



MARCH 9, 2012
**FINAL
BIENNIUM
REPORT**

Programme Cooperation Agreement 2010 – 2011

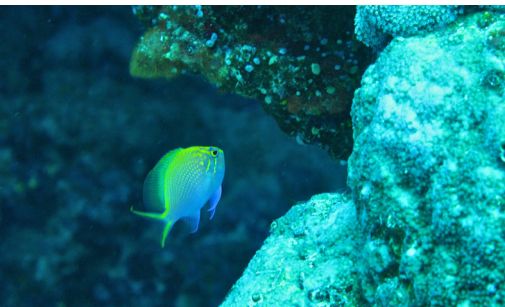
Prepared for the Norwegian Ministry of Foreign Affairs



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1 Foreword

The final report on the Programme Cooperation Agreement between the Norwegian Ministry of Foreign Affairs and GRID-Arendal for 2010-2011 captures the spirit and depth of the partnership between UNEP and GRID-Arendal. A good example is GRID-Arendal's support to UNEP's Green Economy report, transforming it during 2011 from a raw document into a visually appealing and user-friendly E-book. With more than two million downloads, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* has become UNEP's most widely disseminated publication.

Since the publication's launch, GRID-Arendal has supplemented this work through two volumes in its well-known Vital Graphics series and is engaged in further reports in the Green Economy series focusing on Small Island Developing States and marine ecosystems, respectively. It also supported UNEP at the launch of the Synthesis Report Green Economy in a Blue World in Manila in January 2012. We welcome this continuing commitment and, combined with GRID-Arendal's proactive stance and operational flexibility to respond to new programme directions, this is a win-win situation for achieving meaningful results.

GRID-Arendal has engaged productively with all UNEP Divisions during the biennium and contributed to substantial activities related to all six UNEP sub-programmes, reflecting the careful alignment of our respective work programmes. Stronger linkages with

the regional level have also been forged, as reflected in capacity building under the UNEP Shelf Programme, support to Atlases of Environmental Change and the upcoming Africa Environment Outlook, and in helping put Blue Carbon on the agenda at the Eye on Earth Summit.

For more than two decades, GRID-Arendal has honed its visualization, communications, and capacity building skills to enhance environmental awareness, to educate and inform and spread knowledge, and to help create the conditions for prudent decision-making. With the aim of providing ecosystems managers with a scientifically sound basis for making good decisions, more recently GRID-Arendal has developed and effectively transferred expertise – in particular related to marine and polar issues – to national authorities, institutions and key officials.

Apart from detailed accounts of activities and concrete outputs, the biennium report communicates well-substantiated results and outcome, and clear indications of positive trends on various fronts – evidence that GRID-Arendal has delivered on the 2010-2011 Programme Cooperation Agreement with the Ministry of Foreign Affairs. Looking ahead to the next biennium, UNEP is eager to strengthen its partnership with GRID-Arendal through harmonised application of Results Based Management and longer-term, programmatic interventions. In this connection, I also extend my gratitude to the Norwegian Government for the invaluable support that facilitates our evolving partnership.



A handwritten signature in black ink that reads "Achim Steiner". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Achim Steiner
UN Undersecretary General and
UNEP Executive Director

2 Executive summary

GRID-Arendal is recognised internationally as a reliable provider of high quality environmental information and knowledge through assessments and reports, its communications tools and expertise, and an extensive programme of outreach and capacity building that targets developing countries and economies in transition. From its inception, GRID-Arendal has applied itself to strengthen the capacity of national environmental agencies in fulfilment of its mission to provide strategically relevant support to the United Nations system and, specifically, the UN Environment Programme (UNEP). GRID-Arendal facilitates intergovernmental dialogue on common challenges, supports the work of UN environmental conventions, provides technical assistance to countries in environmental information acquisition and management, and builds regional information networks that serve a broad range of stakeholders, from practitioners, scientists, and public sector decision makers, to civil society and advocacy groups, and the public at large.

The 2010-2011 Work Programme under the Programme Cooperation Agreement (PCA) reinforced the overarching role of GRID-Arendal to support UNEP with its key communication services in visualizing and disseminating scientific data and environmental messages, building capacity at the country level, and innovatively applying communication tools and training techniques in three focal areas: Marine environment (with emphasis on the UNEP Shelf Programme), Polar and Cryosphere (with increased focus on climate change interlinkages and impacts), and Environmental assessments and information. The work programme was delivered largely as planned, on schedule and within budget. Appropriate steps were taken on a case-by-case basis to manage the small number of deviations (ref. Chapter 11).

GRID-Arendal's long-standing and vital collaboration with UNEP is evolving in a fundamental and strategically important way. This change is positive and most evident in the type of engagement – from ad hoc, short assignments concentrating on publication services, to long-term and programmatic collaboration that involves inter alia analytical contributions and active outreach beyond launch. GRID-Arendal's 'traditional' core competencies in communications tools, methodologies and products remains the comparative advantage at the centre of the collaboration, but is complemented and reinforced by a range services that add significant value to UNEP initiatives, such as analytic content, programme design and management, capacity building technical assistance (in relation to both client countries and UNEP staff), web hosting and content management, and targeted networking skills.

There are indications that GRID-Arendal's work is generating positive results. Given the long 'gestation' period of many projects, it is now becoming possible to trace causal links between activities, through outputs and services, to outcomes and impacts that are contributing to positive changes for the environment, countries and local communities around the world. There is also evidence of a catalytic or 'multiplier' effect, whereby issues spearheaded by GRID-Arendal, such as, Blue Carbon, are actively adopted and promoted by other institutions, even national governments, ensuring that even greater attention is secured in the relevant policy and research arenas. This testifies to the compelling nature of the issues and to the quality of GRID-Arendal's work, but also creates an opportunity for the organization to carefully evaluate its future focus and strategic direction.

Over the biennium, GRID-Arendal has strengthened its collaboration with traditional partners and begun to foster new, strategic collaboration with, for example, the International Seabed Authority, the Commonwealth Secretariat, and The World Bank. GRID-Arendal has become a 'partner of choice' in several new environmental initiatives and has been given lead responsibilities in prominent global projects, in particular within the framework of the Global Environment Facility (GEF).

GRID-Arendal has collaborated closely with all UNEP divisions and contributed to each of the sub-programmes in contributing to UNEP's Programme of Work for 2010-11. A number of projects span sub-programmes, thereby highlighting important interlinkages between issues such as marine ecosystems, climate change, and environmental governance. The biennium has also been marked by a welcome trend towards greater engagement at the regional level, reflecting UNEP's evolving operational priorities and momentum towards the One UN approach.

GRID-Arendal is recognized as an effective partner in the 'marine environment', with a global reach and growing portfolio of highly relevant projects managed by the *Marine Programme*. The organisation is increasingly seen as a results-oriented partner, as evidenced by the establishment of new collaborations with a diverse range of institutions, such as the IOC of UNESCO, Conservation International, IUCN, the International Seabed Authority, the World Bank, the Commonwealth Secretariat, and Geoscience Australia. As a result, the profile of GRID-Arendal as a source of credible marine science information and marine related capacity building has grown steadily, illustrated by the fact that the marine programme attracted

a significant amount of external funding over the biennium for activities independent of the UNEP Shelf Programme.¹

Over the past nine years GRID-Arendal has effectively provided support to developing countries in the preparation of high quality submissions to the United Nations Commission on the Limits of the Continental Shelf. These submissions document the scientific and technical information required to delineate the extended continental shelf beyond 200 nautical miles, and in so doing set the limits of national marine jurisdiction. By the end of the 2010-11 biennium 68 states had submitted applications in accordance with the rules of the Commission with technical assistance from GRID-Arendal. These countries include coastal and island states in all tropical and sub-tropical oceans with a clear focus on Africa and Pacific island states. An important milestone in the UNEP Shelf Programme was reached in March 2011, when the UN commission approved the joint submission by Mauritius and Seychelles.² It is the first submission under the programme to reach the end of the multi-year process.

The success of the UNEP Shelf Programme to date has led to an expansion of the Marine Programme into the area of sustainable resource management and protection of the marine environment. This is a natural progression from the “upstream” activities of the UNEP Shelf Programme that utilises the relationships established with ODA states to develop relevant programmes and activities, particularly within the framework of the Regional Seas agreements.

A key strength of the Polar and Cryosphere Programme is the extensive network of partners and stakeholders that has been built up over the past 15 years. Regular engagement with research centres, academia, NGOs, Indigenous People’s groups and the private sector have helped expand involvement in key regional assessment reports and policy relevant activities in the Arctic and in strategically important mountain regions. The long-running Polar-specific dimension of the programme undertakes Arctic environmental assessments, capacity building, and activities that strengthen linkages between Arctic initiatives and global activities within UNEP’s Programme of Work (PoW). For instance, GRID-Arendal is spearheading an ambitious Arctic NGO forum to highlight and document emerging environmental issues and priorities that will directly feed into the European Union’s environmental policy-making on the Arctic region.

Cryosphere-related issues in the “third pole” are becoming increasingly significant to the project portfolio. GRID-

Arendal’s long history of engagement with the Arctic region is a comparative advantage applied to on-going projects in the Himalayas and Mongolia. For example, a new long-term collaboration with Norwegian and Nepalese partners to assess vulnerable communities in the Hindu-Kush Himalayas will provide policy recommendations related to climate adaptation, food security, and long term scenarios of water availability.

The activities of the Capacity Building and Assessments (CB&A) Programme continue to build on long-standing interactions with a diverse range of countries in Africa, and Eastern Europe, the Caucasus and Central Asia (EECCA), and the in-depth understanding of these regions acquired by staff and key partners over the past two decades. The focus in Africa continued to be on building capacity in preparation of environmental assessment and the production environmental atlases, for which the demand remains strong. Illustrative engagements are formulation of methodology guidelines for the third *Africa Environment Outlook*, and contribution to the Africa Policy Chapter of UNEP’s flagship report, the fifth *Global Environment Outlook (GEO 5)*. In collaboration with INTERPOL, GRID-Arendal engineered a significant spin-off from the 2010 Rapid Response Assessment, *Last Stand of the Gorilla*.

The primary rationale for GRID-Arendal’s engagement in the EECCA continues to be its contribution to strengthening the capacity of national institutions in environmental information management, with the aim of making reliable, accurate and up-to-date information easily accessible to a broad range of stakeholders in the region and beyond. Production of the Caspian Sea State of the Environment report, in the context of the Tehran Convention, is a good example of this region-wide, collaborative approach. Thematically the focus in this region remains on prudent management of transboundary water bodies.

CB&A is actively exploring emerging issues related to ‘green economy’ and sustainable tourism and was heavily involved in production of UNEP’s milestone Green Economy Report. The newest component of the CB&A work programme falls under the dual banner of Green Economy and Marine Ecosystem Management – Linking Tourism and Conservation (LTC) – where emphasis focuses on capacity building through development of knowledge networks supporting sustainable tourism as a tool for bio-cultural conservation and regeneration in the framework of the UN *Convention on Biological Diversity*.

At MNOK 86.5, programme funding over the biennium was stable and well distributed over diversified sources. In addition to the MoFA funding of MNOK 42.2 and the core funding of MNOK 9.0 from the Ministry of Environment (MoE), GRID-Arendal raised a total of MNOK 11.2 from UNEP and MNOK 24.1 from other external sources

1. Approximately NOK 8.1 million over 2010-2011.

2. “Recommendations of the Commission on the Limits of the Continental Shelf in regard to the joint submission made by Mauritius and Seychelles concerning the Mascarene Plateau region” (dated 1 December 2008)

over the period, or 41% of total funding. The external contribution decreased slightly over the period and was compensated by an extraordinary infusion by MoFA for the UNEP Shelf Programme (ref. Chapter 11). An external audit dated 7 February 2012 forms part of this report (ref. Annex 3). Projected funding for 2012 is robust.

A total of 63 projects were closed during the year and, as at 31 December 2011, 88 projects were still active (the New Year began with 115 active projects). In 2010, income was generated from 143 different projects, of which 47 projects were closed by year's end. In 2011, income was generated from 126 individual projects, some overlapping from 2010. GRID-Arendal's funding reserve was reduced by 28% in 2011 compared to the previous year (i.e. from MNOK 7.4 in 2010 to MNOK 5.3).

GRID-Arendal's institutional commitment and cumulative efforts to mainstream Results-based Management (RbM) into its programme operations and reporting over the past two years are visible in this Final Report for 2010-2011. There is room for improvement and growing recognition that the alternative to RbM is not the status quo but a gradual deterioration in quality and capability. And that is not an option.

Going forward greater attention will be paid to incorporating critical elements of RbM in the project cycle – including clearly defined goals, indicators and targets, a demand-led approach, stakeholder analysis, and identification of risks and associated mitigation planning. Staff is increasingly

aware of the importance of tracking progress and, above all, identifying, substantiating and reporting on results. An active training programme will be implemented to help achieve this goal.

GRID-Arendal and UNEP are moving in step with one another to enhance the working relationship on both the strategic and operational levels through the application of RbM principles. Important progress has been made in strengthening coordination processes, principally through joint consultations on how best to apply RbM principles to joint reporting responsibilities and, most important, to joint design, management and implementation responsibilities. While RbM holds the key for strengthening the effectiveness of GRID-Arendal / UNEP collaboration at the operational level, where it counts the most, the significance of joint efforts to better align the institutions at the strategic level cannot be underestimated.

Thus, a major related undertaking in 2012 will be the revision of GRID-Arendal's corporate strategy (current strategy runs up to 2013), to coincide with the next cycle of UNEP's medium term strategy. Closely correlated to this task is design and implementation of an organisation-wide framework to continuously monitor and evaluate (M&E) performance against the strategy. The M&E framework will include systems for establishing baselines and measuring well-defined performance indicators to help ensure that goals are relevant and realistic, and that outcomes and impact are achieved efficiently and effectively over time.

3 Introduction

This is the Final Report on the Programme Cooperation Agreement (PCA) between the Norwegian Ministry of Foreign Affairs (MoFA) and GRID-Arendal for the period 2010-2011 (the 'biennium'). To avoid duplication of the information already provided in the Progress Report for 2010, the Final Report *focuses on 2011 programme delivery and on the results that have been achieved during 2011*, rather than simply repeating and updating the previous report.

Adhering to the terminology and principles associated with NORAD's guide on Results Management³, the effects of

GRID-Arendal's work under the PCA fall into one of three categories along the results chain: **outputs**, defined as the direct products and services generated by programme activities; **outcomes** are the effects that these products and services have on the target group, what the PCA is intended to accomplish as a contribution to the impact; and **impact** is the long-term change, or improvement that occurs in society or the environment.

3. Results Management in Norwegian Development Cooperation: A practical guide. NORAD on behalf of Norwegian Ministry of Foreign Affairs (December 2008)

4 Attribution

While clear causal links – from inputs and activities through outputs to outcomes and impacts – form the basis of project design, the **attribution** of a particular result tends to become more tenuous along the results chain. GRID-Arendal's outputs are relatively easy to identify and attribute. Direct linkages to outcomes and impacts, however, are generally harder to establish, invariably because of process time-lags ('project gestation'), the difficulty of tracking the absorption of specific information by diverse end-users before they take decisions, and/or because decisions, especially those related to the environment, are rarely taken on the basis of a single information source. Despite these limitations in attribution, considerable evidence is available and presented in this report to trace direct and indirect linkages from positive outcomes or impacts back to the work of GRID-Arendal. Beyond this, there is anecdotal evidence to support indications of progress towards desired outcomes and impacts.

It is well understood that certain outcomes and impacts only become apparent long after the products or services are delivered – especially when these products target decision-makers. Because of this time lag, the ultimate results of certain GRID-Arendal projects that pre-date the biennium report are only now beginning to make themselves felt (the impacts of the UNEP Shelf Programme and the Blue Carbon initiative are cases in point). This implies that significant results from this biennium's activities may not materialize, and may not be objectively verified until a substantial period of time has passed. In addition, many of GRID-Arendal's projects are implemented over longer than a two-year period and results could be cumulative over the whole period and beyond. For these reasons, reporting on the programme of work, to a certain extent, looks both back in time and into the future, reflecting on-going programme delivery and measured progress towards achieving outcomes and impacts.

5 Scope and context

While the Final Report places emphasis on the detailed work programme outlined under the PCA, the review of programme implementation also summarizes some of the work undertaken by GRID-Arendal beyond that Agreement (for example in relation to activities implemented under the Polar and Cryosphere Programme). This is done to show the close integration within and across the programme areas and the co-benefits that derive from sharing skills, partners and expertise between projects. However, the outcomes and impacts that are highlighted in the chapters below can all be ascribed to projects funded by MoFA.

In 2010 GRID-Arendal implemented its work programme according to the three focal areas discussed above.

For the revised 2011 Work Programme, however, Environmental Assessments and Information was subdivided into (i) Capacity Building and Assessments, and (ii) Communications and Outreach. While the Final Report reflects this functional division, it should be noted that the 'cross support' provided by Communications and Outreach (e.g. cartography, layout, publication support, digital integration, and web development) are intricately related to the operations of the other three units. Therefore, the contributions to GRID-Arendal's strategic objectives made by the unit are to a significant extent reflected in the activities of the other units and, consequently, in the narrative of this report.

6 Methodology and structure

In an effort to illuminate the connection between planned activities and their associated results and achievements – and to reduce duplication of information – the report unites implementation description and results assessment in chapters 7 through 9, as they relate to the four focus areas – Marine, Polar & Cryosphere, Environmental Assessments & Information, and Communication & Outreach.⁴ Within each of these, a narrative for major projects or programmes that covers both implementation and, where possible, results are provided. Discussion of results is easily identified in the narrative by blue text.

The second chapter summarises the status of implementation, delivery and results of the Work Programme carried out under the PCA. Chapter 10 presents comprehensive financial information for the biennium period. The report concludes by summarizing some of the key considerations for programme management including

deviations from, and adjustments to the programme, problems and risks encountered, Work Programme efficiency and effectiveness and, last but not least, insight into lessons learned. The gender dimension is addressed in the report through discussion of individual interventions where relevant, rather than as a 'stand-alone' segment.

Annex 1 provides further details of 2011 activities, outputs and indicators under specific parts of the programme. A global map on the distribution of activities under the UNEP Shelf Programme is contained in Annex 2. Annex 3 presents a letter from the auditors regarding GRID-Arendal finances, while Annex 4 provides a complete list of the publications produced in 2011. Implementation, outcomes and impact of GRID-Arendal's Programme of Work 2010-2011.

4. In contrast to the 2010 Progress Report, which had separate chapters for implementation and results, respectively.

7 Marine environment

7.1 UNEP Shelf Programme

The **UNEP Shelf Programme**⁵ continues to be the main focus of GRID-Arendal's Marine Programme. Since 2003, GRID-Arendal has assisted 68 developing countries with the submissions required to establish the outer limits of their continental shelves.⁶ This assistance – the work flow for which is shown in Figure 1 below – comprises more than 90% of all the developing states that have submitted, or are preparing to submit applications to the United Nations Commission on the Limits of the Continental Shelf (CLCS). The global map contained in Annex 2 illustrates the states that have received assistance and the nature of that assistance, ranging from awareness raising to capacity building to facilitating data access to GRID-Arendal's *One Stop Data Shop (OSDS)*. Since 12 May 2009 (the deadline for most states to make their initial submissions), the focus of the UNEP Shelf Programme has been to assist developing countries in transforming their Preliminary Information Documents (PIDs) into full submissions.

In close consultation with MoFA, assistance to Africa is channelled through the *Norwegian Continental Shelf Initiative* the guiding principles of which are displayed in Box 1 below. The Norwegian Petroleum Directorate Data has primary responsibility for data acquisition, while the Norwegian Mapping Authority provides assistance with baseline determination. UNEP supports the initiative with technical and capacity building support through the UNEP Shelf Programme.

Box 1: Guiding principles of the Norwegian Continental Shelf Initiative in West Africa

- African *ownership* to enable states to exercise their rights to natural resources
- Multilateral *cooperation* to resolve contentious issues of maritime delimitation and to achieve higher efficiency and cost-effectiveness
- *Targeted* Norwegian technical and financial support

i The *West African Regional Desktop Study*, completed in November 2010, provided a foundation for a regional data acquisition and capacity building programme. The data acquisition activity currently underway represents the most comprehensive morphological and structural research undertaken in the region to date. Moreover, the programme represents unprecedented regional cooperation by the six West African States involved – Cape Verde, Gambia, Guinea, Guinea-Bissau, Mauritania and Senegal (see box below).

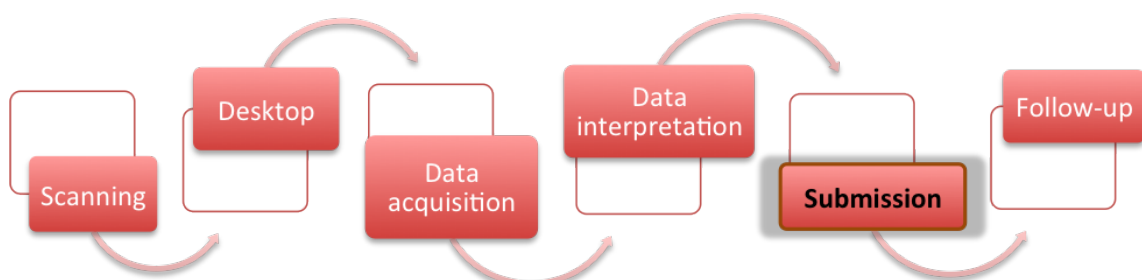
“In some parts of the world the provisions of UNCLOS relating to the continental shelf and the exclusive economic zone have led to new international tensions due to unresolved issues of maritime delimitation...We are pleased to see the interest our initiative has generated among African coastal States. We are particularly pleased by the Framework Agreement on Sub-regional Cooperation on the Establishment of the Outer Limits of the Continental Shelf beyond 200 Nautical Miles signed in New York on 21 September 2010 by Cape Verde, Gambia, Guinea, Guinea-Bissau, Mauritania and Senegal and by the Agreement on Technical and Financial Cooperation which we have signed with the same six West African coastal States.”

Source: Extracted from *African Ownership, African Cooperation, Norwegian Support, African-Norwegian Cooperation on the Establishment of the Outer Limits of the Continental Shelf beyond 200 Nautical Miles* – a lecture by Hans Wilhelm Longva, Ambassador en Mission Spéciale, Royal Norwegian Ministry of Foreign Affairs delivered in November 2011 at the Centre for Studies and Strategies, Ministry of External Relations in Praia, Cape Verde

5. <http://www.grida.no/publications/shelf-last-zone/>

6. http://www.un.org/depts/los/clcs_new/issues_ten_years.htm

Figure 1: UNEP Shelf Programme – Work Flow





Shelf data acquisition mission conducted by Mauritanian & Cape Verdian scientists

The programme of capacity development for technical personnel from each of the West African States has also commenced. It aims to develop an understanding of the concepts of Article 76 of the UN Convention on the Law of the Sea (UNCLOS),⁷ the steps involved in the submission process, and the technical capacity to participate in the preparation of the submission. Two workshops organised in 2011 successfully established the framework for producing the submissions and strengthened the capacity of country officials to analyse the geo-scientific data currently being collected. MoFA provided each of the 12 participants (2 from each state) with computer equipment and GEOCAP software⁸ licences to enable them to continue working in the period between the scheduled workshops.

“I first encountered the UNEP Shelf Programme in September 2008 in Windhoek when I attended a workshop organized by amongst other institutions, UNEP. The training workshop was on the procedures and processes of delineating the outer limits of the continental shelf in accordance with article 76 of the UNCLOS. This event and my subsequent interactions with the programme have not only enhanced the advancement of the target project, but (have) also positively impacted my personal career development.

At the national level, the interactions kick-started a process (still going on) that would eventually result in a submission on the continental shelf project. It has reinvigorated our efforts and built momentum for our national committee. On the personal level, these interactions have increased my understanding of UNCLOS-related concepts, hence broadened my experience. The programme has also served as a platform for networking with colleagues from different professions and countries. These experiences I continue to share with colleagues and members of The Gambian national committee on continental shelf project.”

Extract from a personal communication from Jerreh Barrow, Assistant Director, Geological Department, Office of the President and focal point for the Gambian continental shelf project, 3 February 2012

i Although the long-term training programme is at an early stage, a high level of enthusiasm and commitment from the participants has been observed (see box), which is a precondition for success. Significant cooperation among participants in regard to data sharing and knowledge transfer – “geoscientists without borders” – is further evidence that the programme is having the intended effect.

i The OSDS currently facilitates access to data generated by approximately 17,000 marine surveys. Developing countries have made extensive use of this unique resource for preparing shelf submissions, demonstrating relevant and tangible outcomes from the use of the OSDS. By early 2012 there had been 5,258 external downloads of Extended Continental Shelf data files (so-called ‘shapefiles’) from 1,008 unique sites.

The UNEP Shelf Programme has continued to work with **partners in the Pacific region**, principally the Applied Geoscience and Technology Division (SOPAC) of the Secretariat of the Pacific Commission (SPC), Geosciences Australia and the Commonwealth Secretariat. Of the nine states engaged in extended continental shelf delimitation over the last four years, five – Papua New Guinea, Solomon Islands, Federated States of Micronesia, Vanuatu and Fiji, as displayed in the map below – are still working to convert PIDs into final submissions. Part of this work is now moving forward due to the collection of new data by the Government of Papua New Guinea.

GRID-Arendal has supported development of the data acquisition plan and coordinates data compilation for distribution at the regional workshop scheduled for February 2012. All states now have sufficient data to finalise their submissions apart from the remote island state of Kiribati, which is still in the process of collecting the underlying data to support their submission, planned for May 2013.

