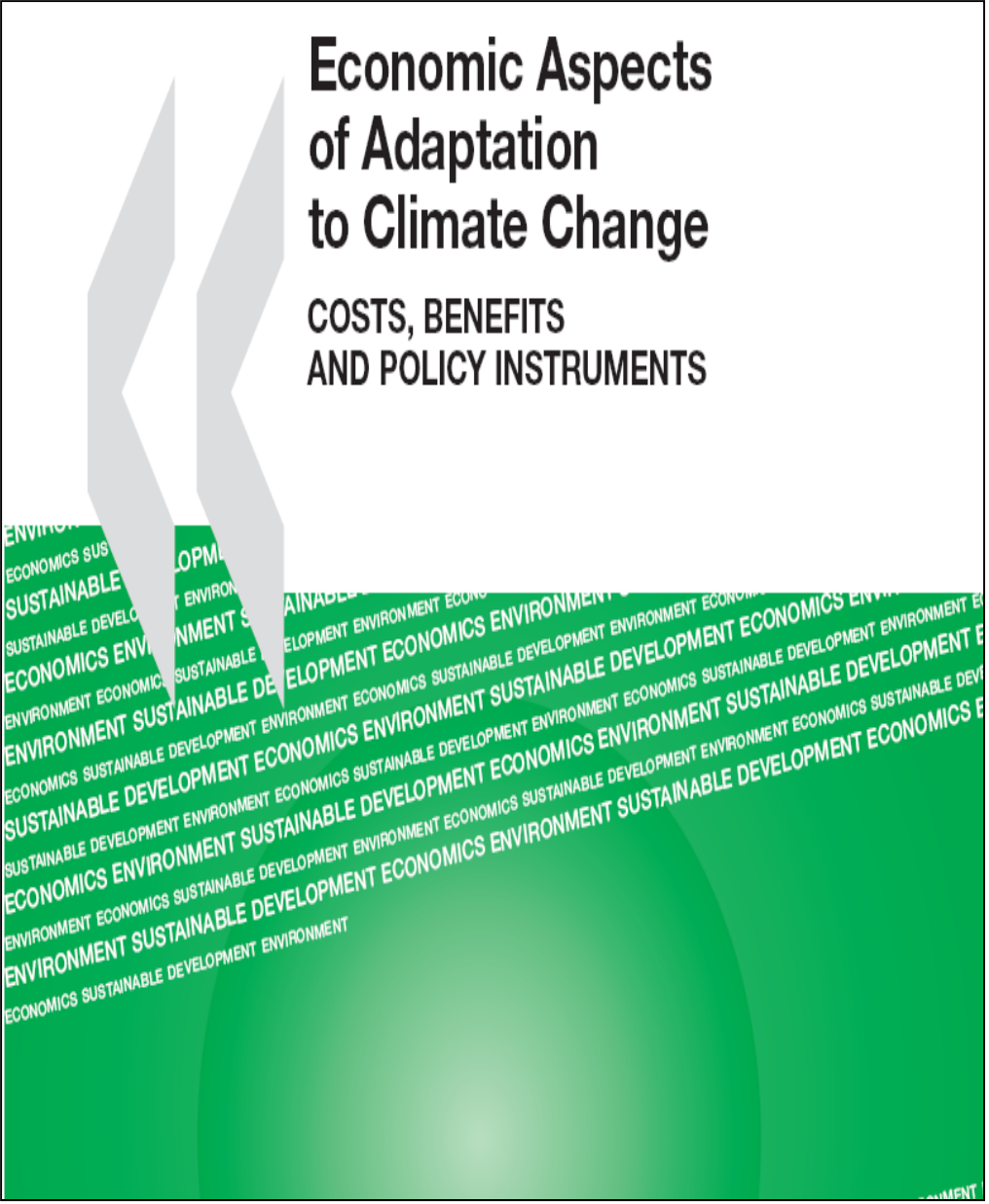


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# Scope of OECD Work on Adaptation

➢*Development Co-operation Context:* Help "Mainstream" adaptation in development co-operation activities of OECD donors and national/ sectoral policies of developing countries.

➢ *Domestic OECD Context*: Meta-analysis of progress on adaptation at the domestic level across OECD countries; In-depth analyses of adaptation strategies (e.g. European Alps).

➢ *Economic Analysis*: Analytical work to assess the costs, benefits, and policy incentives for Adaptation.

