



# Blue Economy

Sharing Success Stories to Inspire Change



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# FOREWORD

**Oceans are vital, not only to a wide array of biodiversity and ecosystems, but also to the food chains, livelihoods and climate regulation for a human population heading towards nine billion people. That is why this report shares stories that illustrate how economic indicators and development strategies can better reflect the true value of such wide spread benefits and potentially even build on them.**

The oceans cover almost three quarters of the Earth's surface and are home to more than half of all life forms, which often creates the false impression that they are a limitless resource. This leads to massive overexploitation and degradation, with an impact that reaches far beyond their shores. Indeed ocean related issues are integral to most of the Sustainable Development Goals and to the transition towards the inclusive green economy on which their success depends.

The complimentary "blue" element of that transition – known as the blue economy - offers an innovative approach to conserving the oceans, while reaping their benefits in a more equitable and sustainable way. This report covers six case studies that reflect the diversity

and flexibility of the blue economy concept. They demonstrate viable, practical applications that can be implemented on many different scales for regions, countries and communities.

It is increasingly obvious that without more sustainable management of the oceans, they, in turn, will be unable to sustain the population that depends on them. This is particularly true for the small island nations that are such a key part of the blue economy. I hope that the success stories compiled in this report will inspire much wider adoption of the blue economy approach, not only for the more formal processes like the Regional Seas Conventions and Action Plans, but for a whole range of challenges and opportunities across both the public and private sector.



A handwritten signature in black ink that reads "Achim Steiner". The signature is fluid and cursive.

**Achim Steiner**  
UN Under-Secretary General  
and UNEP Executive Director

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# EXECUTIVE SUMMARY

Blue Economy initiatives and applications are emerging around the world and are proving to be diverse, dynamic and wide-ranging. Cases are emerging in coastal, estuarine and marine habitats that link social, economic and environmental progress. While the applications are diverse, there are a number of commonalities noted in the cases summarized here. Numerous processes are at play as innovative developments in the Blue Economy emerge. Key findings from the case studies in this report include the importance of establishing a trusted and diversified knowledge base, complimented with resources which help inspire and support innovation; as well as the importance of developing an engaged process of stakeholder consultation and co-creation of a vision for a Blue Economy. Existing structures and frameworks, coupled with inspiration and initiatives for innovation, can facilitate the uptake of Blue Economy approaches without having to bear the additional transactional costs of complete system reorganization or establishing new regulatory structures. Lastly, this report seeks to document successes and shared learning to help propagate and coordinate emerging efficiencies and opportunities. This, in turn, will help form the foundations for a Blue Economy that is based on resilient systems, persistent innovation, and advances in achieving integrated ecological, economic and social wellbeing.

Below is a summary of the conclusions that have been drawn from the cases studies highlighted in this report:

**The Blue Economy is rapidly innovating and diversifying, as it evolves from a concept to time-tested realities.** Each of these cases features actions which have supported and increased social wellbeing through environmentally-sustainable, inclusive, equitable economic development. As these examples show, a growing body of experience and implementation from the local to the national level, is becoming available for application by marine and coastal communities.

**Blue Economy developments are often both highly opportunistic, and highly strategic in initiation, approach and execution.** The cases presented here were each initiated due to different circumstances, and are supported by a different cross-section of supporters, demonstrating the fact that motivations for pursuing Blue Economy policies, projects and implementation are multi-faceted.

**Blue Economy initiatives can substantiate broad-based cooperative efforts, as well as provide a context within which to address a persistent gap in sustainably-managed marine ecosystems and economies.** Blue Economy processes bring together ministries,



private organizations and NGOs from all sectors involved. Horizontal integration across sectors is as important as vertical integration across the various scales of policy and decision making.

**Coordination and collaboration of Blue Economy projects and initiatives requires broad and resilient partnerships.** In the cases cited in this document, these were often brought together by a facilitating body which helps a diverse group of stakeholders elicit ideas, work together towards shared visions and objectives, and identify pathways to incentivise achievement.

**The success of these cases over time underscores the importance of a strong knowledge base, as well as regulation and policy that supports the transition to a Blue Economy.** This supports implementation and coordination, as well as provides a useful starting point for agreement among partners.

**The Blue Economy arguably makes its strongest gains when leveraging existing institutional relationships to address strategic gaps that affect multiple sectors and players, and which catalyse visible benefits for them in the long term.** Ecosystem-based management, marine spatial planning and the establishment of marine protected areas are all well-established elements that can be part

of the transitional process. A shift to a Blue Economy requires dedicated short-term efforts which can seize existing opportunities to bring together stakeholders.

**Crucial to Blue Economy developments is the building of inclusive processes and demonstrable results for those who may be strongly affected by measures, but who have limited means to engage in participatory processes.** The importance of objective, conscientious identification of marginalized groups, complimented with technical analysis and advisement can lead to a strong foundation for building more sustainable futures in marine environments.

**Several of the case studies documented positive shifts in perception related to the 'worth' of up-front investment, especially when these resulted in longer-term, quantified and visible payoffs.** This often involves addressing the concerns of the stakeholders by providing clear information on the up-front costs and unintended consequences, as well potential spin-off benefits and opportunities. Knowledge sharing – particularly, lessons learned and evidence of success – may assist individuals, groups, regions and countries to make the necessary short-term investments needed to transition to a Blue Economy in the longer term.

# INTRODUCTION



Oceans and marine and coastal resources represent a vital link between every region of the globe. In a myriad of ways they affect the lives of every person on the planet. In the lead up to, and during Rio+20, coastal and island developing countries gave a definitive voice to the major role that oceans have to play in all of our futures. It was a discussion which initiated exploration of how concepts and objectives of a Green Economy could be applied to the unique and irreplaceable role of marine and coastal ecosystems – i.e. the ‘Blue Economy’.

As a marine and coastal analogue to the Green Economy, the Blue Economy approach is based on a vision of “improved wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2013). As such, Blue Economy initiatives support the creation of a low-carbon, resource-efficient, socially-inclusive society. The achievement of global sustainability goals feeds local objectives, and conversely, global successes are built on effective local implementation. As such, the services, benefits and values documented by initial Blue Economy efforts were and are seen as crucial only for local communities and coastal states, but also the world as a whole.

As the cases in this report will show, the specific applications and emphasis of Blue Economy are

as diverse as the countries and regions which implement them. This diversity is common to Green Economy syntheses in general, but as Blue Economy is a relatively recent iteration of the Green Economy concept, countries and projects may reveal even greater divergence in the exact definition of Blue Economy applied. That said, there are substantial overarching commonalities: the Blue Economy supports specific measures to broaden the definition of ocean resources – to acknowledge the fundamental, life-supporting benefits and services that are provided by marine and coastal ecosystems. These include the ecosystem services that provide, regulate, support, and enrich the cultural uses of coastal and marine ecosystems. These ecosystem services are inextricably linked with the sustainability and prosperity of key industries within the Blue Economy: Fisheries and Aquaculture, Water Resources, Shipping and Transport, Tourism, Marine Energy and Minerals, Genetic Resources and Biotechnology, and technologies and applications in Pollution Control Fundamental, therefore, to the Blue Economy approach is the need to deal effectively with key issues affecting the sustainability of marine ecosystem services and benefits, such as over-fishing, climate change, ocean acidification, loss of habitats and biodiversity, invasive species, pollution and waste.

The Blue Economy approach raises specific challenges. Principle among these is the need to





challenge the concept of the oceans as ‘limitless’ – a space for free and unfettered resource extraction, a ‘garbage dump’, a lawless ‘no-mans’ land, where costs to marine ecosystems are never quantified or accounted for. A new form of accounting which incorporates environmental and social dimensions, requires a paradigm shift – acknowledging the benefits, and how they are valued.

Particularly pertinent to small island developing states and coastal developing countries, is the need to address issues of equity, and management beyond historically defined boundaries, and beyond traditional conceptualization of value, assets and resources. However, indicators used to track progress towards social and ecological sustainability, are largely ignored in standard economic metrics such as GDP. Thus, in some countries like Mauritius, an important step in developing a Blue Economy has been the exploration of alternative economic indicators, based on a recognition that wellbeing is supported by a variety of economic, social, cultural and natural assets and processes. Such initiatives are key to developing more diversified, country-specific goals and progress indicators. These, in turn, are crucial to formulating policies which can halt ecosystem losses, and thereby provide clearer pathways to sustained Blue Economy prosperity in the long term.

Ensuring access to the benefits of marine resources, and finding innovative ways to stimulate local economies remains a substantial challenge for many countries, particularly in coastal communities where overexploitation is commonplace. Poverty and national debt structures mean that few resources are readily available to reinvest in natural systems. This is often in stark contrast to the wealth generated by foreign-driven extractive industries, or enclave coastal developments and tourism resorts, little of which finds its way back into local communities.

Many countries have developed national Green Economy assessments, policies and commitments for both the short and long term. Several countries have also been active in developing a ‘Blue Economy’ approach, including Mauritius, the Seychelles and Madagascar. These are examined in more detail in this report. Many policy tools are yet to be developed, but regional consortia and forums offer opportunities to exchange experiences, successes and lessons learned. The Abu Dhabi Declaration (2014), for example, advocates the use of a Blue Economy approach as a tool to promote sustainable development, poverty alleviation and climate change mitigation. It calls for good governance of the high seas and an integrated ecosystem approach to maintain balanced, healthy, and productive marine

ecosystems, as well as highlighting the value of blue-carbon. The Indian Ocean Commission (comprised of five African Island States) announced a series of concrete initiatives to combat climate change, illegal fishing, and to include ecological values on the balance sheet. By addressing poverty as among the most urgent of challenges, these initiatives are integrating new explorations of value to create and support more 'sustainable seas'.

Using six case studies, this report strives to highlight successes in the implementation of the Blue Economy, at four different levels: i) regional Blue Economy plans, ii) national Blue Economy plans, iii) integrated governance and iv) community-level initiatives. Each case study was tasked with identifying the potential socioeconomic and other (ecological, equity, efficiency) benefits of the particular approach taken as they relate to the sustainable

management of marine and coastal resources. These six case studies were chosen to reflect the diversity of both scale and of practice. It is important to note that these examples are not intended as a comprehensive summary, but in fact, only provide a small sample of the numerous initiatives that are currently emerging in the field.

The continuing evolution of the Blue Economy, and the notable experience that has been generated, provide a valuable opportunity for reflection. It is hoped that through these case studies, countries, communities and practitioners alike may gain a deeper understanding of the enabling conditions, the catalysts which have driven change, the major challenges that remain and the potential directions for future innovation to come. Inspiration, diversification, innovation, and vibrant inclusive participation each are key to a thriving Blue Economy.

# CASE STUDIES

## REGIONAL LEVEL

**#1: THE MEDITERRANEAN**

## NATIONAL LEVEL

**#2: THE SEYCHELLES**

**#3: BARBADOS**

## INTEGRATED GOVERNANCE

**#4: NORWAY**

## COMMUNITY-BASED

**#5: THE GAMBIA**

**#6: MADAGASCAR**



## #1: THE MEDITERRANEAN

## The Green Economy Principles within the Mediterranean Strategy for Sustainable Development

### Project Background

The Coordination Unit of the Mediterranean Action Plan (MAP)<sup>1</sup> based in Athens, Greece, has been involved in supporting the implementation of the Barcelona Convention,<sup>2</sup> first adopted in 1976. It was the first Regional Sea Convention adopted under the UNEP umbrella. Today UNEP/MAP works with 21 countries bordering the Mediterranean, as well as the European Union (EU) – all of whom have signed up to the convention – to protect the region's marine and coastal environments.