7. http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm

8. <http://www.geocap.no/content/software>

i The success of the Pacific Island regional cooperation on extended continental shelf delimitation is in no small part reflected in the development of a regional, inclusive approach to general boundary delimitation that holds the potential for strengthened collaboration among participants. The 2011 capacity building programme included technical and legal support for the negotiation of the 22 cases of unresolved boundaries in the region. The inclusion of maritime boundaries that were not originally foreseen has resulted in the expansion of the number of countries participating in the programme, which now totals 13 countries.⁹

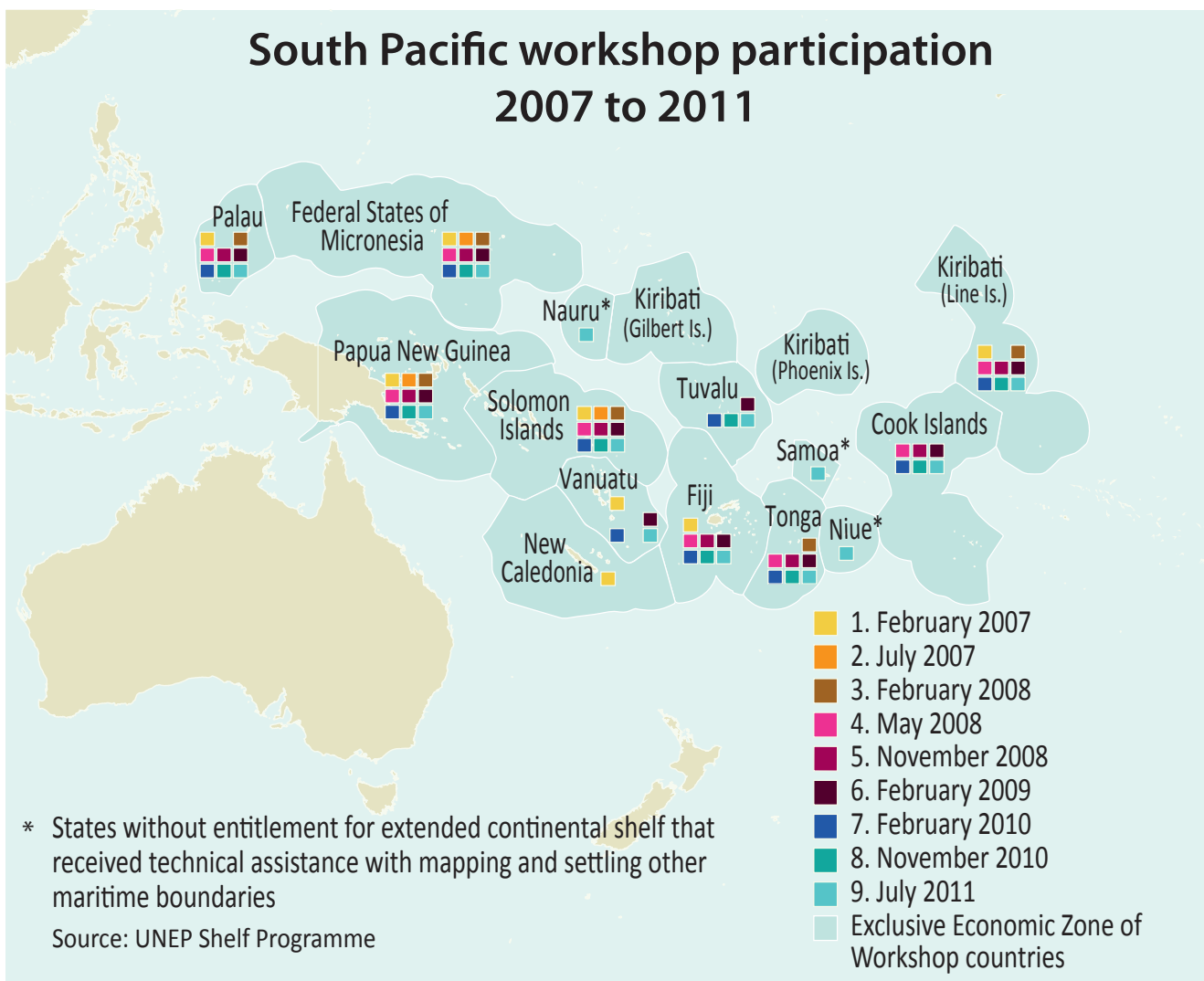
“The first expanded Pacific Island boundary delimitation workshop has achieved more in these past two weeks, to progress the legal establishment of maritime boundaries in the region, than has been achieved in the past 25 years.”

Statement by Mark Alcock, Project Leader, Law of the Sea and Maritime Boundary Advice Project, Geoscience Australia, during the workshop held 11-22 July 2011 in Sydney, Australia

Other states that received support in preparing or finalising their submission document during 2011 include Madagascar, Tanzania, Seychelles, Bangladesh and Chile. In addition, preliminary discussions were held with Sierra Leone, Uruguay, Chile and Costa Rica, a clear demonstration of continued demand for the services provided by the initiative.

i An anticipated outcome of the UNEP Shelf Programme is that relevant persons in governments and other institutions will have acquired sufficient technical expertise to gather and compile the specific data on outer shelf limits required for the State’s submission and to present this in the prescribed format and time. They should also be able to defend the submission to the CLCS when the time comes. The ultimate goal (impact) is that the Commission makes a recommendation on the

9. Cook Islands, Kiribati, Federated States of Micronesia, Palau, Tonga, Fiji, Papua New Guinea, Tuvalu, Vanuatu, Niue, Samoa, Nauru and the Marshall Islands



South Pacific workshop participation 2007 to 2011

outer limit of the continental shelf and the recommendation is adopted, thereby enabling the State/s to establish their shelf limits beyond 200 nautical miles.

i The CLCS has a heavy workload and there is a considerable delay in processing submissions after they are lodged. Until 2011, none of the submissions by States that had received support from the UNEP Shelf Programme had been through the complete process so it was not possible to confirm that the data component of the submissions was sufficiently complete, accurate and well presented for the CLCS to make its recommendation. However, this is no longer the case. Consideration by the CLCS of a joint submission by the Republics of Mauritius and the Seychelles was finally completed in March 2011. The successful result indicates that the UNEP Shelf Programme is responsive to demand and capable of delivering high quality support.

PROCESS OUTCOME – PROGRAMME IMPACT!

Following a request from Mauritius and Seychelles, GRID-Arendal assisted in the preparation of a joint submission to the Commission on the Limits of the Continental Shelf (CLCS) concerning the outer limits of their continental shelves in the Mascarene Plateau region. The submission was lodged with the CLCS on 1 December 2008 and, over the intervening 28-month period, underwent intense scrutiny by an appointed Subcommittee of the CLCS. At last, the UNEP Shelf Programme was put through its ultimate test – was the data component of the submission sufficiently complete, accurate and well presented for the CLCS to make its recommendations? *Read on for the conclusion of the process!*

The submission review and recommendations are summarized in a publicly available document on the CLCS website. The following excerpts from that document demonstrate that the Subcommittee and Commission rigorously vet submissions, placing the detailed scientific and technical data under intense scrutiny. The excerpts also show that the countries concerned must be capable of responding to queries and disagreements raised; every issue must be resolved through an iterative process before recommendations are made.

“The Subcommittee agreed with the approach adopted by the two coastal States to identify the base of the continental slope along the eastern margin of the Mascarene Plateau, and, in general, with its location. In particular, it agreed with the locations of critical FOS points MM-2, MM-6, MM-7, MM-8, MM-9, Fsk, F2 and V1412, as originally submitted. However, the Subcommittee did not agree with the location of FOS points MM-1, MM-3_R, MM-5.” “The two coastal States agreed with the view of the Subcommittee, and revised the location landward...to new FOS point MM-5_R”.

“...The Subcommittee informed the two coastal States that it disagreed with the manner in which the Geocap analysis of the bathymetric profile that was used to determine this FOS point had been performed, and that in its view the FOS point should be located about 7 km to the west.”

“...The Commission concludes that, in the Mascarene Plateau region, the fourteen relevant FOS points listed in Table 1...fulfil the requirements of article 76 of the Convention and Chapter 5 of the Guidelines.”

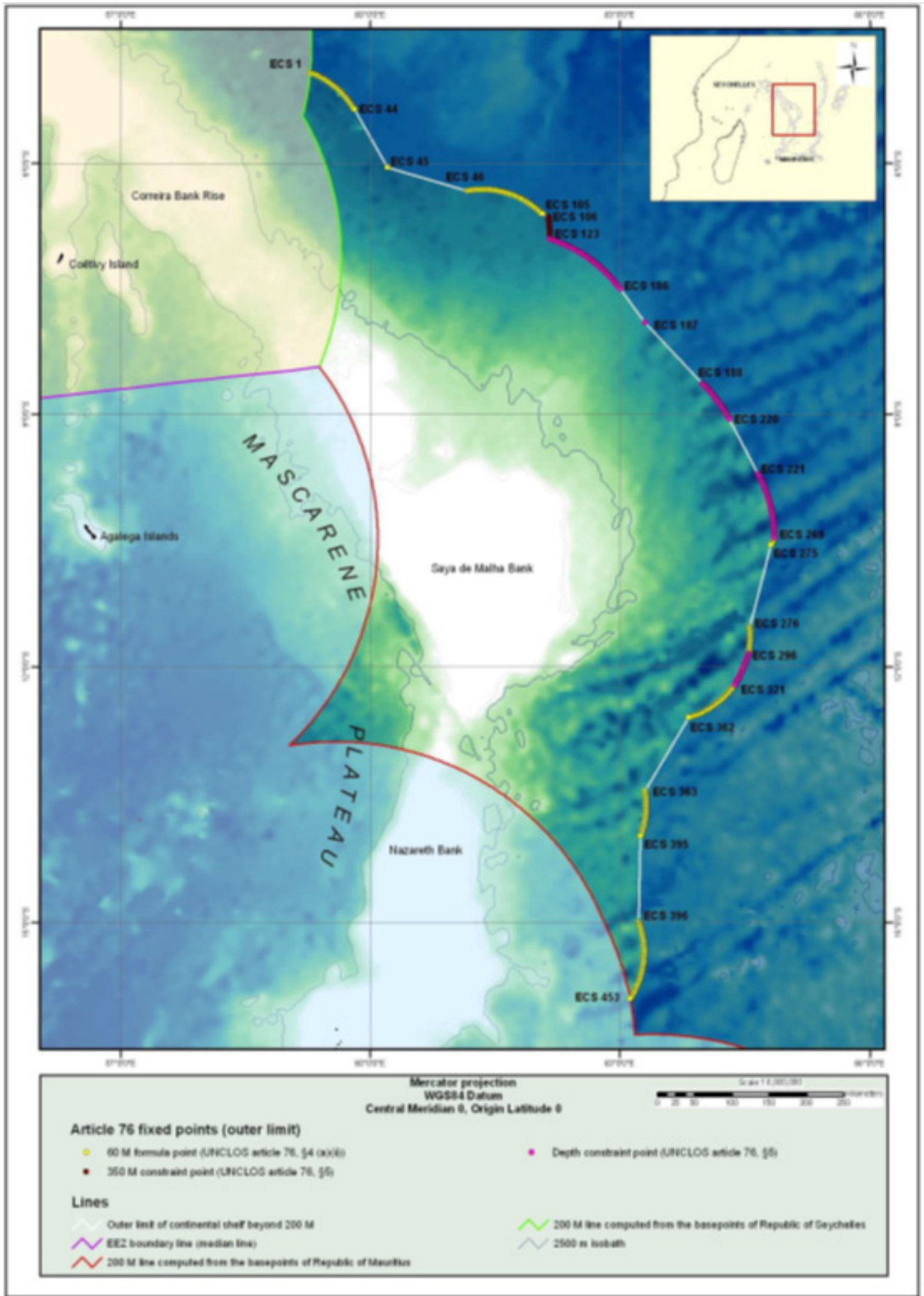
“The Commission agrees with the way the fixed points delineating the outer edge of the continental margin have been established by the two coastal States in the eastern area of the Mascarene Plateau region.”

“The Commission agrees with the procedure and methods applied by the two coastal States in the construction of this constraint line. The Commission recommends that the depth constraint lines for the continental margins of the two coastal States are constructed as submitted by the two coastal States.”

“The Commission also agrees that in the western area of the Mascarene Plateau region the two coastal States have demonstrated...and have entitlement to continental shelf beyond 200 M that extends up to...”

On 30 March 2011, the Commission unanimously adopted the “Recommendations of the Commission on the Limits of the Continental Shelf in regard to the joint submission made by Mauritius and Seychelles concerning the Mascarene Plateau region on 1 December 2008”. The outer limits of the continental shelf were successfully determined through the process, to the benefit of both countries, and the map is redrawn.

“The Commission recommends that the delineation of the outer limits of the continental shelf of the two coastal States in the Mascarene Plateau region be established in accordance with article 76, paragraph 7, of the Convention by straight lines not exceeding 60 M in length, connecting fixed points, defined by coordinates of latitude and longitude as listed in Table 3, Annex 1, and illustrated in Figure 10. The Commission recommends that the two coastal States proceed to establish the outer limits of the continental shelf in the Mascarene Plateau region from fixed point ECS 1 to fixed point ECS 453 accordingly.”



Map showing the outer limits of the continental shelf of the two coastal States beyond 200 M from the baselines from which the breadths of their territorial seas are measured in the Mascarene Plateau region (GRID-Arendal)

7.2 Management of the marine environment

The focus that the extended continental shelf work has given to sustainable marine management, and the contacts established through that programme, will underpin the Marine Ecosystem Management (MEM) part of the Marine Programme going forward.¹⁰ In this context, the **Sustainable Seas Programme** is a follow up of the UNEP Shelf Programme targeting “downstream” activities to support developing states in the sustainable management of the marine environment. A partnership is envisioned with UNEP, IOC, Norwegian institutions and others and, building on the network of contacts developed through the UNEP Shelf Programme, the first phase will focus on the same geographic areas. A Memorandum of Understanding has already been signed with the Abidjan Convention and a pilot workshop is planned in West Africa to identify capacity development priorities and needs in five thematic areas.¹¹

The aim of GRID-Arendal’s **Blue Carbon Initiative**, a significant strategic outgrowth of the MEM since 2010, is to integrate Blue Carbon-related ecosystem management into national and regional policy design. There is a great need to assist coastal and island states to meet UN Millennium Development Goals, promote the sustainable management of coastal Blue Carbon ecosystems through climate change adaptation and mitigation, recognise and value coastal ecosystem services, and strengthen institutions and capacity for sustainable management practices.

During 2011, the following Blue Carbon-related activities were initiated:

- **Arabian Peninsula Assessment Project** – Under contract to the Abu Dhabi Global Environmental Data Initiative (AGEDI), GRID-Arendal undertook a first level policy and science exploration of Blue Carbon for the Arabian Peninsula. Over 40 meetings were held with local, national, and regional authorities and organisations throughout the region, including in the United Arab Emirates (UAE), Qatar, Kuwait, and Jordan. The Blue Carbon - *First level Exploration of Natural Coastal Carbon in the Arabian Peninsula* report¹² was launched at the Eye on Earth Summit in Abu Dhabi in December 2011. It focuses on opportunities to advance Blue Carbon in Abu Dhabi and the UAE and also explores the concept in a regional context.
- **Eye on Earth Summit** – In partnership with AGEDI and the Washington DC-based non-profit, Blue Climate Solutions, GRID-Arendal put the spotlight on Blue Carbon at the Eye on Earth Summit, a major international event held in December 2011 and jointly hosted by the Environment Agency Abu Dhabi (EAD) and UNEP. The summit promoted the theme of knowl-

10. The MEM currently has 5 focus areas: Shelf + Blue Carbon; Sustainable Seas Programme; EbM/Spatial Planning; Green Economy in a Blue World; Natural Resources

11. Marine data and information management, marine assessments, outreach and communication, green economy, and offshore oil and gas environmental management

12. <http://www.grida.no/publications/blue%2Dcarbon%2DArabian%2Dpeninsula/>



Peter Prokosch, MD of GRID-Arendal, in Blue Carbon debate at Eye on Earth Summit in December 2011 (photo by Robert Barnes)

edge sharing, specifically how to enhance access to the world's expanding pool of environmental information. Blue Carbon was the subject of a high-level panel discussion at one of the select 'Main Stage' events, but also of an "International Breakout Session" that brought together many grassroots and community-based organisations and leading international development and finance organisations.¹³ In addition, a Regional Workshop was arranged to discuss bottom-up approaches to advance Blue Carbon in the Arabian Peninsula.

- On the final day of the Summit, eight Special Initiatives were announced for the region, one of which is dedicated to Blue Carbon (**'Eye on Oceans: Blue Carbon'**).¹⁴ As a result of active participation in the summit, GRID-Arendal is invited to submit funding proposals for activities planned for 2012 and beyond. During the Blue Carbon International Breakout Session, a spokesperson for the EAD expressed interest to include Blue Carbon ecosystems in the United Arab Emirates' Nationally Appropriate Mitigation Action (NAMA) programme. Further anecdotal evidence that the Summit provided GRID-Arendal with an effective platform for raising awareness about both the critical importance of Blue Carbon and the role the organisation is playing in putting the issue on the policy agenda, are consultations with Belize, the Bahamas, and Seychelles following an invitation to explore the production of rapid blue carbon assessments.¹⁵
- **UN Carbon Calculator iPhone App** – In support of UNEP, GRID-Arendal produced a 'blue and green' iPhone application, available on the iTunes Store for free download, that was launched at the official opening of the One UN Pavilion at the Eye on Earth Summit.¹⁶ The application allows users to access information on UNEP's work on Blue Carbon and REDD (Reducing Emissions from Deforestation and Forest Degradation) and includes a carbon calculator for assessing emissions related to travel and the mitigation potential of terrestrial and marine ecosystems.
- **GEF Blue Forests Project** – In support of UNEP, GRID-Arendal is managing the Project Preparation Grant (PPG) for the Global Environment Facility's (GEF) Blue Forest's project. The initiative has the objective of advancing Blue Carbon methodologies, including the valuation of ecosystem services for coastal ecosystems, and includes a number of demonstration projects, policy education activities, and an extensive programme of public outreach.

i GRID-Arendal's Blue Carbon outreach and awareness-raising activities also included briefings for the Norwegian Ministry of the Environment and the US State Department. In March 2011, the organisation was



Dugong, UAE (photo by Yusuf Thakur)

invited to brief the US State Department on Blue Carbon, specifically to help guide the US stance on this issue with regard to international climate change negotiations. The briefing was organized with support from Blue Climate Solutions, The Ocean Foundation, and the IUCN. The US government has since supported the introduction of Blue Carbon at the Bonn Climate Change Conference 2012 (6-17 June).¹⁷

The 2009 *Blue Carbon report* continues to influence the policy arena, as events in 2011 testify:

- Blue Carbon was introduced into official *UN climate change discussions* at the 34th session of the Subsidiary Body for Scientific and Technological Advice (SBSTA),

13. Participating groups included Conservation International, Blue Ventures, the Indonesian Blue Carbon Working Group, IUCN, AGEDI, Blue Climate Solutions, Forest Trends, Mangrove Action Project, West African Association for Marine Environment (WAAME), WCMC, and UNEP
 14. The Summit Declaration, which will be forwarded to Rio+20, welcomes the special initiatives and calls on governments and other stakeholders to further contribute to their implementation. See http://www.eyeonearthsummit.org/sites/default/files/EoE_Summit_Declaration_EN_final_0.pdf

15. Following the Eye on Earth Summit, GRID-Arendal was invited to join a panel discussion on Blue Carbon at the World Oceans Summit in February 2012 in Singapore, organised by The Economist magazine.

16. <http://www.unep.org/newscentre/default.aspx?DocumentID=2661&ArticleID=8986>

17. ENB, Vol 12 No 503 - 7 June 2011: <http://www.iisd.ca/vol12/enb12503e.html>



Steven Lutz, GRID-Arendal, demonstrating the new iPhone application “Blue and REDD Carbon” at Eye on Earth Summit in Abu Dhabi in December 2011, UAE (photo by Robert Barnes)

in Bonn, Germany. According to the Earth Negotiations Bulletin (ENB),¹⁸ Papua New Guinea (PNG) introduced the issue of blue carbon on the agenda of the SBSTA, under the heading “On blue carbon: coastal marine systems,” underscoring the need to consider the carbon sequestration potential of wetlands and coastal systems;

- The US National Oceanic and Atmospheric Administration (NOAA) *launched a Blue Carbon web site*.¹⁹ NOAA’s Blue Carbon efforts include exploring how to incorporate carbon services into existing domestic and international policies and programs; helping to fill the science gaps in our understanding of coastal habitat carbon services; and providing support for efforts to develop protocols for including coastal carbon services in carbon markets. NOAA also initiated interagency Blue Carbon discussions during 2011;
- Indonesia established a *national Blue Carbon Working Group* focussed on implementing five demonstration projects;
- A flurry of reports were published exploring the science, economics and policy of Blue Carbon;²⁰
- In November 2011, the GEF Council approved *Blue Carbon in its work programme*;²¹
- Also in November, the creation of a *Global Blue Carbon Market* was promoted in an interagency paper towards Rio+20 issued by UNESCO, UNDP, FAO, and the IMO.²² The report proposes *inter alia* that “global acceptance of ocean and coastal habitats as a new form of tradable carbon market” be promoted “via a global blue carbon fund”; and

- In December, Blue Carbon was the subject of a side event at the UNFCCC COP 17 in Durban, South Africa facilitated by Bellona and IUCN.²³ At the conference Belize called for “more research to quantify the role that blue carbon can play in the global fight against climate Change.”²⁴

The project *Ecosystem-based Adaptation to climate change in Small Island Developing States (SIDS)* is still at an early stage, with the delivery of significant outputs expected in 2012. During 2011 the project built relationships with key players such as the Caribbean Community Climate Change Centre (CCCCC), the Protected Areas Trust of Belize (PACT) and the UNEP Regional Office for Latin America and the Caribbean (UNEP-ROLAC), as well as with potential donors, such as the International Climate

18. <http://www.iisd.ca/vol12/enb12503e.html>

19. <http://www.habitat.noaa.gov/noaablu carbonefforts.html>

20. Including: Blue Carbon Policy Options Assessment, produced with support from The Linden Trust for Conservation (Climate Focus, 2011); Mitigating Climate Change through Restoration and Management of Coastal Wetlands and Near-shore Marine Ecosystems: Challenges and Opportunities, supported by the World Bank, (Crooks et al., 2011); Green Payments for Blue Carbon: Economic Incentives for Protecting Threatened Coastal Habitats (Murray et al., 2011); and Blue Carbon Policy Framework, produced by IUCN and Conservation International (Herr et al., 2011).

21. <http://biodiversity-l.iisd.org/news/gef-council-approves-projects-on-biodiversity-and-blue-carbon/>

22. A Blueprint for Ocean and Coastal Sustainability - http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/interagency_blue_paper_ocean_rioPlus20.pdf

23. http://www.bellona.org/articles/articles_2011/oceans_blue

24. http://unfccc.int/files/meetings/durban_nov_2011/application/pdf/111207_cop17_hls_belize.pdf

Initiative (ICI). As part of this project, work has also begun with CICERO to conduct a meta-analysis of existing practices, policies and gaps in linking traditional and scientific knowledge for adaptation.

UNEP-ROLAC colleagues expect that the conclusions from this study will provide timely input into their work to conduct a climate change vulnerability and impact assessment in the fisheries and coastal farming sectors in the Caribbean region (scheduled to start in April 2012), as well as to the ongoing project on Integrated Coastal Management in Guatemala, Honduras, and Nicaragua.

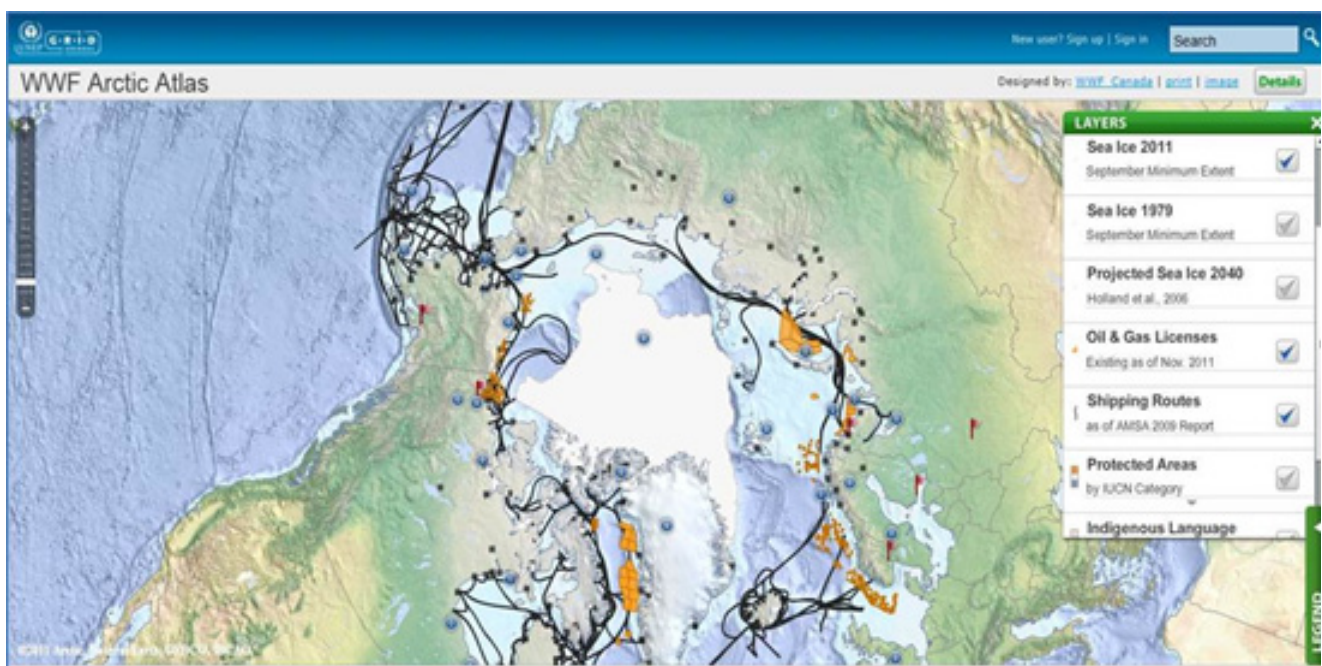
After almost 9 years of negotiation, 2011 finally saw concrete movement towards establishing the **United Nations Regular Process for the Assessment of the Marine Environment Including Socio-economic Aspects** (the 'Regular Process'). The first integrated global report is scheduled for delivery by the end of 2014. GRID-Arendal has been contracted to develop the reporting modalities required for States to contribute to the assessment report. The design and accessibility of the "document management system" will be integral to ensuring maximum participation in the process, especially by developing countries. In order to liaise effectively with the United Nations Group of Experts for the Regular Process (UN GOEs) in the development of the web-based tools, a senior marine scientist and member of the GOEs has been seconded to work at GRID-Arendal during 2012. In addition to the reporting system, GRID-Arendal is collaborating with Geosciences Australia and Conservation International to produce a global seafloor geomorphol-

ogy map to support the analysis and display of data submitted by member states.

