GCCA+ SEYCHELLES

COST BENEFITS ANALYSIS FOR CLIMATE ACTION IN THE SEYCHELLES

WHAT IS COST-BENEFIT ANALYSIS (CBA) ?

CBA is a tool for informing decision-making based on comparing the costs and benefits of a project or other investment. It generates numerical values that allow for rapid and intuitive assessments of an investment via a benefit-cost ratio (BCR) showing the dollar value of benefits for every dollar of costs incurred. This measure fits well with the way that people and institutions typically make decisions - namely by seeking to maximise the benefits secured for a given level of spending. As such, applying CBA to climate actions could offer a powerful means of conveying their significance in terms that are compelling and readily understood.

WHY ARE WE DISCUSSING "CBA FOR CLIMATE ACTION IN THE SEYCHELLES"?

The Ministry of Finance, Trade, Investment & Economic Planning (MFTIEP) asked the Seychelles GCCA+ project to undertake a CBA study on climate actions in the Seychelles to help inform planning in this area. Government planning often begins by identifying priorities, then uses costing to determine the funds needed to deliver these priorities. By contrast, CBA offers scope for more rigorous planning based on comparing the benefits and costs associated with different actions. Such evidence can help determine (a) whether or not a given action is worthwhile, and (b) which of the different available actions is best.

The aim of this work on CBA is to assist both the government and non-state actors in Seychelles with decision making on climate actions, including whether or not to act and which actions to take.

CRITICISMS OF CBA

At its best, CBA generates measures that are intuitive as well as rigorous. Yet, looking only at quantified outcomes for which monetary values are readily available can exclude key costs and benefits, and hence produce misleading results. An example is a project to cut down a forest, where CBA might only look at the costs of removing trees and the benefits of selling timber. Such an analysis could neglect various outcomes, such as adverse impacts on soil erosion, biodiversity, greenhouse gas emissions, and forest use by local communities. Social and environmental outcomes are especially prone to be neglected by CBA, since they often lack available quantitative measures.

ADDRESSING THESE SHORTCOMINGS

An alternative approach that addresses these shortcomings is community-based cost-benefit analysis (CBCBA). It generates a comprehensive analysis of an investment by (a) incorporating social and environmental values into quantitative analysis insofar as is possible, and (b) using qualitative data to set its numerical findings in context. Delivering CBCBA requires gathering fresh empirical data regarding the outcomes of an action. CBCBA is well suited to situations where key costs and benefits of an investment are not quantified in monetary terms. Such contexts are common in developing countries, particularly in rural areas. It is also well suited to climate actions, where social and environmental outcomes like enhanced climate resilience and reduced greenhouse gas emissions are key deliverables.

CASE STUDIES EXAMINED

Highland agriculture and water supply in Val d'Endore, Mahé Island

This case study examined two projects jointly, since they were operating in the same area and had directly complementary activities. One was a project to safeguard local freshwater supply for domestic and agricultural use via improved forest management and building a reservoir. The other was a project to improve farmers' access to irrigation water and foster uptake of drip irrigation. This case study obtained a BCR of 16.7. This high BCR shows the complexity of local challenges, and how complementary activities can greatly increase both beneficial outcomes for people and the cost-effectiveness of projects.

Solar energy systems for business in the Seychelles

This case study examined a scheme providing financial incentives for businesses to invest in solar photovoltaic energy systems as a 'green' strategy to meet their energy needs. This study obtained a BCR of 1.6, suggesting the project was a sound yet unspectacular investment. This being said, the qualitative evidence gathered showed that solar PV technology was highly advantageous to business. The modest BCR reflects problems facing both the project and its analysis via CBCBA. Specifically, it reflects regulatory constraints on businesses using this technology, design problems with the rebate scheme, and the fact that key benefits of the project were not quantified

Coastal restoration in Anse à la Mouche, Mahé Island

This case study examined a project to minimise damages from coastal erosion linked to climate change impacts like rising sea levels and storm surges, and to safeguard the coastline in the future. Its activities included building a sea-wall and groynes, improved drainage of flood waters, and creating recreation areas. This study obtained a BCR of 19.7. This high BCR reflects the magnitude of the losses faced due to coastal erosion, and the success of the project in effectively reversing the erosion process. The qualitative data gathered nonetheless suggests possible ways the project design could be improved. This case study provides lessons that are particularly relevant to tourism.

TAKE-HOME MESSAGES

- Climate actions are needed in the Seychelles, notably to build resilience to climate change impacts

- These actions can deliver myriad benefits, including safeguarding assets and securing fresh economic benefits, such as jobs

- Securing support for climate actions by decision makers and investors remains a challenge

- Identifying the best climate actions for different contexts is also challenging

- CBA can help to address these challenges by offering a means to:
  > Learn from existing climate actions to inform future planning
  > Frame the significance and impact of climate actions in terms that decision makers find intuitive and compelling

This factsheet was compiled by the Seychelles GCCA+ project, which aims to strengthen the country's policy framework for climate change.
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