

# USING VENSIM SIMULATION SOFTWARE TO ASSESS THE SOCIOECONOMIC IMPACT OF CLIMATE INFORMATION SERVICES USED IN CONNECTION WITH DISASTER RISK REDUCTION INITIATIVES IN AFRICA

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# 1. Background

The African Climate Policy Centre (ACPC) is the secretariat of the Climate for Development in Africa (ClimDev-Africa) programme, which is a joint initiative of the Economic Commission for Africa, the African Union Commission, and the African Development Bank. ACPC has developed a socioeconomic benefits framework that allows stakeholders to assess the impact of climate information services (CIS) on policy development and resource allocation processes. By expressing the outcomes, in terms of socioeconomic benefits, of CIS investments and application in monetary terms, the framework illustrates whether the benefits of policies outweigh the amount of money invested in them. In this way, it is easier for policy makers to justify ongoing or future investments in CIS.

The socioeconomic benefits framework outlines the steps that must be completed to identify and use indicators in support of an integrated sectoral analysis of the socioeconomic benefits stemming from CIS. Some of those steps are relevant to climate vulnerability assessments, while others are more relevant in adaptation and policy formulation/assessments. Those steps facilitate efforts to conduct an integrated cost-benefit analysis that takes into account relevant social, economic and environmental factors and expected policy outcomes. The cost-benefit analysis looks at three key components, namely investments, avoided costs and added benefits. It also provides for an economic evaluation of any environmental impacts.

Once a socioeconomic benefits framework has been formulated, it can be customized for specific sectors, starting with agriculture and disaster risk reduction. This tailoring of the framework to create specific models facilitates an in-depth analysis of the economic benefits of CIS at the sectoral level, thereby enabling decision-makers to draw up more appropriate strategies for averting climate-induced disasters or promoting economic growth.

Model outputs facilitate the integration of CIS information into disaster risk reduction initiatives, including the application of climate information and prediction systems to track potential hydro-meteorological hazards and avert potential weather- and climate-induced disasters. Model outputs also allow stakeholders to identify hydro-meteorological disaster patterns and advocate for appropriately climate-resilient development, housing, roads, bridges, dams and other infrastructure.

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