



OCEANS AND COASTS

Working towards a more sustainable use of marine and coastal ecosystems

CONTEXT

Intact marine and coastal ecosystems are vitally important for humanity. Besides supplying us with food and clean air, they provide inputs for countless other products, such as ingredients for pharmaceuticals. Millions of people rely on marine and coastal biodiversity for their food security, income and socio-cultural and economic development. To date, about 44 percent of the world's population lives within 150 kilometers of the coast, and numbers are constantly rising. Habitation and human use place cumulative stress on coastal and marine ecosystems. Climatic changes adversely affect these highly productive and biologically diverse regions, further intensifying pressure. A more sustainable use of the oceans, of coastal areas and resources is therefore not a luxury, but a question of survival.

International agreements and global policy processes provide important frameworks for action in this area, such as the United Nations' (UN) Convention on Biological Diversity and Code of Conduct for Responsible Fisheries, the Conference for Sustainable Development in 2012 (Rio+20), the agenda of the UN-negotiations for universal goals for sustainable development and recommendations of the Intergovernmental Panel on Climate Change.



GIZ'S COASTAL AND MARINE EXPERIENCES

Since 1973, the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH* has been supporting partner countries to sustainably use coastal resources to safeguard livelihoods of coastal populations and sustain natural systems on which we all depend. This includes protected area management, responsible fisheries and aquaculture, pollution control, ecosystem management and biodiversity conservation. More than 70 projects have been implemented or are currently being implemented by GIZ in Africa, Central and South America, South-East Asia and Oceania.

GIZ works at global, regional, national and local scale, assisting the German Government with international processes, advising regional organisations and governments of partner countries, as well as providing hands-on support to local institutions and communities.



CORNERSTONES OF GIZ'S WORK

METHODS AND TOOLS

SIMPLE

Sustainable Integrated Management and Planning for Local Government Ecosystems (SIMPLE)

is a holistic approach for sustainable ecosystem-based spatial planning and management. Through SIMPLE local governments can manage their entire territory, taking climate change adaptation and disaster risk reduction into account.

SIMPLE contains process descriptions, training tools and management instruments for provinces and municipalities. Local planners and facilitators on their own can apply all tools provided, such as software solutions, guidebooks or ready-to-use facilitation techniques. SIMPLE therefore empowers communities and develops long-term capacity at the local level at affordable costs.

Integrated coastal and marine management

Multiple and often conflicting demands are placed on coastal areas and marine resources. A balance between diverse user interests can only be achieved if planning and management recognize all stake-holders' economic, environmental and social concerns. Forward-looking spatial planning in coastal and marine areas – including the establishment and governance of protected areas – helps to reconcile the interests of ecosystem conservation and sustainable use. That's why the involvement of different actors in planning and decision-making, as well as capacity building and the development of alternative livelihoods play key roles in our work.



Protected areas secure fish supply in the Philippines

The current nationwide productivity of fishing grounds in the Philippines is only 10 percent of what it used to be during the 1970s. This is mainly due to overfishing, but illegal practices such as cyanide fishing have also caused damage to fish stocks and coral reefs, important breeding grounds of fish species. Some years back, the coral reefs in the Visayas Region were in a pitiful condition. The local fisher folk and administration recognized that they had to act if they wanted to secure food supply and income. In 2005, local authorities designated Marine Protected Areas with support from GIZ, financed by the German Federal Ministry of Economic Cooperation and Development (BMZ). People learned to manage and to protect these zones, focusing not only on the ecological implications of destructive fishing methods but also on rights and law. To better control the areas, volunteer patrols received equipment and watch towers were built in selected areas. Neighboring communities joined the program that now covers 93 Marine Protected Areas with a total surface of more than 400 km². Many of the protected areas show positive trends in fish stocks in terms of abundance, biomass and biodiversity.



Coastal fisheries

Currently, 85 percent of the world fisheries resources are considered as overexploited according to the Food and Agriculture Organization of the United Nations. Reasons are unsustainable fishing practices as well as the destruction of important coastal ecosystems like coral reefs and mangroves. But artisanal coastal fisheries are fundamental to assuring food and income, especially for the rural poor in most developing countries. Support measures therefore have to safeguard the food and income security of local communities on a sustainable basis, and policy advice and institutional support have to create an enabling environment for the sector. In order to have a lasting effect, we consider capacity development on site essential. Training programs and advice on organizational matters build the skills and expertise that are needed for economically efficient and sustainable management of fisheries resources.