Established in the south of France 40 years ago, Plan Bleu<sup>3</sup> is one of UNEP/MAP's Regional Activity Centres (RACs). It has carried out systemic approaches and cross-cutting studies and programmes at different scales in order to foster awareness among Mediterranean decision makers and stakeholders of environmental and sustainable development issues in the region – particularly, the interdependency of socioeconomic and environmental dynamics. Plan Bleu's expertise helps to enhance the credibility and capacity of the MAP framework in responding to the crucial challenges involved in the transition towards greater sustainability. Under the framework of the global agenda for sustainable development, following the Rio Summit in 1992, Plan Bleu has supported the MAP leadership in providing an integrative policy framework for achieving its vision. In 1996, as part of the MAP, the Mediterranean Commission for Sustainable Development (MCSDD)<sup>4</sup> was created, to act as an expert panel mandated to prepare – with the technical support of Plan Bleu – the Mediterranean Strategy for Sustainable Development (MSSD),<sup>5</sup> which was subsequently adopted in 2005.



The MSSD focused on the integration of environmental concerns into the economic and social development of the region. This was critical given the impact of environmental degradation on social and economic development. Two of the MSSD's main objectives were (i) *“to contribute to the regional economic development while reducing pressure on natural resources”* and (ii) *“to change the unsustainable production and consumption patterns to ensure the sustainable management of natural resources”*. This consideration for environmental sustainability was the forerunner for Green Economy principles and opportunities for the Mediterranean region. Plan Bleu was also asked to provide technical support to facilitate and follow-up the ownership of the MSSD, as well as to monitor the sustainability of human activities in the region (MSSD dashboard).<sup>6</sup> The MSSD monitors progress using 34 priority indicators, and carries out periodic regional assessments, such as the State of the Environment and Development in the Mediterranean (2009).<sup>7</sup>

At their 18<sup>th</sup> Ordinary meeting held in Istanbul, Turkey, in December 2013, the signatories to the Barcelona Convention decided to review the MSSD in light of the outcomes of Rio+20 (The Future We Want).<sup>8</sup> In line with the Sustainable Development Goals (SDGs),<sup>9</sup> the new MSSD should define priority and strategic objectives adapted to the Mediterranean region, ensuring synergy with the Post 2015 development agenda<sup>10</sup> while allowing for

1. [www.unepmap.org](http://www.unepmap.org)
2. [www.unepmap.org/index.php?module=content2&catid=001001004](http://www.unepmap.org/index.php?module=content2&catid=001001004)
3. [planbleu.org](http://planbleu.org)
4. [unepmap.org/index.php?module=content2&catid=001017002](http://unepmap.org/index.php?module=content2&catid=001017002)
5. [planbleu.org/sites/default/files/upload/files/smdd\\_uk.pdf](http://planbleu.org/sites/default/files/upload/files/smdd_uk.pdf)
6. [planbleu.org/sites/default/files/upload/files/idd-2013en.pdf](http://planbleu.org/sites/default/files/upload/files/idd-2013en.pdf)
7. [planbleu.org/sites/default/files/publications/soed2009\\_en.pdf](http://planbleu.org/sites/default/files/publications/soed2009_en.pdf)
8. [un.org/en/sustainablefuture/](http://un.org/en/sustainablefuture/)
9. [sustainabledevelopment.un.org/topics](http://sustainabledevelopment.un.org/topics)
10. [un.org/en/ecosoc/about/mdg.shtml](http://un.org/en/ecosoc/about/mdg.shtml)





patterns of consumption and production, a strong dependence on natural resources, as well as inefficient policies or market signals for improving the adoption of green principles in economic development. Despite being a relatively new concept launched by UNEP, the Green Economy in the context of sustainable development and poverty eradication has attracted much attention from the international community at a time when the financial crisis is seriously affecting socioeconomic development. A Green Economy – referred to as a Blue Economy when applied to the coastal, marine and maritime sectors of the Mediterranean – is one that promotes sustainable development while improving human wellbeing and social equity, and significantly reducing environmental risks and ecological scarcities.<sup>13</sup>

The Thematic Working Group (TWG) devoted to this priority objective focuses on defining Strategic Directions (SDs) for achieving a resilient, low carbon, resource-efficient and socially-inclusive economic development in the region. The TWG gathered information through online consultations and participatory

workshops between June and December 2014. Six Strategic Directions have been identified with the aim of *‘creating green and decent jobs for all, particularly youth and women, to eradicate poverty and enhance social inclusion (SD1); Reviewing the definitions and measurement of development, progress and wellbeing (SD2); Promoting sustainable consumption and production patterns (SD3); Encouraging environmentally-friendly and social innovation (SD4); Promoting the integration of sustainability principles and criteria into decision-making on public and private investment (SD5); Ensuring a greener and more inclusive market that integrates the true environmental and social cost of products and services to reduce social and environmental externalities (SD6).’*<sup>14</sup>

### Enabling Conditions

The MSSD Review is closely linked to the preparation of the “the Sustainable Consumption and Production Action Plan for the Mediterranean” (SCP Action Plan). The 22 Contracting Parties of the Barcelona Convention already recognized the importance of switching to more sustainable patterns of production and consumption in order to achieve sustainable development in the Mediterranean. In December 2013, during the COP 18 of the Barcelona Convention, the parties requested the UNEP/MAP Secretariat to prepare, with the support of the SCP/RAC,<sup>15</sup> a SCP Action Plan for the Mediterranean, addressing the region’s common priorities for sustainable development, including pollution reduction; and identifying SCP actions and tools

13. At the World Summit Rio+20, there was an acknowledgement that governments should renew their commitment to shift towards Sustainable Consumption and Production (SCP) with the adoption of the 10-Year Framework of Programmes on SCP patterns (10YFP). Furthermore, negotiations on the post-2015 development agenda, and on the associated SDGs, indicate that there is a strong interest in embedding the objective of SCP in both.

14. Revised draft of the MSSD – April 2015.

15. [www.cprac.org/en/about-us/scp/rac](http://www.cprac.org/en/about-us/scp/rac)

to effectively implement the obligations under the Barcelona Convention and its additional Protocols. The development of the SCP Action Plan focuses on four economic sectors: food and agriculture, goods manufacturing, tourism, and housing and construction. The development of the SCP Action Plan benefits of the EU support via the Switch-MED programme.<sup>16</sup>

After a preparatory phase, the development of the SCP Action Plan was based on a long consultation phase. Two regional meetings were organized, one with regional and international organizations and the other with SCP/RAC National Focal Points, and were complemented by an online consultation platform. The consultation process begun on the 1st and 2nd of October 2014 in Marseille with an on-site consultation involving around 40 international, Euro-Mediterranean and Mediterranean organizations. The participants were invited to provide input for the four priority economic sectors around which the action plan is articulated, namely food and agriculture, goods manufacturing, tourism, and housing and construction. They were asked to identify challenges, possible actions and key stakeholders to be involved for each sector. This first consultation meeting was held in conjunction with the Expert Workshop on the Green Economy<sup>17</sup> within the framework of the Review of the MSSD, organized by Plan Bleu in order to ensure coherence and synergies between both processes, the SCP Action Plan and the MSSD Review.

Following the Marseille Meetings, an online consultation area was set up within the SWITCH-Med platform. On the basis on the results of this consultation phase with regional

and international organizations, a first draft of the SCP Action Plan for the Mediterranean was elaborated and shared with government representatives during a consultation meeting with them. This milestone meeting took place in Barcelona on the 25th and 26th of November 2014, where the SCP/RAC National Focal Points provided their feedback on the first draft of the SCP Action Plan for the Mediterranean. During this meeting, government representatives were given the opportunity to provide their feedback on the structure of the action plan and discuss about its strategic and operational objectives for each of the four economic sectors. Following this meeting, a second draft was prepared and shared with the SCP/RAC National Focal Points.

The consultation phase concluded with the presentation of the SCP Action Plan during the Conference on the Review of the MSSD,<sup>18</sup> held in Floriana, Malta, on the 17th and 18th of February 2015. This meeting facilitated further coherence and synergies between the two processes and will mark the entry of the SCP Action Plan for the Mediterranean in its validation phase.

### **The Way Forward and Lessons Learned**

Since 2005, many actions have been developed through the several programmes for regional cooperation to raise awareness about SCP and to provide capacity building and technical assistance to the countries of the region. Delivering a large range of goals, principles, actions, tools, and flagship initiatives to public institutions, international organizations, academia, the private sector and civil society, the MSSD Review process and the future SCP Action Plan successfully extends the Green Economy opportunities from an environmental integrity approach to a human wellbeing and social equity orientation in the economic development of the Mediterranean. That definitively promises as well the strengthening of common efforts for achieving the Mediterranean transition towards a Green and Blue Economy.

16. [www.switchmed.eu/en\\_planbleu.org/sites/default/files/upload/files/Report\\_marseille\\_consultation\\_meeting\\_SCP\\_Action\\_Plan\\_EN.pdf](http://www.switchmed.eu/en_planbleu.org/sites/default/files/upload/files/Report_marseille_consultation_meeting_SCP_Action_Plan_EN.pdf)

17. [planbleu.org/en/node/1147](http://planbleu.org/en/node/1147)

18. [planbleu.org/en/sustainable-development-malta-conference](http://planbleu.org/en/sustainable-development-malta-conference)

## #2: THE SEYCHELLES

## A Blue Economy for a Sustainable Future

**Overview**

The Republic of Seychelles comprises 115 islands spread over an Exclusive Economic Zone (EEZ) of some 1.4 million km<sup>2</sup>, the second largest in Africa (after South Africa). 99.96 per cent of the territory of Seychelles is ocean-based, with a land area of only about 454 km<sup>2</sup>. The relevance of a Blue Economy approach for Seychelles is therefore clear. Within public policy realms in Seychelles, proponents of the Blue Economy emphasize forward-looking policies and a future for Seychelles based on sustainability, resilience and responsibility. Within a global context, the countries that support Blue Economy policies recognize that sustainability at the global level is crucial to ensuring local objectives, and conversely, that global successes are built on effective local implementation.

While there is no universally accepted definition for the Blue Economy, for Seychelles the notion of the Blue Economy refers to the economic activities that directly or indirectly take place in marine and coastal areas, use outputs from the ocean, and put goods and services into ocean activities. Ultimately, well-managed Blue Economy initiatives will contribute to sustained economic prosperity, as well as social, cultural and environmental wellbeing.



President Michel of Seychelles addresses the Blue Economy Summit on 20 January 2014

**Background**

In developing the National Blue Economy Roadmap, the Government's overarching goals are:

1. *Economic diversification* – to reduce vulnerability from reliance on a small number of existing sectors and to increase the proportion of GDP derived from marine sectors
2. *Creation of high value jobs* – while unemployment levels in Seychelles are not high, the creation of higher value jobs is seen as a priority
3. *Ensuring food security* – through effective and sustainable utilization of marine resources
4. *Managing and protecting the marine environment in a sustainable and responsible manner* for present and future generations

Under the current 'National Development Strategy', as well as the 'Seychelles Sustainable Development Strategy' (SSDS), 2012–2020, fisheries and marine resources have been identified as key cross-cutting themes that must underpin all future development in Seychelles.