7.3 Data management, visualisation and tools

GRID-Arendal is a partner in the joint Spain-UNEP project 'Broad-scale marine spatial planning of mammal corridors & protected areas in Wider Caribbean & South-east & Northeast Pacific' (2010-2012), which contributes to the LifeWeb Initiative of the Convention on Biological Diversity (CBD). GRID-Arendal has a lead role in providing technical support and guidance for the identification, collation and visualization of essential habitats and regional-scale migration routes for marine mammals. Outputs produced in 2011 are now under review for completion in 2012, with the objective of strengthened regional policies and protocols on transboundary marine mammal management and governance, and strengthened institutional frameworks.

The development of dedicated web-based data sharing and visualization tools designed for non-experts and the general public continued in 2011. The approach for the **Ocean Commons for Environmental and Natural resources Information and Data Sharing (OCEANIDS)** system is to encourage 'Citizen Science' by providing mechanisms for users to access public marine scientific datasets, upload their own data, visualize and combine datasets, make maps, and even perform basic comparative analyses.



The new Arctic basemap developed by GRID-Arendal, used to display some data in collaboration with the WWF Global Arctic Programme.

The GeoIQ platform²⁵ forms the backbone of OCEANIDS, which was used in 2011 to support the CBD process in identifying ecologically and biologically significant areas outside of national jurisdiction in the high seas of the North-East Atlantic. This exercise was the first in a global series of workshops the CBD has agreed to conduct. GRID-Arendal is planning to support further workshops and training activities in 2012, particularly in developing countries' regions, within the framework of the Sustainable Seas capacity development programme.

For improved visualisation of marine data, a new Arctic basemap was developed by GRID-Arendal and incorporated in the GeoIQ/OCEANIDS mapping tool. An interactive map of the Arctic has subsequently been prepared in collaboration with the Global Arctic Programme administered by the World Wildlife Fund (WWF). It includes layers on past, current and projected sea ice extent, shipping routes, industrial activities (oil and gas sector), communities, protected areas, distribution of indigenous peoples, and the locations and descriptions of WWF offices in the Arctic and projects coordinated by the WWF Global Arctic Programme.

Contributing to the *European Commission's European Marine Observation and Data Network (EMODNET)*²⁶ to improve access to high quality marine data for private bodies, public authorities and researchers, GRID-Arendal focused in 2011 on the identification of data from Lebanon, Israel, Turkey and North Africa. GRID-Arendal will continue to provide data mining and networking support to a number of non-EU developing states throughout 2012.

Natural gas emanating from a laboratory-produced methane gas hydrate set alight at the Hawaii Natural Energy Institute at the University of Hawaii. Photo: HNEI, SOEST, University of Hawaii



Collaboration was fostered in 2011 between GRID-Arendal and the **UNEP Mediterranean Action Plan (MAP)** through two agreements:

- During the first half of 2011 GRID-Arendal worked intensively with the UNEP/MAP team in the preparation of technical documents and the organization of meetings with state representatives in order to advance the Ecosystem Approach. This resulted in the definition of the ecological and operational objectives and indicators that will guide implementation of the Ecosystem Approach. The agreement on objectives and indicators will allow them to engage in the discussion of target levels and ultimately lead to targeted monitoring systems and programs.
- During the second half of 2011 GRID-Arendal worked in the development of the content of the *State of the Marine and Coastal Environment Report 2012* that will be concluded during the first half of 2012. The objective of the report is to synthesize the most advanced knowledge on major environmental issues for the further development of the Ecosystem Approach in the Mediterranean.

Global reservoirs of methane gas are increasingly recognised both as natural drivers of climate change and as a potential energy resource for development. The **Global Outlook on Methane Gas Hydrates**, due to be launched in 2012, is being prepared in collaboration with national workgroups from Norway, Canada, US, India, Korea, Japan and Germany, private sector companies (Statoil and Schlumberger) and NGOs (WWF, Forum for the Future (UK). In 2011 a new public outreach web portal was launched providing a multimedia experience of methane hydrates.²⁷

Together with the *Applied Geoscience and Technology Division (SOPAC)* of the SPC, GRID-Arendal is a partner in a major project to address legislative, regulatory, capacity requirements and environmental issues pertaining to deep sea mineral mining for countries in the Pacific region. The four-year **Deep Sea Minerals Project** aims to ensure sustainable resource management that will bring tangible benefits to Pacific island countries and their people. The first deliverable managed by GRID-Arendal, the Pacific Marine Mining Assessment, will be published in mid 2012. The three-volume report examines the scientific, technical, environmental, social and economic aspects of deep-sea mining. It brings

25. The GeoIQ mapping tool was used in 2011 for particular projects (OSPAR EBSA workshop, WWF) - but will from February 2012 be available to the public. See <http://www.geoiq.com/>

26. <https://webgate.ec.europa.eu/maritimeforum/category/160>

27. <http://www.methanegashydrates.org>



Wind turbines offshore/Scroby Sands wind farm, Caister-on-Sea, Norfolk, UK. Photo courtesy of: Adrian Beesley (iStock photo)

together the leading international experts in deep-sea mining and sustainable development to examine new ways to plan and regulate the development of non-living resources.

The first commercial deep-sea mining lease granted in Papua New Guinea territorial waters to mine 'high grade' Seafloor Massive Sulphide (SMS) deposits has triggered a growing interest in mining deep-sea minerals in the Pacific Region. SMS deposits include copper, gold, silver, zinc and lead. In addition to SMS, the seabed of the region is abundant in manganese nodules and cobalt rich crusts.

The pioneering atlas, the *Seafloor Geomorphology as Benthic Habitat: GeoHAB Atlas of Seafloor Geomorphic Features and Benthic Habitats*, was released in December 2011. Two hundred and thirty contributors have constructed 54 case studies of different geomorphic environments,²⁸ from coastal regions to the deep ocean basins. The case studies combine detailed seabed morphology²⁹ with benthic biodiversity analysis to yield an integrated picture of the benthic communities that are associated with different types of benthic habitat. This publication is the first product in an *international collaborative 5-year project* managed by GRID-Arendal that aims to provide tools to support sustainable management of the oceans both within and beyond national jurisdiction, with a focus on benthic environments.

Following the work on UNEP's Green Economy Report, GRID-Arendal was tasked with the development of two further reports in the Green Economy series. The *Green Economy in Small Island Developing States* will present how a green economy can help SIDS in addressing their unique challenges and vulnerabilities. The *Green Economy in a Blue World Report* will explore opportunities for greening six economic sectors³⁰ in order to protect marine ecosystems and their services while

supporting sustainable development. Beyond production and coordination of the report, GRID-Arendal is contributing analytic content on future exploitation of deep-sea minerals drawing on experience gained through the initiative with the Secretariat of the Pacific Community (SPC). GRID-Arendal will support the launch of the Synthesis Report³¹ in January 2012.

The *University of the Sea (UOS)*, a partnership between GRID-Arendal and the Intergovernmental Oceanographic Commission (IOC) of UNESCO, builds scientific capacity by bringing together senior researchers and young scholars to address marine science issues. In 2011 the UOS worked on expanding the programme to Africa and building relationships with the International Seabed Authority and the international scientific organisation, INTERIDGE. It is envisaged that in 2012 the UOS will begin delivering marine capacity building opportunities to developing country students in close partnership with these organisations.

28. Definition of geomorphic environment: Of or relating to the form of the landscape and other natural features of the earth's surface.

29. Definition of morphology: The study of the forms of things, in particular; the branch of biology that deals with the form of living organisms, and with relationships between their structures.

30. Fisheries and aquaculture; Maritime transport, Marine-based renewable energy; Ocean nutrient pollution; Coastal tourism, and; Deep-sea minerals.

31. At the 3rd Intergovernmental Review Panel of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities. The full report will be completed in time for the Rio+20 Conference.

8 Polar and cryosphere

The long-running Polar-specific dimension of the programme undertakes Arctic environmental assessments, capacity building, and activities that strengthen linkages between Arctic initiatives and global activities within UNEP's Programme of Work (PoW). Meanwhile, Cryosphere-related issues in the "third pole" – the Himalayas – are becoming increasingly significant to the project portfolio.

A key strength of the Polar and Cryosphere Programme is the extensive network of partners and stakeholders that has been built up over the past 15 years. Regular engagement with research centres, academia, NGOs, Indigenous People's groups and the private sector has helped expand involvement in key regional assessment reports and policy relevant activities in the Arctic and in strategically important mountain regions.

The latest multi-year initiatives focusing on environmental policymaking in the European Arctic began to take shape in 2011. GRID-Arendal is working, on the one hand, with the European Space Agency (ESA) and Arctic stakeholders to fine-tune the development of advanced space-based systems designed to provide the hard data and scientific underpinning for European policy-making. On the other hand, GRID-Arendal is spearheading an ambitious Arctic NGO forum to highlight and document emerging environmental issues and priorities as perceived by the NGO community that will directly feed into EU environmental policy-making on the Arctic region.

Cryosphere-related projects in the Himalayas and Mongolia take advantage of GRID-Arendal's long history of engagement in the Arctic region and apply those experiences to other vulnerable parts of the world. A recent illustration is the promising, long-term engagement with a key Norwegian partner, the Center for International Climate and Environmental Research – Oslo (CICERO), and a Nepalese partner, the International Centre for Integrated Mountain Development (ICIMOD), which involves an environmental assessment of vulnerable communities in the Hindu-Kush Himalayas that is intended to provide policy recommendations related to climate adaptation, food security, and long-term scenarios for water availability. Extensive links with Indigenous People's groups are also providing the foundation for engagement with communities dealing with climate adaptation in Mongolia and elsewhere.

Expanding GRID-Arendal's communication and outreach through the increasing use of photos, videos and multimedia graphics has led to greater use of these products by our network partners. The culmination of the Polar and Cryosphere programme assessments, stakeholder

engagements, and media activities is substantive contribution to the Polar section of the Global Environmental Outlook 5 (GEO5), which will be launched in June 2012.

8.1 Nomadic herders and land use change

The community-based **Nomadic Herders Project**³² commenced in 2010 and forms a part of the Climate Change portfolio of UNEP's PoW³³, which was endorsed by the UN Permanent Forum on Indigenous Issues (UNPFII) at its 9th Session in New York in 2010³⁴. Focusing on taiga reindeer and yak herding in Mongolia, the project aims at improved and regular assessment of the impacts of land use change and climate change on reindeer and yak herders, and on their adaptation options.

In June 2011, GRID-Arendal and its partners organised a community-based workshop in Tsagaannuur, the primary reindeer-herding district in northern Mongolia. Participants included reindeer herders from Mongolia, Russia and Fennoscandia, scientists, and local and national authorities. The purpose of the workshop – and a subsequent field trip to two of the herders' camps – was to consult with herders and other stakeholders on land use change and climate change impacts on the pastureland, as well as to assess options for effectively meeting the challenges of reindeer husbandry in Mongolia. Consultations in Tsagaannuur provided critical input for a policy paper on reindeer husbandry in Mongolia commissioned by the Mongolian Ministry of Nature, Environment and Tourism (MNET), *Changing Taiga: Challenges for Mongolia's Reindeer Herders*.³⁵

Awareness of the project, and sensitization of policy implications, have been actively promoted:

- At the UNPFII 10th Session in May 2011, GRID-Arendal co-hosted a side-event on pastoralism and land use change;³⁶

32. www.nomadicherders.org

33. The Ecosystem-based Adaptation project (1aP3, output 1-6)

34. Report of 9th Session (E/2010/43-E/C.19/2010/15) United Nations Permanent Forum on Indigenous Issues Paragraph 137, at http://nah-uacalli.org/Report_of_9th_Session.html

35. Johnsen, K.L., Alfthan, B., Tsogsaiikkhan, P., and Mathiesen, S.D. (eds). 2012. *Changing Taiga: Challenges for Mongolia's Reindeer Herders*. Portraits of Transition No. 1., United Nations Environment Programme, GRID-Arendal <http://www.grida.no/publications/pot/changing-taiga>

36. http://icr.arcticportal.org/index.php?option=com_content&view=section&layout=blog&id=19&Itemid=111&lang=en

- Based on findings and discussions with herders, GRID-Arendal coordinated the development of a joint UNEP/Mongolian/Russian GEF proposal for appraisal in 2012 to address transboundary challenges of southern taiga reindeer husbandry; and
- The Nomadic Herders project has provided input to a report on pastoralism and land use change for the 2012 session of the UNPFII. The project is featured in the UNFCCC's Ecosystem-Based Adaptation Calendar 2012 (see cover and December pages),³⁷ analysed as a case study on ecosystem-based approaches to adaptation,³⁸ and listed in the document Ecosystem-based approaches to adaptation: *Compilation of information* prepared for the 35th session of the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) in December 2011.³⁹

i The Nomadic Herders Project has contributed to heightened awareness of threats and opportunities faced by reindeer herders in Mongolia, primarily by rectifying a serious knowledge gap among decision-makers and facilitating dialogue between stakeholders. The key output in 2011, *Changing Taiga: Challenges for Mongolia's Reindeer Herders*, responded to a direct request from MNET to assess Mongolia's reindeer husbandry, and served as the proto-type for development of the new GRID-Arendal publication series, "Portraits of Transition (POT)".

The participatory approach of the project, whereby reindeer herders in Mongolia are collaborators in planning and implementation, has yielded major benefits in terms of expanding community participation and redressing gender bias. As reindeer husbandry in Mongolia is a family-based livelihood with gender specific responsibilities, the project has engaged both women and men through workshops, mapping exercises, interviews and discussions.

As a way of ensuring sustainability in the initiative, young reindeer herders from Mongolia, Russia and Fennoscandia have been actively engaged in project activities, providing unprecedented opportunity to exchange knowledge and experiences with other herding communities. Thus far, two young herders from Mongolia attended a seminar on traditional knowledge in Kautokeino, Norway in March 2011, and three young herders from Norway and Sweden were part of the delegation that visited Mongolia in June 2011. Fully in line with the concept of "free prior and informed consent"⁴⁰ promoted by the United Nations Dec-

37. http://unfccc.int/files/adaptation/application/pdf/nwp_cal_2012.pdf

38. http://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/6227.php

39. <http://unfccc.int/resource/docs/2011/sbsta/eng/inf08.pdf>

40. Free, prior and informed consent ("FPIC") is generally understood as the right of indigenous peoples to approve or reject proposed actions or projects that may affect them or their lands, territories or resources.



A community meeting with the 14 families of Camp 1 takes place in the East Taiga, June 2011 (photo by Lawrence Hislop)



Mapping out the challenges and opportunities for reindeer husbandry in the West Taiga (photo by Lawrence Hislop)



The Arctic Council's Senior Arctic Officials meet in Luleå, Sweden, 2011 (photo by Melinda Ballard)

laration on the Rights of Indigenous Peoples,⁴¹ the participatory approach has helped build a foundation of trust with and among local partners.

The project has also elicited positive feedback from other UN agencies and programmes, such as the UNFCCC and UNESCO, which requested GRID-Arendal to provide a case study for its work programme, and content for an upcoming Arctic publication, respectively. In addition, the Arctic Council Conservation of Arctic Flora and Fauna (CAFF) Board has been sensitized and will consider formal endorsement at its Board meeting in February 2012.

A clear spin-off of the Nomadic Herders Project is a new initiative on reindeer herding and youth that will be implemented by the Arctic Council's Sustainable Development Working Group, where GRID-Arendal is also a partner. The project will apply the latest scientific data, knowledge and experience on land use change – including indigenous knowledge (IK) – to build the capacity of and create a dialogue of understanding between, indigenous reindeer-herding youth and industrial developers.

Although the remainder of GRID-Arendal's polar and cryosphere work is funded from outside the Framework Agreement,⁴² the overall programme has been developed holistically in order to maximize synergies between projects and partnerships. The status of the rest of the programme as of the end of 2011 is summarized below to show the many opportunities for possible leverage around recurring themes.

As **UNEP's Polar Centre** GRID-Arendal maintained regular dialogue with the UNEP Polar Team throughout 2011 and continued to assist UNEP with its Polar Strategic Action Plan 2011-2013. Eye on the Arctic, a quarterly newsletter established by the Polar Centre in 2010, proved a useful internal coordination and information-sharing tool, pro-

viding UNEP colleagues with timely updates on GRID-Arendal and wider UNEP-led activities in the polar region. Through GRID-Arendal, UNEP is an official observer at the Arctic Council (AC) where GRID-Arendal also participates in its capacity as UNEP's designated Polar Centre, working closely with relevant AC working groups.

Throughout 2011 GRID-Arendal strengthened its collaboration and networking with existing and emerging Arctic stakeholders, such as the European Union, and was proactive in identifying new opportunities to contribute its specialised expertise in polar and cryosphere initiatives, many of which are relevant to UNEP's programmatic areas. The selection of 2011 outputs presented below demonstrates a diverse, forward-looking project portfolio that effectively integrates GRID-Arendal's work with international initiatives:

- A film, to be completed in 2012, was commissioned by the AC Conservation of Arctic Flora and Fauna Working Group (CAFF) based on the findings of the *Arctic Biodiversity Trends 2010* report;⁴³
- The Polar programme consulted regularly with partners of the International Polar Year (IPY) to support the legacy of this initiative and discuss continuation of existing climate-related projects.⁴⁴
- In collaboration with ECORYS Netherlands, GRID-Arendal is coordinating the establishment of a new

41. <http://www.un.org/esa/socdev/unpfii/en/drip.html>

42. The Many Strong Voices and Himalaya Climate Change Adaptation Programme (HICAP) are both funded indirectly, via CICERO, by the Ministry of Foreign Affairs. GRID-Arendal will report jointly on these projects through CICERO, as required by MoFA.

43. <http://www.arcticbiodiversity.is>

44. http://www.wmo.int/pages/prog/www/WIGOS_1_OSD/Reports/IPD_workshop_final_report.pdf

Arctic NGO forum to promote civil society dialogue, collaboration and action on Arctic issues. The forum is being seed-funded by the European Commission for 3 years; and

- Throughout 2011, GRID-Arendal participated in discussions on the creation of an *EU Arctic Information Centre* to be funded by the European Commission.⁴⁵ Led by the Arctic Centre of the University of Lapland and made up of a network of more than a dozen organisations, GRID-Arendal is on the steering panel and is expected to play a central role through its expertise in visualising data, communications, and its global links through UNEP.

Collaboration was strengthened with the **University of the Arctic (UArctic)**. Advancing UNEP's focus on green economy, GRID-Arendal and UArctic co-sponsored a seminar on the theme of Green Growth in the Arctic, which attracted high-profile speakers from Iceland, Finland, and Sweden. A new UArctic Thematic Network on Environmental Training and Education for Sustainable Development of the Arctic (NETESDA) was also launched,⁴⁶ with a focus on creating interdisciplinary courses on ecological education. Additionally, as part of the larger portfolio of work related to reindeer husbandry, GRID-Arendal initiated a 3-year project with funding from the Norwegian public agency that

supports reindeer husbandry, Reindriftsforvaltningen-Alta, to investigate the impacts of climate change on reindeer.

Arctic communities and Small Island Developing States (SIDS) live in vulnerable environments and share characteristics of resilience and adaptation to climate change. The goal of the **Many Strong Voices (MSV) Project**, implemented in collaboration with CICERO, is to promote the well being, security, and sustainability of communities in the Arctic and SIDS by bringing stakeholders in these regions together to take action on climate change mitigation and adaptation, and to tell their stories to the world.

A central message of MSV is that indigenous knowledge (IK) needs to be integrated in any planning process to support climate adaptation. Drawing on long-standing experience in the Arctic, the latest initiative seeks to integrate IK with scientific knowledge for ecosystem-based adaptation. A component of this initiative, *Pilot Case Studies on Ecosystem-based Adaptation in the Small Island Developing States (SIDS)*, received direct funding from MoFA in 2011 and is linked to the Marine section of the 2011-12 PoW.

45. http://www.arcticcentre.org/InEnglish/ABOUT_US/EU_Arctic_Information_Centre.iw3

46. <http://www.uarctic.org/SingleArticle.aspx?m=1063&amid=114654>

Calf mortality is high and remains a significant challenge for the sustainability of the Dukha reindeer herds (photo by Lawrence Hislop)



Maybe
(What will happen when the Greenlandic Ice melts away?)

Greenland's inland ice is melting.
Maybe Greenland is going to be like a green land.
Maybe there will be strange animals and new vegetables.
Maybe the life of Greenlanders will change in the future.
Maybe the fish will disappear and new fish will come instead.
Maybe Greenlanders cannot fish anymore.
They have to look for new jobs.
Maybe there will be no ice.

– Aqqa Lange



MSV status and visibility among the climate change community was elevated in 2011. In May MSV was granted Observer status to the Intergovernmental Panel on Climate Change (IPCC) at the 33rd Plenary Session of the IPCC, a status that entitles GRID-Arendal to nominate authors for IPCC reports, provide review comments, and attend sessions of the IPCC and its Working Groups. Subsequent to this, MSV was invited to join the CICERO booth at UNFCCC COP 17 in Durban, South Africa. The Portraits of Resilience exhibit of children's photos and stories on climate change opened simultaneously at the Durban Natural History Museum.⁴⁷

Throughout 2011, the Polar and Cryosphere Programme worked with *Himalayan Climate Change Adaptation Pro-*

gramme (HICAP) partners CICERO and ICIMOD to prepare a report on the impact of climate change, specifically how the livelihoods of women in mountain communities of the Hindu-Kush are affected. Two GRID-Arendal staff spent three weeks on a field mission in the northern region of Mustand Province in Nepal to conduct data gathering and interviews in selected communities.

The resulting Rapid Response Assessment (RRA), *Women at the Frontline of Climate Change: Gender Risks and Hopes*,⁴⁸ was launched in December 2011 at a side event of the UNFCCC COP 17. The report shows that women play a stronger role than men in the management of ecosystems services and food security in the region, and that they are often in the 'frontline' in respect to the impacts of a changing climate. The report inter alia calls for the design of climate change adaptation programmes that are sensitive and responsive to the differentiated and multiple roles of men and women; improving women's livelihoods through greater access, control and ownership of resources, and; ensuring an enabling environment for the increased participation and substantive inputs of women in decision and policy-making related to climate change issues.

Prior to the launch of the report, HICAP partners and the Mountain Partnership Secretariat of FAO organised a Mountain Day event at COP 17, "Highlighting the Critical Role of Mountain Ecosystems for Climate Adaptation and Sustainable Development". A high-level panel, includ-

47. The Portraits of Resilience collection was further expanded in 2011 through a photo project at schools in Fiji, Kiribati, and Tuvalu.

48. <http://www.grida.no/publications/rr/women-and-climate-change>
<http://himalaya.dw.grida.no/publications.aspx?id=4998>

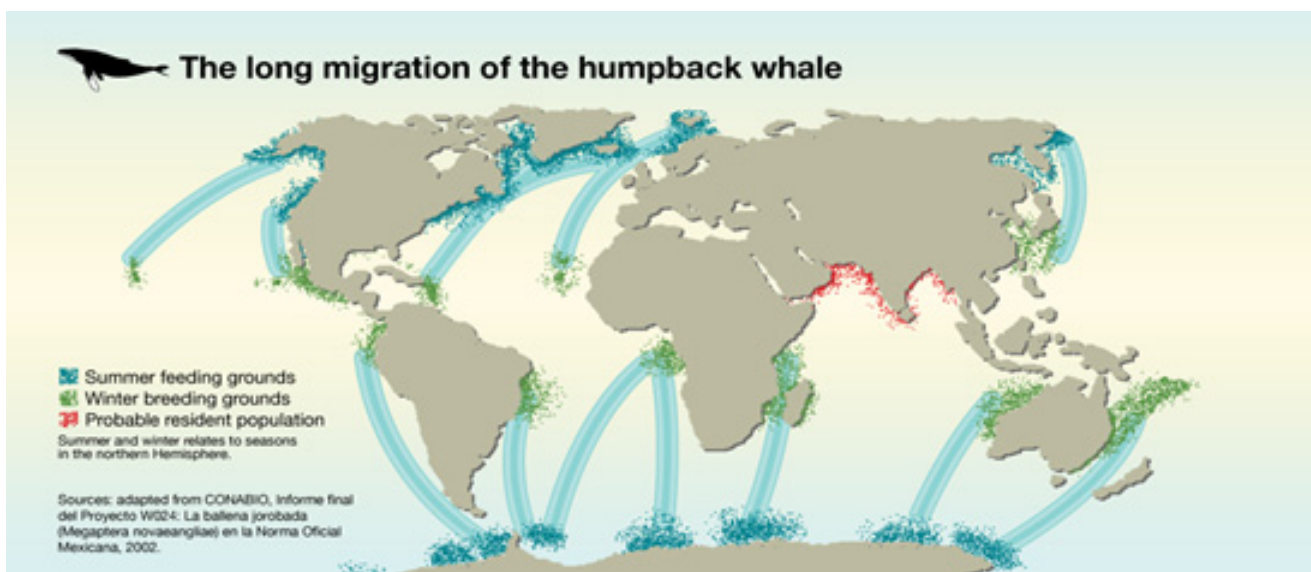


Figure 2: Humpback annual migrations between feeding grounds in polar waters to mating and calving grounds in tropical waters are amongst the longest of any mammal

ing the Chair of the IPCC, called on COP 17 delegates and global development partners to take more concerted and long-term action to save vital mountain ecosystems from the impacts of climate change.

