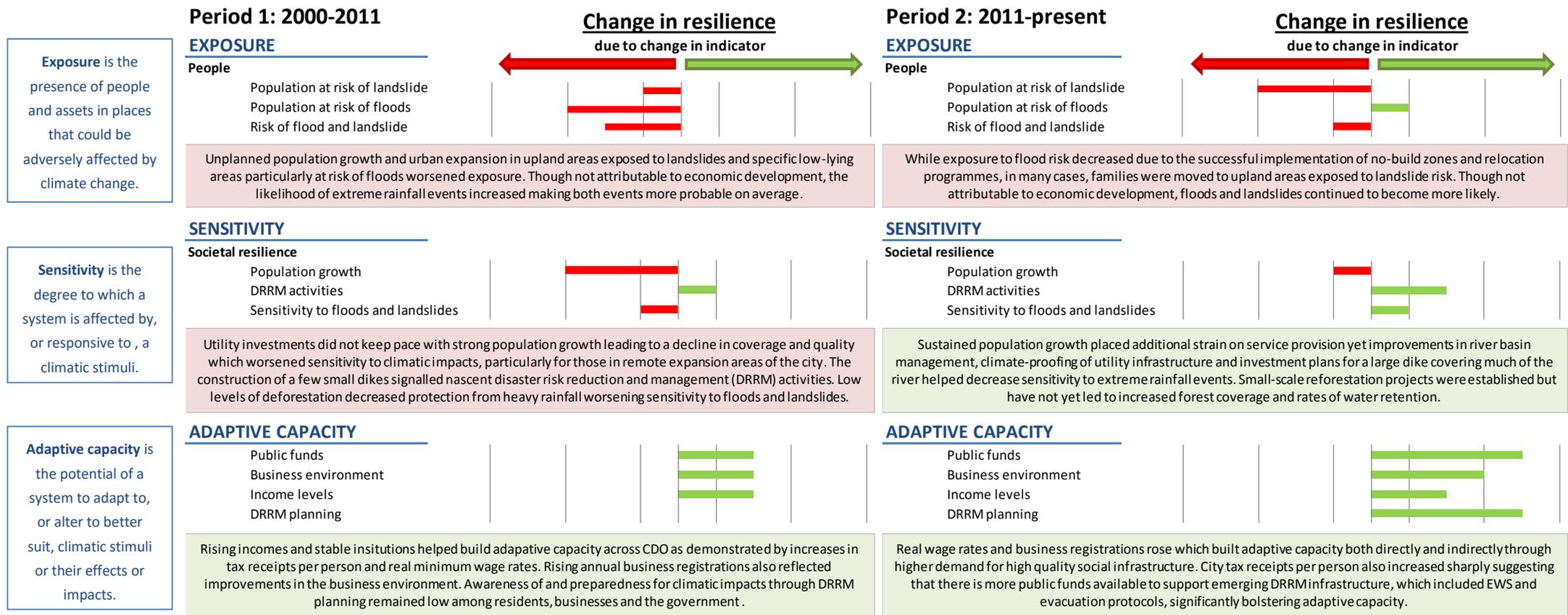


The direction and relative scale of the impacts presented in the scorecard below are subjective judgements based on quantitative data wherever possible. Due to the availability of credible and accurate data, approximations are used for each indicator which may vary by geographical focus or time period and others may draw from qualitative research. A full discussion of analytical constraints is given in the synthesis presentation.

## Understanding patterns of climate-resilient economic development The City of Cagayan de Oro (CDO): A case study

Following Tropical Storm Washi in 2011, increased awareness of climate risks has led to strengthened public efforts to build climate resilience. Between 2003 and 2014, average GDP growth in the region surrounding CDO was 6 per cent indicating high levels of economic development. The period to 2011 saw both exposure and sensitivity worsen, particularly for the poorest, as flood-prone areas were characterised by unplanned population growth and urban expansion. Following the flood from Washi, the City has made efforts to address these issues by relocating exposed residents to upland areas, developing early warning systems (EWS) and evacuation protocols, and proposing hard flood defences. However, for many of the poorest who were relocated, this has simply shifted risks of flood to risks of landslide and possibly worsened their overall resilience.

