

The Identification and Early Prioritisation of Adaptation



Case Study on a National Adaptation Plan for Zanzibar

As adaptation moves from theory to practice, there is a need to identify and prioritise adaptation interventions, while ensuring Value-for-Money (VfM). To support this, DFID has produced a framework, report and tool on early VfM adaptation. This uses an iterative climate risk management approach, as recommended in the recent IPCC 5th Assessment Report. This starts with current climate variability and extremes, and then considers future climate change and uncertainty.

This framework can help in sequencing adaptation activities over time and for identifying early actions that offer good returns on investment. While it includes a focus on low- and no-regret options, it also includes priority areas for mainstreaming and early planning for the long-term. DFID is currently testing the framework in several country offices.

This application was focused on using the VfM framework to develop a **National level climate change action plan for Zanzibar**.

Zanzibar is a semi-autonomous part of the United Republic of Tanzania. The Zanzibar archipelago comprises of two major islands – Unguja and Pemba – and more than 50 other small and remote islets. As a small developing island, Zanzibar is particularly at risk from climate change.

The VfM framework was used to assist the Revolutionary Government of Zanzibar in developing a Zanzibar Climate Change Strategy and Action Plan, i.e. a national level type adaptation plan. The framework was used to develop the strategies approach and to identify and prioritise early options for the action plan.

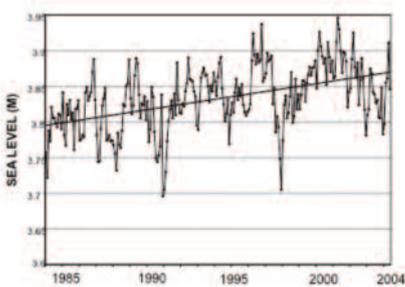
Delivering Value-for-Money Adaptation using Iterative Risk Frameworks & Low-Regret Options



The first step in the application of the VfM framework was to identify the key risks facing Zanzibar, separating the timing of risks into current climate variability and future climate change under uncertainty.

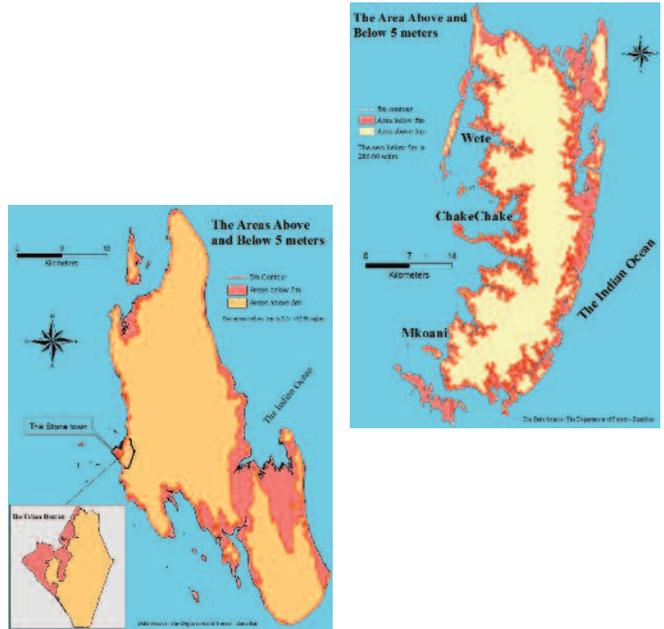
Using the VfM tools, it was found that a large proportion of GDP on the islands (~50%) are associated with climate sensitive activities, notably in agriculture and tourism. The islands are also very reliant on coastal, marine and terrestrial ecosystem services. The analysis looked at the information on existing risks in these areas – as well as recent observational data to – to build up a picture of current problems.

This revealed a picture of high current climate variability, due to the periodic extremes associated with El Niño and La Niña years, which lead to heavy precipitation (floods) and dry spells (droughts). The existing economic costs of these events are large in relative terms. The analysis also found that the islands are being affected by changes in the off-shore wind and wave regimes (see example below), which is increasing salt-water intrusion, affecting agricultural land and fresh water supplies. This information on current risks was used to build up a set of priority areas for early low regret adaptation.



Mean water levels on Zanzibar have increased over recent decades, and higher peak wave heights are increasing salt-water intrusion. Some 150 separate inundation sites have been documented on the islands, e.g. see example on the right.

The analysis then considered future climate model projections of climate change for Zanzibar to explore the potential future risks, noting where the uncertainty was high. The analysis also considered future potential impacts of these changes, for example from sea-level rise as shown below, as well as for various sectors.



Around 20% of Unguja and 30% of Pemba is in the coastal lower elevation zone and highly vulnerable to sea level rise.

This information was then used with stakeholders to produce a list of potential adaptation (and mitigation) options to respond to address the risks identified. This generated a list of several hundred possible options.

The VfM framework was then used to move beyond this long-list. To do this, the framework was used to sequence the timing of adaptation options, and to select early low-regret options for both the short- and longer-term.