In 2011, GRID-Arendal partnered with the Convention on Migratory Species (CMS) to produce an RRA publication to highlight the crucial role played by ecological networks in protecting the world's migratory species in the air, on land, and at sea. *Living Planet: Connected Planet – Preventing the End of the World's Wildlife Migration Through Ecological Networks*⁴⁹ was launched at the 10th Conference of Parties to CMS in Bergen, Norway in November 2011. The report played a pivotal role in supporting the formulation of CMS policy during the COP, specifically in relation to the passage of Resolution 10.3 on Ecological Networks,⁵⁰ as the quote below by the Executive Secretary of CMS, Ms Elizabeth Maruma Mrema, testifies:

“...despite an extremely tight deadline you managed to produce a true milestone publication, which is already supporting CMS policy just as we had envisaged...

amendments that arose...only served to strengthen this Resolution, which is not least the result of this Rapid Response Assessment.” (Letter of 29 November 2011 addressed to Peter Prokosch)

Maps of migratory routes included in the report (Figure 2) reveal that they criss-cross the world in all directions, with the species concerned confronting a multitude of threats along the way.

The report highlights the urgent need to protect the remaining tidal flats of the Yellow Sea, an important staging area en-route to the Arctic for migratory birds along the East Asian-Australasian flyway. Following release of the report, a Working Group comprised of Birdlife International, Wetlands International, IUCN, GRID-Arendal, Ramsar and RSPB was established to recommend an effective plan of action.

49. <http://www.grida.no/publications/rr/living%2Dplanet/>

50. http://www.cms.int/bodies/COP/cop10/resolutions_adopted/10_03_eco_networks_e.pdf

9 Environmental assessments and information

9.1 Africa

Through UNEP's Africa Environment Information Network (AEIN) GRID-Arendal's activities in Africa have continued to focus on strengthened networking and data management and improved institutional capacity for environmental assessment and reporting to support decision-making. Over the two years 11 African countries were assisted through one-on-one or group capacity development processes. Ethiopia is the most recent country to be linked in and, because of its enhanced infrastructure for environmental data management and assessment, the government has commenced production of a comprehensive environment outlook report for the country. As part of on-going efforts to strengthen environmental decision-making in Africa and mobilise additional support and funding, a major strategic initiative by GRID-Arendal and UNEP to refocus and expand the AEIN is being prepared.

The *Africa Environment Outlook (AEO)* series coordinated by UNEP is the key information-based decision support tool for the African Ministerial Conference on the Environ-

ment (AMCEN). An author's manual produced with support from GRID-Arendal was used in 2011 to train authors drafting Part II of the third AEO report (AEO-3) on health and environment linkages. With GRID-Arendal playing the coordinating lead author's role for Part II of the report, a zero draft manuscript was compiled by the close of 2011. The report is set for finalisation and launch by September 2012. GRID-Arendal also contributed to the Africa Policy Chapter of UNEP's flagship report, the fifth *Global Environment Outlook (GEO 5)* scheduled for launch right before Rio+20 in June 2012.

i The 2009 *Uganda Atlas of Our Changing Environment*, produced in collaboration with the National Environment Management Authority (NEMA) and UNEP, continues to generate positive outcomes. These include the application of the atlas methodology in *environmental sensitivity atlases*, of which three volumes have been published to guide the oil exploration and extraction operations in the Albertine Valley.⁵¹ There is growing

51. http://www.nemaug.org/atlas/Sensitivity_Atlas_2009_May.pdf;
http://www.nemaug.org/sensitivity_atlas.php

demand for such sensitivity atlases as tools to complement strategic environmental assessments and environmental impact assessments. Another outcome of the Uganda Atlas is the request for GRID-Arendal's support in the assessment of the impact of copper mining and options for environmentally sound mining operations in Zambia.⁵²

A request was also made for assistance with a Zambezi Basin Atlas, which is expected to provide baseline information to support the functions of the newly established Zambezi Watercourse Commission.⁵³ The decision by Rwandan authorities to produce a national atlas is a further example of the catalytic effect of GRID-Arendal's work in this area. The atlas is supported by the Rwandese Government and UNEP, and is expected to provide insights into post-conflict Rwanda, including the reported recovery of the mountain gorilla population, consolidating the country's position as a tourist destination, and supporting efforts for an 'environmentally clean Rwanda'.

Testimony about the ongoing practical application and utility of the 2009 Uganda Atlas:

"...a highly referenced book...(more than) 80 heads of schools and other tertiary institutions have approached (us) for this atlas from the recommendation of the National Curriculum Development Center and Ugandan National Examination Board (UNEBC) as a textbook for A-level paper 3 geography. Since the hard copies are (exhausted) I have been distributing the soft copies...our recent 5-year National Development Plan for the first time put environment as one of the key objectives and strategies of government. NEMA lobbied using the information from the atlas..."

Source: Gorette Kitutu, Senior GIS Specialist, National Environment Management Agency (NEMA)

A critical element in the atlas production process is the capacity for the collection, processing and analysis of remote sensing and satellite data acquired by the partner organisations, the Zambia Environmental Management Agency (ZEMA, formerly the Environmental Council of Zambia) and the Southern African Research and Documentation Centre (SARDC). Part of this capacity was acquired from the Uganda atlas process. The **Zambia and Zambezi Basin atlases** are due for completion during the first quarter of 2012 and outreach plans are already being drawn up to promote their use as decision-support tools.

Recognising the high urbanisation trends in Africa and its adverse impact on watersheds, a Rapid Response Assessment entitled **Green Hills, Blue Cities: An ecosystems approach to water resources management for Africa cities**⁵⁴ was undertaken and subsequently launched

at the 2011 World Water Day celebrations in Cape Town. The publication applies a case studies approach to the promotion of ecosystems services for watersheds, rather than the narrow approach on water supply infrastructure alone.

In collaboration with INTERPOL, GRID-Arendal engineered in 2011 a significant spin-off from the 2010 Rapid Response Assessment, *Last Stand of the Gorilla*. The communications and dissemination efforts concerning the plight of gorillas in Africa caught the attention of INTERPOL, which saw clear linkages and sought the collaboration of GRID-Arendal on a major **climate initiative to combat illegal logging and organized forest crime**.⁵⁵ The aim of this initiative is to help local authorities to detect and prevent deforestation, including measures that could bolster confidence in forest carbon markets.

Extensive consultations with INTERPOL in 2011 have set up active GRID-Arendal participation in the pilot scheme, which is intended to presage programmatic scale up. The new pilot scheme, to be known as Law Enforcement Assistance for Forests (LEAF), will assist local forces so they can keep up with the increasing number of criminals profiting from deforestation. The first International Chiefs of Environmental Compliance and Enforcement Summit will take place in March 2012 in Lyon, France organized by UNEP and INTERPOL providing senior government representatives in the areas of pollution, wildlife, biosecurity, climate change, fisheries, forestry and natural resources an interactive opportunity to strengthen environmental law enforcement. The project will be further developed in 2012 in the CB&A Division.

GRID-Arendal has participated in three rounds of the **Fredskorpset (FK Norway) exchange programme** (two rounds of the North-South Programme for young professionals and one round for the Youth Programme). The intended strategic impact of the programme implemented by GRID-Arendal is support to prudent management of Africa's environmental resources as assets for sustainable development. The programme contributes to achievement of this impact through strengthened capacity and institutions, the intended outcome. Careful attention is

52. This project benefits from the work undertaken by the Copperbelt Environment Project (CEP) supported by the World Bank and the Nordic Development Fund, of which Norway is a member. The development impact of CEP will feature in the forthcoming Zambia Atlas.

53. The Zambezi Watercourse Commission seeks to promote the equitable use of the water resources of the Zambezi River Basin. The Commission covers the eight riparian countries of the Zambezi – Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe.

54. <http://www.grida.no/publications/rr/blue-cities/>

55. NORAD has committed US\$1.7 million to the initiative.



The participants of the third round of FK North-South exchange, meeting in Arendal before starting their placement periods. From left: Sahon Flan (Ivory Coast), Joel Sangulukani Simwinda (Zambia), Proscovia Khanzira (Uganda), Bernardas Padegimas (Lithuania/Norway), Rannveig Knutsdatter Formo (Norway), and Neto Nengomasha (Zimbabwe). (Photo by Lawrence Hislop)



North-South exchange

paid to targeting individuals ('participants') and national institutions ('partner organisations'). GRID-Arendal and its African partners began the third round of the North-South exchange programme in September 2011. Six participants – two from Norway, one from Ivory Coast, one from Uganda, one from Zambia and one from Zimbabwe – are now almost half-way through their posting periods at their host institutions. To secure ownership, partner organisations set their own objectives for what they would like to see achieved in the current round of the exchange, in relation to national and regional atlases and other environmental assessments. In response, for example, capacity built at NEMA-Uganda is being used to develop the Zambia and Zambezi Basin atlases. In addition, a common objective for all partners is to support the AEO-3, as well as to contribute actively to the rejuvenation of the UNEP-led AEIN.

i The participants in the current exchange round have expressed their personal and professional expectations for the exchange (see boxes below). The feedback suggests that expectations are to a great extent being met, which compares favourably with the results of overall programme monitoring by FK Norway. A vital component of the programme going forward will be a comprehensive evaluation of the impact of the FK programme on partner organisations – a strategic evaluation

of this kind is timely given the length of the programme's history in GRID-Arendal.

Expectations from the exchange:

- “To grow professionally and personally.” (Bernardas)
- “To gain personal growth, work experience in a new environment, new skills, techniques and ideas, and new friends and networks.” (Joel)
- “To gain skills in geographic information systems; to increase my networking with environmental experts and stakeholders both within and outside Africa.” (Neto)
- “To share my knowledge gained at the home partner with the host; to gain experience to help me in my professional and future advancements of study.” (Prossy)
- “To strengthen our partnership.... through new collaborative projects.” (Sahon)
- “To gain critical insight to the way in which a governmental environmental organization in a developing country in Africa works... to work closely with UNEP and ...gain insight into the workings of this large international organization.” (Rannveig)

On the learning outcomes and experiences so far:

“Work wise I am learning new skills. Personally I am exploring a totally new world and new culture.” (Bernardas)

“I have learnt a lot about time management and... new skills from the team I am working with – e.g. new programming language techniques, how to produce eBooks, and working with Adobe Illustrator to produce graphics.” (Joel)

“I have already gained valuable skills in both project design and developing of maps in GIS environment.” (Neto)

“The participation with the Zambezi Atlas and AEO-3 based on research has improved my research and writing skills.” (Prossy)

“Using my work experience and skills, I’m able to provide support to GRID’s work. I am learning new ways of doing things in terms of project/programme management.” (Sahon)

“I am very much engaged...with...UNEP and to an extent also with GRID. My work with NEMA...has remained on a one-project basis...[and] has not made me integrated in the workplace and therefore not met my expectations” (Rannveig)

On the usefulness of the exchange in future professional work, for the participant and for the home organisation:

“I think the experience will be priceless... because I am working directly... in the fields I am planning to work in the future.” (Bernardas)

“Definitely the experience will be very useful. I am learning new techniques and skills that I am looking forward to implement at my home organization. The ideas I am learning will give me broader understanding of how to make better use of the vast technologies available, and this will enhance my productivity and the way my home organization functions as well.” (Joel)

“Skills in GIS and use of Geo server network will help in active participation of the home organization in sharing and accessing shape file data with other EIN partners.” (Neto)

“The knowledge gained will help me to better support my home organisation with development of new projects and exploring new areas such as green economy.” (Sahon)

“Absolutely. My professional interest is environmental resource management in Africa. As such, a chance to work with NEMA and DEWA in this FK exchange has been perfect.” (Rannveig)

Most significant experience or learning outcome to date:

“Being on the ground with regards to the projects I am working on. It is a very big difference to feel and understand what the project is really about, what local people are doing and how things are actually done.” (Bernardas)

“The importance of proper time management.” (Joel)

“The knowledge gained in using the GIS server to share environmental information.” (Neto)

“Being exposed and working with multicultural society far from home.” (Prossy)

“Learning how ICT contributes to facilitate and improve the overall management (projects staff, resources, projects/programme) and to increase the impacts of activities/initiatives undertaken.” (Sahon)

“...understanding, through participation in various projects and through meeting with a number of representatives of the Norwegian donor/aid community, how Norwegian aid in Uganda and East Africa works.” (Rannveig)

9.2 Eastern Europe, Caucasus and Central Asia (EECCA)

In EECCA GRID-Arendal continues to build on long-standing interactions with a range of countries and the in-depth understanding of the region acquired by staff and key partners over the past two decades. The primary rationale for GRID-Arendal’s engagement continues to be its contribution to strengthening the capacity of national institutions in environmental information management, with the aim of making reliable, accurate and up-to-date information easily accessible to a broad range of stakeholders in the region and beyond.

Aquatic environments, transboundary water resources in particular, remain a rallying point for GRID-Arendal’s efforts in the region. These strategic resources have the potential for triggering regional conflict and confidence-building measures and diplomacy are vital in the search for peaceful frameworks for collaborative resource management. GRID-Arendal, acting as a regional facilitator in collaboration with others such as Zoï Environment Network (see box), applies a range of communication tools and strategies to help build regional cooperation

in the management of shared water resources and other environmental priorities. Several of the EECCA projects continue to be carried out within the context of the **Environment and Security (ENVSEC) Initiative** with primary funding from sources other than the MoFA.

Sharing responsibilities in 2011, GRID-Arendal and Zoë Environment Network (Geneva):

- Collaborated closely with the European Environment Agency in building a Shared Environmental Information System (SEIS)⁵⁶ in Europe’s neighbourhood (both East and South). This has included methodological support for the so-called SEIS cookbook;⁵⁷
- Under ENVSEC, launched the Amu Darya assessment⁵⁸ and produced sub-regional visual synthesis reports on climate change for the Caucasus, Eastern Europe and the Balkans;⁵⁹
- Prepared European Neighbourhood and Partnership Instrument (ENPI)⁶⁰ East SEIS country assessments for Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia and Ukraine; and
- Provided priority maps to UNEP. In its medium-term strategy 2010-2013 UNEP focuses on six thematic priorities; maps were created as an objective tool for priority setting in the European region (see Annex 4 for a complete list of joint branded products).

Taking a lead in the Information Working Group, GRID-Arendal continued its support to the environmental in-

formation management component⁶¹ of the 3rd Phase of the **Transboundary Cooperation and Sustainable Management Project** for the Dniester River Basin (Dniester III).⁶² The Dniester is the joint water resource of strategic importance to two Eastern European countries – Moldova and Ukraine. There is also a third player in the game: the Transnistrian region of Moldova⁶³, which unilaterally declared its independence in 1990, precipitating a military conflict in 1992.

i Outputs from the working group contributed to the development of a milestone bilateral agreement between Moldova, Ukraine and the Transnistrian Region on the sustainable management of the Dniester River. Among other things, the agreement established a legal framework for cooperation on biodiversity. An as-

56. The Shared Environmental Information System (SEIS) is a unifying concept promoted by the European Environmental Agency that offers a model, process, methods and tools to take advantage of new technical opportunities to improve environmental information at various levels.

57. The SEIS cookbook gives an introduction to SEIS for various target audiences http://prezi.com/znzze3ep_l8k/seis-cookbook-en/

58. <http://www.unep.org/newscentre/default.aspx?DocumentID=2647&ArticleID=8807>

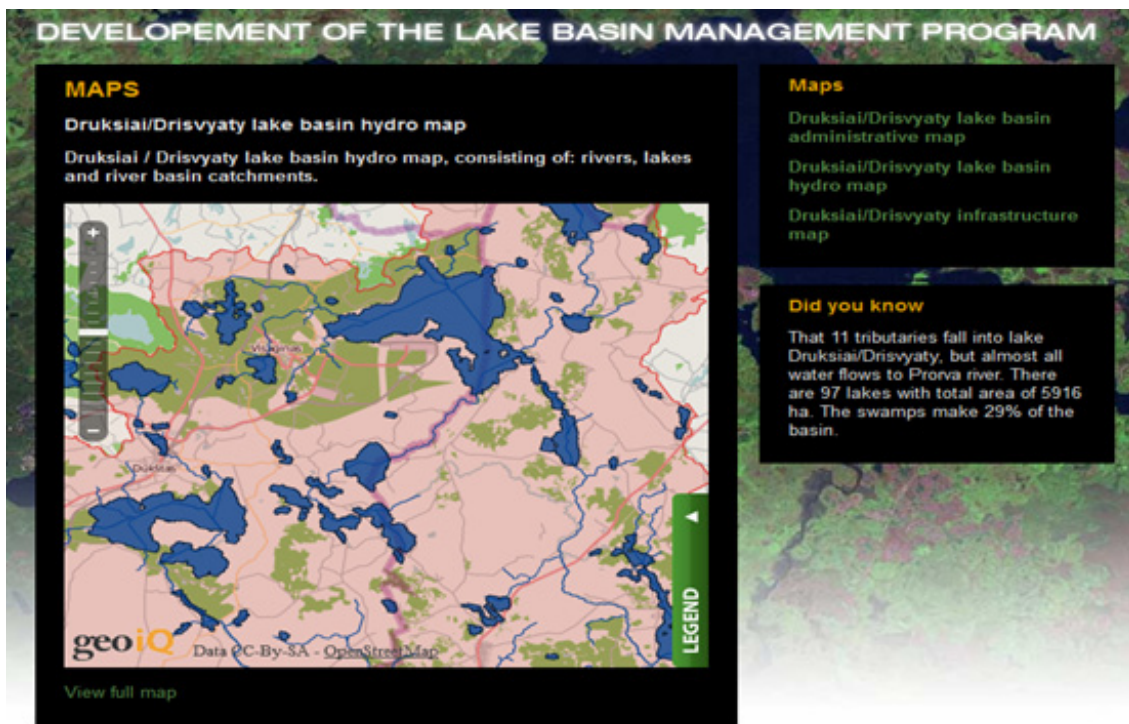
59. <http://www.grida.no/publications/security/book/4881.aspx>

60. The ENPI is an instrument of the European Union to provide assistance to its closest neighbours – Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Morocco, Occupied Palestinian Territory, Syria, Tunisia and Ukraine.

61. <http://77.91.130.169:81/dniester/>

62. <http://dniester.org/>

63. An unrecognized independent state on the eastern bank of the Dniester, it controls a small but significant part of the water resources.



Screenshot of the DLB website

sociated media programme resulted in a BBC broadcast⁶⁴, a publication in *Wochenzeitung* (Germany)⁶⁵ and a series of articles by local journalists, trained throughout the press tour.

As part of ENVSEC, GRID-Arendal continued its collaboration with the Regional Environmental Center for Central and Eastern Europe (REC), based in Hungary, in implementing **Phase 2 of the Druksiai/Drisvyaty Lake Basin Management Programme (DLB MP)**. The programme's strategic goal is to strengthen integrated water resources management in the Druksiai/Drisvyaty lake basin through effective water resources assessment and reporting systems, institutional capacity building, enhanced public participation, improved issue awareness and access to information. As part of its contribution, GRID-Arendal has finalised the DLB MP official project *website*⁶⁶ with the GeolQ information management tool integrated into the site.

The **Druksiai/Drisvyaty** Lake borders 3 countries in Eastern Europe: Belarus, Latvia and Lithuania. The decommissioned Ignalina Nuclear Power Plant on the Lithuanian side is the source of concern for bordering countries. The dismantled nuclear fuel from the reactor is stored in close (500 m) proximity to the lake. A new nuclear facility is planned for construction. It will use the waters of the lake for its cooling system, which has already caused thermal pollution problems to the lake, contributing to the decline of biodiversity. Furthermore, the state protected territory "Braslavskie ozero", on the Belarusian side, provides recreation areas for its population.

The Caspian region remains an important area for EECCA capacity development where GRID-Arendal has long provided **support to the Tehran Convention**, inter alia through making staff available to the interim Secretariat, and conducting regional assessments in close consultation with national authorities. Being the first regional and legally

binding instrument signed by all Caspian littoral states⁶⁷, the Tehran Convention serves as an overarching framework defining general requirements and providing the institutional mechanisms for protection of the Caspian Sea's marine environment.

i For the Third Conference of the Parties (COP 3) in August 2011 in Aktau, Kazakhstan, GRID-Arendal produced the **Caspian Sea State of the Environment report**.⁶⁸ The report was approved by the conference and acknowledged in the Ministerial Statement of the Tehran Convention COP 3 (see box below).⁶⁹ Country officials were actively involved in drafting the report, an important indication of ownership. Its final version has since been published on the web.⁷⁰ While a number of fiduciary issues highlighted in the report have already been addressed, the decision to implement far-reaching recommendations has yet to be taken.

Going forward, additional support to the Tehran Convention by GRID-Arendal will take the form of a **Caspian Information Center (CIC)** intended to promote unified environmental data collection, sharing and ecosystem monitoring. The concept of a regionally owned web-based center to promote and monitoring, and for public disclosure and outreach was developed and approved by the parties to the Tehran Con-

64. www.bbc.co.uk/iplayer/episode/p0017wvp/From_Our_Own_Correspondent_Tunisia_and_Ukraine_Moldova/

65. <http://www.woz.ch/artikel/2011/nr33/thema/21054.html>

66. <http://enrin.grida.no/druksiai/maps.aspx>

67. Azerbaijan, Iran, Kazakhstan, Russian Federation and Turkmenistan

68. <http://www.caspianenvironment.org/newsite/News-RecentLib-MoreInfo.asp?ID=4373> (Russian)

<http://www.caspianenvironment.org/newsite/News-RecentLibMoreInfo.asp?ID=4273> (English)

69. TC/COP3/13/Rev.3 12 August 2011

<http://www.caspianenvironment.org/newsite/DocCenter/2011/COP3%20Ministerial%20Statement%20%28eng%29%20-%20as%20adopted.pdf>

70. <http://www.caspianenvironment.org>



GRID-Arendal participated in the Third Conference of the Parties (COP 3) in August 2011 in Aktau, Kazakhstan

vention. With 2012 funding provided by BP⁷¹, the CIC is also designed to satisfy the need for public disclosure and outreach.

Ministerial Statement and Decisions of the Third Meeting of the Conference of the Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea - 10-12 August Aktau, Republic of Kazakhstan:

“The Ministers of Natural Resources and Environment and High-Level Officials of the Governments of the Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea...”

10. Welcome the presentation of the first State of the Environment report as a comprehensive document to implement the activities of the Caspian Environment Program and the Tehran Convention; decide that the next State of the Environment report should be issued in four years time, and request the (interim) Secretariat to develop for submission and decision by the Conference of the Parties at its fourth Meeting, a format for future state of the environment reports with major indicators and networks of institutions capable of measuring the quality of the waters of the Caspian Sea.”

At national level an **Integrated Environmental Assessment of Lake Sevan**, was carried out in collaboration with the Association for Sustainable Human Development in Yerevan.⁷² The work was intended to guide policy on protection of the most important inner water body of the Republic of Armenia.

First Deputy Minister of the Ministry of the Environment of the Republic of Armenia Mr. S. Papyan on the impact of the Lake Sevan assessment:

“The group of experts has collected, analyzed and systematized the information materials on the issue, available in the country as well as the new results obtained in the course of special expeditions. The elaborated suggestions and recommendations require special attention. I use this opportunity to thank GRID-Arendal for the support of this extremely relevant project”.

i The assessment had the intended effect as certain recommendations were adopted by the Armenian Ministry of Nature Protection and, subsequently, incorporated in the 2012 Programme of Work of the Lake Sevan Commission (see box above). This includes the establishment of a special working group comprising government officials and civil society representatives (an environmental coalition) tasked with investigating the impact of mining on the water quality.⁷³ Further sensitisation at the policy level was demonstrated by the decision to discuss the results of the environmental assessment at a meeting of the National Council for Sustainable Development in October 2011 attended by the Prime Minister.

The CB&A Programme has embarked on developing a new area of work, focusing on chemical safety. A project proposal related to combating Persistent Organic Pollutants (POPs) in the food chain of indigenous peoples in the Russian Arctic (particularly the Nenets) has been prepared and submitted for funding to the Norwegian Ministry of Health and Care Services. The Centre for Environment and Sustainable Development (Eco-Accord) and the International POPs Elimination Network (IPEN) would be key partners. Further joint projects are under discussion and a concept note on a project on POPs and climate change in the Arctic has been outlined prior to a joint GEF proposal in 2013.

9.3 Green economy and capacity building

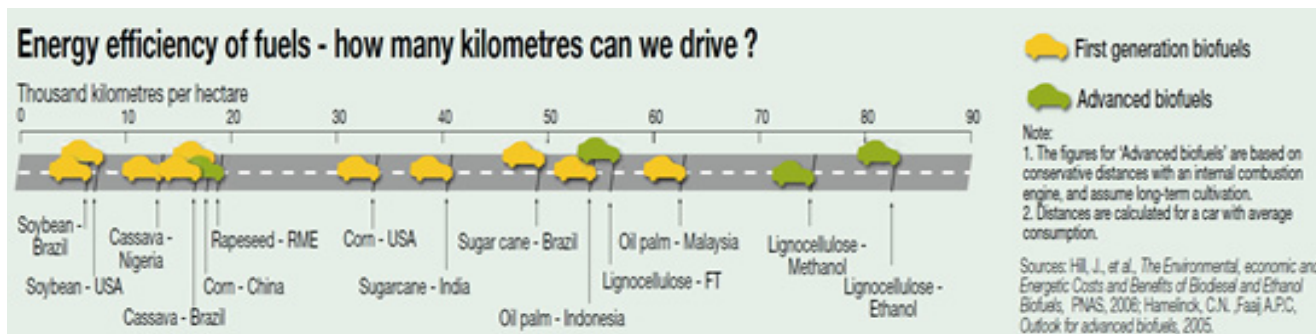
In 2011, GRID-Arendal strengthened its standing within UNEP as a key partner in raising awareness about Green Economy issues through publications, dissemination and active outreach. The most visible illustration of GRID-Arendal's growing engagement is the production⁷⁴ of UNEP's milestone report, **Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication**, which highlights the critical importance of shifting the world's economies towards a more resource-efficient, low-carbon and socially inclusive economic paradigm, the so-called 'green economy'. The report has received attention from governments, industry and civil society organizations worldwide, although it is too early to attribute to this work any country-level progress in adopting 'green economy' or 'green business' or 'green growth' policies.⁷⁵

71. BP funding is part of a growing global pattern of public-private collaboration in the oil and gas sector. Currently Caspian states are in the process of appointing National Environmental Information Officers to serve as the CIC liaison persons. The kick-off meeting was hosted by BP
72. The full report, the Integrated assessment of ecological state of Lake Sevan, is available for download at <http://www.grida.no/publications/lake%2Dsevan/>

73. Ref. ministerial order (N5-A, 18.01.2012), Ministry of Operations.

74. GRID-Arendal completed the graphics and layout for the online publication prior to the soft launch held in Nairobi on 21 February 2011. Following an extensive review process, GRID-Arendal then undertook a complete revision of the full report in preparation for its additional launch in Beijing on 16 November 2011.