Every sector in the Seychelles is contributing to a coordinated national development process, developing strategies, management plans and regulations. In the fishing sector, for example, the local authority is articulating a Fisheries Management Plan, an Aquaculture Master Plan, and is developing the Post Harvesting Sector in a close collaboration with the private sector.

**Results**

The Ministry of Finance, Trade and the Blue Economy has developed a number of innovative economic mechanisms, the first one being a debt swap. The Nature Conservancy (TNC), a conservation organization, is facilitating a debt swap deal – the first of its kind – between the Government of Seychelles and its Paris Club creditors in exchange for government commitment to enhance marine conservation and climate adaptation.<sup>19</sup> Seychelles reached a major debt buyback agreement worth approximately USD 30 million with the Paris Club group of creditors and South Africa. The

19. [naturevesttnc.org/our-projects/oceans/seychelles-debt-swap](http://naturevesttnc.org/our-projects/oceans/seychelles-debt-swap)





Paris Club has also offered an additional five per cent debt forgiveness on the original loan.

The debt will be transferred to the locally-managed Seychelles Conservation and Climate Adaptation Trust, which will purchase and restructure the debt, manage the endowment and enforce the terms of the debt forgiveness

agreement. The creation of this trust, facilitated by the TNC, is still on-going.

As part of this debt swap, the government has committed to a Marine Spatial Planning (MSP) Initiative, expanding Marine Protected Areas (MPAs) to cover 30 per cent of the EEZ (400 000 km<sup>2</sup>), with 15 per cent designated as no-take areas.



*The Seychelles Minister of Finance, Trade and the Blue Economy, Jean Paul Adam, signs the agreement to swap USD 30 million of existing Paris Club debt for a fund to conserve Seychelles' oceans and protect them against overfishing and climate change (Ministry of Finance, Trade and Blue Economy)*

The Seychelles MSP Initiative is a government-led process aimed at supporting the sustainable and long-term use and health of marine resources throughout the Seychelles EEZ. The initiative is a participatory process, bringing together multiple users of the seascape. It includes input from the major sectors such as industry, conservation, tourism and energy sectors, as well as the government, to provide guidance and direction on the allocation and use of marine resources throughout Seychelles. The process strives to reduce user conflict and to minimize the impacts of human activity on the ocean.

A draft zoning design for the Seychelles' EEZ was proposed in April 2015, as a result of a year-long stakeholder consultation, and is currently under review. The draft zoning plan incorporates current and potential future uses, and priority or 'best area' uses for all marine sectors and objectives. Areas of conflict and compatibility are being identified through this multi-objective planning process. The draft zoning design includes three zone types:

1. *Biodiversity – No Take Areas*: for high biodiversity and the protection of key habitats, species and ecological processes
2. *Biodiversity – Sustainable Use*: for medium biodiversity objectives.
3. *Economic Use or Multiple Use Areas*: to diversify economic and social uses to support economic development objectives.

Biodiversity Zones 1 and 2 are being designed to meet the government's objective of extending MPAs to cover 30 per cent of the EEZ.

### Enabling Conditions

The process has been facilitated through regular 'participatory' meetings. The MSP Steering Committee meets approximately every two months to provide oversight and direction to the process. The Steering Committee is comprised of 13 members from government and parastatal agencies, non-government organizations and the private sector. Three MSP Technical Working Groups comprised of more than 30 members from the areas of marine biological diversity, terrestrial biological diversity and major sectors within the economy (fisheries, tourism, port authorities, non-renewable energy). Finally, broader stakeholder consultation takes place about three times a year with more than 100 invited participants.

The MSP process started in February 2014 and 13 official meetings and workshops have been held with stakeholders in the last 14 months, leading to the development of a draft zoning design. Participants have:



- helped to identify high priority locations for their sector
- revised definitions and terminology for marine use and activities
- provided advice on the zoning framework
- contributed ideas on management considerations for zoning
- reviewed and refined zoning scenarios and options

In addition, meetings have been held with key stakeholders to discuss the process and hear their concerns, to obtain their input on the zoning design, and identify management considerations for their particular sector.



### **The Way Forward and Lessons Learned**

The Ministry of Finance, Trade and the Blue Economy, with the help of The Prince of Wales' International Sustainability Unit, is also exploring the concept of green bonds and options for applying them to Seychelles – particularly with a view to financing sustainable national projects in the following sectors: fisheries management, aquaculture and seafood value addition.

Lessons learned include the importance of building broad-based support for sustainable development, as well as ensuring that potential up-front sacrifices are viewed as being “worth it”, and giving information at the right time

to the right people. Identified needs for the future include actions that build trust-based relationships between a wide variety of stakeholders. Following proposals for ‘sustainable zones for fisheries’, representatives from the fishing industry reported, *“We don’t want 30 per cent of our EEZ classified as sustainable in terms of fisheries, our objective is 100 per cent.... find another terminology...”*. This sentiment provides a strong indication of future success for the future of the Blue Economy. A representative from the MSP Steering Committee stated: *“It is too soon to evaluate and learn lessons from the Blue Economy because we are still developing it, but it is definitely a step forward for sustainable development and resilience.”*

## CASE STUDIES

## NATIONAL-LEVEL

## #3: BARBADOS

## Pursuing Green Economic Policies in a Small Island Coastal Economy - The Barbados Green Economy Scoping Study

### Overview

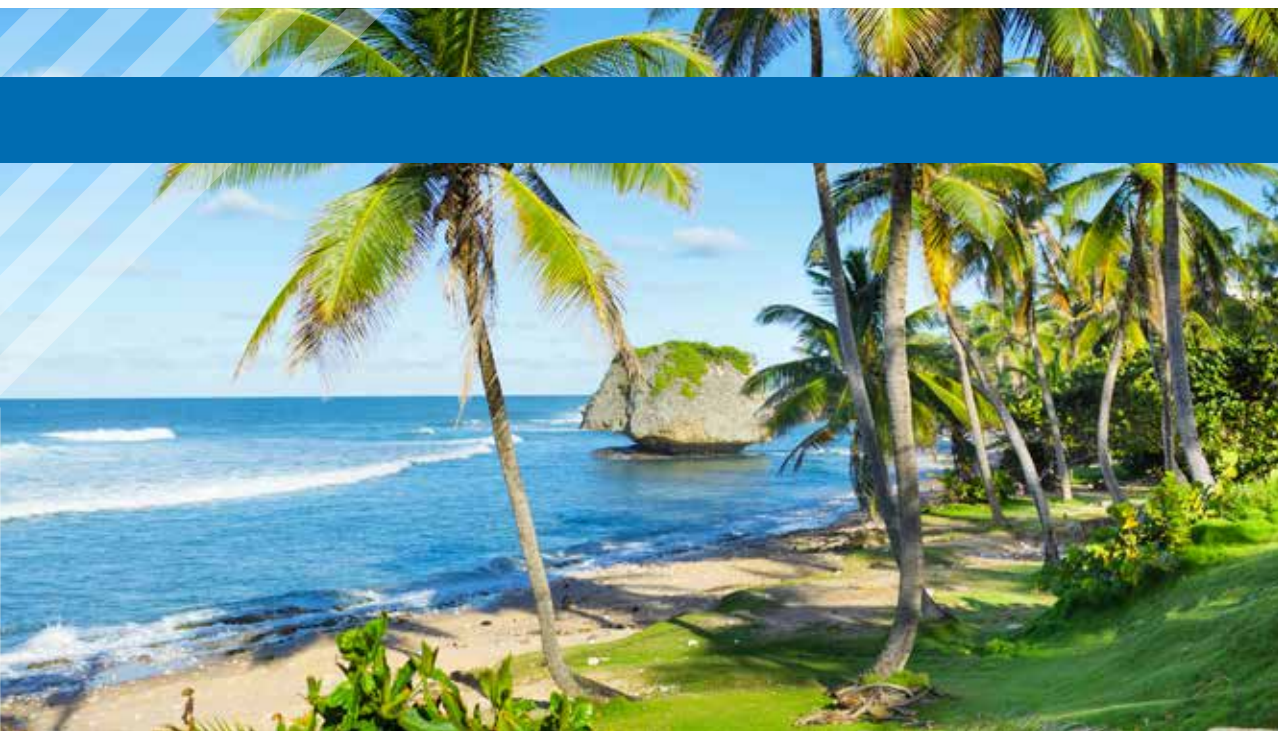
The *Barbados Green Economy Scoping Study* is an output of the Partnership for a Resource-Efficient Green Economy in Barbados between the Government of Barbados and UNEP. The University of the West Indies, Cave Hill Campus, was the technical partner for the study.

### Background

The genesis of the Green Economy Scoping Study (GESS) for Barbados can be traced back to the vision articulated by the late Prime Minister, the Honourable David Thompson, who stated in 2009 that Barbados should focus on becoming “the most environmentally-advanced, green country in Latin America and the Caribbean”.

**Table 1:** List of GEF Small Grants Green Economy projects in Barbados financed in 2014

Grantee Name	Project Title
Trekvoy Literary Art and Endowment for the Naturally Talented	Coastal Conservation Education: Protecting Barbados' Coral Reef
Caribbean Centre for Food Security and Sustainability	Community Organic Greenhouse Agriculture Pilot Project
Organic Growers and Consumers Association	Organic Certification for Organic Farmers in Barbados
Nature Fun Ranch	Nature Fun Ranch Environmental Park
Project Discovery	Innovative strategies for managing organic waste and promoting sustainable agricultural practices in Barbados
Zion House of Israelites	Genesis Project Farm
Barbados Beekeeping Association	The Development of the Apiculture Industry in Barbados through the revival and strengthening of the Barbados Beekeeping Association
Caribbean Centre for Food Security and Sustainability	Barbados Community Organic Greenhouse Agriculture Pilot Project
Weston Fisherfolk Association	Building climate change Resilience in community fisheries in Weston, St. James
St. George Farmers Marketing Cooperative Society Ltd	Using climate-smart agriculture practices to increase local food security and climate change adaptation in the St. George farming community



It was against this backdrop that the government engaged UNEP to establish a partnership to support the country's transition to a Green Economy.

The first phase of the partnership was the design and implementation of the GESS. The purpose of the mission was to review government plans for greening the economy and to develop a roadmap for possible UNEP support, particularly in the form of advisory services.

The Green Economy Scoping Study focused on the interplay between macroeconomics and the environment, providing technical and policy recommendations on how to enhance the returns and net benefits that might result from a successful transition. The priority sectors defined for collaboration on the Green Economy include tourism, agriculture, fisheries, transportation and infrastructure. In addition, the government requested the inclusion of cross-sectoral issues – water resources, energy and waste – in the analysis. These sectors were chosen based on their strategic importance to Barbados' economy and for their greening potential. The Scoping Study further examined the particular policies that are in place to help address any challenges related to this transition.

## Results

The Barbados GESS was launched on World Environment Day, 2014. The report identified several key messages for each priority sector:

- *Fisheries*: Fisheries play a major role in food security and in the economic, nutritional and cultural wellbeing of Caribbean countries like

Barbados. The current status and trends of coastal and marine resources in the region point to increasing pressure from a number of sources.