The analysis and stakeholder discussion also ensured that these priorities were aligned to the existing institutional landscape on Zanzibar, and that they built on existing development, sector and policy objectives, identifying clear responsibilities.



This process involved a number of activities, that sought to make the process manageable, and to assist scoping and prioritisation.

It first identified key thematic /cross-sectoral areas, which comprised the most important issues for Zanzibar. These priorities were chosen on the basis of the risk analysis in the Strategy, supplemented by extensive stakeholder consultation and discussion with the Zanzibar Technical and Steering Climate Change Committees.

Alongside this, a set of strategic priorities were identified, focused on early action to address the existing adaptation deficit, and build resilience for future climate change under uncertainty. These priorities were built around the recommendations of iterative adaptive management for adaptation and low carbon development strategies from the VfM framework. They were:

- **Building adaptive capacity**, including data, information and research, as well as institutional strengthening and awareness;
- **Focusing on win-win**, no regret or low cost adaptation and low carbon measures (justified by current climate conditions, or reduced GHG emissions and economic benefits);
- **Mainstreaming** resilience and low carbon development, especially where this builds on existing programmes and activities;
- **Planning for long-term major challenges** with adaptive management frameworks and identifying early actions that help longer term decisions or provide flexibility and robustness.

The thematic areas and low-regret categories were combined in a matrix. This was then populated with promising options, to build up the action plan.



Across the matrix, promising options were mapped and then prioritised, based on the available evidence (e.g. on costs and benefits using information from the VfM tools) as well as stakeholder priorities. There was also a check to see if these options aligned with existing development objectives and whether they were complementary and additional to existing policy.

This process was undertaken for each of the five cross-cutting themes. A stakeholder workshop was then used to identify and agree on the most important overall priorities for Zanzibar: these are shown over the page. Importantly this process provided a way to filter down the long-list of options, and to select low-regret interventions that were likely to lead to large immediate benefits, while also capturing early priorities for the future.

The work is currently costing the priority projects, using the VfM tools to investigate the potential costs and benefits to build the business case.

For more details of the VfM tools, please contact:

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Early low-regret options

	Building Capacity	Low- and no-regret options	Main-streaming	Addressing future challenges
Information, capacity, DRM & settlements	<ul style="list-style-type: none"> -Enhanced capacity & co-ordination -Enhanced met. serv. -Awareness raising -Governance -Finance & Investment 	<ul style="list-style-type: none"> -Enhanced communication -Enhanced forecasting -Strengthening of DRM -Enhanced EWS 	<ul style="list-style-type: none"> -Enhanced climate risk screening -Risk mapping use in spatial planning -Sector mainstreaming 	<ul style="list-style-type: none"> -Enhanced research -Linkages to URT, regional, SIDS and global research -Urban resilience ZNAP/ZLAPA/ZAMA
Resilient coastal and marine areas	<ul style="list-style-type: none"> -Enhanced coastal & marine data and monitoring -Capacity and awareness (inc. community groups, policy maker) 	<ul style="list-style-type: none"> -Salt water intrusion - analysis & programme -Mangrove & shoreline replanting / restoration -Enhanced protection & conservation (fisheries) inc community manag. 	<ul style="list-style-type: none"> -Enhanced climate risk screening -Strengthening Integrated coastal zone management / Community ICZ 	<ul style="list-style-type: none"> -High resolution risk elevation mapping. -Research & pilot studies (e.g. cage-culture, livelihood diversification) -Study on blue carbon
Climate smart agriculture & NRM	<ul style="list-style-type: none"> -Information support and awareness raising (e.g. extension service,, indigenous knowledge, etc.) 	<ul style="list-style-type: none"> -Good practice -SALM, soil management, water conservation (e.g. agro-forestry, rain-water harvesting) 	<ul style="list-style-type: none"> -Sustainable land use planning -Integrated water management 	<ul style="list-style-type: none"> -Research and pilots (e.g. new varieties, new practices, future risks such as cloves)
Sustainable forests and energy	<ul style="list-style-type: none"> -REDD+ extension -Energy surveys -Public/community awareness and education 	<ul style="list-style-type: none"> -Community forest management -Enforcement -Improved cook-stoves -Energy efficiency -Renewable power 	<ul style="list-style-type: none"> -Sustainable land use planning -Standards and codes for development planning 	<ul style="list-style-type: none"> -Sustainable energy for all -Renewable energy develop. & studies -Urban sustainable & resilience
Climate resilient, low-C tourism	<ul style="list-style-type: none"> -Survey/ assessment and pilots -Awareness raising -Analysis of sustainability criteria 	<ul style="list-style-type: none"> -Energy and water efficiency programs -Enhanced awareness and enforcement 	<ul style="list-style-type: none"> -Investment and development planning controls -Risk screening 	<ul style="list-style-type: none"> -Long-term sustain. tourism planning. -Research on tourism & climate change