75. In the recent past, announcements of reform by a growing number of countries illustrate the type of impact that the report is intended to generate – they are plausible evidence of the global shift to which the UNEP report alludes. For instance, China recently announced that it would invest a total 468 billion dollars in green business developments over the next 5 years. Other countries like Barbados, Cambodia, Indonesia, Korea and South Africa have made plans for inclusion of green economy in national policies. South Africa has also developed a green economy strategy in the last year. Yet more countries – such as Armenia, Azerbaijan, Egypt, Kenya, Jordan, Malaysia, Mexico, Nepal, Senegal and Ukraine – have introduced policies to support a green strategy in various sectors, including agriculture, renewable energy, tourism and clean technology.



Energy Efficiency of fuels – how many kilometres can we drive?

Following the launch of the Green Economy report UNEP invited GRID-Arendal to manage the production of the **Green Economy in a Blue World** report as well as **Green Economy in Small Island Development States (SIDS)**, as mentioned under the Marine Programme. At the same time, important inroads were made with other international actors and with Norwegian organizations. For instance, in September 2011 GRID-Arendal participated in the First Global Sustainable Financing Conference in Karlsruhe, Germany, endorsed by the UNEP Finance Initiative. Under the auspices of the World Federation of Development Financing Institutions (WFDI) the event explored the theme 'greening financial institutions'. GRID-Arendal, together with The World Bank and the event organizer, Etech Germany, contributed substantially to the formulation of the Karlsruhe Declaration as an output of the conference and a message to Rio+20.⁷⁶

i Anecdotal evidence (web search on direct references; unsolicited, positive responses from partners; enquiries) suggests that the declaration has contributed to growing awareness, in particular about the need for greater integration of economic, social and environmental concerns and consensus among key international financial institutions on metrics for promoting, measuring and incentivizing 'green growth' models for economic development. GRID-Arendal intends to exploit this enhanced awareness – specifically in the context of the Rio+20 Conference in June 2012 – through an active programme of outreach in collaboration with UNEP and other partners.

At home, GRID-Arendal's objective to expand its domestic network of viable partners in this critical field was largely achieved in 2011. Involvement in UNEP's Green Economy report resulted in an invitation by *Yrkesorganisasjonenes Sentralforbund (YS)*, the Norwegian union for employee organisations, and the World Wildlife Fund (WWF) Norway to contribute substantively to the preparation of a green economy report for Norway. This engagement has provided the organization with an effective, credible entry point for further, incremental engagement with a broad array of academic, private and public sector actors, which is

a prerequisite for GRID-Arendal's communications mandate.⁷⁷ Two new volumes in the Vital Graphics series were prepared during 2011 to increase understanding of Green Economy issues and opportunities centred on payments for ecosystems services and biofuels:

The **Payments for Ecosystems Services Vital Graphics** aims to highlight the potential benefit of ecosystems-based economic development through a visual exploration of the Ecosystems Services concept and Payments for Ecosystems Services (PES) markets segments, together with a brief analysis, supported by visuals, of the challenges and opportunities related to PES and poverty alleviation. PES Vital Graphics will be published in the first quarter of 2012.

Under the Biofuels Initiative, GRID-Arendal and UNEP's Division of Technology, Industry and Economics (DTIE) developed **Biofuels Vital Graphics: Powering a Green Economy**⁷⁸ to visualize the options, opportunities, and safeguards needed to make biofuels a cornerstone of the Green Economy. The report will be launched by UNEP DTIE in January 2012 at the 5th World Future Energy Summit in Abu Dhabi.

Other Green Economy activities were clustered around the Mitigation and Adaptation Information Network for sustainable living (MAIN), and on Linking Tourism and Conservation (LT&C).

UNEP initiated the **Mitigation and Adaptation Information Network (MAIN)** project in 2008, in support of its capacity building work under the Climate Change sub-programme.

76. For further details of the conference and the declaration, which was shared with the Ministry of Foreign Affairs in October 2011, see <http://www.uncsd2012.org/rio20/index.php?page=view&type=13&nr=402&menu=27>

77. Including the Norwegian School of Life Sciences, the Ministry of Environment and Development (ref. the Future Cities Project), the Norwegian Central Statistics Office (SSB), the University of Bodø (ref. the Masters Programme in Ecological Economics), "Kunnskapshaven" in Arendal and Klimapartnere ("Climate Partners") in Kristiansand.

78. <http://www.grida.no/publications/vg/biofuels/>

The objective of MAIN was to bring together expertise, knowledge, and local experiences in a common network that empowers communities across the globe to create, share, use, and store knowledge to support sustainable living. Although it has since been decided to bring the project to a close, MAIN continued to feature as part of GRID-Arendal's Work Programme through to July 2011. Associated activities and outputs are therefore summarized below.

'Developing a Knowledge Base for Energy Efficiency and Decentralized Renewable Energy in India' was a project under the umbrella of MAIN implemented by Development Alternatives (DA), India, with support from GRID-Arendal. The overall goal of the project was to build knowledge in the area of decentralized renewable energy by creating a learning platform for the implementation of projects that capitalize upon local skills and resources, with women in key operational roles. The knowledge base, including case studies, interactive maps and a Decision Support System, was launched June 2011.⁷⁹ Development Alternatives continue to work with and develop the knowledge base in liaison with local partners, helping communities to scale up renewable energy solutions. Altogether 7 publications have been produced in the framework of the MAIN-DA activities in India, with another five, plus two short documentaries, related to MAIN work in Africa (see Annex 1).

Under the umbrella of *Sustainable Tourism* GRID-Arendal is supporting relevant projects of UNEP DTIE including using tourism as a channel to promote UNEP's Green Economy work. GRID-Arendal is also pioneering some initiatives under the dual banner of Green Economy and Marine Ecosystem Management – *Linking Tourism and Conservation (LT&C)*. The LT&C highlights worldwide examples of tourism best practices that support the development and management of protected areas in line with the UN Convention on Biological Diversity (CBD), map and monitor their further development and increase understanding of good LT&C models and how they could be replicated.

In the context of global sustainable tourism alliances, GRID-Arendal's role encompasses:

- Advisory Member of the *Global Partnership for Sustainable Tourism (GPST)*⁸⁰ launched in 2011 to inject sustainability principles into the mainstream of tourism policies, development, and operations. The Secretariat is hosted by UNEP DTIE and there are currently 83 partners. The GRID-Arendal LT&C initiative is an official project of the GPST;
- Substantive contributions to *DestiNet*⁸¹, a multi-stakeholder sustainable tourism observatory, knowledge networking tool, best practice database and global green market-place; and

- Membership in the IUCN's *Tourism and Protected areas Specialist Group (TAPAS)*⁸², which envisions a future where tourism in protected areas has a positive impact on biodiversity, and where tourism is environmentally, socially and economically sustainable.

As part of the GPST, GRID-Arendal developed and launched a survey at the end of 2011 to collect information on existing sustainable tourism projects, businesses and concepts that support protected areas.⁸³ Distributed to over 500 direct contacts and a number of networks, the survey data will be analysed, visualized, and disseminated in 2012-2013.

Communicating environmental knowledge through experiential training reinforces the understanding of the positive role that sustainable tourism can play in greening the economy. In this spirit, and in partnership with and funded by the British Council, GRID-Arendal operates a regular training programme for young professionals between the ages of 20 and 30 years who have a proven commitment to climate change. In 2011 young professionals participated in the *Svalbard Climate Training Programme*, during which GRID-Arendal shared its scientific and social expertise in the areas of climate change, polar environments, green economy and sustainable tourism while utilizing the environment of Svalbard as a powerful training arena.

9.4 Communication and outreach

The Communications and Outreach team of GRID-Arendal, comprising 9 staff (including two interns), provides **cross-support to GRID-Arendal's programme areas** spanning a range of specialisations, such as cartography, layout, publications support and dissemination, web design and development, content management, rich media and graphics design, and digital integration. These specialisations are integral components of each product or service delivered by GRID-Arendal operational staff and, as such, cannot in practical terms be assessed in isolation. The Communications team also has responsibility for certain core functions that underpin the operations of the organisation as a whole, such as ICT administration and systems development, outreach, and website and media management.

79. <http://www.devalt.org/knowledgebase/>

80. <http://www.globalsustainabletourism.com/Members/39-UNEP-GRID-Arendal.html>

81. <http://destinet.eu/countries/EUR/no/unep-grid-arendal>

82. http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_capacity/wcpa_tourismtf/

83. www.grida.no/tourism/survey.aspx

In select cases, however, the team undertakes primary responsibility for delivering a product. The most significant example from 2011 is the collaboration with UNEP's Division of Early Warning and Assessment (DEWA) on production of the fifth edition of their flagship report, the *Global Environment Outlook (GEO 5)*, due for launch in

connection with the World Environment Day in June 2012. In addition to the intensive involvement of the entire team in this complex publication exercise, the partnership with DEWA also extends to implementation of an extensive programme of active outreach, which will be implemented up to and beyond the Rio+20 Conference in June 2012.



Polar Bear (Ursus Maritimus), Svalbard (Photo by Peter Prokosch)

10 Financial report

10.1 Programme funding 2010-2011⁸⁴

The accounting principles applied by GRID-Arendal have been modified. Henceforth, funding related to projects contracted (committed) in one year, but scheduled for implementation in the following year, will now be reported in the year of implementation. This is motivated by the need to invoice and record for the same year, and highlights the reality that many contracted projects require more time than originally anticipated to commence implementation. Thus, MNOK 1.8 in UNEP funding secured in 2011 for projects scheduled for implementation in 2012, will be recorded in 2012. Corresponding funding from external sources is calculated to MNOK 10.0. The total funding profile is therefore significantly improved by the end of 2011 compared to 2010. Projected funding for the 2012 programme of work is robust.

The distributions of GRID-Arendal's funding sources by programme area during the period of 2010-2011 are dis-

84. For 2010-2011 the financial situation is reported for three programmes: Marine, Polar and Cryosphere, and Environmental Assessments and Information. Allocations and expenditures for Communications and Outreach are included under Environmental Assessments and Information.

played in Figure 3 and Table 1 below. Beyond the MoFA funding of MNOK 42.2 and the core funding of MNOK 9.0 from the Ministry of Environment (MoE), GRID-Arendal raised a total of MNOK 11.2 from UNEP and MNOK 24.1 from other external sources over the period, representing 41% of total funding.

Environmental Assessments and Information and Polar and Cryosphere collectively raised a significant proportion of leveraged (external) funding (UNEP and external sources for these two areas totalled 54% of total funding). The corresponding ratio for the Marine Programme is lower due to the stipulation that funding allocated to the UNEP Shelf Programme may not be leveraged. Nevertheless, external funding for the Marine Programme increased by 65% between 2010 and 2011 (i.e. from MNOK 3.1 to MNOK 5.1).

As Figure 3 shows, the external contribution decreased from MNOK 12.4 in 2010 to MNOK 11.7 in 2011. UNEP funding decreased by 28% from MNOK 6.5 in 2010 to MNOK 4.7 in 2011, resulting in an overall decrease of 13% in external funding (or MNOK 2.5). However, the slight decrease needs to be understood in the context of the modified accounting principle described above (e.g. MNOK 1.8 in UNEP funding contracted in 2011 is recorded for 2012).

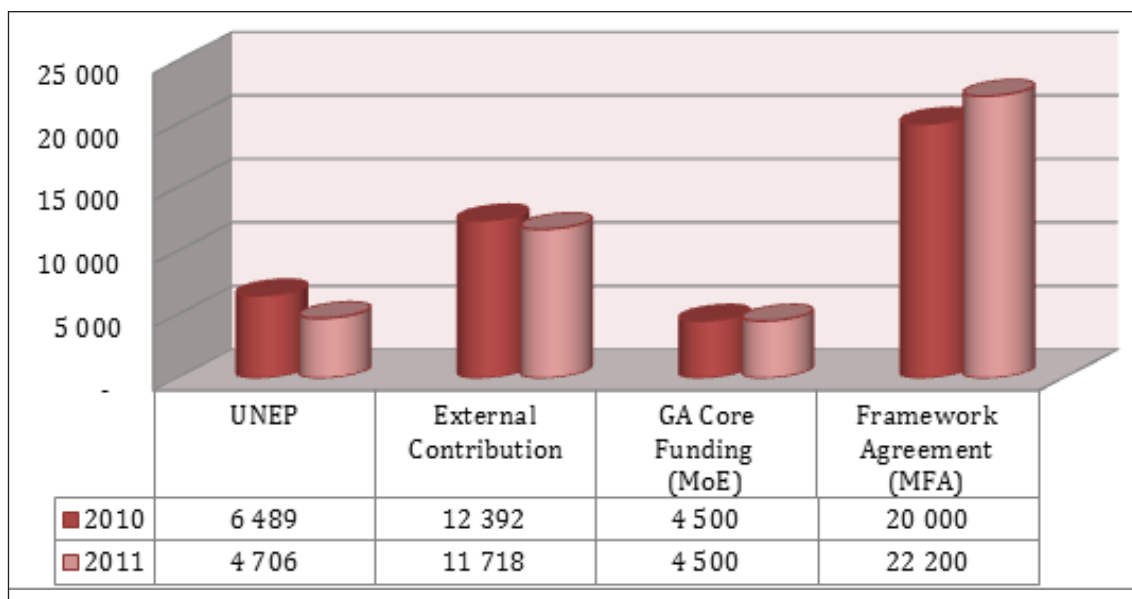


Figure 3: Actual 2010-11 funding by funding source (KNOK)

PROGRAMME	UNEP		External Contribution		GACore Funding (MoE)		Framework Agreement (MFA)		TOTAL 2010-2011	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
KNOK										
MARINE ENVIRONMENT: A. UNEP Shelf Programme	0	0	585	1 545	100	0	7 500	10 214	8 185	11 760
MARINE ENVIRONMENT: B. Management of the Marine Environment	1 178	1 281	1 277	1 988	0	295	4 000	2 226	6 455	5 790
MARINE ENVIRONMENT: C. Data Management, Visualization and Tools	0	0	40	182	0	96	1 500	2 404	1 540	2 682
POLAR AND CRYOSPHERE	393	295	5 507	4 479	2 200	1 650	1 500	1 300	9 600	7 724
ENVIRONMENTAL ASSESSMENTS AND INFORMATION	4 919	3 130	4 753	3 186	2 200	2 459	5 500	6 055	17 372	14 830
OTHER PROJECTS	0	0	230	338	0	0	0	0	230	338
TOTAL	6 489	4 706	12 392	11 718	4 500	4 500	20 000	22 200	43 381	43 124

Table 1: Overview of GRID-Arendal's total funding 2010 and 2011

An illustrative list of the fifteen major sources of non-UNEP external funding in 2011 appears below:

- International Centre for Integrated Mountain Development (ICIMOD)
- STATOIL
- Norwegian Petroleum Directorate
- Canadian Government Natural Resource - GSC Calgary
- US Department of Energy
- Schlumberger
- University of Tromsø
- Permanent Secretary Ministry of Lands, Housing and Human Settlements Development
- Fredskorpset
- British Council
- Center for International Climate and Environmental Research – Oslo (CICERO)
- Secretariat of the Pacific Community (SOPAC) - Applied Geoscience and Technology Division
- ECORYS
- Environment Agency Abu Dhabi
- Secretariat of the Convention on Migratory Species

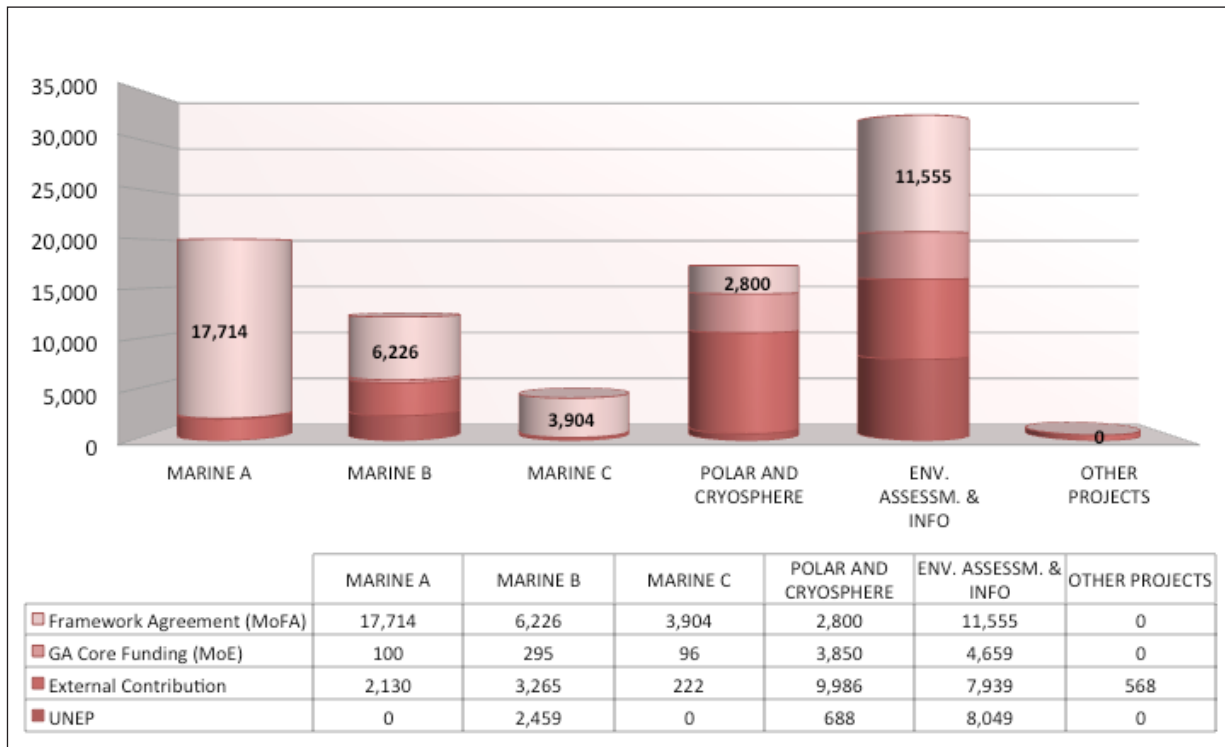


Figure 3: Biennium funding per programme (KNOK)

10.1.1 Actual funding versus budget for the biennium

The GRID-Arendal Board approved a total programme budget of MNOK 103.2 for the years 2010 and 2011 distributed among funding sources as shown in Figure 4 below. The aforementioned decrease in external and UNEP funding posed challenges in implementing the planned

work programme in 2010 and in the first half of 2011. In response, the 2011 level of activities was adjusted slightly downwards. It should be noted that Figure 4 is limited to activities that were either invoiced or recompensed in 2010 and 2011. At the end of 2011, a total of MNOK 11.8 in new external funding was secured for activities scheduled in 2012. Although some of these projects commenced before the end of 2011, this funding is reported as 2012 funding.

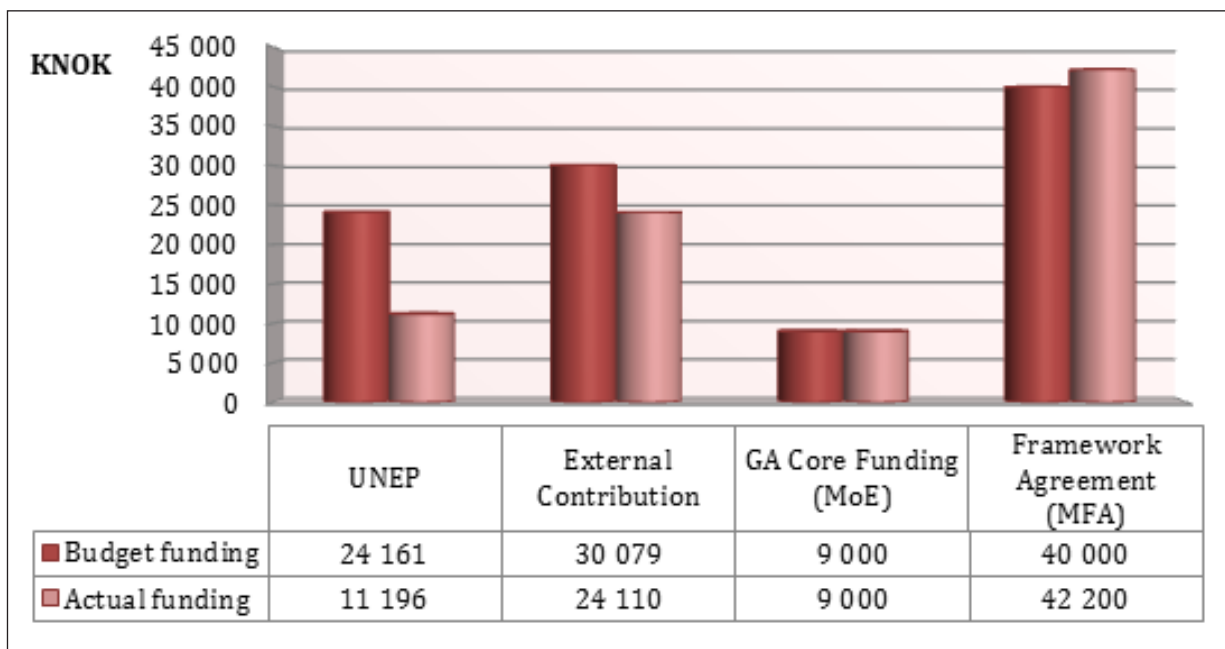


Figure 4: Actual biennial funding vs budget by source

10.1.2 Expenditures 2010-11

Table 2 below reveals that project-related expenditures in 2010-11 totalled MNOK 95.3, inclusive of project activities not covered by the Programme Cooperation Agreement 2010-2011 between MoFA and GRID-Arendal. Figure 5 graphically displays expenditure categories. The most significant is personnel costs, which represent 69% of the total (or MNOK 65.6) and are generated from time bookings of employees and long-term consultants against projects, inclusive of a mark-up to cover overheads.

Expenditures related to subcontracted services, travel and associated project expenses ('Other') are based on actual costs plus the 13% mark up to cover overheads. It should be noted that, while these costs are charged at standard rates, actual expenditures might differ slightly (e.g. overheads may not consistently equal 13%) generating a surplus in the financial accounts. An audit of the 2011 project expenses has been carried out by KPMG and is presented in Annex 3.

FIGURES IN KNOK

PROJECT EXPENDITURES	2010			2011			2012		
	PERSONNEL	DIRECT COSTS	TOTAL EXPENDITURES	PERSONNEL	DIRECT COSTS	TOTAL EXPENDITURES	PERSONNEL	DIRECT COSTS	TOTAL EXPENDITURES
A. UNEP Shelf Programme	6 402	1 472	7 874	6 777	5 212	11 989	13 178	6 684	19 862
B. Management of the Marine Environment	4 925	1 778	6 703	5 987	1 055	7 042	10 912	2 834	13 746
C. Data Management, Visualization and Tools	1 144	397	1 541	2 563	257	2 821	3 707	664	4 362
POLAR AND CRYOSPHERE	7 607	3 641	11 248	7 492	3 661	11 153	15 099	7 302	22 401
ASSESSMENTS AND INFORMATION	12 311	6 178	18 489	9 560	5 740	15 300	21 871	11 919	33 789
OTHER PROJECTS	556	201	757	314	31	344	869	232	1 101
TOTAL	32 945	13 667	46 612	32 692	15 957	48 649	65 637	29 624	95 261

Table 2: Total Work Programme Expenditures 2010-11

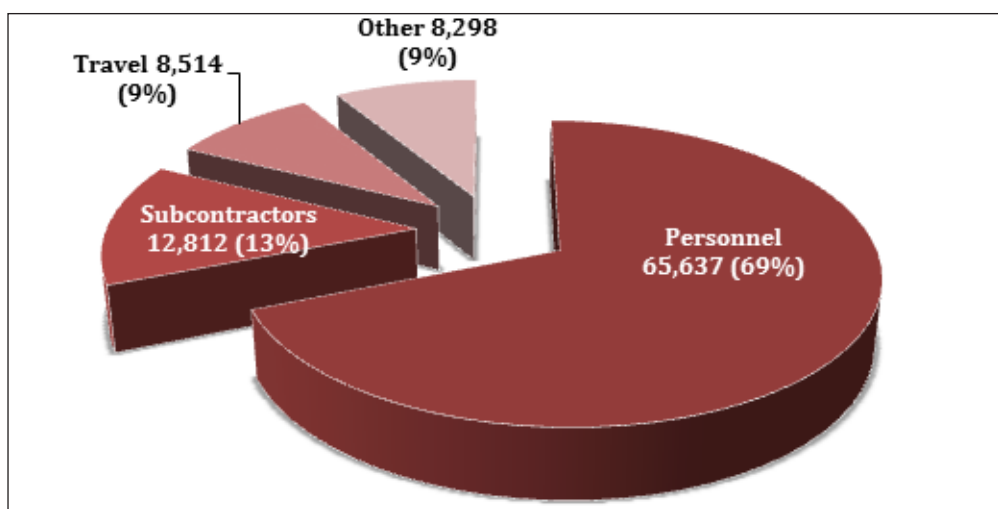


Figure 5: Breakdown of the 2010-11 expenditures of MNOK 95.3 (amounts in KNOK)

10.1.3 Expenditures versus funding 2010-11

In 2011, income was generated from 126 projects and/or individual contracts, compared to 143 in 2010, reflecting a strategy of rationalisation. As of 31 December 2011, GRID-Arendal's work programme encompassed 88 active projects.

