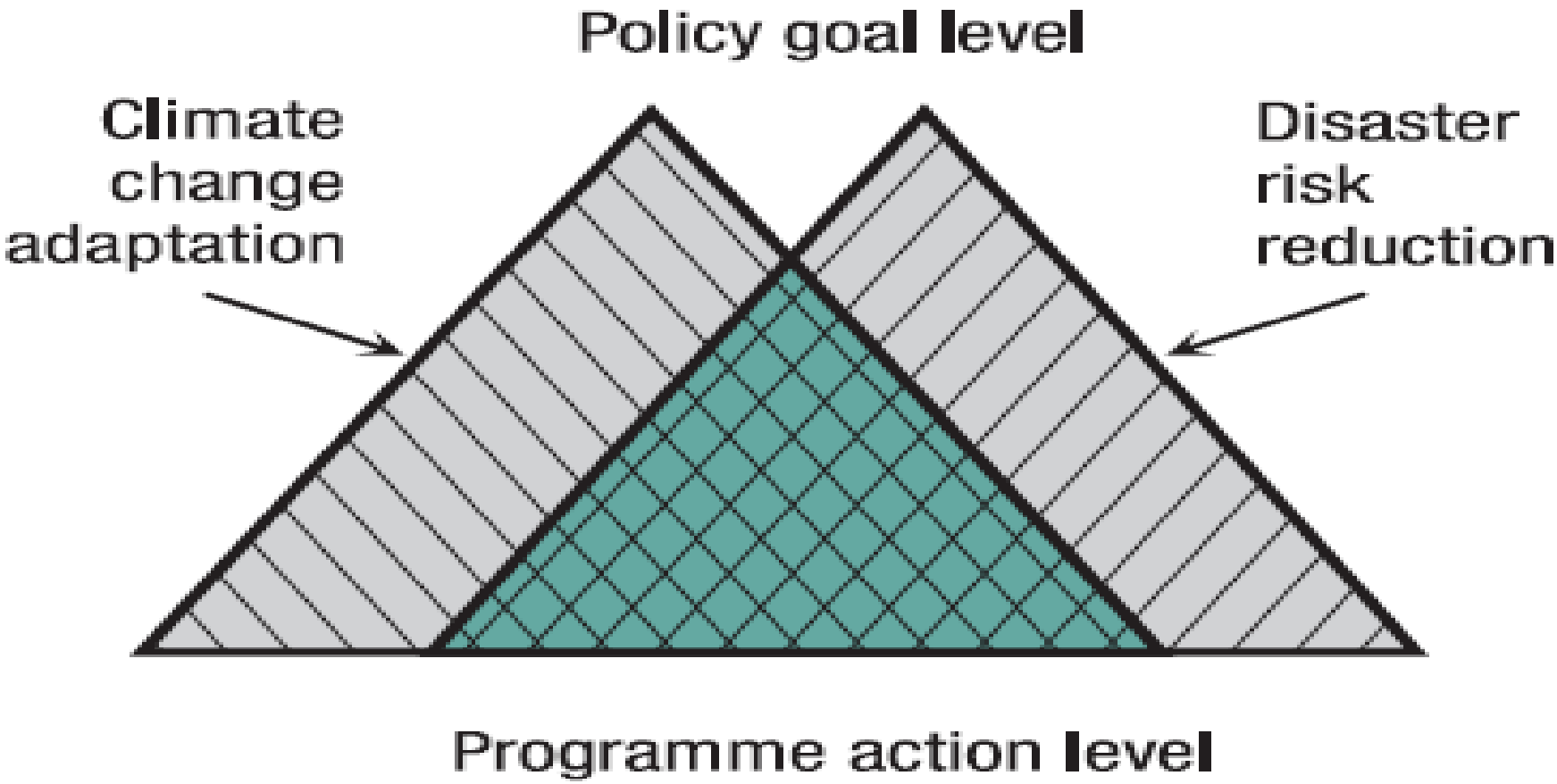
Links between DRR and Climate Change

Relationship between CCA and DRR



DRR is just a component of Adaptation, although an important one

Table 7. Indicative Adaptation Costs (US$)