- *Agriculture*: The opportunity for forging stronger linkages with tourism and processing sectors could contribute to the strengthening of the economy through foreign exchange earnings and/or savings, new employment opportunities and skills enhancement.
- *Tourism*: There are opportunities for savings through energy and resource efficiency in the hotel sector.

The GESS also highlighted several local Green Economy-related best practices, including good governance to support a sustainable fisheries policy framework in Barbados, a Sustainable Energy Framework for policy reforms building on 30 years of solar water heater industrial development and an coastal ecosystem protection for sustainable tourism taking account of 28 years of green technological intervention, institutional development and legislative reform.

In addition, the GESS has also influenced the work of the GEF Small Grants Programme in Barbados: the Green Economy concept has been incorporated into its Country Programme Strategy. The programme has witnessed an increase in the number of community-based Green Economy projects as a result. In 2014, twelve projects were reviewed, approved and financed by the GEF Small Grants Programme National Steering Committee, for a total sum of USD 448,836.59. The Green Economy projects are listed in Table 1.



The partnership established with UNEP to pursue the Green Economy has also been catalytic. The Barbados GESS has spurred a regional Green Economy initiative and the Government of Barbados has already commenced consultations with UNEP, the United Nations Industrial Development Organisation and the International Labour Organization on a follow-up initiative that aims to implement some of the key recommendations contained in the GESS.

### Enabling Conditions

The study identified nine enabling mechanisms critical to the transition to a Green Economy, including. The major mechanisms included

- *Finance:* Leveraging existing financing schemes, such as the Global Environment Facility (GEF) Small Grants Programme and the development of new approaches to financing green investments
- *Development, access and transfer of clean technology:* A strong intellectual property rights framework is critical in facilitating technology transfer via trade, Foreign Direct Investment and technology licensing
- *Trade, tariffs and investment:* Ensuring that trade policies used to facilitate a green transition are consistent with the country's commitments to CARICOM (the Caribbean Community)
- *Taxation, incentives and fiscal reform:* Barbados' fiscal regime focuses on environmental taxes

and green subsidies in an effort to elicit behavioural change

### The Way Forward and Lessons Learned

It is important to note that the pursuit of a Green Economy in the Barbadian context requires an integrated approach in relation to its governance, policy and programming processes. Such an approach is particularly relevant in small island open economies, characterised by small-scale domestic markets, high dependence on imports, relatively high unit cost of production and a narrow export base, as well as their vulnerability to natural disasters and external shocks. This notion of 'integration' is therefore fundamental to the Barbados definition of a Green economy:

*"An integrated production, distribution, consumption and waste assimilation system that, at its core, reflects the fragility of our small island ecosystems, as the basis for natural resource protection policy intervention, business and investment choice, human development programming and for the facilitation of export market development strategies."*

Barbados Green Economy Scoping Study

From a governance standpoint, one of the key features of the GESS process was the establishment of the Green Economy Technical



Steering Committee, whose role was to undertake the technical oversight of the study. Committee members represented the government, NGOs, academia, labour organizations and the private sector. Data gathering methodologies included consultations with government agencies and stakeholders associated with the five sectors and the four cross-cutting areas, as well as a series of technical seminars and expert panel discussions.

The need for a 'home-grown' analytical methodology specific to the national circumstances was critical. The GESS team developed a methodology using a modification of the SCORE (Strengths, Challenges, Options, Response and Effectiveness) approach that took into consideration existing data limitations. Coupled with a highly consultative Integrated Assessment approach, the SCORE methodology is recognised as best practice.

## #4-A: NORWAY

## Integrated management plans for Norway's marine areas

**Overview**

The Johannesburg Declaration of 2002 calls for an 'Ecosystem Approach' to the management of all marine ecosystems by 2010. As a result, a management plan for the Barents Sea-Lofoten area was announced in the white paper *Protecting the Riches of the Sea*.<sup>20</sup> Since then, Norway has established similar plans as a basis for the integrated ecosystem-based management of all Norwegian Sea areas (von Quillfeldt et al. 2009). These plans represent a strictly knowledge-based management regime.

**Background**

With the aim of providing a multi-sector basis for decision making, the Barents Sea plan was developed jointly by the Ministries of the Environment, Foreign Affairs, Fisheries and Coastal Affairs, and Petroleum and Energy, with the Ministry of Environment acting as the Secretariat. Analytical work started in 2002, and was carried out by government directorates and institutions under the four ministries. The plan was presented to parliament as a government white paper in March 2005 and was ratified by parliament in June 2006.<sup>21</sup>

This national plan covers the Norwegian Economic Zone and the Fisheries Protection Zone around Svalbard (Figure 2) and provides a framework (Figure 3) for the sustainable use of natural resources and goods derived from the Barents Sea-Lofoten area, while at the same time maintaining the structure, functioning, productivity and diversity of the area's ecosystems – to ensure the continued health and safety of the entire marine ecosystem, as well as the human communities that dependent on it.

The core elements of the plan are:

- Identification of valuable and vulnerable areas, for which special caution will be required. Considerations will apply to the assessments of standards for, and restrictions on, activities.
- Setting objectives and targets (e.g., for hazardous substances, operational discharges, species management, conservation of marine habitat types etc.) as a basis for management of the area.
- The plan is continually updated in response to expanded and coordinated monitoring of the environment.
- Models and risk analysis are being used as tools to estimate risk.
- Monitoring activity trends (e.g. fisheries, petroleum activities, shipping, new industries) and the need for co-existence.
- Consideration of the importance of marine ecosystem services for (economic) value



**Figure 2:** The geographic area of the Norwegian Marine Management Plans

20. St.meld. nr. 12, 2001–2002

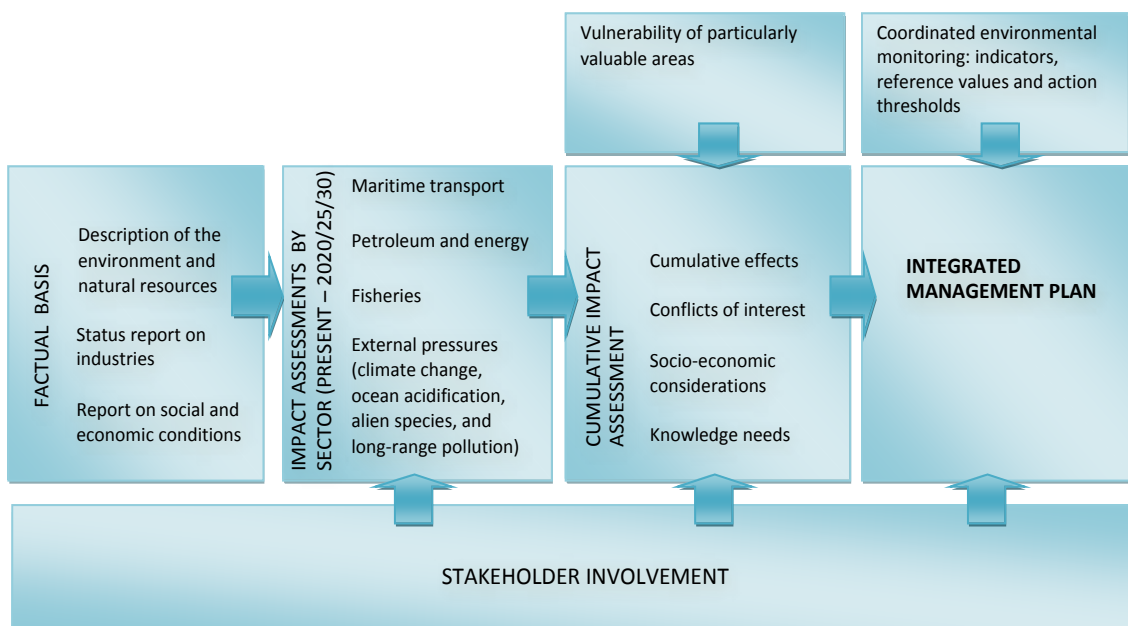
21. St.meld. nr. 8, 2005–2006





- creation and for Norwegian society.
- Assessments of pressures and impacts on different ecosystem components, and on the ecosystem as a whole, are conducted on a regular basis.
- Developing procedures for identifying knowledge gaps and how these should be included, given priority and filled.

The plan for the Barents Sea-Lofoten area was updated in 2011 and 2015; while the plan for the Norwegian Sea was adopted in 2009; and the plan for the Norwegian part of the North Sea and Skagerrak was adopted in 2013. Complete revisions are envisaged for 2020, 2025 and 2030 for the Barents Sea, the Norwegian Sea and the North Sea/Skagerrak, respectively.



**Figure 3:** Framework used in the development of the management plans. The work was led jointly by four Ministries, while the analyses and assessments were carried out by Government Directorates and institutes.



## Results

These plans were developed to provide a foundation for the co-existence of all the industries within the planning area, as well as a decision-making framework based on a broad knowledge of the environmental and economic consequences of current and future activities in the management plan areas. The management of these plans are implemented by area (e.g. protected areas, framework for petroleum activity, mandatory lanes for shipping etc.) and provide guidelines for specific activities (e.g. time limits, quotas, equipment restrictions etc.). The plans and regulations are regularly revised as new and improved knowledge becomes available, or when physical changes to the environment necessitate change.

## Enabling Conditions

A key challenge throughout the plan's development was to achieve truly integrated cooperation across sectors and between the different ministries, directorates and institutions involved. Success also depended on having input from interested user groups regarding how specific sectors were to be managed, or how assessments of impacts in that sector were going to be made in relation to the wellbeing of the ecosystem. This was a very difficult process that required a considerable

amount of time, but in the end successful cooperation was achieved.

The Norwegian Marine Management plans are sanctioned at the highest possible political level – presented as white papers to the parliament. This ensures robust political backing for the objectives and enforcement of measures within the plans. This also improves stability and provides assurances for stakeholders in the petroleum, shipping and fishery industries.

These plans were developed through a broad, multi-faceted process involving a number of government institutions. Under the overarching objective – ‘to allow for sustainable use while ensuring continued ecosystem health’ – each plan was refined to take into account the specific ecosystems and activities occurring within their boundaries. Currently, work relating to the plans is organized by an inter-ministerial Steering Committee chaired by the Ministry of Climate and Environment. Other members include the Ministry of Trade, Industry and Fisheries, the Ministry of Petroleum and Energy, the Ministry of Local Government and Modernization, the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Transport and Communications, the Ministry Justice and Public Security, and the Ministry of Labour and Social Affairs.

Satisfactory management of the Barents Sea will also involve close international cooperation, particularly between Norway and Russia, and include the development of a management plan for the Russian part of the Barents Sea.

The management plans also ensure that Norway fulfils international obligations (e.g. the Law of the Sea Convention, the Convention on Biological Diversity, the Johannesburg Declaration, the Malawi-Protocol, the UN Agreement on Management of Straddling Fish Stocks, the Stockholm Convention, the OSPAR Convention, the Convention for the Safety of Life at Sea, the Convention for the Prevention of Pollution from Ships) – although, these also put constraints on the design of the management plans. Furthermore, an Ecosystem Approach to management is an important theme for Norway in international cooperation within a range of fora (e.g. the International Council for the Exploration of the Sea, the North-East Atlantic Fisheries Commission, the Arctic Council, the EU, the Nordic Council, Norwegian-Russian cooperation (environment and fisheries) and the UN International Maritime Organization).