In 2010 a funding reserve of MNOK 7.4 was carried over from the previous year and distributed as shown in Table 3. The funding reserve is calculated as payments from external sources less the cost of completed or committed work, and thereby represents the balance of funds available for delivering committed activities under the work programme. In 2011 GRID-Arendal's funding reserve was 28% lower than the previous year (i.e. from MNOK 7.4 in 2010 to MNOK 5.3 in 2011).⁸⁵ Total project expenditures for the period (MNOK 95.3) exceeded the available funding (MNOK 86.5) by 9%, or MNOK 8.8. This shortfall is

covered by a combination of the funding reserve and an allocation from GRID-Arendal's equity reserve.

As stated in the 2010 MoFA report, the entire project portfolio over the period 2006-2010 was reconciled during 2010. Completed projects were closed and, where necessary, losses were recorded. A total of MNOK 3.8 was reallocated from the GRID-Arendal accumulated surplus from 2009-2010 to cover the verified shortfall.

A subsequent internal financial audit covering a longer period (2007-2011) confirmed that the funds applied to the verified shortfall were generated on the basis of the financial results reported for the period 2007-2009. Further, the audit revealed that a certain proportion of the financial results during this period were recorded in error, which has resulted in a proportional write down of GRID-Arendal's equity (ref. external audit dated 7 February 2012 Annex 3).

PROGRAMME 2008-09 TO 2011	Transfer 2010 (MoFA report 2008-09)	Adjustment	Actual Funding 2010/2011	Expenditure 2010/2011	Variance (transfer into 2012)
MARINE ENVIRONMENT: A. UNEP Shelf Programme	-291	-4	19,945	19,859	-209
MARINE ENVIRONMENT: B. Management of the Marine Environment	1,250	311	12,245	13,745	60
MARINE ENVIRONMENT: C. Data Management, Visualization and Tools	133	7	4,222	4,362	0
POLAR AND CRYOSPHERE	3,382	1,331	17,324	22,401	-364
ENVIRONMENTAL ASSESSMENTS AND INFORMATION	2,361	1,888	32,202	33,789	2,661
OTHER PROJECTS	536	-37	568	1,101	-34
TOTAL	7,372	3,496	86,505	95,257	2,116

Table 3: Expenditure versus funding 2010-2011 and impact on funding reserves (KNOK)

10.2 Budget 2012⁸⁶

10.2.1 Projected funding

The Board-approved funding budget of MNOK 58.1 for 2012, distributed by programme area, appears in Figure 6 below. Secured external funding (i.e. contracted) totals approximately MNOK 14.0.⁸⁷ The budget includes MNOK 4.5 MoE core funding, MNOK 20.0 MoFA funding, MNOK 6.7 UNEP funding and MNOK 27.0 other external funding. In the event MoFA funding of MNOK 20.0 and core funding from MoE of MNOK 4.5 is secured for 2012, three-quarters of the total projected funding required for 2012 activities will have been obtained.

85. The largest reserves are in the Environmental Assessments and Information Programme, where projects are either funded biennially, start up is delayed and awaiting matching external funding, or funding has been paid in advance but the project activities have not yet commenced.

86. For 2012 the financial situation is reported by four divisions: – Marine, Polar and Cryosphere, Capacity Building and Assessments, and Communication and Outreach.

87. The largest projects with secured external funding are Himalayan Climate Change Impact and Adaption Assessment (HICIA), Many Strong Voices, Interpol, Fredskorpset, UArctic, Deep Sea Minerals, Caspian Information Centre, UNEP MAP.

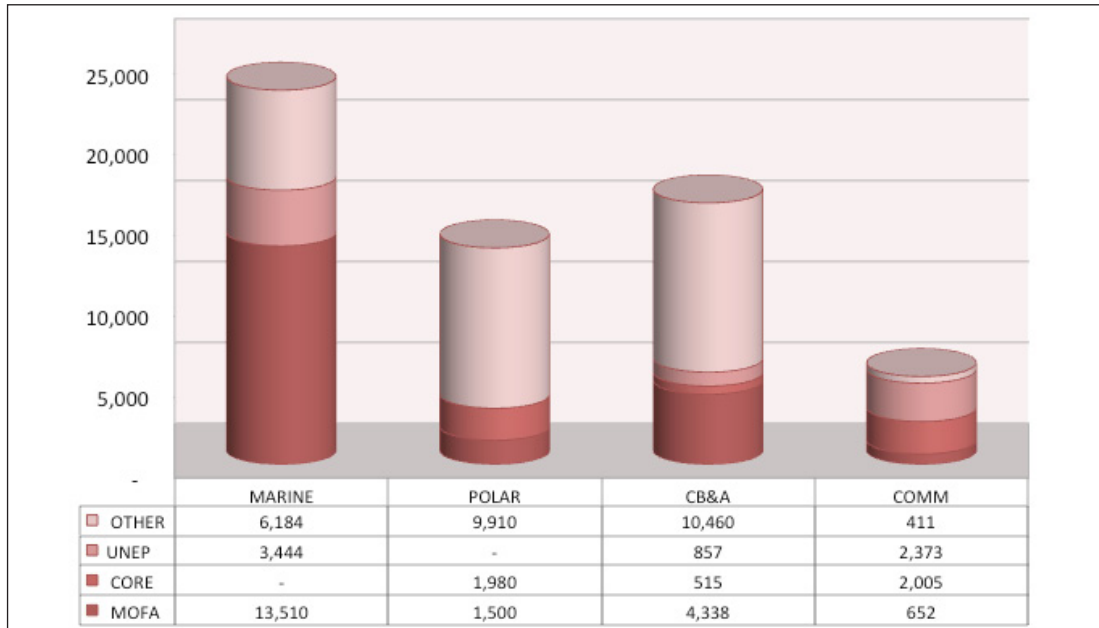


Figure 6: Board-approved 2012 budget by programme

10.2.2 Projected expenditures

Figure 7 below displays the distribution of MNOK 54.4 in projected income for 2012, including the estimated surplus of MNOK 2.2. It is calculated that, of this amount, a 'Contribution Margin' of MNOK 13.0 will be generated to finance fixed overhead costs, which are estimated to MNOK 10.8.

Furthermore, it should be noted that:

- With the goal of greater resource efficiency in mind, GRID-Arendal's **budgeting and planning systems have been improved** inter alia through the introduction of updated tools and procedures;
- The annual **budget process has been strengthened**, inter alia by the introduction of updated criteria (and corresponding staff training) on leveraging, development impact, and stricter compliance with standard project management guidelines;
- Staff charge-out rates (the cost per hour of staff) are unchanged and have not been significantly increased since 2007; and
- As the Communications and Outreach Programme provides cross-support to the other units, the applicable staff rates internally are discounted. Further, core communications tasks are charged at a lower rate than external project work in other units.

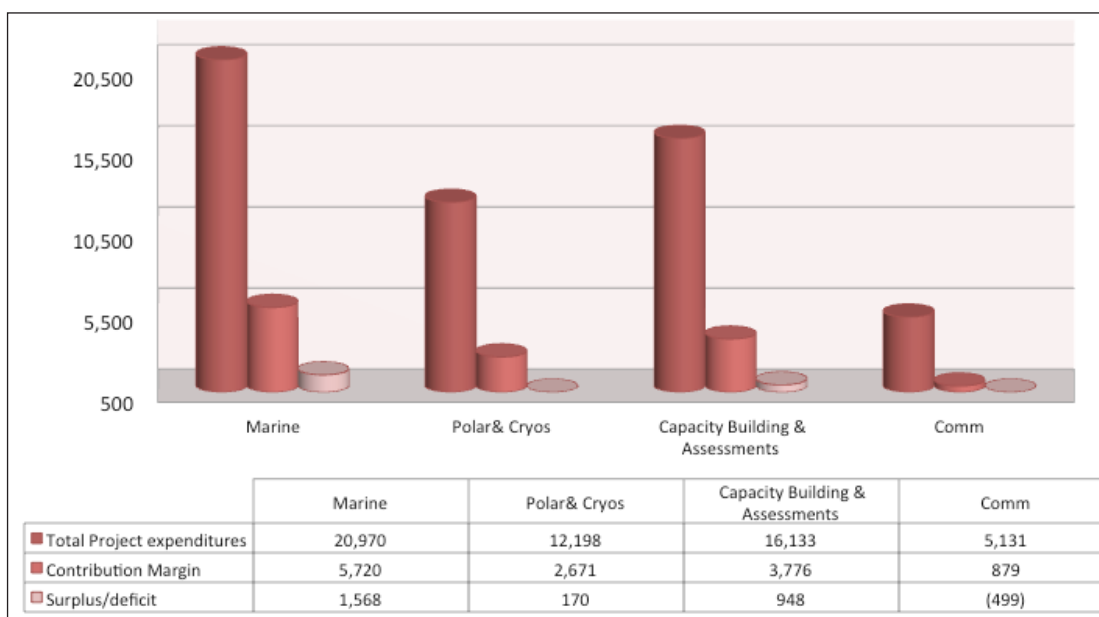


Figure 7: 2012 Board-approved project expenditures, contribution margin & surplus by programme

11 Deviations from, and adjustments to the annual work plan

With regard to financial expenditures, the **UNEP Shelf Programme** required an additional allocation of funds during 2011. At the start of the year, 6 million NOK were allocated from the 2011 budget to support the Norwegian Initiative. During the year an increased level of support to countries under the Norwegian Initiative was delivered, which was not anticipated, resulting in additional costs of 2.2 MNOK. For activities in West Africa, the purchase of software and hardware (2.85 MNOK) was an extraordinary cost item not previously incurred for any other region or country. Operational costs (including workshops, data acquisition, and other support to the region) were also higher than anticipated due to additional, unforeseen interventions required for successful programme delivery. The funding shortfall was communicated during the course of the year to the Ministry of Foreign Affairs.⁸⁸ Subsequent to this, the Ministry agreed to cover the additional costs.

The **Mitigation and Adaptation Information Network (MAIN)** project was brought to a close in 2011 as it proved

challenging to develop deliverables with a clear impact. This decision was made in consultation with partners and is based on recommendations from a paper prepared in collaboration with UNEP/Risøe in December 2010 that assessed experiences of ICT-based networks for capacity development in the area of renewable energy. The study highlighted preconditions for success, including a clearly defined target audience; a well-developed network of local partners (NGOs working on the ground) that could help bridge the “digital divide”; clear specification of value added; tools, products, and services relevant to end-users; and significant levels of funding (larger projects than MAIN had failed). Following the review of implementation progress and, in light of insights gained from similar projects, it was decided to terminate GRID-Arendal’s engagement in MAIN from mid-2011.

88. Ref. letter to the ministry for the attention of Mr Harald Noreik, dated 2 December 2011.

12 Assessment of effectiveness

The Framework Agreement between the Norwegian Ministry of Foreign Affairs (MoFA) and GRID-Arendal, dated 28 April 2010, prescribes an assessment at the end of the biennium of the effectiveness of the Work Programme under the Programme Cooperation Agreement (PCA). The point of departure for an assessment of the ‘effectiveness’ of the Work Programme – defined as “the extent to which the purpose has been achieved” – is the first clause of the Framework Agreement:

“The overall goal...is to support UNEP with GRID-Arendal’s core competencies in creating innovative communication tools, products and services that draw from scientific assessments and present complex information in a manner that is compelling to a wide range of audiences.”

In relation to GRID-Arendal’s long-standing and vital collaboration with UNEP, the key message from this report is that the relationship is changing in a fundamental and strategically important way. This change is most evident in

the type of engagement – from ad hoc, short assignments concentrating on publication services, to long-term and programmatic collaboration that involves inter alia analytical contributions and active outreach beyond launch.

This approach permits much greater synergies and scope for innovation, as is made clear by the collaboration on the most recent rendition of the **Global Environment Outlook 5**, which combines substantive content from GRID-Arendal with an extensive programme of “life after launch” outreach activities. Manifestations of the trend are also found in recent consultations on enhanced collaboration at the regional level, for instance in relation to a strategic initiative to revamp the **Africa Environmental Information Network (AEIN)**, and in the multiple joint applications to the **Global Environment Facility (GEF)**, which is key to building the future foundation for ‘programmatic’ (i.e. programme-led) collaboration between the institutions.

In this sense, GRID-Arendal's 'traditional' core competencies in communications tools, methodologies and products remains the comparative advantage at the centre of the collaboration, but is complemented and reinforced by additional services that add significant value to interventions initiated by UNEP, such as analytic content, programme management, technical assistance in providing capacity building (in relation to both client countries and UNEP staff), training programmes, web hosting and content management, and, not least, networking skills. An important emerging synergy is in relation to GEF, whereby GRID-Arendal brings both funding and expertise to the table but also facilitates UNEP access to significant funding as a de facto implementer (GEF rules prohibit lead coordinators from also playing a formal lead implementation role).

At the same time as the skills base is expanding and improving, GRID-Arendal places great importance on its reputation among valued UNEP colleagues. The anecdotal evidence and documented feedback contained in this Final Report suggests that GRID-Arendal is perceived as a responsive, dynamic and agile partner, willing to go the extra mile under very tight timelines and within constrained

budget frames. As an "official collaborating centre", much is expected of GRID-Arendal. And yet, there is a frank acknowledgement that UNEP colleagues share responsibility for successes and shortcomings. There is scope for improving coordination and avoiding the kind of lapses in project management that cause unnecessary strains, both financial and operational, for both partners.

This report also bears out that the institutions are moving in step with one another to improve the working relationship. Important progress has already been made in strengthening coordination processes, principally through joint consultations on how best to apply the principles of Results Based Management (RbM) to joint reporting responsibilities and, most important, to joint management and implementation responsibilities. While RbM holds the key for strengthening the effectiveness of GRID-Arendal / UNEP collaboration going forward where it counts the most, at the operational level, the significance of joint efforts to better align the institutions at the strategic level cannot be underestimated. In this sense, the emphasis is on ensuring that the planned revision of GRID-Arendal's corporate strategy is appropriately linked to and coordinated with UNEP's mid-term strategy.

13 Summary of lessons learned

13.1 Strategic level

If the lessons generated over the last biennium could be summed up in one word, it would be "leverage". This word is reflective of how GRID-Arendal's strategic stance is evolving in the context of a changing global landscape for environmental services. The organisation has responded flexibly by leveraging both its financial resources and comparative advantages in order to strengthen the sustainability and relevance of its operations. As a result, GRID-Arendal is in a stronger position than ever before to give specific, policy-relevant insights at the country-level – where it's most needed – through extensive experience with environmental research and assessments (e.g. atlases, rapid response assessments, vital graphics, targeted environmental assessments) at the sub-regional, regional and global level.

Illustratively, the organisation diversified its funding sources in response to the downward trend in financial commitments from UNEP, which presented a clear risk to GRID-Arendal's financial viability. Today, external contri-

butions to the work programme outstrip those of UNEP. Likewise, GRID-Arendal has successfully exploited growing demand (from country authorities as well as institutions) for its communications expertise and tools and associated advisory services, by fostering partnerships outside the UNEP orbit.

New strategic relationships – which effectively complement the long-standing collaboration with UNEP – offer the prospect of enhancing long-term impact through 'scaling' up GRID-Arendal's range of tested products and services. There is also the real prospect of bolstering the collaboration with UNEP through new partnerships, as evidenced by GRID-Arendal's increasing participation in programmes financed through the Global Environment Facility (GEF), which by their nature are implemented through the coordinated action of multiple partners.

In parallel, the organisation is on a trajectory to reduce its reliance on ad hoc, short-term contract-type work assignments with low funding levels and higher associated risk. Engagement with additional partners – such as the

International Seabed Authority and the Commonwealth Secretariat on oceans governance and ‘downstream’ activities related to the UNEP Shelf Programme, and the World Bank on the Global Partnership for Oceans – promises to strengthen the financial sustainability of GRID-Arendal’s operations, while enhancing the relevance and impact of its development activities through involvement in programmatic interventions with longer-term perspectives and “rolling” financing plans.

Experience from the biennium has also highlighted the potential for GRID-Arendal to make more effective use of its comparative advantage as a ‘nimble networker’, i.e. the capacity to bring all manner of stakeholders together around complex issues to help identify and broadcast practical solutions that will push policy and thus contribute to good change. It’s a brand of ‘soft advocacy’ that works because the focus is on pragmatic solutions, collaboration, and clear messaging.

13.2 At the level of operations

A clear ‘tactical’ lesson from the past two years is that, while GRID-Arendal is already well-known for its stellar series of publications – which have represented its most powerful and visible marketing vehicle up until now – there is great scope for pushing change through ‘active’ outreach and dissemination activities that go well beyond the classic launch event and even digital media (what has come to be known as “life after launch”). The scope for this type of engagement, which harkens back to the early days of GRID-Arendal’s extensive outreach programmes for journalists in the former Soviet republics, is large and cannot be met by GRID-Arendal and UNEP alone. The organisation is well positioned to push the boundaries for this type of activity in collaboration with its partners.

The biennium has also illuminated a simple truth: that bringing about good change, in the end, comes down to reaching people who have influence, and reaching them when the hour is ‘ripe’ (witness the effect of Living Planet: Connected Planet, the RRA produced for the Convention on Migratory Species). We need to be more strategic, more circumspect and more courageous in targeting the message – it is not enough to identify the ‘decision makers’ in the public and private sector spheres. Our true target is their constituency, whether they be key segments of the electorate, civil society advocates and NGOs, journalists, academia, financial and commercial actors – the ones for whom they sit up and listen.

The main lesson from 2011, echoing reflections from the 2010 Progress Report, is that the success of any strategic realignment hinges on strengthening operational effectiveness through dedicated application of the Results Based Management (RbM) approach. By the end of the biennium, GRID-Arendal had learned and demonstrated the value of RbM from the vantage point of reporting, with generous support from NORAD. The challenge going forward will be to mainstream RbM as a “management tool”.

As accepted policy, it is now necessary to embed the tool in operations in order to realise its potential for significant improvements in project and programme design, monitoring and evaluation, and feeding lessons forward in the project and programme cycle. Moreover, given the extent and value of its collaboration with UNEP, mainstreaming also implies that GRID-Arendal has a strong incentive to work very closely with UNEP in its own efforts to strengthen operational effectiveness through the results management approach. To support this policy, GRID-Arendal is in the process of developing a Monitoring & Evaluation Framework that will underpin future programmes of work and, hopefully, serve as a value-added in future collaboration with UNEP.

14 Audited financial statement

The Audited Financial Statement (Annex 3) from KPMG was undertaken in accordance with the ISRS 4400 Engagements to Perform Agreed Upon Procedures Regarding Financial Information.

Annexes

Annex 1 – Activities and outputs under the Programme Cooperation Agreement 2010-2011

MARINE ENVIRONMENT: The goal is to make a valuable contribution to improved understanding of marine ecosystems, focusing on coastal developing nations and Small Island Developing States engaged in the UNEP Shelf Programme; and to contribute to policy changes promoting responsible management and sustainable use of the marine environment.

A. UNEP Shelf Programme		
Description	Indicators	2011 Activities/Outputs
<p>1. Norwegian continental shelf initiative support to African states. UN General Assembly Resolution 57/141 (paragraph 38)</p>	<ul style="list-style-type: none"> • Desktop studies for at least 7 African states finalised before July 2010 • Number of African states assisted in following up desktop studies and in securing their submission 	<ul style="list-style-type: none"> • Desktop studies produced for Cape Verde, Gambia, Guinea, Guinea-Bissau, Mauritania and Senegal. • Studies presented in the first meeting of the liaison committee in Praia, Cape Verde, in November 2010. Tender documents for data acquisition developed, company selected and data acquisition started up according to plan developed in the desktop study. • First training and capacity building workshop arranged in connection with the second liaison meeting in Praia in June 2011, part of workshop with focus on awareness raising of non-technical personnel. • Participated in third liaison meeting in October 2011 with focus on the data acquisition and capacity building. • Second training and capacity building workshop in Arendal in November 2011. Technical workshop in the use of Geocap software. Computers and software to use in data analyses and preparation of submissions provided to the participants. • Submission document under production for the Republic of Somalia, will be finalised early 2012. • Follow-up discussions held with other West African states, namely Ghana, Togo, Benin and Nigeria, but the issues between those countries are of legal and not technical nature.
<p>2. Support to remaining developing states that have delivered a Preliminary Information Document (PID) or have “a late deadline“. UN General Assembly Resolution 57/141 (paragraph 38)</p>	<ul style="list-style-type: none"> • Number of submissions by developing states before their deadline ensured 	<ul style="list-style-type: none"> • Three workshops held (February 2010, November 2010 and July 2011) for the Pacific states. Each workshop lasted 2 weeks and was attended by technical and legal personnel from Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu and Vanuatu • Technical guidance given to Chile through the embassy in Oslo and to DIFROL (La Dirección Nacional de Fronteras y Limites del Estado) • Request for assistance received from Republic of Congo. Awaiting further information on our follow-up response. • Assisted the Republic of Madagascar with data storage and finalisation of submission (delivered July 2011)

		<ul style="list-style-type: none"> • Training course held in the Seychelles from 13 to 21 April 2011. Main focus on technical advice in connection with the submission document. Data from OSDS provided in this connection. • Technical advice and support provided to the Republic of Tanzania to finalise the submission document. Revision of documents and workshops conducted in May, June and September 2011 (submission January 2012) • Advice and comments on submission given to Bangladesh (submission February 2011). • Technical advice provided to Costa Rica about a possible joint submission with Ecuador and Colombia around the Farralon Plate.
<p>3. Maintain competence and expertise in developing states until their submission is examined by the Commission on the Limits of the Continental Shelf (CLCS). UN General Assembly Resolution 57/141 (paragraph 38)</p>	<ul style="list-style-type: none"> • Capacity building on extended continental shelf issues offered to relevant developing states to promote sustainable use of their marine environment • Annual workshops arranged and online service provided 	<ul style="list-style-type: none"> • Capacity development offered to, and accepted by, the six West African states under point 1. Two training sessions held in 2011 and two more planned for 2012. • Capacity development project in general management of marine areas for developing states currently under development. • The regional continental shelf cooperation in the Pacific has been extended to general boundary delimitation, and the workshop in July 2011 included technical and legal support for the negotiation of the 22 unresolved boundaries in the region. • Request from Uruguay and Argentina about revisions of their previous submissions and possible resubmissions.
<p>4. Further develop the One Stop Data Shop into a multidisciplinary global marine resource information database to serve activities and deliverables of integrated Oceans Management activity (and in support of external partners)</p>	<ul style="list-style-type: none"> • Number of partnerships dedicated to the development of an information database (including back-end and front-end) to support ocean resources and environmental management and with particular focus on the continental shelf and deep sea) secured: 2-3 • Global Marine Resource Information Database (branded as OCEANIDS) based on emerging issues requiring specific data needs expanded. • Data support to UN Regular Process provided. • Link to UNEP's EDIP (Environmental Data and Indicators Platform) initiative explored and expanded. 	<ul style="list-style-type: none"> • The OSDS contains around 17000 public marine surveys, and there has been 5258 external downloads of shapefiles from 1008 unique sides. The new data from the West African data acquisition programme will be incorporated in OSDS. An agreement with Ocean Data and Information Network (ODIN) about data sharing is under development. • GRID-Arendal provided data mining and networking for the European Marine Observation and Data Network (EMODNET). This is a European Commission project aiming at improved access to high quality marine data. The focus in 2011 has been on identification of data from Lebanon, Israel, Turkey and North Africa. • GRID-Arendal has been contracted to develop the reporting system for the UN Regular Process. Main activities will start in 2012 (se B1), so data has not been provided yet.
<p>Collaborating with partners: Legal Department of the Norwegian Ministry of Foreign Affairs, Norwegian Petroleum Directorate, SK, ECOWAS, IOC, CLCS, UNEP Regional Seas, Geoscience Australia, SOPAC, Commonwealth Secretariat</p>		
<p>Countries/regions assisted: West Africa, Somalia, Tanzania, Seychelles, Madagascar, Chile, Argentina, Uruguay, Bangladesh and the Pacific states</p>		

B. Management of the Marine Environment		
Description	Indicators	2011 Activities/Outputs
<p>1. Conduct assessments to support the responsible use of marine environment. Sub-programme 4: Environmental Governance 4(d) 4</p> <p>Sub-programme 3: Project 3: Sub-programme 1: Climate Change 1(e) 5</p> <p>Sub-programme 3: Ecosystem Management 3(a)3 and 3(a) 5</p> <p>Sub-programme 4: Environmental Governance 4(d) 3</p> <p>Sub-programme 5: Harmful Substances and Hazardous Waste 5(b)9</p> <p>Sub-programme: Resource Efficiency 6(a)1</p>	<ul style="list-style-type: none"> • Number of global or regional marine assessments produced and disseminated annually: 4 • Pick up of findings and recommendations from assessments in the form of news stories and policy documents, messages delivered to targeted decision makers 	<ul style="list-style-type: none"> • Produced with UNEP-WCMC, for the UN Regular Process for global assessment of the marine environment including socio-economic aspects, a prototype clearing house mechanism with full technical specifications and a paper that considered options and a recommended course of action for developing a reporting system that will be used by States to contribute to the assessment report. Design and accessibility of the document management system will be integral to ensuring maximum participation in the process. • Sick Water? The Central Role of Wastewater Management in Sustainable Development launched 22 March 2010 in Nairobi and Rio de Janeiro • Blue Carbon report translated into Bahasa Indonesia, and some of the figures translated into Japanese. A portal website established. • Blue Carbon report translated into Bahasa Indonesia, and some of the figures translated into Japanese. A portal website established. • E-book & printed versions of Continental Shelf: The Last Maritime Zone. • Assisted the UNEP Mediterranean Action Plan (MAP) in the implementation of the Ecosystem Approach for the production of the State of the Marine and Coastal Environment Report 2012. • Green Economy in a Blue World – Synthesis Report to be launched in Manila, Jan. 2012 • Played a central role in putting the spotlight on Blue Carbon Policy during the Eye on Earth Summit in Abu Dhabi in December 2011. • GRID-Arendal is managing the Project Preparation Grant (PPG) for the Global Environment Facility's Blue Forest's project. This major international initiative will focus on advancing Blue Carbon methodologies including the valuation of ecosystem services for coastal ecosystems, and include a number of demonstration projects, policy education and outreach. • Contributing as an institutional partner to development of methodologies and arrangements for the Large Marine Ecosystems (LMEs) and in the open ocean areas for the Transboundary Waters Assessment Programme (TWAP). The full-sized project proposal has been submitted to the GEF Secretariat. • The pioneering Seafloor Geomorphology as Benthic Habitat: GeoHAB Atlas of Seafloor Geomorphic Features and Benthic Habitats was released in December 2011. The volume, developed through a global network of marine researchers and edited by GRID-Arendal examines the relationship between seabed geomorphology and benthic communities.