# Economic Context for Adaptation

- Efficient climate policy requires both greenhouse gas mitigation as well as adaptation.

- Adaptation is, however, not a free lunch. Costs of adaptation, alongwith costs of mitigation and the costs of residual climate damages comprise the total price tag of climate change.

- Our knowledge on the economics of adaptation is still nascent. Some key questions are: what are the costs of adaptation across various sectors ? What about aggregate adaptation costs ? Is there a broader role for economic analysis in adaptation, beyond costing ?

# Key Messages

# 1. Sectoral Coverage of Adaptation Costs is Limited and Uneven

| Sector | Coverage | Cost Estimates | Benefit Estimates |
|---|---|---|---|
| **Coastal Zones** | Comprehensive – most coastlines | √ | √ |
| **Agriculture** | Comprehensive – most crops & growing regions | - | √ |
| **Water** | Isolated Case studies | √ | √ |
| **Energy** | Primarily N. America | √ | √ |
| **Infrastructure** | Cross-cutting issue; Isolated studies | √ | - |
| **Tourism** | Very limited – winter tourism | √ | - |
| **Health** | Very limited | √ | - |

# 2. Sectoral Costs and Benefits: Some Key Messages

- "Optimal" **coastal adaptation costs** are generally a very small percent of GDP (typically less than 0.01%). However, there are substantial regional differences. Normalised costs can be as high as 10% of GDP for certain small island economies.

- In **agriculture,** many adaptations can offset yield declines (even result in net benefits) at relatively low cost. These benefits, however, vary across regions and crops, assume a suitable enabling environment, and decline with rising levels of climate change.

- In **water resources**, investments in storage and/or water treatment will tend to dominate adaptation costs.

# 2. Sectoral Costs and Benefits: Some Key Messages

- In the case of **energy demand,** increased costs of space cooling will offset reduced costs of space heating (at least in North America).

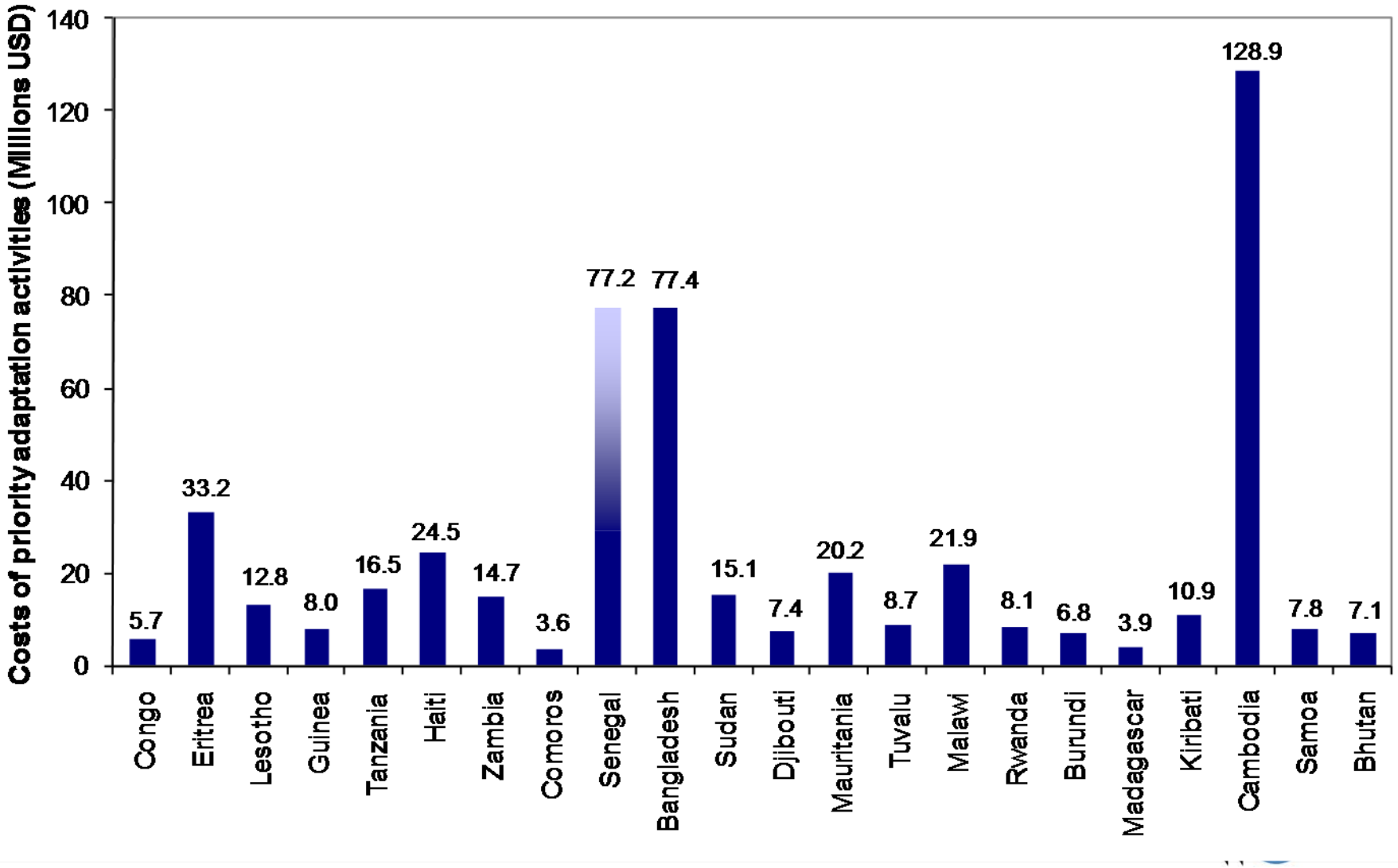
- For **winter tourism,** cost effective adaptation are available and are being applied already. However, they may not be viable over the long term.

