

Making Climate Compatible Development happen in Coastal Areas

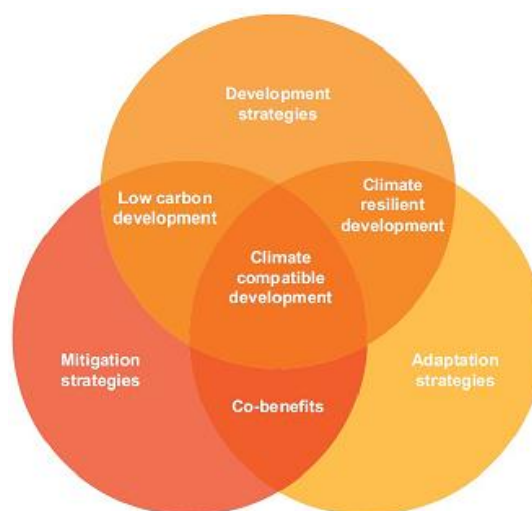
Key messages:

- 1. Seeking Climate Compatible Development (CCD) in coastal areas is essential for coastal zone management to respond to the challenges of climate change whilst also reducing poverty and improving livelihoods.**
- 2. CCD requires strengthened integrated management, the incorporation of measures to mitigate and adapt to climate change, and effective participation of coastal communities in governance structures and processes.**
- 3. Many mechanisms that could support progress towards CCD in coastal areas already exist. What is needed is new impetus to bring together mechanisms to develop integrated approaches and support effective implementation.**
- 4. Mechanisms that can be used and built on include integrated coastal zone management, climate change mainstreaming, collaborative forms of natural resource governance, payment for ecosystem services schemes and protected area status.**

Author: Dr Fiona Nunan
International Development Department
University of Birmingham
f.s.nunan@bham.ac.uk

Climate change presents considerable challenges for coastal areas, already under significant pressure from diverse sources and often sites of contestation, with competing, and at times conflicting, demands for the use of land, extraction of natural resources and access to beaches and fishing grounds. The impacts of climate change will magnify and deepen such challenges, presenting an urgent need for adaptation strategies for local and national populations. Coastal ecosystems also present extensive opportunities for climate change mitigation through carbon capture and storage, as well as being important areas for livelihoods and economic development. Is it, then, possible to deliver on mitigation, adaptation and development together?

Delivering on these 'triple wins' has been referred to as Climate Compatible Development (CCD) and is defined as: *"Development that minimises the harm caused by climate impacts, while maximising the many human development opportunities presented by a low emissions, more resilient, future"* (Mitchell and Maxwell 2010).



Climate Compatible Development. Reproduced from Mitchell and Maxwell (2010)

This research brief reports on initial investigations into a range of mechanisms that could be used to make CCD possible in coastal areas. It illustrates how mechanisms can be brought together in 'packages' and what challenges may need to be overcome.

Mechanisms to support Climate Compatible Development



Father and son fishing in Rekawa lagoon Sri Lanka (photo: Priyantha Kumara).

The term ‘mechanism’ is used here in a broad way to refer to policies and actions that can be put in place to contribute to, or facilitate, CCD. It is unlikely that any one measure could deliver on CCD on its own, but would need to be part of a package of mechanisms that bring together complementary strands of policy and action to enable progress on CCD. The following table sets out examples of a broad range of mechanisms that could be utilised to make significant progress towards CCD in coastal areas.

Mechanism	Mitigation	Adaptation	Development
Integrated coastal zone management (CZM)	Carbon capture and storage in coastal ecosystems	Increase potential for adaptation through integrated approach. Information generation, use and sharing. Reduce vulnerability of ecosystems and settlements.	Effective participation of stakeholder groups in coastal zone planning and management to enhance wellbeing and livelihoods
Collaborative management of natural resources (co-management)	Can support other measures such as community-based Payment for Ecosystem Services schemes and protected areas to facilitate carbon storage	Can be developed for adaptive co-management, with flexibility and information sharing to reduce vulnerability and strengthen adaptive capacity	Opportunity for say in decision-making; can deliver on co-benefits and equity through appropriate design and implementation
Climate change mainstreaming	Strengthen CZM recognition of CC and increase carbon capture and storage	Strengthen adaptive measures in coastal zone planning and management	CC mainstreaming in government policies and plans has potential to enhance livelihoods and health of communities
Climate funds/ grants	Can be used to compensate for conservation of coastal ecosystems	Incentivise adaptive measures	Incentivize CCD behaviour and decisions of individuals, households, communities and organizations
Protected area status	Protection of coastal ecosystems for carbon capture and storage	Use status to strengthen conservation of coastal ecosystems	Some forms of protected status can enable sustainable use by local people to enhance and diversify livelihoods