The case study addresses the question: ‘As a dynamic and emerging regional tiger economy of the Philippines, how has CDO’s rapid growth and transition over the last decade affected its climate resilience, and what lessons has it learned from the devastating effects of 2011 Tropical Storm Washi?’ It drew from desk-based research and fieldwork including the review of technical reports, policy and legal documents, national and international databases and interviews.





## Are impacts different for the poorest?

Accounting for recent changes in the city-wide poverty line, poverty incidence is likely to be relatively high at approximately 20 per cent. Contrasted with high levels of investment and economic activity, this suggests that **rising incomes have been concentrated among the richest in the City.**

The areas worst affected by Tropical Storm Washi contained mostly **low-income citizens in informal housing**, attracted to the areas by economic opportunities and a government social support programme. Since the flood, government relocation programmes and no-build zones have reduced exposure to flood risk for those relocated. However, **this has not necessarily led to an overall reduction in exposure** but rather shifted the nature of the risks they face, as uplands are exposed to landslides.

**The poorest remain highly sensitive** as the quality of housing and public services in resettlement areas is still low. However, improvements in DRRM, EWS and evacuation protocols have reduced the sensitivity of citizens across the city.

As economic opportunities for relocated communities are as limited as before, if not worse, **many now face lower adaptive capacity.** While increased business activity in the formal sector has benefitted skilled labour, the remote location of resettlement areas forced many to quit their jobs with few alternative options. With no source of income or job security, the poorest do not have the resources to build resilience regardless of their education or awareness of climate risks.



## Are impacts locked in?

Social housing and support encouraged **the development of informal settlements in flood-prone areas causing physical lock-in of high exposure to flood risk.** Low incomes and local networks make voluntary migration financially unviable, yet the alternative, government-led migration carries political risk and high public costs as well as economic, social and psychological costs for the residents.

**A multi-million dollar proposal to reengineer the City's riverbanks with dikes would be difficult to reverse but could either decrease or increase sensitivity.** The dikes would have high fixed costs, long lifetimes, and would require multi-stakeholder approvals to remove. The proposal indicates the dikes would be tall enough to defend against a flood with a 25-year return period. If a larger flood occurred, then there may be more damage than if the dike was not built at all, especially if development in flood-prone areas returns to previous levels.

The City's current **political infighting can also be seen as a form of political lock-in of low adaptive capacity**, whereby restrictive checks and balances in its political system are preventing the incumbent administration from pursuing its resilience agenda. Changing the system is impossible without complex and difficult amendments to the national legal system. The results of the next civic election may change these power dynamics and remove the political lock-in, though many Filipino politicians have long tenures.



## What are the policy implications?

**Economic development is more likely to translate into improvements in climate resilience in cases where stakeholders are explicitly aware of climate risks.** CDO grew strongly both before and after Tropical Storm Washi, but overall climate resilience only improved in the second period. In this period, public policies such as relocation programmes and DRM activities helped drive reductions in exposure and sensitivity. This suggests that the level of awareness and education concerning climate risks is a key factor in whether development translates into greater resilience. Policy could help provide this information so as to translate increases in adaptive capacity into reductions in exposure and sensitivity. This would require a change from standard development policy in cases where this information is not available or where it is not readily incorporated into decision-making.

**The case study suggests that policy can help mitigate the trade-offs that exist between promoting economic development and increasing climate resilience.** CDO's relocation programmes reduced the exposure of those relocated, but weak government support for these new communities and poor access to job markets worsened poverty and with it, sensitivity and adaptive capacity. As a result, relocation programmes are likely to have made some residents less resilient overall. Policy support to assist these communities in establishing new livelihoods may have mitigated this impact and helped achieve both standard economic development and resilience goals.