### **The Way Forward and Lessons Learned**

As with all marine spatial plans, the development of a Norwegian management plan is an iterative process; a continuous cycle of monitoring and revision (Olsen et al 2014). Initially, three advisory groups were set up to implement and follow up the plan on a yearly basis, but presently this is overseen by two advisory groups: a Management Forum and a Monitoring Group, with members from 16 key agencies and research institutions.

Integrated Marine Management planning is a heavily science-based process (Buhl-Mortensen et al 2012). Planning is based on the latest knowledge of ecosystem structure and functioning, and of the impacts of human activity. The participatory approach helps to build consensus on the scientific and factual basis for decision making and follow-up procedures ensure that information is up-dated as needed. Gaps are to be addressed through large scale mapping, research and monitoring programmes (for example, mapping of the seabed (MAREANO), mapping and monitoring of seabird populations (SEAPOP), mapping and monitoring of pollution, environmental monitoring, geological mapping).

## #4-B: NORWAY

## MAREANO - 10 Years of Integrated Seabed Mapping in Norway

**Overview**

The sustainable use and ecosystem-based management of the marine and coastal areas of Norway demands a thorough knowledge of seabed and benthic ecosystems. This is the background to the interdisciplinary MAREANO seabed mapping programme in Norway, which collects extensive bathymetric, geological, chemical and biological data for use in management planning.

**Background**

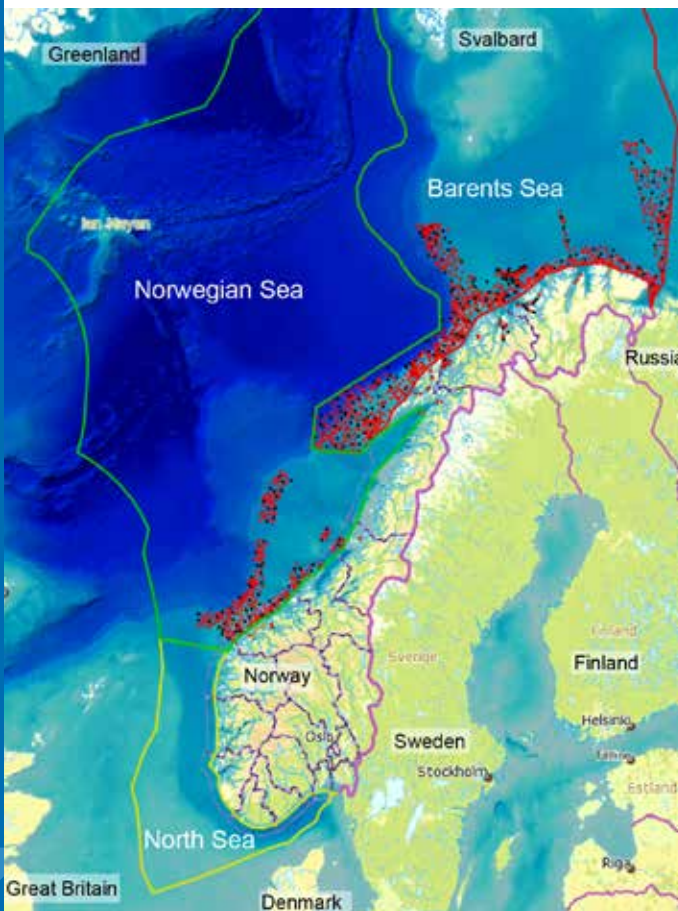
The value of production in 2014 from marine areas in Norway was around 20 per cent of the total national budget (SSB, 2015).<sup>22</sup> The output at basic values from the main industries were

oil and gas extraction including services (USD 121bn), fishing and aquaculture (USD 11bn), and ocean transport (USD 19bn).

Ocean governance has traditionally focused on maximising fish catches while maintaining sustainable fish stocks, or on the risks associated with drilling for oil and gas. This has changed over time into a desire to develop a more comprehensive understanding of the impact of human activities, based on expert knowledge provided by scientific institutions (Knol, 2010). A series of strategic environmental analyses were initiated in 2002, headed by the Ministry of Environment (2006). This process resulted in the first Norwegian ocean management plan for the Barents Sea (see case study 4A). The goals for MAREANO according to the plan from 2006 is to develop a marine aerial database for Norwegian waters increasing our knowledge of ecologically important benthic communities such as coral reefs and sponges, providing a better basis for evaluating the scale and importance of anthropogenic pressures on the environment. MAREANO is a cross-sectoral programme involving surveys and basic research on physical, biological and chemical conditions on the seabed and systematic organisation of the information in an area database for Norwegian coastal and marine areas. The database is regularly updated and can be accessed from the MAREANO website. MAREANO has grown significantly from small beginnings in 2005, and its budget has grown fourfold, from USD 3.8mn 23.6 Million Norwegian Kroner (MNOK) in 2006, to USD 14.9mn in 2015. The total cumulative budget since 2005 is in the order of USD 125mn, not including in kind contributions from the executive scientific institutions.

**Results**

The initial focus of the MAREANO programme was the Barents Sea and the marine areas off the Lofoten Islands (Figure 4). From 2011, the south-east Barents Sea was included, following



**Figure 4:** Overview of areas for Norwegian Marine Management Plans (North Sea, Norwegian Sea, Barents Sea) and sampling stations collected by MAREANO since 2006 (red and black dots).

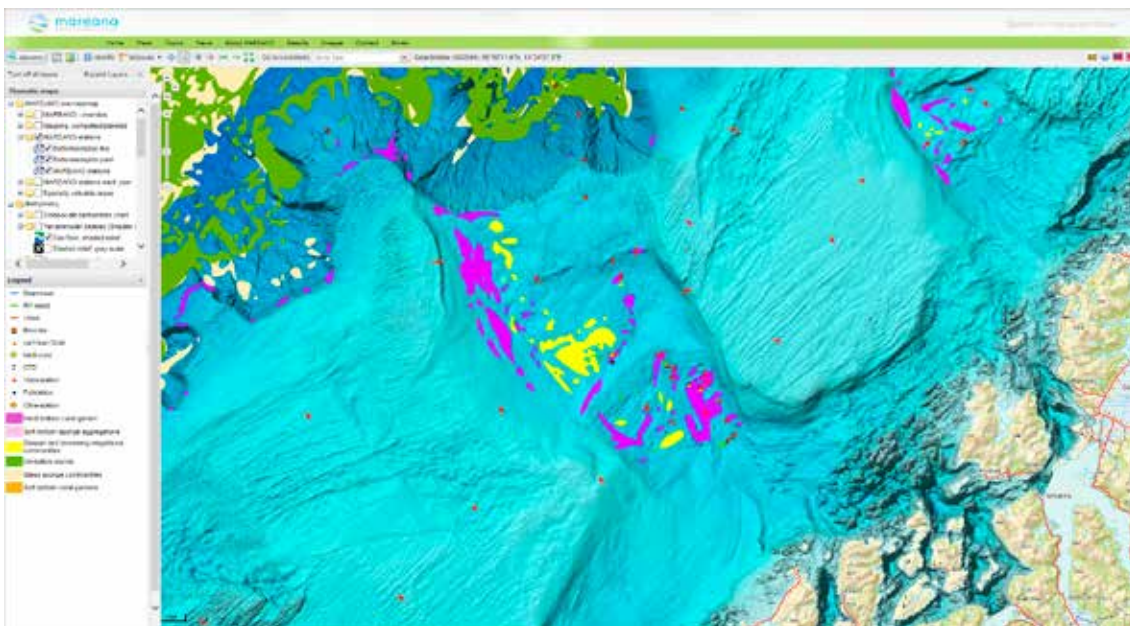
22. [ssb.no/228317/output-by-kind-of-main-activity-at-basic-values.current-prices.nok-million](https://ssb.no/228317/output-by-kind-of-main-activity-at-basic-values.current-prices.nok-million). All USD values are converted from NOK at respective annual average rates taken from [norges-bank.no](https://norges-bank.no)



the treaty delineating territorial boundaries between Norway and Russia, and bilateral collaboration in previously disputed areas. From 2012, particularly valuable and vulnerable areas in the Norwegian Sea have also been included, responding to the revision of the Norwegian Sea management plan, adopted in 2009 (Figure 5). Since its inception, MAREANO has collected multibeam bathymetric data, and data on the geology, chemistry and biology of an area proximately 160 000 km<sup>2</sup> in size. Programme activities are guided by an inter-ministerial steering group, involving the Ministry of Trade, Industries and Fisheries, the Ministry of Climate

and Environment and the Ministry of Petroleum and Energy. A programme group involving all relevant directorates and scientific institutes is responsible for project management, while an executive group consisting of project leaders from the Hydrographic Service (SK), the Geological Survey of Norway (NGU), and the Institute of Marine Research (IMR) is responsible for daily operations.

Vast amounts of bathymetric, geological, chemical and biological data are collected, analysed and reported by the executive group institutions and their subcontractors. The



**Figure 5:** Vulnerable biotopes plotted over shaded relief bathymetry, taken from [www.mareano.no](http://www.mareano.no)

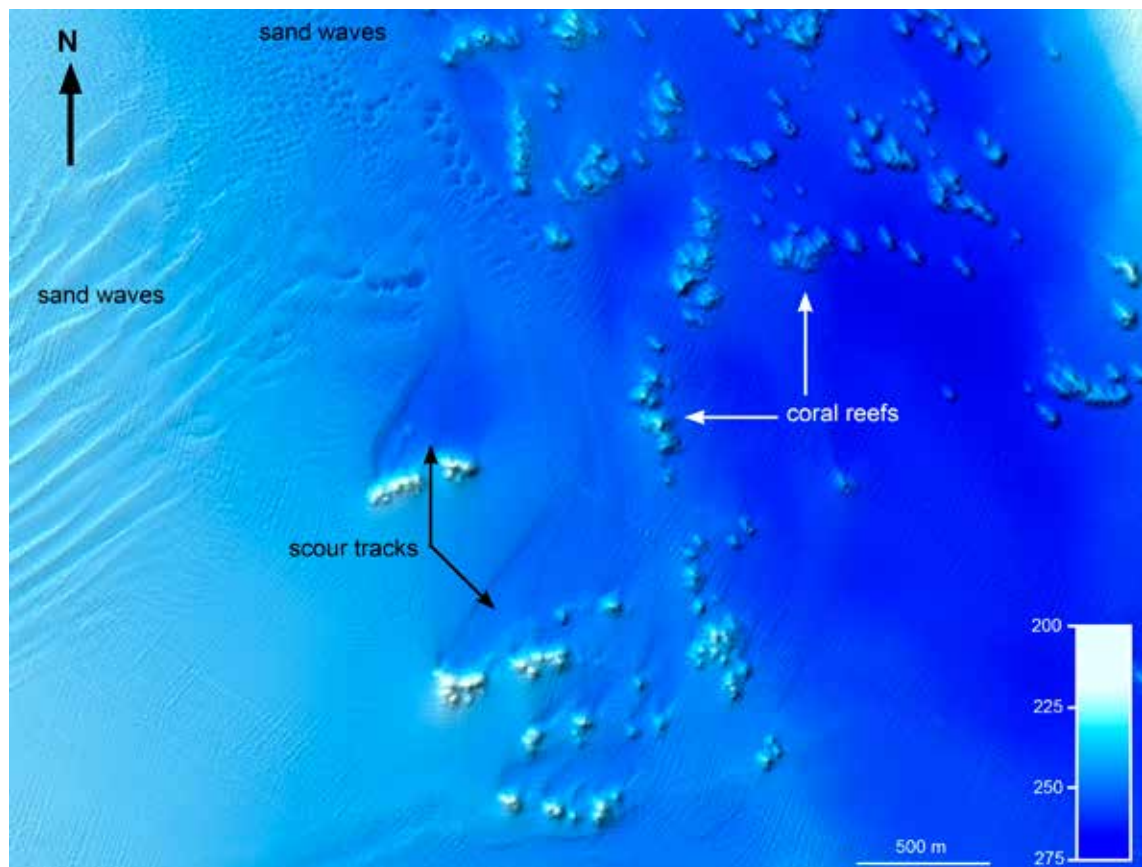
outputs include a bathymetric database, a series of geological maps, maps and reports on chemistry and pollution, as well as biotope maps and maps presenting biological analyses. All results are published through the programme's website, [www.mareano.no](http://www.mareano.no), providing free access for management groups, scientists, industry and the public. Many of the thematic maps can either be downloaded as shapefiles<sup>23</sup> or are available as WMS (Web Map Services) for use in Geographic Information Systems. Reports of the results can be downloaded from the website, which also contains thematic descriptions of the subjects MAREANO covers. The results are fed directly into management planning processes, with the aid of MAREANO experts. As a result, knowledge from MAREANO is used directly in ocean management. The input from MAREANO has strengthened the scientific basis for the protection of specific areas, and has resulted in proposals for the special protection of coral reefs, such as the Hola coral garden (Figure 6). Nearly 50 papers have been published in peer reviewed journals, a book was produced in Norwegian in 2010, and an English version is due out in October 2015. Countless presentations have been given at conferences and meetings, along with newspaper and website articles, and television programmes.