- Overall, a bulk of the costs of adaptation in most sectors are **infrastructure** costs, both to adapt existing infrastructure to climate change, and to build dedicated adaptation infrastructure.

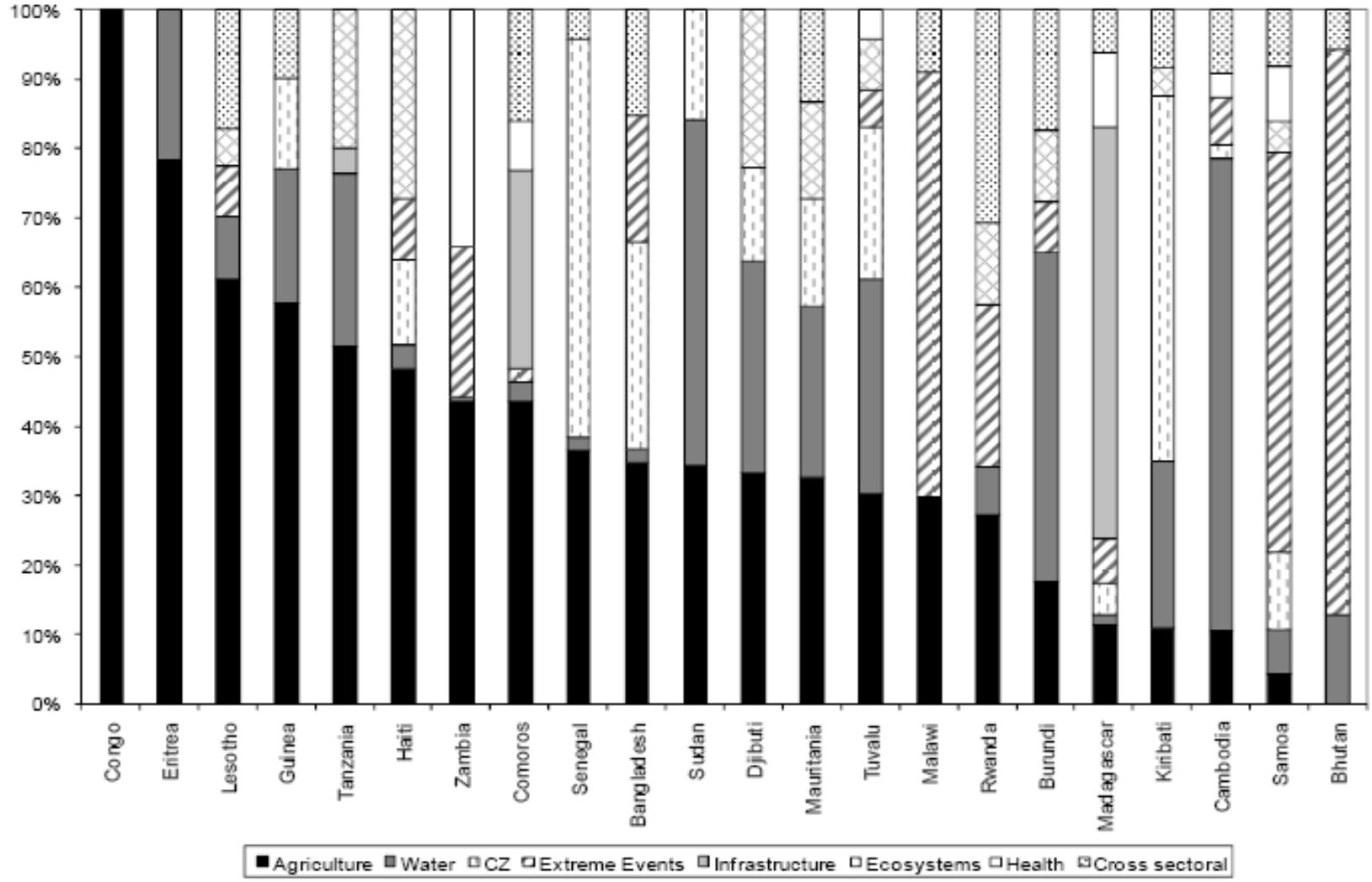
# 3. Aggregate National Level Estimates: Key Messages