Pollution control

Pollution has become a severe threat to our coastal and marine ecosystems. Land-sourced litter, e.g. from dump-sites, rivers and other sources, eventually ends up in the ocean. Run-off of excess-fertilizer and untreated waste water cause pollution and eutrophication in coastal areas. Ports, as commercial, logistic and industrial nodes, are also a significant source of marine litter. We address these issues by supporting the implementation of comprehensive waste management and land use plans, as well as industrial environmental management to minimize land-sourced litter at local scale. We also support sustainable port development, including ship waste management, at regional and national scale and are currently exploring biodegradability approaches for plastic packaging.



METHODS AND TOOLS

SCoRe

Sustainable Coastal Resources for the Philippines (SCoRe)

is a ridge-to-reef planning and management tool for local governments. It builds capacities of relevant institutions to implement integrated coastal management and encourages the formation of Inter-Local Cooperations. At the local level, SCoRe refines complicated concepts and procedures, and explains in clear and manageable steps how to achieve stabilization of marine ecosystems and increase of income for fishing communities. Finally, the role of multiple stakeholders is strengthened, and fishing communities are empowered to increase their participation in coastal management.

CORNERSTONES OF GIZ'S WORK

Aquaculture

We engage in the development of responsible aquaculture practices, considering the need to carefully integrate aquaculture into surrounding ecosystems and land-use patterns as well as the need to leverage its potential to improve livelihoods of poor people, particularly in rural areas. We put emphasis on the sector's importance for food security and promote more climate change resilient integrated aquaculture models. Our actions also focus on the improvement of value chains as currently up to 40 percent of fish products are lost due to poor post-harvest management. In dealing with export oriented value chains our objective is to enable developing countries to meet quality and safety standards for aquaculture products in the world market.



Ecuador introduces eco-friendly shrimp production

In 1999 GIZ initiated a public-private-partnership-project to set-up an eco-friendly shrimp production in Ecuador, supported by the German Federal Ministry of Economic Cooperation and Development (BMZ). In cooperation with the German eco label Naturland, with selected shrimp farmers and shrimp importers the project developed certification standards for organic shrimp aquaculture and tested them. As a result, the first eco-labeled shrimps from Ecuador were imported to Europe under the Naturland label in 2001. Today five certified shrimp farming companies in Ecuador produce white shrimp from certified organic aquaculture. Shrimp farmers in Peru, Viet Nam and Indonesia are now also preparing for certified eco-friendly white and black tiger shrimp production. An accredited independent third party certification body is assessing them – in compliance with Naturland's eco-label criteria and standards.



Coastal protection & climate change

Climate change threatens coastal areas all over the world. Effects include ocean warming, critical sea level rise, heat waves, more frequent and severe storms, typhoons, and high tides. Likely results are coastal flooding, sedimentation, erosion and salt water intrusion. Coastal forests do not only act as a carbon sink, but also break wind and wave action and therefore play a vital role in protecting coastlines and dykes. In South-east Asia we support local authorities in rehabilitating and diversifying the coastal protective forest in order to reduce erosion and increase the coastline's resilience in the face of climate change.

Reforestation safeguard coastlines in Viet Nam

A narrow belt of mangroves protects the coastal zone of the Mekong Delta in Viet Nam against erosion, storms and flooding. Local communities rely on the resources of mangrove forests as they provide food, fuel wood and income. However, unsustainable aquaculture and destruction of mangroves are threatening the coastal zone and intensify climate change impacts that are already being felt. Our work in the Mekong Delta started in 2007 and covers projects in five provinces, supported by both the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the German Federal Ministry of Economic Cooperation and Development (BMZ), as well as the Australian Government Overseas Aid Program (AusAID). Mangrove reforestation is supported by fences that reduce wave energy and increase sedimentation to minimize mangrove seedlings being washed away. Forests are managed jointly by local communities and local authorities through a co-management agreement. This strategy is an effective way of enhancing the protection function of the mangrove forest while securing the livelihood of local communities.