		<ul style="list-style-type: none"> • Coordinating the production of the Global Outlook on Methane Gas Hydrates, due to be launched in 2012. The outlook is being prepared in collaboration with national workgroups from Norway, Canada, US, India, Korea, Japan and Germany, private sector companies (Statoil and Schlumberger) and NGOs (WWF, Forum for the Future (UK)). A new public outreach web portal providing a multimedia experience of methane hydrates (www.methanegashydrates.org) was launched.
<p>2. Develop innovative communication tools and services (i.e. marine websites, Earthwire, photo library). Sub-programme 4: Environmental Governance 4(d) 1, 4(d)2, 4(d)</p>	<ul style="list-style-type: none"> • Number of hits on the websites • Number of registered users of Earthwire 	<ul style="list-style-type: none"> • Marine Newsletter produced monthly and number of subscribers increased to 310. The newsletter has been featured in IISD Biodiversity Update several times. The newsletter has during 2011 been enhanced with a Picture of the Month. • EarthWire Marine updated daily and number of e-mail subscribers increased to 260. Geographic tags added to allow search by regions. • All printed reports presented as e-books on GRID-Arendal's website.
<p>3. Strengthen capacity for marine management. Sub-programme 3: Ecosystem Management 3(b)3</p>	<ul style="list-style-type: none"> • Comprehensive training to at least 2 developing states delivered. • At least 50 marine experts and managers trained. • Number of University of the Sea cruises organized: 2 	<ul style="list-style-type: none"> • Supported Marine and Coastal Ecosystem Branch (MCEB) of UNEP, as a partner in the project 'Broad-scale marine spatial planning of mammal corridors & protected areas in Wider Caribbean & Southeast & Northeast Pacific' (2010-2012), which contributes to the LifeWeb Initiative of the Convention on Biological Diversity (CBD). GRID-Arendal has a lead role in providing technical support and guidance for the data identification, collation and visualization of essential habitats and regional-scale migration routes for marine mammals. • Signed MoU with the Abidjan Convention Secretariat to support marine management through the Sustainable Seas Programme. Planning a pilot workshop in the region during first half of 2012 to identify capacity development priorities and needs in the countries in West Africa. • Asked to explore the production of rapid Blue Carbon assessments for Belize, the Bahamas and Seychelles. • 5 University of the Sea (UOS) cruises. 27 young scientists and students participated.
<p>4. Develop methodology for ecosystem-based adaptation (EbA) to climate change that integrates scientific and traditional knowledge in two SIDS communities. Communities are empowered and capacity is built to analyse, prevent, and manage risks related to both climate change and natural disasters over both the long and short terms, and to influence decision-making at the local and regional levels.</p>	<p>2 communities provided with relevant tools/skills and knowledge on ecosystem-based adaptation to climate change, including facilitators within local, regional and national organizations trained to implement EbA methodologies.</p>	<ul style="list-style-type: none"> • Relationships with key partners have been established in the ecosystem-based adaptation to climate change in SIDS. Climate change vulnerability and impact assessments as well as the ongoing project in Integrated Coastal Management will take place in the Caribbean in 2012. • Meta-analysis of existing practices, policies and gaps in linking traditional and scientific knowledge for adaptation to climate change started.

	<ul style="list-style-type: none"> • Results of case studies and preliminary policy recommendations for incorporating local/traditional knowledge into EbA disseminated to communities and relevant local, regional, and national organizations to support institutionalization of the methodology for EbA. • Development of Blue Carbon ecosystem based management strategy to support developing states: 2 issues papers representing 2 regional Blue Carbon action plans produced 	<ul style="list-style-type: none"> • First level policy and science exploration of Blue carbon for the Arabian Peninsula undertaken. Over 40 meetings were held with local, national, and regional authorities and organizations throughout the region, including in the United Arab Emirates (UAE), Qatar, Kuwait, and Jordan. The rapid feasibility study Blue Carbon – First Level Exploration of Natural Coastal Carbon in the Arabian Peninsula (with special focus on the UEA and Abu Dhabi) was launched in December 2011 at the Eye of Earth Summit in Abu Dhabi.
<p>Collaborating with partners: UNEP/DEPI, Abidjan Convention, UNEP-ROLAC, WCMC, IOC, UNDOALOS, SOPAC, Marine Geological and Biological Habitat Mapping (GEOHAB), University of Sydney, Mediterranean Action Plan, Abu Dhabi Global Environmental Data Initiative, Blue Climate Solutions, Caribbean Community Climate Change Centre, Protected Areas Trust of Belize, International Climate Centre, CICERO, Oil for Development, Institute of Marine Research, Norwegian Directorate for Fisheries, Norwegian Ministry of Environment</p>		
<p>Countries/regions assisted: Pacific, Asia, Western Indian Ocean, West Africa, South Africa, UEA, Guatemala, Honduras, Nicaragua</p>		

C. Data Management, Visualization and Tools		
Description	Indicators	2011 Activities/Outputs
<p>1. Develop tools and methods to link geosciences and biological data sets for improved marine management. Sub-programme 4: Environmental Governance 4(d)1, 4(d)3</p>	<ul style="list-style-type: none"> • Dedicated web portals focused on specific marine themes to provide data support to developing countries, decision makers, the media, the general public and the scientific community developed: 1-2 • Database service module designed to assist developing countries in building their own marine information data system to support marine management capacity at the national level developed 	<ul style="list-style-type: none"> • A policy brief prepared as the first follow up step from the Blue Carbon report (available at http://www.grida.no/publications/rr/blue-carbon) • A website for GRID-Arendal's Blue Carbon Initiative has been launched (bluecarbonportal.org/). It is intended as a robust international Blue Carbon information hub, linked to regional initiatives, and co-hosts the Blue Carbon Blog, an online information and news resource covering all things related to Blue Carbon. • Development of the new OCEANIDS begun in earnest in the third quarter of 2010. Launch of the beta version of the portal is set for April 2011. • The platform that builds the backbone of OCEANIDS, GeoIQ, was used in 2011 in support of the CBD process to identify Ecologically and Biologically Significant Areas outside of national jurisdiction in the high seas of the North-East Atlantic.

<p>2. Develop visualisation and interpretation tools and products to inform ocean management and policy. Sub-programme 4: Environmental Governance 4(d)1, 4(d)3</p>	<ul style="list-style-type: none"> • Interactive maps and graphic “packages” focused on specific ocean management issues developed and disseminated • Geographical information systems, state of the marine environment reports and 3 dimensional visualization models developed and disseminated • Products incorporated into policy development within developing states 	<ul style="list-style-type: none"> • The large EU funded project on marine mining - Deep Sea Minerals in the Pacific Islands Region: Legal Framework and Resource Management- started in 2011. The first deliverable, the Pacific Marine Mining Assessment, which is managed by GRID Arendal, will be published in mid-2012. • GRID-Arendal produced ‘blue and green’ iPhone application, launched at the official opening of the One UN Pavilion at the Eye on Earth Summit. The application allows users to access information on UNEP’s work on Blue Carbon and REDD (Reducing Emissions from Deforestation and Forest Degradation) and includes an educational carbon calculator for assessing emissions related to travel and the mitigation potential of terrestrial and marine ecosystems. • The Ocean Commons for Environmental and Natural resources Information and Data Sharing (OCEANIDS) system encourage ‘Citizen Science’ by providing a mechanism for users to access public marine scientific datasets, include their own data, visualize and combine datasets, make maps, and even perform basic comparative analyses. • A new Arctic base map developed and incorporated into the GeoIQ/OCEANIDS mapping tool.
<p>Collaborating with partners: UNEP/MAP(Mediterranean Action Plan) NOAA, EU, Governments of US, Canada, Germany, Japan, India and Korea, Schlumberger, Statoil, the Pacific Applied Geoscience Commission (SOPAC)</p>		
<p>Countries/regions assisted: Pacific Islands states, South Africa</p>		

POLAR AND CRYOSPHERE: GRID-Arendal is mandated, used and valued by UNEP and other UN organizations as their key actor for networking and for providing analysis, environmental information and knowledge as well as the promoter of environmental solutions in the Polar and Cryosphere regions with an increased focus on climate change interlinkages and impacts.

A. Nomadic Herders and Land Use Change		
Description	Indicators	2011 Activities/Outputs
<p>1. Jointly with local partners conduct a vulnerability, adaptation and scenario assessment of nomadic herders and land use change in Nepal and Mongolia.</p> <p>2. Capacity building of nomadic herders in Nepal and Mongolia to engage in the decision making processes concerning land use and natural resource management.</p>	<ul style="list-style-type: none"> • Workshops addressing the state of the rangeland and nomadic herders’ livelihoods organized: 2 (1 workshop in each region) • Report based on the 2 workshops produced and disseminated: 1 	<ul style="list-style-type: none"> • Community-based workshop in Tsagaannuur in northern Mongolia in June 2011 followed by a field trip to two reindeer herders’ camps. • Developed a report on the status and challenges of Mongolia’s reindeer herders and identified recommendations for addressing them. Changing Taiga: Challenges to Mongolian Reindeer Husbandry will be launched in 2012. • Developed a GEF proposal on taiga reindeer husbandry and secured endorsement letters from Mongolia and Russia.

<p>Sub-programme 1: Climate Change 1 (a)1, 1 (a)2 Sub-programme 2: Disasters and Conflicts 2(a)1 Sub-programme 3: Ecosystem Management 3(a)4 , 3(a)6 , 3(b)4</p>	<ul style="list-style-type: none"> • Pick up of findings and recommendations for local resource management from the workshops and scenario assessments in the form of news stories and messages delivered to targeted decision makers • Local scenarios for land use change to increase understanding of changes and as input to community-based adaptation work developed 	<ul style="list-style-type: none"> • Provided case study for the UNFCCC Nairobi work programme on ecosystem-based adaptation. • Established a website www.nomadicherders.org that will be further developed in 2012 and produced outreach material targeting the policy makers and ministries of environment. • Provided input to UNEP' s 2011 Annual Report to the UN Permanent Forum on Indigenous Issues (UNPFII), and jointly with UNEP hosted a side-event on pastoralism and land use change during the UNPFII 10th Session.
<p>Collaborating with partners: Ministry of Nature, Environment and Tourism of Mongolia; Association of World Reindeer Herders, International Centre for Reindeer Husbandry, and Taiga Nature Society (a Mongolian NGO)</p>		
<p>Countries/regions assisted: Mongolia</p>		

ENVIRONMENTAL ASSESSMENTS AND INFORMATION: GRID-Arendal is a key provider of environmental information through environmental assessments and reports, and expertise in communication, outreach and capacity building primarily targeted at developing countries.

A. Africa		
Description	Indicators	2011 Activities/Outputs
<p>1.Support development of atlases of the changing environment (Zambia and Zambezi River Basin) Sub-programme 4: Environmental Governance 4(d)2</p>	<ul style="list-style-type: none"> • Country atlases of the Changing Environment produced: 2 • Atlases used for regional decision making 	<ul style="list-style-type: none"> • Environmental Council of Zambia (ECZ) and Southern African Research and Documentation Centre (SARDC) sub-contracted and identified issues and sites, as well as to compiled the manuscripts for the two atlases on Zambia and the Zambezi River Basin. GRID-Arendal supported the two processes by providing cartography expertise, as well as its capacity for layout and print coordination.
<p>Collaborating with partners: Environmental Council of Zambia, Southern African Research and Documentation Centre, UNEP, GRID-Sioux Falls</p>		
<p>Countries/regions assisted: Zambia, Zambezi river basin states: Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe</p>		
<p>2. Support to the Africa Environment Outlook process Sub-programme 4: Environmental Governance 4(d)2</p>	<ul style="list-style-type: none"> • This scientific resource is used for national and international decision making 	<ul style="list-style-type: none"> • All the 54 countries in Africa were indirectly supported by GRID-Arendal in environmental assessment and reporting as they all received the Africa Environment Outlook 3 Authors' Guide, which is set to chart the future of state of environment reporting in Africa. The authors' guide in the drafting of Part II of the third Africa Environment Outlook was compiled under the support and supervision of GRID-Arendal published in hard copy and as an e-book. • Lead authors trained on the use of the analytical framework for data collection and analysis in order to provide a comprehensive assessment of the health and environment links. • Draft 0 of the AEO-3 manuscript produced.

<p>2. Support to the Africa Environment Outlook process Sub-programme 4: Environmental Governance 4(d)2</p>	<ul style="list-style-type: none"> • This scientific resource is used for national and international decision making 	<ul style="list-style-type: none"> • All the 54 countries in Africa were indirectly supported by GRID-Arendal in environmental assessment and reporting as they all received the Africa Environment Outlook 3 Authors' Guide, which is set to chart the future of state of environment reporting in Africa. The authors' guide in the drafting of Part II of the third Africa Environment Outlook was compiled under the support and supervision of GRID-Arendal published in hard copy and as an e-book. • Lead authors trained on the use of the analytical framework for data collection and analysis in order to provide a comprehensive assessment of the health and environment links. • Draft o of the AEO-3 manuscript produced.
<p>Collaborating with partners: African Ministerial Conference on the Environment; UNEP and all its collaborating centres in Africa, namely National Environment Management Authority (Uganda), IUCN-Central Africa, Centre for Environment and Development in the Arab Region and Europe, Southern African Research and Documentation Centre, Network for Environment and Sustainable Development in Africa, EIS Africa and Indian Ocean Commission.</p>		
<p>Countries/regions assisted: All the 53 countries in Africa</p>		
<p>3. Develop the Africa Youth Environment Network as a mechanism for engaging youth in inter-sectoral and intergovernmental forums. Develop partnerships through north-south and south-south exchange programmes Sub-programme 4: Environmental Governance 4(d)3</p>	<ul style="list-style-type: none"> • Exchange programmes facilitated with additional support from FK Norway: 2 • Curriculum based on the African Environment Outlook process developed 	<ul style="list-style-type: none"> • Application for the exchange round that began in May 2011 prepared and submitted to FK Norway. Exchange involving six participants began in September 2011.
<p>4. Strengthen Environmental Information Networking in Ethiopia Sub-programme 4: Environmental Governance 4(d)4</p>	<ul style="list-style-type: none"> • A needs assessment of Ethiopia's Environmental Information Networking is prepared 	<ul style="list-style-type: none"> • A report and strategy for environmental management in Ethiopia prepared and handed over to Ethiopia's Environment Protection Agency for publication
<p>5. Strengthen local research and outreach capacity in emerging and persistent environmental issues in Africa Sub-programme 4: Environmental Governance 4(b)2</p>	<ul style="list-style-type: none"> • Case studies on the role of watersheds in the protection and provision of urban water supplies compiled and published. 	<ul style="list-style-type: none"> • A rapid response assessment report Green Hills, Blue Cities: An ecosystems approach to water resources management for African cities published in hard copy and e-book formats (http://www.grida.no/publications/rr/blue-cities/ebook.aspx)
<p>Collaborating with partners: North- South Exchange partners namely, National Environment Management Authority (Uganda), IUCN-Central Africa, Southern African Research and Documentation Centre, Network for Environment and Sustainable Development in Africa, EIS Africa and Environment Council of Zambia; National African partners, namely Environment Protection Authority of Ethiopia, Wildlife Society of Uganda; Global Universities Partnership on Environment and Sustainability (GUPES), UN-Habitat</p>		
<p>Countries/regions assisted: Most of the 53 countries in Africa</p>		

B. Eastern Europe, Caucasus and Central Asia		
Description	Indicators	2011 Activities/Outputs
<p>1. Support to developing and implementing country projects aimed at reduction of risk from natural hazards and human-made disasters in ODA countries of Eastern Europe, Caucasus, Central Asia, Northern Africa and Middle East. Sub-programme 2: Disasters and Conflicts 2(a)³</p>	<ul style="list-style-type: none"> • Number of ODA countries in Eastern Europe, Caucasus and Central Asia supported in environmental information management, capacity of national environmental institutions: 10 • Number of sub-regional assessments implemented: 2 • Environmental security risks are reduced in EECCA countries • Outreach activities for the Environment for Europe Astana 7th Ministerial Conference are supported, materials used for decision makers at the Conference 	<ul style="list-style-type: none"> • Impacts of climate change in Eastern Europe (Belarus, Moldova and Ukraine) Climate Change in Eastern Europe, Russian. • Support to the Convention on Biological Diversity implementation in Central Asia (Tajikistan, Turkmenistan and Uzbekistan) by publishing Biodiversity in Central Asia: A Visual Synthesis (www.zoinet.org/web/sites/default/files/publications/Biodiversity-CA-18-11-2011-BR.pdf). • Support to the Tehran Convention process through assistance to the Interim Secretariat of the Tehran Convention (COP III, Working groups) (4 ODA countries: Azerbaijan, Iran, Kazakhstan, Turkmenistan and Russian Federation) • Relevant GRID-Arendal publications presented and distributed at the 7th Ministerial Conference "Environment for Europe" in Astana.
<p>Collaborating with partners: Environment and Security Initiative: UNDP, OSCE, REC, NATO, UNECE</p>		
<p>Countries/regions assisted: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Tajikistan, Ukraine, Uzbekistan</p>		
<p>2. Provide support to national and sectoral environmental planning processes, networks/advisory services (on request); conduct sub-regional and national workshops on environmental data and information system and sharing; GIS-based data analysis and mapping applications in ODA countries of Eastern Europe, Caucasus, Central Asia, Northern Africa and Middle East. Sub-programme 4: Environmental Governance 4(c)³</p>	<ul style="list-style-type: none"> • Number of countries supported: 8 • 5 countries of Tehran Convention are supported through the Convention interim Secretariat in assessment of the State of the Environment of the Caspian region • A web-based Caspian Information Centre incorporating Caspian environment status data is launched and used by Caspian littoral states 	<ul style="list-style-type: none"> • Support to integrated environment assessment in the Donetsk region. Coal Land - Faces of Donetsk (http://www.grida.no/publications/security/book/4547.aspx) • State of the Environment of the Caspian Sea (Russian and English) (http://www.caspi-anenvironment.org/newsite/News-RecentLibMoreInfo.asp?ID=4373, http://www.caspi-anenvironment.org/newsite/News-RecentLibMoreInfo.asp?ID=4273) • Preparatory work for the development of the web-based Caspian Information Centre incorporating Caspian environment status data undertaken. Concept developed and agreed with the Caspian states. Additional funds raised from BP Azerbaijan. Work will be continued in 2012.
<p>Collaborating with partners: UNEP Regional office for Europe, Interim Secretariat of Tehran Convention, CaspEco, Association for Sustainable Human Development (Yerevan, Armenia), Environment and Security Initiative: UNDP, OSCE, REC, NATO, UNECE</p>		
<p>Countries/regions assisted: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, Ukraine, Uzbekistan</p>		

<p>3. Support national and regional environmental reporting systems in ODA countries of Eastern Europe, Caucasus, Central Asia, Northern Africa and Middle East. Sub-programme 5: Harmful Substances and Hazardous Waste 5(b)2</p>	<ul style="list-style-type: none"> • Number of countries supported 6 • Number of regions supported 2 • An ecological strategy for Yerevan in support of integrated urban environment assessment for Armenia is developed and used by city authorities. 	<ul style="list-style-type: none"> • Integrated Environmental Assessment of Lake Sevan (Armenia) carried out. Two working meetings with experts were organized. A two-stage expedition organized. Samples collected and analysed in the report published (in Russian) on the web.* <p>* undertaken instead of the Ecological strategy for Yerevan at the request of the Armenian partners</p>
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Collaborating with partners: ZOI

Countries/regions assisted: Eastern Europe, South Eastern Europe, Central Asia, North Africa and Middle East

<p>4. Develop information systems and policies supporting the transboundary governance of shared water bodies in ODA countries of Eastern Europe, Caucasus and Central Asia. Sub-programme 4: Environmental Governance 4(c)3</p>	<ul style="list-style-type: none"> • Confidence- and peace building initiatives / projects developed and implemented: 3 	<ul style="list-style-type: none"> • Participatory assessment of the environmental stress points in the Amu Darya basin with existing or potential security repercussions and suggested solutions (Afghanistan, Tajikistan, Turkmenistan and Uzbekistan) Environment and Security in the Amu Darya River Basin (http://www.grida.no/publications/security/book/4881.aspx). • Ongoing support to GIS-based information exchange and transboundary monitoring in the Dniester river basin (Moldova including the Transnistrian region of 'frozen conflict', Ukraine) • Ongoing support to GIS-based information exchange and basin management in the Druksiai/ Drisvyaty Lake basin (Belarus) • Ongoing support to joint environmental analysis and monitoring in the Danube Delta (Moldova and Ukraine) • Regional seminar on the "Status assessment of lake ecosystems in Central and Eastern Europe and experience from development of Lake Management Programmes in EU-countries" co-organized with partners in Belarus and held in Minsk, last quarter of 2011.
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Collaborating with partners: REC-Budapest

Countries/regions assisted: Afghanistan, Belarus, Moldova, Tajikistan, Turkmenistan, Ukraine, Uzbekistan

C. Green Economy		
Description	Indicators	2011 Activities/Outputs
<p>1. Support UNEPs Green Economy Initiative with communication tools and products targeted at ODA countries. Sub-programme 6: Resource Efficiency 6(a)2, 6(a)3, 6(a)7</p>	<ul style="list-style-type: none"> • Number of communication tools and outreach packages developed and disseminated 	<ul style="list-style-type: none"> • Biofuels Vital Graphics (printed and e-book versions) http://www.grida.no/publications/vg/biofuels/ • Overall layout and graphics of UNEP's green economy report, Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, prepared. Low- and high- resolution and press ready PDF versions of all 16 chapters of the report produced. • http://www.grida.no/publications/green-economy/

<p>2. Support to the production, visual representation and dissemination of Green Economy Report and TEEB Report. Develop and distribute spin-off information products targeted at ODA countries. Sub-programme 6: Resource Efficiency 6(a)2, 6(a)3, 6(a)7</p>	<ul style="list-style-type: none"> • Spin-off product (Communication strategy, collection of maps and graphics or E-book version of the report) developed and disseminated: 1 for each report 	<ul style="list-style-type: none"> • Production of maps and graphics and layout support for the online (PDF) versions of all 16 chapters of the Green Economy Report in preparation of soft launch of the report at the 2011 meeting of UNEP's Governing Council. • Revisions of the full Green Economy Report and preparations of print ready file of the full report for the launch in November 16, 2011. Preparation of final online versions in PDF, e-book and for online devices for all 16 chapters of report. • Preparation of maps and graphics for the Synthesis Report
<p>3. Application of Payments for Ecosystems Services practices in Africa</p>	<ul style="list-style-type: none"> • Application of Payments for Ecosystems Services practices in Africa is researched, outcomes presented through relevant communication channels and used by stakeholders 	<ul style="list-style-type: none"> • Vital Graphics on Payment for Ecosystems Services: Realizing Nature's Value to be launched in Q1 2012

D. Capacity Building		
Description	Indicators	2011 Activities/Outputs
<p>1. Support the integration of ecosystem considerations into national development processes. Provide support in knowledge, technology and policy through the Mitigation and Adaptation Information Network (MAIN) to support sharing of experience, strengthen and bear witness to the local knowledge base and build resilience in local communities in India and East Africa. Communicate, promote and replicate successful climate change best practices about renewable energy and sustainable tourism from local communities in ODA countries of East Africa and India. Sub-programme 1: Climate Change 1(a)3, 1(a)6, 1(e)6 Sub-programme 6: Resource Efficiency 6(b)3</p>	<ul style="list-style-type: none"> • ICT platform on social innovation for sustainable livelihoods is developed, launched and used by local assisted communities. Cases of adaptation of renewable energy implemented through technical support and capacity building by local partners: 4. • Databases within the ICT platform, focusing on energy, food, water developed and used by local assisted communities. Number of cases where a community have shared good practices from other communities: 8 • Capacity development tools for sustainable livelihoods, local green economies and social entrepreneurship developed and applied by stakeholders • Outreach materials developed, disseminated and used by stakeholders 	<ul style="list-style-type: none"> • Due to discontinuation of MAIN, the platform will be used by the developer ELPIS to continue its work for a low carbon society. • Launch of a short documentary film about MAIN (10 minutes) and a shorter version of 3 minutes. • The interactive GIS resource on the optimization of the land use for crop production in Uganda based on the assessment of land resources for biofuel feedstock developed jointly with NEMA, Uganda. • GRID-Arendal is an Advisory Member of the Global Partnership for Sustainable Tourism (GPST). • GRID-Arendal has joined the IUCN Tourism and Protected areas Specialist Group (TAPAS). • A survey aiming at collecting information on existing Sustainable Tourism projects, businesses and concepts that support protected areas has been developed and distributed over 500 direct contacts and networks (www.grida.no/tourism/survey.aspx). • Training programme for young professionals on the issues of Arctic climate change developed and implemented during the mission to Svalbard together with the British Council. Two documentary films produced (www.youtube.com/watch?v=NqhbVz5HV0 and www.youtube.com/watch?v=zxZfYLNxpKE)

	<ul style="list-style-type: none"> • Number of cases where a community has learned and replicated from good practices from other communities. 	
Collaborating with partners: Development Alternatives, India; National Environmental and Monitoring Authority (NEMA), Uganda; Online community and environmental platform, ELPIS;		
Countries/regions assisted: India, East Africa		

COMMUNICATION AND OUTREACH: GRID-Arendal's goal under this programme area is to clearly and openly communicate information about the environment to decision makers and the general public, making the best possible use of modern communication technologies to enhance the impact of both GRID-Arendal's and UNEP's work. GRID-Arendal works closely with partners and networks and with international and national media to reach as broad an audience as possible.