- Very Recent: priority adaptations costed for Least Developed Countries in National Adaptation Programmes of Action (NAPA)s
- Stakeholder “bottom-up” processes. Reveal many “atypical” adaptations missed in theoretical studies
- Selection of priority projects, costing, and intended benefits of adaptation measures often not well documented.

# National Costs Estimates for Priority Adaptations (NAPAs)



# NAPAs: Sectoral Distribution of Adaptation Costs



# 4. Global Adaptation "Price Tags" Are Premature

| Assessment | Cost of Adaptation | Time Frame | Countries Included | Sectors | Comments on methods/sources |
|---|---|---|---|---|---|
| **World Bank (2006)** | **$ 9 – 41 billion/yr** | **Present** | **developing countries** | *unspecified* | Based on OECD & WB analyses of official flows exposed to climate risk. Costs of "climate proofing" are assumed. |
| **Stern Review (2006)** | **$ 4 – 37 billion/yr** | **Present** | **developing countries** | *unspecified* | Update, with slight modifications, of WB study. |
| **Oxfam (2007)** | ***At least* $50 billion/yr** | **Present** | **developing countries** | *unspecified* | WB study + extrapolation of cost estimates from NAPAs & NGO projects. |
| **UNDP (2007)** | **$86 – 109 billion/yr** | **2015** | **developing countries** | *unspecified* | WB study + costing of targets for adapting poverty reduction programmes & strengthening disaster response systems |
| **UNFCCC (2007)** | **$28 – 67 billion/ yr** | **2030** | **developing countries** | Agriculture; water supply; human health; coastal zones; infrastructure | In-depth costing of specific adaptations in water, health & coastal zones. Less detailed costing for agriculture, infrastructure & ecosystems. Infrastructure more abstract. Infrastructure adaptation costs overlap w. costing in coastal zones & water res. |
| **UNFCCC (2007)** | **$49 – 171 billion/yr** | **2030** | **global** | | |

# 4. Global Adaptation Price Tags Are Premature

- 2 core assumptions in cost estimates:
  - % of assets/investments exposed to climate change risk;
  - % incremental cost of “climate-proofing” such investments

- Very limited (or no) underlying knowledge on these parameters

- Cost estimates very sensitive to assumptions made about these parameters given large magnitude of baseline flows.

- The “consensus”, even in order of magnitude terms of global adaptation costs maybe premature.

# 5. Costing Adaptation Is Important, But Incentivising It is Critical

- A majority of adaptation actions will be undertaken by private actors in a decentralised manner. Public policy has an important role to play in ensuring that such decisions are made in a timely, well-informed, and efficient adaptation decisions.

- *Policy instruments*, including insurance, environmental markets and pricing, and R&D incentives have a crucial role to play in stimulating adaptation through better internalisation of climate risk, establishing incentives to conserve scarce climate sensitive resources, and harness private sector innovation.

# 5. Costing Adaptation Is Important, But Incentivising It is Critical

- Private sector engagement through Public Private Partnerships (PPPs) , meanwhile, can play a critical role in leveraging additional resources and enhancing the efficiency of expensive investments in adaptation infrastructure.

- Setting and scaling up appropriate insurance schemes, environmental markets, and PPPs will pose a considerable challenge. Adaptation, as a public policy challenge has only just emerged.