Biodiversity enhancement

Humanity depends on healthy ecosystems and their services for their survival and economic development. This also applies for marine and coastal ecosystems. Their protection and sustainable use is therefore a key element of our work in coastal and marine areas.

METHODS AND TOOLS

MARISCO

Manejo Adaptativo de Riesgo y vulnerabilidad en Sitios de CONservación (MARISCO) means adaptive risk and vulnerability management at conservation sites. Climatic and non-climatic stresses can affect the integrity, functionality and viability of a system. MARISCO is a tool to analyze a system's vulnerability to expected changes and assess options to reduce vulnerabilities. It integrates both scientific data and information of other stakeholders, such as indigenous groups. Its participatory character enables stakeholders to be involved in decision-making, thus increasing acceptance for agreements and resulting policies. Originally developed for terrestrial ecosystems, MARISCO is currently being tested and applied in marine protected areas in Costa Rica.

ELEMENTS OF SUCCESS

Setting the right framework

In order to establish an efficient framework for promoting a sustainable use of coastal and marine resources, we support the further development of multi-lateral agreements as well as establishment of regulatory processes and policies and their integration into national legislation.

Offering local support

Regional or provincial office set-ups for support have proven an ideal basis for coastal development. They enable knowledge transfer to local government units and provide specialized, immediately available coastal resource management expertise and services. They help assure compliance with policies and to channel funding and technical assistance effectively.

Strengthening ownership

Resources are often more sustainably managed where local communities have legal rights for use. Therefore, we develop and strengthen stakeholders' institutional and legal capacities.

Getting people involved

Taking into account ecologic, economic and social dimensions of marine and coastal zone management requires multi-stakeholder participation for fair and informed decision-making processes and integrated and transparent management. Active community and private sector involvement creates a strong sense of ownership for the planning, management and governance of the resources they depend on and is crucial for long-term sustainability.

Creating alternative livelihoods

The responsible development of eco-friendly tourism activities, such as dive tourism and mangrove tours, can create significant additional income and employment for communities and therefore alternative livelihoods, as opposed to income generation based on environmental depletion only. But such alternative activities can only be successful when we set the necessary conditions, e.g. appropriate access to the relevant area, ecological integrity of the particular ecosystem, or developing entrepreneurial skills within the local communities.



Spreading success stories

Information dissemination and experience-sharing on successful achievements in sustainable resource use and biodiversity conservation can trigger new initiatives and boost motivation, both within local communities and amongst politicians.

Introducing new standards

In the fishery sector, certification and labeling are comparably new issues. Together with the public and private sector new certification standards can be developed for sustainable fisheries and organic aquaculture products.

Facilitating sustainable financing

Key for long-term conservation and sustainable use of marine and coastal biodiversity is sustainable financing. This can include a variety of finance mechanisms, such as environmental or biodiversity trust funds, payment for ecosystem services, fiscal instruments, eco-labelling and product certification, to name only a few examples.



A trust fund protects biodiversity in Mauritania

Cooperation between Mauritania and Germany on responsible fisheries started in 1989 focusing on management plans, control and surveillance. Projects around biodiversity conservation and resource management followed. In 2009, the Banc d'Arguin and Coastal and Marine Biodiversity (BaCoMaB) Trust Fund was established through a project supported by the German Federal Ministry of Economic Cooperation and Development (BMZ). It received its first contribution from the Mauritanian government in 2010 and has been growing ever since. Although initially planned exclusively for the Banc d'Arguin National Park, the mission of the trust fund is gradually expanding. It will fund other Marine Protected Areas and conservation initiatives in coastal and marine ecosystems, with projects focusing on sustainable development and environmental education of the public. Innovative funding mechanisms such as payment for ecosystem services, financial partnerships with extractive industries and blue carbon financing are currently being explored.