23. The shapefile format is a popular geospatial vector data format for geographic information system (GIS) software

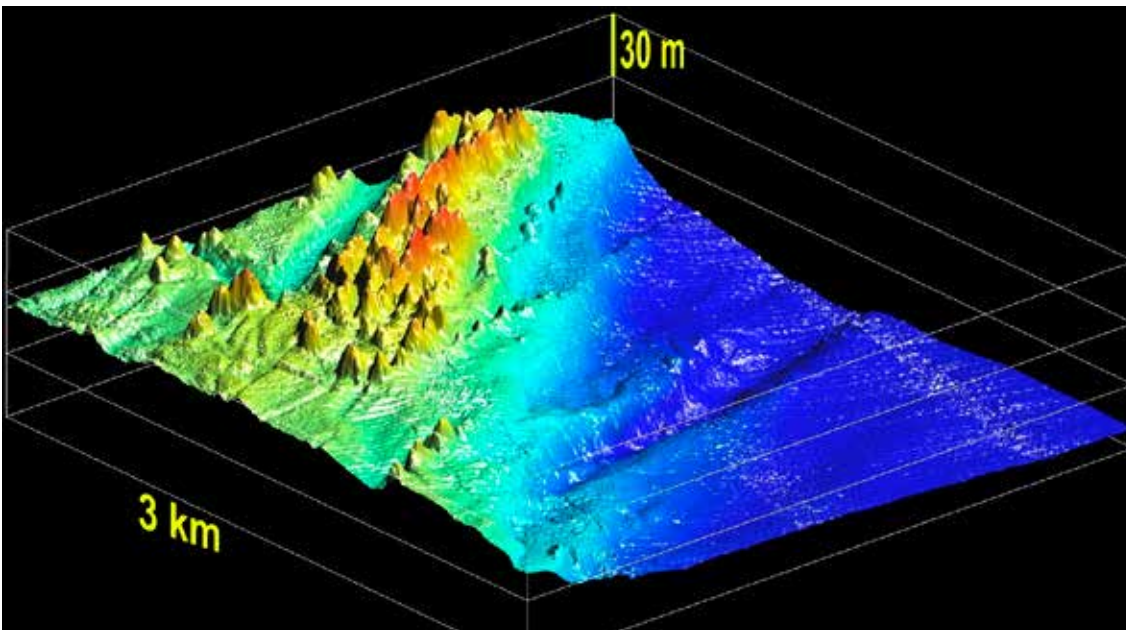
## Enabling Conditions

The first proposal for MAREANO was submitted to the government in January 2001 by a consortium led by NGU, but the proposal was rejected. It was re-submitted over the following years, and a pilot website was developed by NGU in cooperation with Institute of Marine Research and the Hydrographic Service. This meant that the MAREANO programme concept had been in development for some time, when the government embarked on the final stages of developing the Barents Sea plan. The proposal had also received strong support from industry (petroleum, fisheries), environmental NGOs such as the World Wildlife Fund, scientific institutes and management institutions. The MAREANO proposal was therefore ideal for providing a tool for filling the knowledge gaps identified for benthic ecosystems in the Barents Sea Management Plan.

Technological breakthroughs during the 1990s were also important. The development of efficient multibeam echosounders producing high resolution terrain models of the seabed, together with computers and software which could handle large data sets, meant that new possibilities were emerging. At the same time, there was a growing understanding of how acoustic remote sensing data could be used to document geological features and habitats (Thorsnes et al. 2004, Brown et al. 2011). 3D illustrations of coral reefs (Figure 7),



**Figure 6:** Coral reefs mapped by MAREANO, in the Hola marine protected area.



**Figure 7:** 3D illustration of coral mounds on the Sula Ridge, from the 2004 *Hydro International* article. Good illustrations were a key tool when communicating with politicians and stakeholders.

for example, were critical when communicating the benefits of sea floor mapping to politicians and stakeholders.

The Geological Survey of Canada was the first to develop techniques for mapping habitats using multibeam bathymetry. Using examples from Canada helped to establish MAREANO as a national organisation. Extensive knowledge sharing also took place through the GeoHab network ([www.geohab.org](http://www.geohab.org)) established in 2001, strengthening the scientific basis for the Norwegian proposal and providing case studies of how such information could be applied in environmental management.

### The Way Forward and Lessons Learned

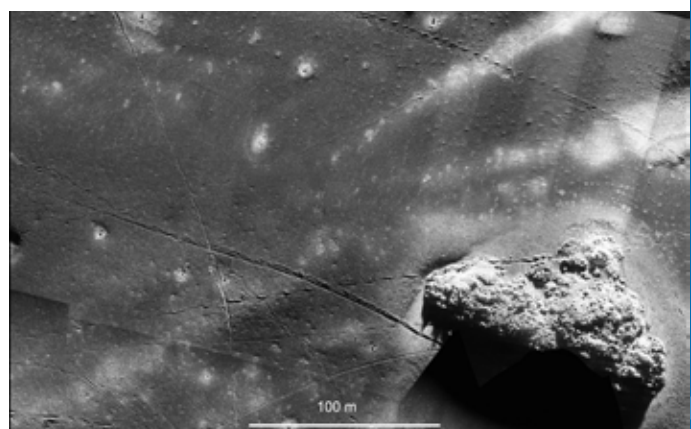
MAREANO has now been in operation for 10 years, and has a wealth of valuable experience. The most important lesson was to involve the users (primarily management) in all stages of the process – from planning to execution, through to dissemination and the use of the acquired knowledge.

Mapping also needs to be adapted to the physical and biological complexity of an area, as well as the needs of the user. This is being done through the process of quantifying complexity, through the development of an Environmental Variability Indicator (van Son et al., 2015). The aim is to get an objective measure of the physical complexity (seabed ruggedness, oceanographic conditions, etc.) of the area and to level the sampling effort accordingly.

Thirdly, continuous review and improvements of the methodology are crucial. This includes testing

new platforms and instruments. In 2015, the use of Autonomous Underwater Vehicles fitted with synthetic aperture sonar and high resolution colour cameras will be trialled. Examples of data from other projects show promising results – for example, the mapping of coral mounds and damage caused by trawl fishing (Figure 8).

The long-term plan for MAREANO includes continued mapping of the Barents Sea and the Norwegian Sea, along with several other areas which are being discussed, including the coastal zone and the deep sea. Even though MAREANO operates on an annual budget, the programme is expected to continue to provide essential input to management plans and to society in general for some time to come.



**Figure 8:** Imagery from Synthetic Aperture Sonar, showing a coral mound (lower right) and numerous trawl marks (curved and straight linear features). Data courtesy of Lundin Norway and the Norwegian Defence Research Establishment.

## CASE STUDIES

## COMMUNITY-BASED

## #5: THE GAMBIA

## TRY Oyster Women's Association

**Overview**

The case of the TRY Oyster Women's Association in The Gambia illustrates multiple facets of the Green Economy approach. Under the Cackle and Oyster Fishery Co-Management Plan for the Tanbi Wetlands National Park, approved in 2012 and published in 2013, TRY is the first women's association in Sub-Saharan Africa granted exclusive use rights to a fishery by a national government. The plan was developed and is implemented through a participatory, ecosystem-based process that demonstrates the following Green Economy aspects in particular:

- Goals and Principles – environmental integrity
- Capacity – Good Governance
- Tools – inter-ministerial coordination and multi-stakeholder process.

**Background**

The mission of the TRY Oyster Women's Association is to give a voice to a marginalized section of Gambian society, namely female oyster harvesters, and to support them in their quest for sustainable livelihoods.

Founded in 2007, the TRY Association works to tackle the joint challenges of unemployment and coastal degradation by empowering oyster harvesters and educating them about sustainable harvesting and the delicate mangrove ecosystem. The primary goals of the TRY Association include:

- protecting and restoring the environment
- improving the oyster product
- expanding the market both locally and internationally
- educating TRY members, particularly on small enterprise development, money management, and food handling and hygiene
- increasing access to financial services, including microfinance
- training members on alternative livelihood skills

TRY was established at a time when the Government of The Gambia was formalizing its commitment to best practices for the sustainable management of natural resources and the conservation of biodiversity. In 2007, *"The Gambia is the only country in West Africa that has enacted a fisheries legislation that makes it possible to adopt and implement a fisheries co-management plan under the Ecosystem-Based Fisheries Management (EBFM) approach,*



*including use rights. The Fisheries Act of 2007 is comprehensive legislation that addresses national as well as international fisheries issues in a holistic manner[...]. Thus, a strong legal basis for the implementation of a co-management regime was already in place. The top-down approach to fisheries management is a thing of the past; The Gambian government recognizes that the fisherfolk and their communities should fully participate in all aspects of fisheries management including decision-making.<sup>24</sup>*

In addition, the 6,304 hectare Tanbi Wetlands National Park was designated as a RAMSAR<sup>25</sup> site on World Wetlands Day in 2007. There are nine women's oyster harvesting communities in the Tanbi.

**Results**

Since its inception in 2007, the TRY Association has evolved from a small gathering of 40 oyster harvesters in one community in the Tanbi, to an established group with organized leadership and more than 500 members from 15 communities, stretching as far as the village of Kartong near Gambia's southern border.

Table 2 provides a summary of the transformative changes achieved by TRY in fisheries management through the Cackle and Oyster Fishery Co-Management planning process.