Mechanism	Mitigation	Adaptation	Development
Regulations, including licensing and permits	Use for protection for coastal ecosystems as carbon sinks (e.g. prohibition fishing near mangroves)	Reduce vulnerability of coastal ecosystems and communities through buffer zones Use licensing to incentivize sustainable fisheries behaviour	Enhance livelihoods through sustainable use of natural resources Can be used to enhance equity
Extension support	Can support conservation and sustainable use	Extension officers and support to raise awareness of, and commitment to, climate change action	Informed and targeted extension support could strengthen, and enable diversification of, coastal livelihoods
Ecosystem-based approaches	Strengthen potential of coastal ecosystem conservation and use	Ecosystem-based adaptation to climate change in coastal areas has potential to increase adaptive capacity, reduce vulnerability of ecosystems and livelihoods	EBA's have potential to enhance sustainable use of, and benefits from, coastal ecosystems by local stakeholders
Land use planning/ local development plans	Could offer greater protection for coastal ecosystems	Identify key coastal ecosystems, processes and areas for adaptation and reflect in local land use planning	Can offer protection and opportunities for local communities
Environmental Impact Assessment (EIA) /Strategic Environmental Assessment (SEA)	Integration of climate change into EIA and SEA guidelines to protect carbon storage capacity of coastal ecosystems	Integration of climate change into EIA and SEA guidelines could strengthen tools to protect potential adaptive capacity of coastal ecosystems and settlements	Offers opportunity for participation in decision-making and potential for more sustainable use of coastal ecosystems
Land tenure	Clear land tenure systems to strengthen potential for sustainable use of coastal areas	Use land tenure arrangements for protection/and or sustainable use of key coastal ecosystems	Potential to protect and enhance local livelihoods
Payments for ecosystem services	Compensate for coastal ecosystem protection to capture and store carbon	Compensate for coastal ecosystem protection for climate change adaptation	Payments made to individuals or communities can enhance local development and livelihoods as well as improve potential for sustainable use of coastal resources
Subsidies and taxes (e.g. in fisheries, industries in coastal areas)	Incentivise use of renewable energy sources	Incentivise sustainable use of coastal ecosystems to strengthen adaptive capacity	Direct or in-kind payments and/or taxes to incentivize sustainable practices could contribute to local livelihoods e.g. subsidies for renewable energy sources

Packages of mechanisms for CCD

To strengthen the potential of delivering on CCD, mechanisms could be brought together as a package of complementary measures, as the following examples illustrate:

Integrated coastal zone management/ collaborative forms of natural resource management/ protected area status/ climate change mainstreaming

ICZM very often involves the participation of coastal communities, but there may be multiple forms of collaborative natural resource management that could be coordinated for a more effective, integrated approach. Protected area status can strengthen the mitigation and adaptation potential of coastal ecosystems and contribute to improved livelihoods. ICZM can strengthen the resilience of ecosystems to climate change as well as carbon storage potential.

Payments for ecosystem services/collaborative forms of natural resource management/ protected area status/ climate change mainstreaming

Community-based PES schemes require a form of collaborative natural resource management between communities and relevant government departments, with appropriate policy and legal support. Protected area status and climate change mainstreaming can strengthen the contribution of PES to mitigation and adaptation, and, with a strong poverty orientation in the design, to improved livelihoods.

Land-use planning/ EIA and SEA/ climate change mainstreaming

As there are very often multiple land uses and demands in coastal areas, land-use planning systems have the potential to make a real difference to the resilience of coastal areas to climate change and to the mitigation potential of coastal ecosystems. Land-use planning also has significant effects on local livelihoods – in both positive and negative ways. Bringing together land use planning with strategic environmental assessment and climate change mainstreaming could result in a much more holistic, resilient approach to planning for CCD.

Challenges ahead

Inevitably, there are multiple challenges envisaged in realising the potential of these mechanisms to contribute to CCD in coastal areas which will need to be overcome:

1. **Coordination of policy and plans across sectors.** Coastal zone management and responding to climate change require action and commitment from multiple sectors and stakeholder groups at multiple levels of governance.
2. **Finance to support collaborative management, coastal zone management and CCD.** From many sources, including licensing and tax revenue, carbon trading, climate change grants and government budgets.
3. **Support for collaborative management/co-management.** Further legal, technical and financial support may be needed to strengthen co-management at all levels.
4. **Development priorities.** Development and land-use planning must take a more integrated approach within the context of ICZM and climate change mainstreaming.
5. **Implementation.** Whilst many policies look good on paper, they are not always, or effectively, implemented. Barriers to implementation must be overcome if policies are to make a genuine contribution towards CCD.

The iCoast project is funded by the Climate & Development Knowledge Network (CDKN) and carried out by Edinburgh Napier University (lead), LTS International, Birmingham University in the UK, the Kenya Marine and Fisheries Research Institute (KMFRI), and Ruhuna University in Sri Lanka, in collaboration with Ecometrica and the Environment Management Group.

For more information, contact: Dr Ingvild Harkes, ICOAST project co-ordinator at Edinburgh Napier University, email: i.harkes@napier.ac.uk.

This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.