Measure	*Cost*
Annual Operational Costs[a]:	
Land use planning	33,700
Waste management	181,900
Biodiversity protection and natural parks	167,000
Environmental education and information	102,000
National disaster council	30,700
Reforestation	297,800
Watershed projection and management	113,800
Support to community-based fisheries management	81,400
Community disease control	205,800
Environmental health	112,600
Nutrition	83,400
Investment Costs:	
Human waste management (composting toilets)[b]	800,000
Elevating houses[b]	1,700,000-3,200,000
Seawalls[c]	1,540,000-1,830,000
Coastal Zone Management Project for Majuro Atoll[d]	367,300

[a] Costs reflect Samoa public expenditures for 1999-00. GDP Samoa US$205 million.
[b] Covering North Tarawa (population 6,000, area 1,500 ha). GDP Kiribati US$47.9 million.
[c] Covering Tarawa atoll (population 35,000, area 3,200 ha). The cost per linear meter is about US$155, excluding maintenance costs.
[d] Costs represent allocation for four years for Majuro (population 86,110).
Sources: Legislative Assembly of Samoa 1999; Stratus 2000; UNDP 1996; background studies to this report.

Similarities and Differences

	Disaster Risk Reduction	Climate Change Adaptation
Time horizon	• More concerned with the present and the immediate future • Emphasis is placed on vulnerabilities revealed through past disasters is particular strong and the focus tends to be more on near term trends (the next 5–10 years) rather than long-term changes.	• Starting point is the existing vulnerability to climate variability and extremes. Improving capacity to deal with current vulnerabilities likely to improve capacity to deal with future climatic changes. • Climate projections are usually made for the next 20, 50 and 100 years. 2025, 2050 and 2100 represent reference years of comparison to present situations.
	Disaster Risk Reduction	Climate Change Adaptation

Similarities and Differences

	Disaster Risk Reduction	Climate Change Adaptation
Mitigation (minimization of exposure to hazard or change)	• Natural hazards, as their name implies, are largely perceived as a given and therefore beyond human control. Mitigating disasters has therefore a very different connotation from climate change mitigation. Disaster mitigation is focused on limiting the adverse impact of a particular hazard, but not the onset of the hazard itself.	• It is now well established in the scientific community, that climate change is largely anthropogenic. This means that humans have changed the exposure to climatic risks. Mitigation measures recognize that the amount of greenhouse gases in the atmosphere will influence the rate and magnitude of climate change. Therefore it is within the capacity of humans to influence their exposure to change.
	Disaster Risk Reduction	Climate Change Adaptation

Similarities and Differences

	Disaster Risk Reduction	Climate Change Adaptation
Scope of risk management	• Disaster risk reduction measures address hydro-meteorological (torrential rain, floods, droughts, storms) and geo-morphological (earthquakes, volcanic eruptions) hazards.	• Adaptation to climate change on the other hand is not only focused on extreme events, but also, as outlined earlier, on changes in average climatic conditions and climate variability, which may modulate the vulnerability to certain disasters.
Consideration of effects and impacts	• Focusses on the negative effects of risks	• Considers both positive and negative effects of climate change

So when we say we want to consider both disaster risk reduction and climate change adaptation, the goal should therefore be to build a comprehensive risk management framework, which recognizes current and future vulnerabilities as well as the compound effects of multiple disasters within a given region.

Gaps in Present Responses

Present Gaps

- **Lack of awareness** among policy makers about climate change impacts and their economic and social implications in each sector
- **Mismatch between the temporal and spatial scales** of climate change projections and information needs of sector planners
  - Very few climate models can predict rainfall patterns in Asian countries with certainty or on timescales relevant to policy makers
- **Institutional fragmentation** and resulting communication barriers among ministries
  - Different ministries are involved in vulnerability and adaptation assessment, disaster risk management, urban and rural development, poverty alleviation, and land-use regulation
- **Lack of "ownership"** of an adaptive approach to future risks

What Approach Can We Take?

Practical actions to reduce vulnerability to natural hazards and adapt to climate change

AS A FIRST STEP

- Strongly promote culture of prevention and resilience
- Develop institutions (policies, plan legislation, multi-stakeholder mechanisms…) to actively contribute to these goals
- Identify risks (risk mapping, hazard & vulnerability assessments), and develop early warning systems
- Build hazard-resistant structures (critical infrastructure, schools, hospitals, avoid high risk zones…)
- Protect and develop hazard buffers (forests, reefs, mangroves..)
- Improve preparedness, response, develop pre-disaster recovery plans
- **In other words, implement the Hyogo Framework for Action**

- **DRR is the first line of defence against the impacts of climate change**