24. USAID/BaNafaa Final Report (see [http://www.crc.uri.edu/download/BAN09\\_finalreport\\_508.pdf](http://www.crc.uri.edu/download/BAN09_finalreport_508.pdf))

25. The Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

26. USAID/BaNafaa Final Report





TRY's most significant achievement has been the empowerment of the oyster women. They have realized the value of working together as a group towards common goals with a common

voice. They previously worked as individuals in isolation in poor and worsening economic, social and environmental conditions. They are now working in solidarity as legally recognized

**Table 2:** Transformative Changes achieved by the TRY Association<sup>26</sup>

<b>Before 2009</b>	<b>By 2014</b>
No management plan	Management plan developed, formally adopted and published
No co-management institution	National association and member communities identified, expanded and active
No use rights	Exclusive use rights granted
No closed season	8 month closed season instituted
Open access	Designated exclusive zones for member communities
No minimum size limit	25mm minimum length for cockles, 6cm for oysters
No gear restrictions	Only the use of an axe is allowed to remove oysters from mangrove roots, preventing the harvest of small oysters and reducing mangrove damage
No stock assessments conducted	Annual data collection by users for management decision making
No bilateral, transboundary discussions on joint management of the shellfish fishery	Stakeholders from The Gambia and Senegal actively planning joint management of shellfish in shared estuaries

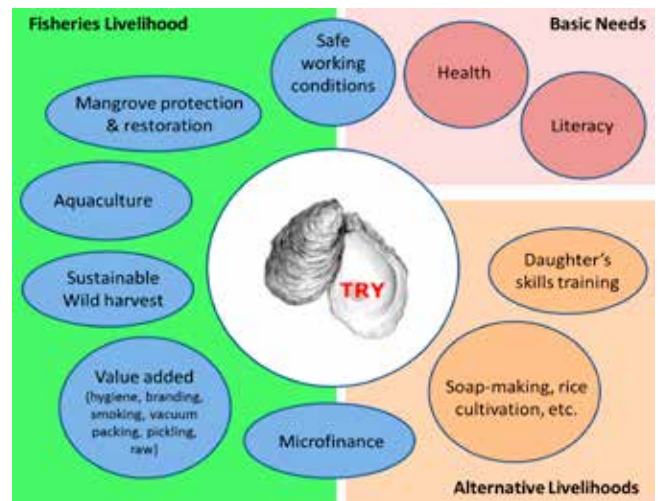
leaders and participants in decision-making for the sustainable management of natural resources in their communities and nationally. Internationally, they are sharing their experience as a relevant model for small-scale fisheries in the developing world.

Some examples of specific outcomes of TRY's work include:

- Value chain improvements resulted in the more than doubling of the price/kg for oysters due to the larger size and improved hygiene, handling and marketing of the product
- 377 women benefited from financial literacy training and loans ranging from approximately USD 30 – USD 180 each
- More than 148 TRY Association and community members planted 33.5 hectares of mangroves that are thriving two years later (Figure 9)
- 15 daughters of TRY members graduated from TRY's two-year life skills and alternative livelihoods skills training programme
- TRY recognized as a 2012 UNDP Equator Prize winner

### Enabling Conditions

There are a number of key factors that have contributed to TRY's success. The extensive stakeholder consultation starting with the women harvesters, including all levels of local and national government, has proven to be a critical element, and the emphasis on gaining trust of the women, and building their confidence to champion their cause has supported this. Responding to interconnected needs of the women so they can accept the trade-offs needed for sustainable resource management has been achieved through the integrated programmes put in place (see Figure 10), and their ability to deliver concrete, short-term benefits and visible progress towards medium- and long-term benefits. This has been



**Figure 10:** TRY's integrated approach to sustainable fisheries livelihoods.

underpinned by an adaptive management approach based on research of local ecological knowledge and scientific knowledge conducted with stakeholders and research findings. Implementation challenges were reviewed annually by stakeholders.

Inter-ministerial collaboration between the Gambian Ministry of Fisheries, the Department of Parks and Wildlife Management, the National Environment Agency and the Department of Forestry, all of which had jurisdiction over various aspects of the Tanbi Wetlands National Park, has also been essential, as has been the timely technical and financial support over 5 years starting in 2009, from the USAID/BaNafaa Project and from other donors for shorter term projects, including UNDP, GEF, Action Aid, the British Council and the Government of The Gambia. Not least, it was the TRY's strong and dynamic local leadership that has led to the success of the project.



**Figure 9:** Mangroves planted from propagules by TRY (left) in October 2011, surviving and growing, two years later (right).

### The Way Forward and Lessons Learned

TRY's experience has demonstrated the progress that can be made when win-win situations are identified. The oyster and cockle fisheries industry in The Gambia was not included in the Department of Fisheries strategies, management plans or monitoring schemes due to the low economic returns and limited government resources. The women oyster harvesting communities were vulnerable, marginalized and without a voice. Through rights-based co-management, TRY and its members are now sustainably managing the country's shellfish resources and associated ecosystems at very little cost to the government, while also improving their own livelihoods.

Evidence of positive biological and ecological trends resulting from TRY's efforts are beginning to emerge. While still preliminary, these include improving water quality at oyster harvesting sites (see Figure 11). These improvements are likely linked to sanitation and hygiene improvements introduced by TRY at the sites, including the removal of pig husbandry in the tidal zone and community mobilization and training to end open defecation, accompanied by installation of well-constructed latrines at some sites.

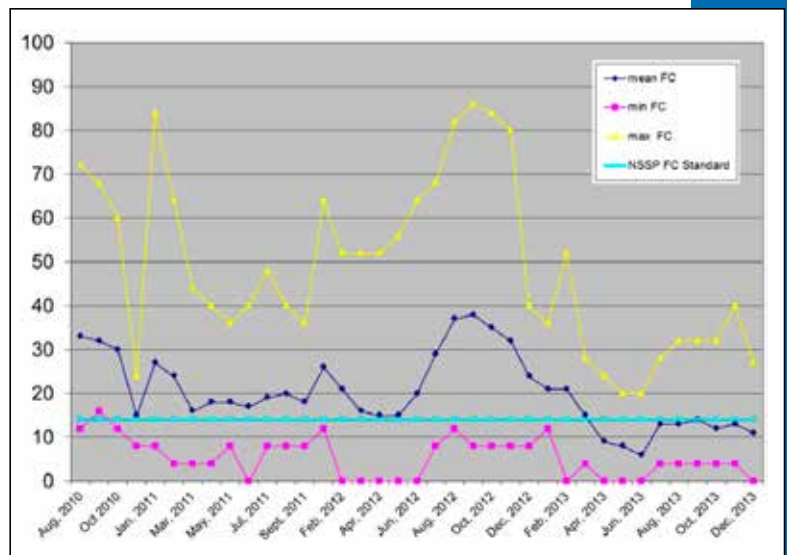
Stock assessments of the oyster type *Cassostrea gasar* and *Cassostrea tulipa* are not conducted. However, a point of sale sampling protocol conducted by TRY produced preliminary results that show oyster size is not declining significantly over the four month harvest season at most sites (Figure 12). This indicates that the stock is not being depleted during the harvest season. More annual datasets are needed to draw strong conclusions about trends on improved biophysical conditions.

The TRY Association will focus on continuing to develop its own institutional and financial sustainability in order to achieve its long-term objectives.

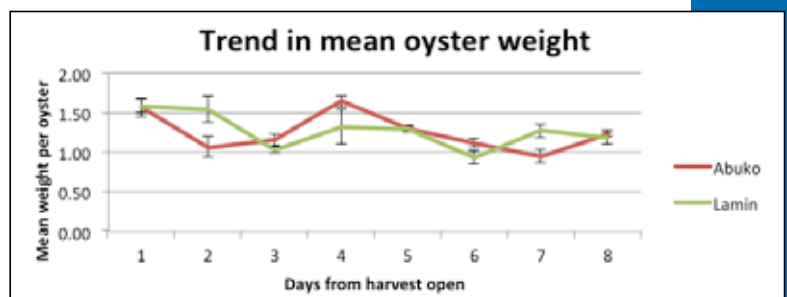
Demand for best practices promoted by TRY for shellfish fishery management from additional oyster harvesting communities (in land along the Gambia River, on the north bank and in transboundary areas with Senegal) is high. It signals broad-based buy-in for sustainable fisheries management governance mechanisms such as those developed and put into practice by TRY and its stakeholders. TRY will seek to respond to this demand where feasible and based on its limited resources.

With support from the USAID/BaNafaa Project, seven Government of Gambia institutions collaborated with TRY on an inter-agency Memorandum of Understanding to develop a National Shellfish Sanitation Plan (GNSSP). Water quality zones were mapped based on three years of data and regular shoreline sanitation surveys at more than 15 shellfish harvesting sites. A final GNSSP would make The Gambia only the second country in Sub-Saharan Africa with such a plan, serving as a model for developing countries striving to sustainably manage shellfisheries by improving the quality and value of their product. TRY will seek to facilitate this process with the Government going forward.

TRY also strives to scale up to develop and benefit from market opportunities, by establishing a regional processing/marketing hub to achieve quantity, quality assurance, economies of scale and market development.



**Figure 11:** Average Fecal Coliforms at 15 Tanbi & Western Region sites 2010–2013.<sup>27</sup>



**Figure 12:** Average size of oysters from Abuko and Lamin market samples over the four month open season. Four of six sites sampled (including Abuko and Lamin) had no significant decline.

27. USAID/Banafaa Final Report

## CASE STUDIES

## COMMUNITY-BASED

## #6: MADAGASCAR

## Sustainably Managing Small-scale Fisheries in Partnership with Communities

In southwest Madagascar, the beginnings of a Green Economy are being built on the sustainable management of small-scale fisheries by traditional fishing communities. Seafood exporters, government and marine conservation NGOs have worked with these fishers over the last decade to establish locally-managed marine areas as the building blocks of this management process.

### Background on the Project

In 2004, traditional fishers in the small, isolated village of Vezo in southwest Madagascar took the first step towards creating a regional Green Economy. For seven months they closed part of their octopus fishing grounds to all fishing. On re-opening these finishing grounds they found that the size of their catches increased dramatically.

Neighbouring villages witnessed the higher catches, and that same year, three more groups enacted their own temporary closures. The following year, there were yet more. The idea spread along the coast and to date, traditional fishers have carried out more than 250 temporary closures over about 450 km of coastline.



The importance of this cannot be understated: Octopus fishing is a critical part of the economy in southwest Madagascar. For most traditional fisherwoman, it is the only way to earn money. The Vezo fishers of southwest Madagascar are among the poorest coastal people in the world. They live in an arid region where their isolation means many have no other livelihood other than fishing. The livelihoods of many of the 80,000 local fishers, as well as middlemen and other downstream actors in the local value chain, depend on the sustainability of the industry. Copefrito – the principal buyer and exporter of octopus – is the single largest formal employer in the province.

Most Vezo fishers must fish daily to feed their families. Individuals thus find it difficult to take action to manage their fisheries because they depend on the daily food and income they derive from fishing. The temporary closure of only a part of the fishing grounds for a whole village, for a short period, is a more practical solution. Closures covered approximately 20 per cent of each village's fished area and lasted between two to seven months. By targeting a fast growing species – this particular species of octopus almost doubles in weight every month – the short-term closures resulted in improved catches and greater income.