ELEMENTS OF SUCCESS

METHODS AND TOOLS

COASTMAN

The International Global Training Network for Integrated Coastal Zone Management (COASTMAN), provided training, project development support and policy advice from 2000 to 2007. Technical, scientific and academic knowledge as well as experiences of professionals were shared, creating networks dedicated to coastal management. Through COASTMAN, methods were developed and disseminated on how to plan management processes, reach decisions around sustainable management in coastal regions and monitor their implementation. Short-term train-the-trainers programs as well as an eight-months training program held in Bremen, Germany directly informed decision makers in politics, administration and industry from South-east Asia, Latin America and Southern Africa on ways of sustainably using coastal and marine resources.

Offering environmental education

Biodiversity conservation and sustainable consumption patterns and resource use require awareness-raising and education. Successful examples of this include marine ecology seminars for fishing communities, the integration of coastal resource management subjects into existing school curricula, as well as regional or even global initiatives such as Go4BioDiv (see box below).



Young generation engages in biodiversity conservation

Young people will have to bear the consequences of today's actions and decisions – therefore their points of view should be taken into account in political discussions and decision-making. The international youth forum Go4BioDiv, initiated by GIZ and the German National Park of the Bavarian Forest in 2008, gives young people the possibility to get involved in the Conferences of the Parties of the Convention on Biodiversity. It allows them to share their first-hand experiences and efforts to conserve biodiversity in their home countries and to engage in strategic dialogue with conference delegates, decision-makers and other actors of the global biodiversity community. The forum has been carried out three times so far, in 2008, 2010 and 2012, parallel to the Conferences of the Parties in Germany, Japan and India.



DEVELOPING BLUE SOLUTIONS

Based on the experiences in the field of marine and coastal biodiversity conservation in the past decades, GIZ is implementing the global project Blue Solutions together with the International Union for Conservation of Nature (IUCN), the United Nations Environmental Programme (UNEP) and the UNEP Collaborating Centre GRID-Arendal on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).



The Blue Solutions project works at international, regional, national and local level, in order to identify and disseminate solutions for threatened marine and coastal biodiversity and to promote sustainable development. It is connected to all relevant projects of its cooperation partners in Africa, Central America, Southeast Asia and the Pacific. Blue Solutions will

- collate lessons learned and analyze them regarding their feasibility in other regions or on other levels
- show-case and customize relevant approaches, methods and tools
- disseminate blue solutions via its cooperation partners' networks
- connect and support professionals, practitioners and policy makers

Under the guiding principle of Ecosystem-based Management, Blue Solutions will further develop and promote existing approaches such as Integrated Coastal Zone Management, Marine Spatial Planning or the Integration of Ecosystem Services into Development Planning. Other focal areas will be the management and governance of coastal and Marine Protected Areas, sustainable financing, as well as Ecosystem-based Adaptation and mitigation of greenhouse gases in the coastal realm.

Blue Solutions will connect and support people – in order to inspire and facilitate action towards healthy and productive marine and coastal ecosystems. If you, too, want to be inspired or want to inspire us get in touch with us through www.bluesolutions.info.



Imprint

As a federally owned enterprise, we support the German Government in achieving its objectives in the field of international cooperation for sustainable development.

This publication presents former GTZ/DED/ InWEnt activities; due to the change of the company's name, these are referred to as GIZ activities.

Published by

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH
Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Germany
Phone: +49 61 96 79-0
Fax: +49 61 96 79-11 15
Email: info@giz.de
Internet: www.giz.de

Responsible

Ilona Porsché

Editors

Dr. Valeria Bers
Rosie Füglein

Photo credits / Sources

Page 1 and 12: © GRID-Arendal | L. Hislop
Page 2: © GRID-Arendal | P. Prokosch
Page 3: © Hellio & Van Ingen
Page 4: © GIZ | A. Lange (box)
Page 5: © Hellio & Van Ingen
Page 6: © Naturland e.V. (box)
Page 7: © Z. Pereira da Mata | shutterstock
Page 7: © C. Ly & G.E. Wind (box)
Page 9: © GIZ | D. Ostermeier
Page 9: © Hellio & Van Ingen (box)
Page 10: © Go4BioDiv (box)
Page 10: © GIZ | M. Kirchgessner

Layout/Design etc.

now [nau]
kommunikative & visuelle gestaltung
www.now-nau.de

Printed by

Druckerei Knack, Frankfurt
Printed on paper certified to FSC and
EU Ecolabel standards

Place and date of publication

Eschborn, October 2013