This is further backed up by eight years of data on octopus catches which demonstrates that the economic benefits from increased catches outweigh the costs of foregone catches during the closures.

In turn, the success of the short-term closures inspired these communities to carry out more far-reaching actions. With the help of conservation NGOs, they established community-led Marine Protected Areas (MPAs) or Locally-Managed Marine Areas (LMMAs): areas of sea and coastal habitats under formal community management. The LMMAs constitute a broader management approach in which destructive and industrial fishing are outlawed. Communities decide on a zoning of the LMMA into different uses that allows them to pursue their fishing livelihoods, but that also sets aside fishing grounds for temporary



closures. In addition, areas of key habitats are designated for permanent protection where no fishing or extraction is allowed.

### Results

The network of LMMAs now includes about 85 fishing villages along the southwest Madagascar coast, involving 60,000 people. Many of these LMMAs are still in their infancy, but the formal framework for community management is in place.

This successful community-based management means the octopus fisheries are on track to gain the Marine Stewardship Council sustainable fishery certification. The added market value that this should bring will further incentivize sustainable management. To this end, the stakeholders are currently developing a Fisheries Improvement Plan.

The success of the temporary closures carried out by traditional fishers also inspired the government to establish a national annual closure of the fishery.

The success of LMMAs has culminated in the Government of Madagascar's Sydney Vision – which aims to greatly expand the area of protected marine habitats, as well as to strengthen the management rights of small-

scale fishers through expansion of a system of community-managed Marine Protected Areas.

NGOs and the principal seafood exporter, Copefrito, recognise that fishers cannot depend on octopus alone. Together they have worked to create new livelihoods for fishers through seaweed and sea cucumber aquaculture.

### Enabling Conditions

The vision to develop a local Green Economy based on the sustainable use of the sea grew out of an alignment of the needs of fishers, the private sector and conservation NGOs. It was built on:

- a recognition by local fishers of a dramatic decline in their catches
- Copefrito's long-term business vision based on husbanding their natural capital
- the presence of Blue Ventures in the field to broker an arrangement that worked for both fishers and the private sector

The success of the temporary fishing closures proved that a common management approach could meet all these needs.

This case provides a strong argument for the value of locally-based management in Blue Economy initiatives. Without government subsidies or strong regulation, seafood

# Blue Economy

Sharing Success Stories to Inspire Change



exporters and fishers had to act themselves, through local management, to develop a sustainable industry.

Government policy was another enabling factor. Fishing communities used local traditional laws – *dina* - to govern the temporary closures, and subsequently the LMMAs, at a local level. The *dina* were drawn up through a process of consensus, beginning at the level of individual villages, then groupings of neighbouring villages, and finally by all of the villages within the respective LMMA. These local traditional laws are legalised in formal courts and so gain the backing of the national judiciary.

Madagascar's national law allows the creation of MPAs, where management is formally delegated to communities. The government also established an agency to support the creation of a national network of MPAs. While formally recognizing MPAs has been an expensive process beyond the means of fishing communities, the national-level recognition it brings has been critical in ensuring that the efforts of local communities are taken into account in broader planning. Through community-managed MPAs, fishers have secured formal rights to manage their fisheries where previously they had none. This will play a critical role in further building rights-based management and safeguarding these rights into the future.

Blue Ventures, together with the Wildlife Conservation Society and WWF, and the Madagascan Marine Research Institute (IHSM), provided the technical and material support necessary for making local management a reality. This included: helping fishers to establish and manage the closures and LMMAs; formalising

the *dinas* and LMMAs; facilitating village exchange trips so that fishers could teach each other and share experiences; liaising between the private sector and fishing communities; and bringing diverse actors together to form a common vision and management body for the fishery industry. NGOs and the IHSM have also carried out applied research to inform rational management decisions.

The role of the seafood export companies - Copefrito and Murex - has been critical. As the main buyers of octopus in the villages, their clear support for the temporary closures from the very beginning was crucial to the success of the project. They also pay a premium for octopus from temporary fishing closures, leveraging a contribution from the value chain to support downstream sustainable management.

### **The Way Forward and Lessons Learned**

The experiences of southwest Madagascar prove that the needs and interests of fishers, the seafood companies and marine conservation are not in conflict. Rather, the three can work together to successfully manage the natural capital underpinning livelihoods, business and marine biodiversity. The support of the private sector, a favourable policy environment, and Blue Venture's financial and technical support, has allowed common management by the fishers to succeed. Community-managed MPAs or LMMAs are the framework through which this management can be formally recognised.

The project has also shown that small, practicable actions (such as temporary fishing closures) can catalyse far greater ones – making a regional Green Economy a reality.

# CONCLUSIONS

**The case studies featured here show how the 'Blue Economy' is a concept which is rapidly innovating and diversifying; evolving from a concept to a practical and proven reality.**

Each of these cases feature actions which have supported and increased social wellbeing through environmentally sustainable and inclusive, equitable economic development. As these examples show, a growing body of experience and knowledge at levels from the hyper local, to the national and regional (and therefore, global), is becoming available for application and implementation in other marine and coastal communities.

**Blue Economy developments are often both highly opportunistic, and highly strategic in initiation, approach and execution.**

The cases presented here were each initiated for different reasons, and were supported by a different cross-section of stakeholders, underscoring the fact that motivations for pursuing Blue Economy policies, projects and implementation are multi-faceted. Many of the featured projects were established in response to a challenge (such as socioeconomic inequality, poverty or high levels of unemployment). At the same time the realisation of an opportunity and other associated benefits (such as greater economic and social stability, wellbeing, higher income, or higher biodiversity and ecosystem services)

have propelled these projects to enjoy broader support and integration with other sectors, policies and objectives. Many of the initial projects were opportunistic in that they were a response to an externally driven opportunity. This was the case for the debt swap agreements in the Seychelles, for example, which leveraged local benefits from national and regional initiatives which identified and provided important coordinative elements.

**Blue Economy initiatives can substantiate broad-based cooperative efforts, as well as provide a context within which to address a persistent gap in sustainably managed marine ecosystems and economies.**

At the heart of a Blue Economy approach is an integrated methodology addressing one of the most persistent obstacles to effective management of the marine and coastal environment: the sectoral division of regulatory mandates, and the resulting challenges to cooperative, common goal-oriented management. Blue Economy processes bring together ministries, private organizations and NGOs from all sectors involved (for example, transportation, fisheries, oil & gas, as in the Norwegian case study). Horizontal integration across sectors is as important as vertical integration across the various scales of policy and decision making (from local stakeholders



to ministries), as exemplified in the Plan Bleu case study from the Mediterranean. A great deal of groundwork supports these advances, and underscores the importance of the background provided by the MSSD process.

**Coordination and collaboration of Blue Economy projects and initiatives requires broad and resilient partnerships.** In the cases cited in this document, a facilitating body played a key role in coordinating a diverse group of stakeholders to elicit ideas and to work together towards shared visions and objectives, as well as to identify pathways to incentivise achievement. As seen in particular in the Norwegian Svalbard case study, representation from formal and governmental sectors (i.e. environment, planning, and fiscal offices, inter-ministerial committees, and technical offices) are as important as representation from environmental NGOs, sectoral representation, as well as members of the local community. The MAREANO case, as well as numerous others, highlights the importance of including stakeholders and perspectives from users from the very first stage of the process.

**The success of these cases over time underscores the importance of a strong knowledge base, as well as regulation and policy that supports the transition to a**

**Blue Economy.** This supports implementation and coordination phases, as well as facilitates a useful starting ground for agreement among partners. The Norwegian MAREANO case highlights the crucial role of advanced planning and monitoring, as well as a system for revisiting data, and identifying and filling gaps. Because successful Blue Economy initiatives rely on quantified improvements from social, environmental and economic perspectives, scientific and economic advisers can be particularly useful in both facilitation, and in ensuring the project is utilizing accurate and benchmarked data, and in facilitating participation from an objective perspective.

**The Blue Economy arguably makes its strongest gains when leveraging existing institutional relationships to address strategic gaps that affect multiple sectors and actors, and which catalyse visible benefits for them in the long term.** A number of cases in this report, especially the Norwegian case study, featured the importance of planning and spatial management. Ecosystem-based management, Marine Spatial Planning and Marine Protected Areas are all well-established elements that can be part of the transitional process. A shift to Blue Economy requires dedicated short-term efforts which can seize existing opportunities and bring together stakeholders.

**Crucial to Blue Economy developments is the building of inclusive processes and demonstrated results for those who may be strongly affected by measures, but have limited means to engage in participatory processes.** As seen in the TRY Oyster case, successes in Blue Economy can catalyse other gains such as those made for women's leadership in The Gambia. The importance of objective, conscientious identification of marginalized groups, complimented with technical analysis and advisement can lead to a strong foundation for building more sustainable futures in marine environments. This point is particularly relevant when initial stages require up-front investment or foregone revenues among populations which are ill-positioned to afford them, or who have limited means of income substitution. Yet, this does not necessarily undermine broad-based support for ecosystem protection, such as in the Madagascar case study where subsistence fishers initiated a reserve system, which has improved prospects for sustained livelihoods in the area.

**Several of the case studies documented positive shifts in perception related to the 'worth' of up-front investment, especially when these resulted in longer term, quantified and visible payoffs.** As seen in the Seychelles, the importance of inclusive approaches to build trusting relationships and representation, was seen as key to delivering 'the right information' at 'the right time' to 'the right person'. As the Veso case in Madagascar demonstrates, this often involves addressing the concerns of the stakeholders by providing clear information on the up-front costs and unintended consequences, as well potential spin-off benefits and opportunities. Thus, knowledge sharing between case studies on lessons learned and evidence of success may assist individuals, groups, regions and countries to make the necessary short-term investments needed to transition to a Blue Economy in the longer term.

To conclude, Blue Economy initiatives and applications that link social, economic and environmental progress are emerging around the world in coastal, estuarine and marine habitats. Taken together they are necessarily diverse, dynamic and wide-ranging, but there are numerous commonalities noted in the cases summarized here. Key findings from the cases presented highlight the importance of firstly establishing a trusted and diversified knowledge base, complemented by resources which help inspire and support innovation. Followed by an engaged process of stakeholder consultation, and co-creation of a vision for a Blue Economy that can help set appropriate targets and necessary actions. Secondly, steps towards achieving goals can be documented through benchmarking initial starting conditions against tangible, aspirational, yet realistic goals. An important feature of this is the regulatory measures, including property rights, policy and legal frameworks that support certainty and generate trust (especially practices which involve market intervention or incentives). In many cases, a great deal of integration across sectors has proved to be an essential factor in the success of the initiatives. Existing structures and frameworks, coupled with inspiration and initiative for innovation, can facilitate the uptake of Blue Economy approaches without having to bear the additional transaction costs of complete system reorganization or establishing new regulatory structures. A strong mandate, mission, and quantitative monitoring of both benchmarks and results, are crucial. Lastly, the sharing of successes, to help propagate and coordinate emerging efficiencies and opportunities are also important. Documented successes and shared learning can help form the basis for resilient systems, persistent innovation and inclusive, sustained advances in achieving integrated ecological, economic and social wellbeing. Taken together, these examples highlight important advances on the path to establishing a Blue Economy.

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