A. Communication and Outreach		
Description	Indicators	2011 Activities/Outputs
<p>1. Enhance the impact of UNEP work through development of effective, innovative communication and outreach products on findings of environmental assessments; organize outreach events and exhibitions at conferences; facilitate lectures and media events; and provide technical and publication services.</p> <p>Sub-programme 1: Climate Change 1(e)4, 1(e)5 Sub-programme 3: Ecosystem Management 3(a)6 Sub-programme 4: Environmental Governance 4(d)1 Sub-programme 5: Harmful Substances and Hazardous Waste 5(c)7 Sub-programme 6: Resource Efficiency 6(a)1, 6(c)3</p>	<ul style="list-style-type: none"> • Number of vital graphic packages and reports produced and disseminated: 4 (2010), 4 (2011) • Number of Environment & Poverty Times produced and disseminated in ODA countries: 1 • Number of e-books and other multimedia products produced: 8 (2011) • Tenfold increase in the number of entries in the media library (2011) • Number of outreach packages produced and disseminated; media coverage facilitated 	<ul style="list-style-type: none"> • Support to UNEP through report preparation, production and dissemination: <ol style="list-style-type: none"> 1. <i>Towards a Green Economy - Pathways to Sustainable Development and Poverty Eradication</i> 2. <i>Coalland: Faces of Donetsk</i> 3. <i>Green Hills, Blue Cities: An Ecosystems Approach to Water Resource Management for African Cities</i> 4. <i>West African Continental Shelf - UNCLOS Article 76 (French) Regional Desktop Study</i> 5. <i>Africa Environment Outlook 3 – Authors' guide</i> 6. <i>Environment and Security in the Amu Darya River Basin</i> 7. <i>Climate Change in Eastern Europe (Russian)</i> 8. <i>Orangutans and the Economics of Sustainable Forest Management in Sumatra (English and Bahasa Indonesian)</i> 9. <i>Living Planet: Connected Planet – Preventing the End of the World's Wildlife Migrations through Ecological Networks</i> 10. <i>Continental Shelf- The Last Maritime Zone - Update (Status in September 2010)</i> 11. <i>Vital Caspian Graphics 2: Opportunities, Aspirations and Challenges</i> 12. <i>Women at the Frontline of Climate Change: Gender Hopes and Risks</i> 13. <i>Vital Waste Graphics 3</i> 14. <i>Biofuels Vital Graphics: Powering a Green Economy</i> 15. <i>Environment and Poverty Times Issue 7</i> 16. <i>Changing Taiga: Challenges for Mongolia's Reindeer Herders</i>

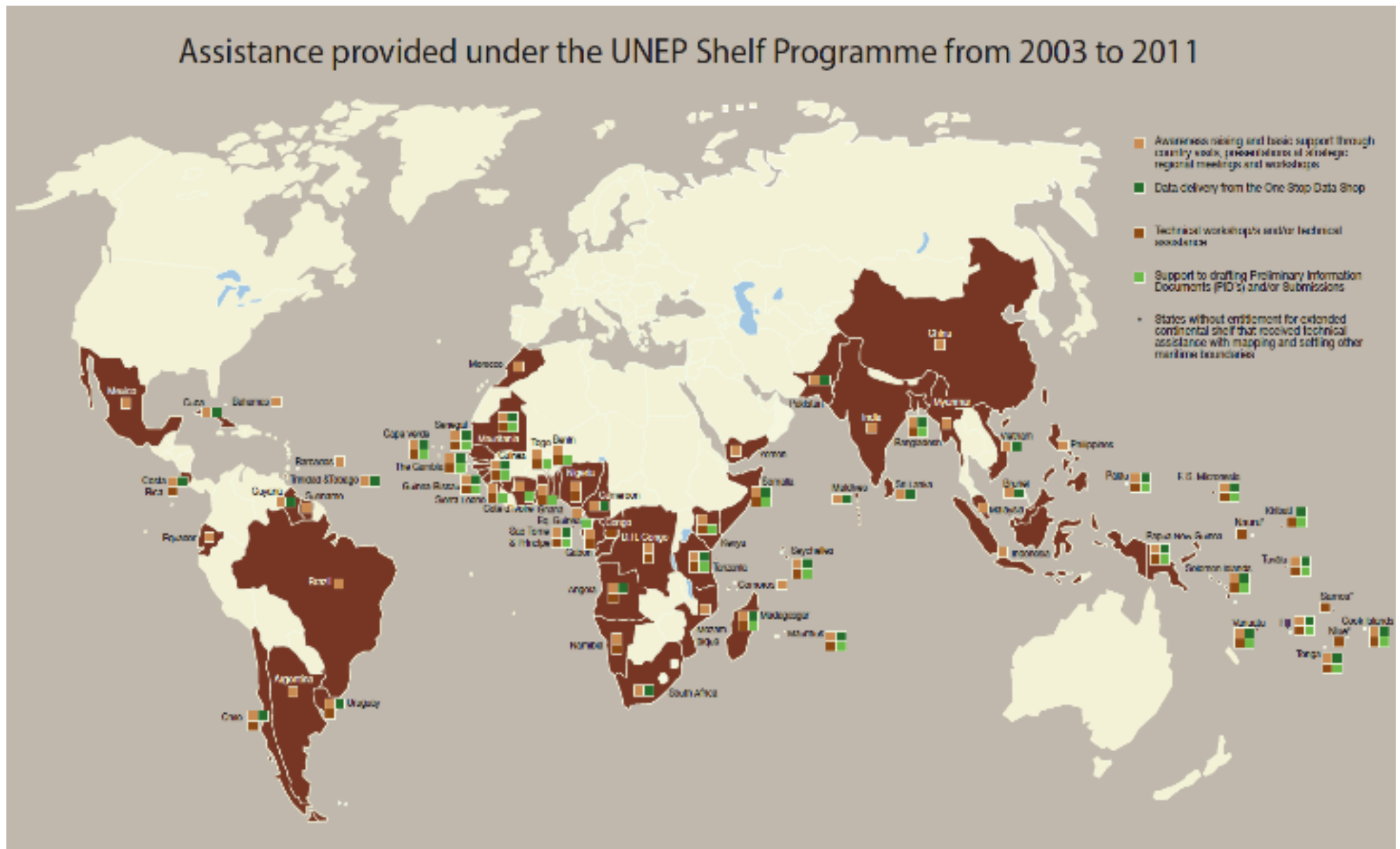
		<ul style="list-style-type: none"> • Report production services for partners: <ol style="list-style-type: none"> 1. <i>State of Environment - Information Networking in Rwanda (Rwanda Environment Management Authority)</i> 2. <i>Working for the Environment (Department of Environmental Affairs of South Africa)</i> 3. <i>Sign and the art of Tracking: a guide to support law enforcement tracking and anti-poaching operations (INTERPOL)</i> 4. <i>Appraisal Report of the North Caspian Coastal Zone Bio-and Geodiversity Management Master Plan (AGIP KCO)</i> 5. <i>Blue Carbon: First Level Exploration of Natural Coastal Carbon in the Arabian Peninsula (Environment Agency - Abu Dhabi)</i> 6. <i>Environment Atlas of Abu Dhabi Emirate (Environment Agency – Abu Dhabi)</i> • Support to UNEP and other partners in the preparation of e-book versions of reports: <ol style="list-style-type: none"> 1. <i>E-book editions of 9 UNEP reports prepared and published.</i> 2. <i>E-book editions of 3 reports of partners prepared and published.</i> 3. <i>E-book conversion of 80 titles completed and accessible on the GRID-Arendal website.</i> 4. <i>App that enables people to download interactive e-books into mobile devices for offline viewing developed. The App is available from iTunes Store for iPad, iPhone and iPod (http://www.grida.no/publications/appstore.aspx). 36 titles published in the App.</i> • Support to UNEP for report launches, awareness raising functions and other events: <ol style="list-style-type: none"> 1. <i>Information and awareness-raising activities organized to promote the 2011 International Year of Forests (IYF). GRID-Arendal developed a special page on its website that provided information and a wide range of multimedia resources (publications, photos, graphics, videos, etc) on forests. The theme “Celebrating Forests for People” was the focus of the annual International Week celebration in Arendal in October. International Week is jointly organized by GRID-Arendal, Arendal Kommune, the UN Association of Norway and other organizations. A film series featuring 5 documentaries on forests and forest conservation was organized by GRID-Arendal and attended by more than 3000 elementary and high school students. Several promotional products (flyers, stickers, tote bags, etc) using the IOYF logo were produced and disseminated during the year.</i> 2. <i>Cartographic support provided to UNEP’s Billion Tree Campaign</i> 3. <i>Launch of the report Coalland: Faces of Donetsk at the ENVSEC Regional Meeting for Eastern Europe, Lviv, Ukraine, 16-17 February.</i>
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		<ol style="list-style-type: none"> 4. <i>Launch of the online version of the report Towards a Green Economy - Pathways to Sustainable Development and Poverty Eradication at the meeting of UNEP's Governing Council of UNEP, 21 February in Nairobi. A local launch was also organized in Arendal, Norway.</i> 5. <i>Launch of the report Green Hills, Blue Cities: An Ecosystems Approach to Water Resource Management for African Cities on World Water Day, 21 March 2011, in Cape Town, South Africa.</i> 6. <i>Launch of the report Orangutans and the Economics of Sustainable Forest Management in Sumatra (English and Bahasa Indonesian editions) at a press conference hosted by the Indonesian Ministry of Forestry.)</i> 7. <i>Launch of the report Living Planet: Connected Planet – Preventing the End of the World's Wildlife Migrations through Ecological Networks at the 10th Meeting of the Conference of the Parties to the Convention on Migratory Species (CMS), 21 November, Bergen, Norway.</i> 8. <i>UNFCCC COP 17 – Support was provided to the Many Strong Voices Programme in the preparation of the exhibition Portraits of Resilience (29 November – 03 December at the Durban Museum of Natural Science), as well as the preparation of six different postcards that were distributed during the COP.</i> 9. <i>Launch of the report Women at the Frontlines of Climate Change at a side event on Adaptation to Climate Change in the Hindu Kush Himalaya at the 17th Conference of Parties to the UNFCCC, 06 December, Durban, South Africa.</i> 10. <i>Launch of UNEP's Blue and REDD Carbon App at the Eye on the Earth Summit, 12-15 December, Abu Dhabi, United Arab Emirates. Photo documentation support also provided to the UNEP Pavilion.</i> <ul style="list-style-type: none"> • Support to UNEP in disseminating UNEP Press Releases to Scandinavian media • Support to UNEP in disseminating environmental information and resources through the GRID-Arendal website, the GRID-Arendal Maps and Graphics library, the GRID-Arendal Photo library, and Earthwire.
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Collaborating with partners: UNEP, the Conservation of Arctic Flora and Fauna (CAFF) Working Group of the Arctic Council, Uganda Wildlife Society, Center for International Climate and Environmental Research – Oslo (CICERO), International Centre for Integrated Mountain Development (ICIMOD), Korea International Cooperation Agency, Rwanda Environment Management Authority, Department of Environmental Affairs of South Africa, INTERPOL, AGIP KCO, Environment Agency - Abu Dhabi

Countries/regions assisted: Global

Annex 2 – Distribution of assistance under the UNEP Shelf Programme



Annex 3 – Audited financial statement



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Report regarding - Framework Agreement for 2010 and 2011 between the Norwegian Ministry of Foreign Affairs and UNEP/GRID-Arendal: Work Programme 2010-2011

We have performed the procedures agreed with you and enumerated below with respect to the financial statement for the "Work Programme" for the period 01.01.2011-31.12.2011. The Work Programme components are:

- Marine A. UNEP Shelf Programme
- Marine B. Management of the Marine Environment
- Marine C. Data Management, Visualization and Tools
- Environment assessments and information
- Polar & Cryosphere

Our engagement was undertaken in accordance with the ISRS 4400 Engagements to Perform Agreed-upon Procedures Regarding Financial Information. The procedures were performed solely to assist you in evaluating the validity of the financial statement for the Work programme for 2011 and are summarized as follows:

1. We have checked on a sampling basis that fees are based on hours recorded in the Work Programme's accounts.
2. We have checked on a sampling basis that expenditures are supported with vouchers in the Work Programme's accounts.
3. Accounting has been carried out in accordance with accepted principles in Norway.

We report our findings below:

1. Fees amounting to NOK 32 691 969 are based on hours recorded in the Work Programme's accounts.
2. Expenditures amounting to NOK 15 957 259 are supported with vouchers recorded in the Work Programme's accounts. In this amount 13 % overhead is included.
3. With respect to item 3, accounting has been carried out in accordance with accepted principles in Norway.

Based on the performed procedures described above on the account statement for the "Work Programme" in our opinion costs with the amount of NOK 48 649 228 are documented satisfactorily in GRID-Arendal's project's accounts.

Offices in

Oslø	Hamar	Sandefjord
Ålesund	Haugesund	Sandnessjøen
Arendal	Kristiansund	Stavanger
Bergen	Larvik	Stord
Bodo	Mo i Rana	Tromsø
Evjemoen	Molde	Trondheim
Finnøy	Narvik	Tvedestrand
Grimstad	Roros	Ålesund

KPMG AS, a Norwegian member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

Stattdokumenterte revisorer - medlemmer av Den norske Revisorforening



Our report is solely for the purpose set forth in the first paragraph of this report and for your and the Norwegian Ministry of Foreign Affairs information, and is not to be used for any other purpose or to be distributed to any other parties. This report relates only to the accounts and items specified above and do not extend to any financial statements of GRID-Arendal, taken as a whole.

Arendal, 7 February 2012
KPMG AS


Terje H. Holst
State Authorised Public Accountant

Annex 4 – GRID-Arendal publications 2011

A total of eighteen (18) publications were produced by GRID-Arendal in 2011, spanning well-known branded series, such as 'state of the environment', 'rapid response assessments', and 'vital graphics', but also UNEP flagship & milestone reports, such as the Africa Environmental Outlook and the Green Economy Report. Specialised assessments and feasibility studies related to emerging issues, such as Blue Carbon, were also undertaken. When combined with the ten (10) publications generated in 2010, the biennium represents one of the most productive periods in GRID-Arendal's history.



State of Environment - Information Networking in Rwanda

<http://www.grida.no/publications/rwanda-ein/>

Prepared by GRID-Arendal and the Rwanda Environment Management Authority. The report presents the findings of an assessment of the status of environmental information management undertaken by the Government of Rwanda in 2009. It provides a number of recommendations for consideration in setting up the Rwanda Environment Information Network



Working for the Environment

<http://www.grida.no/publications/working-for-the-environment/>

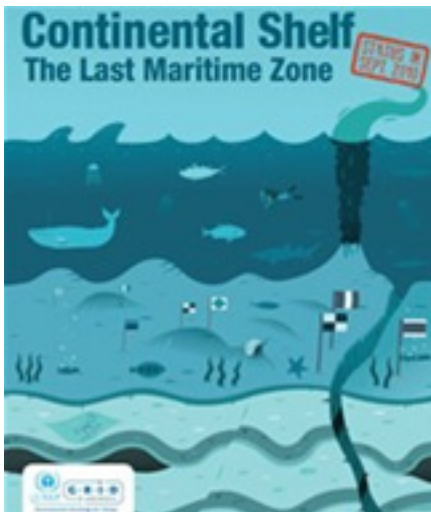
Prepared by GRID-Arendal for the Department of Environmental Affairs (former Department of Environmental Affairs and Tourism) of South Africa. The publication focuses on five ongoing programmes under the umbrella of the government's Expanded Public Works Programme and aims to inform and educate the general public in South Africa on the vital work currently being done by the government to protect the environment and alleviate poverty.



Coalland: Faces of Donetsk

<http://www.grida.no/publications/security/book/4547.aspx>

Jointly published by Zoï Environment Network and GA and launched at an ENVSEC regional meeting for Eastern Europe in Lviv, Ukraine, 16-17 February 2011. The report was produced within the framework of Assessment and Capacity-Building for Managing Environment and Security Risks in Donbas and Salihorsk regions, a UNEP-led ENVSEC project implemented in Ukraine and Belarus to address environmental risk from hazardous activities, and improve environmental management and awareness.



Continental Shelf - The Last Maritime Zone (Updated edition)

<http://www.grida.no/publications/shelf-last-zone/>

Many coastal states are currently involved in defining their maritime boundaries under the UNCLOS legislation. This publication illustrates the status of these submissions as of September 2010 and puts them into the perspective of the new world map.



Towards a Green Economy - Pathways to Sustainable Development and Poverty Eradication (advance online edition)

<http://www.grida.no/publications/green-economy/>

A report that was compiled by UNEP's Green Economy Initiative in collaboration with economists and experts worldwide. GA prepared the layout and design of the report. The online version was launched on 21 February 2011 at the annual meeting of the world's environment ministers held in Nairobi. The report demonstrates that the greening of economies is not generally a drag on growth but rather a new engine of growth; that it is a net generator of decent jobs, and that it is also a vital strategy for the elimination of persistent poverty. The report also seeks to motivate policy makers to create the enabling conditions for increased investments in a transition to a green economy.



Green Hills, Blue Cities: An Ecosystems Approach to Water Resource Management for African Cities

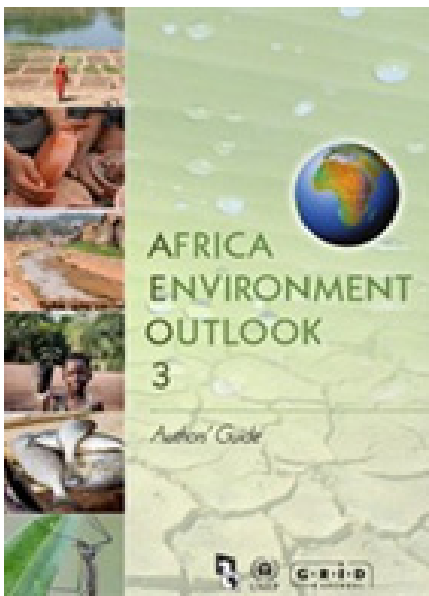
<http://www.grida.no/publications/rr/blue-cities/>

A Rapid Response Assessment report prepared by GRID-Arendal for UNEP and UN-HABITAT and launched in Cape Town on the occasion of World Water Day 21 March 2011. The report describes the rapid urbanisation that is changing Africa's landscape and generating challenges for supplies of water and sanitation services. It provides case studies of cities in several parts of the region where high urbanisation rates are not matched with adequate water and sanitation infrastructure. It also outlines actions towards reversing the unsustainable path.



West African Continental Shelf - UNCLOS Article 76 Regional Desktop Study

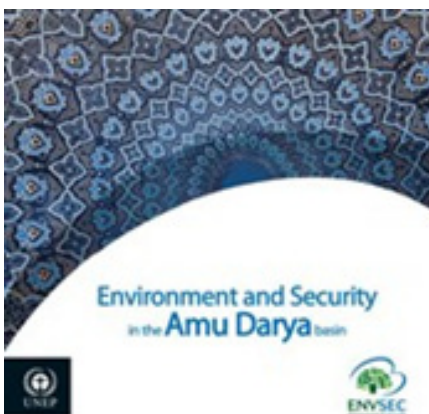
This desktop study is based on the examination of publicly available geological and geophysical data for the West African margin, extending from Mauritania to Guinea.



Africa Environment Outlook 3 - Authors guide

<http://www.grida.no/publications/aeo3/>

The purpose of these guidelines is to serve as a reference point for all players involved in the AEO-3 production process. The main aim is to ensure consistency in the quality of contributions to the report; avoid problems in the use of illustrations; and guide the editorial and review processes. The guidelines are relevant to all partners and stakeholders contributing to the AEO-3 reporting process. They should be used through all stages of the process: from data acquisition, drafting, writing editing, peer review through to design and printing of the finished product.



Environment and Security in the Amu Darya River Basin

<http://www.grida.no/publications/security/book/4881.aspx>

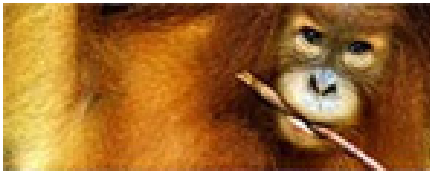
The aim of this report is to identify the environmental stress points in the Amu Darya basin which have, or may have, security repercussions for the states and population. The report then suggests solutions to the challenges identified during the assessment. All in all, the field missions covered more than 3 000 km. Participants included experts from the region and from international organizations. Almost 100 experts were directly involved or consulted during the process.



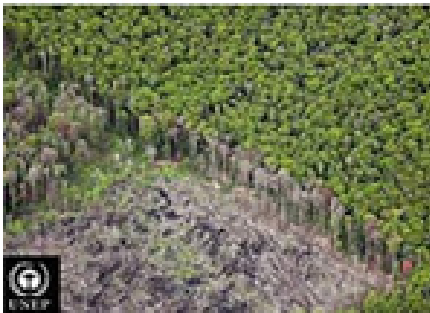
Climate Change in Eastern Europe (Russian)

<http://www.grida.no/publications/security/book/4879.aspx>

Prepared by Zoi in cooperation with GRID-Arendal and the Environment and Security initiative, this report explores the impacts of climate change on Belarus, Moldova and Ukraine. The three countries of Eastern Europe will not be affected as strongly as many other parts of Eurasia, yet they will see more of severe floods and forest fires, decreasing water reserves in the south, and gradual changes in biodiversity, agriculture and food security. These countries have only started to address these challenges. National policies remain weak and the general public is hardly aware of the problem. Meanwhile the industrialized Eastern Europe contributes to the global emissions of greenhouse gases, thus affecting more vulnerable parts of the world. The report was launched at the 7th Ministerial conference “Environment for Europe” in Astana in September 2011.



ORANGUTANS AND THE ECONOMICS OF SUSTAINABLE FOREST MANAGEMENT IN SUMATRA



Orangutans and the Economics of Sustainable Forest Management in Sumatra (English and Bahasa Indonesia)

<http://www.grida.no/publications/organgutans-sumatra/>

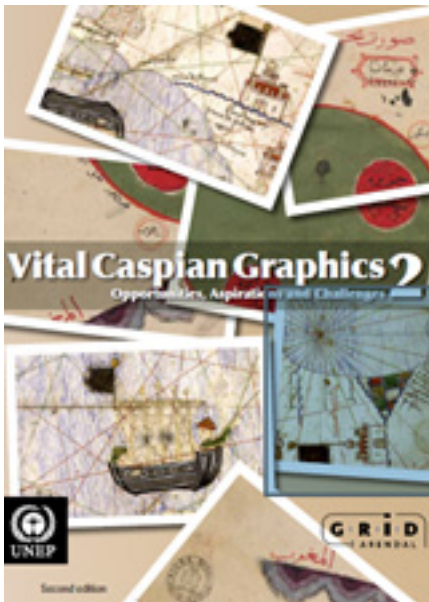
Report prepared on request by the Government of Indonesia from UNEP under its Great Apes Survival Partnership (GRASP). The report, available in English and Bahasa Indonesian, is edited by Serge Wich (PanEco), Riswan (Yayasan Ekosistem Lestari), Johann Jenson (UNEP GRASP), Johannes Refisch (UNEP GRASP) and Christian Nellemann (GA). The report was made possible by financial support from the Government of Norway (through GA) and the Government of Monaco.



Living Planet: Connected Planet – Preventing the End of the World's Wildlife Migrations through Ecological Networks

<http://www.grida.no/publications/rr/living-planet/>

A Rapid Response Assessment launched by the Convention on the Conservation of Migratory Species of Wild Animals (UNEP/CMS) and GA on 21 November 2011 at a side event during the 10th Conference of Parties to the Convention on the Conservation of Migratory Species held in Bergen, Norway. More than 100 governments came together to discuss urgent action to address the rapid decline of migratory animal across the globe. The report illustrates why ecological networks require immediate international attention and where on earth intervention is urgently needed for the frequent travellers of the animal world.



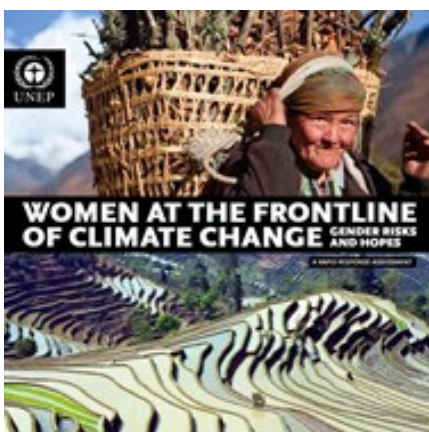
Vital Caspian Graphics 2: Opportunities, Aspirations and Challenges

The publication aims to provide understanding of the latest developments in the Caspian Sea Region and to support the decision-making processes in addressing critical environmental concerns. Available in English and Russian.



Sign and the art of Tracking: a guide to support law enforcement tracking and anti-poaching operations

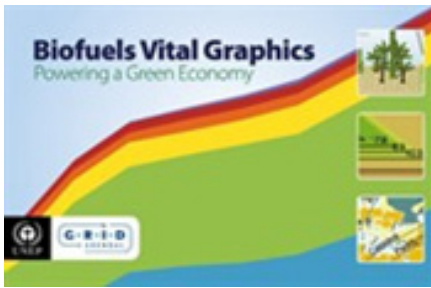
A joint publication of INTERPOL and GRID-Arendal. The manual is intended to provide law enforcement officers, special forces operators, search and rescue teams, and national park rangers with an additional tool in learning how to track poachers, criminals and lost subjects and to gather intelligence on criminal activity. It is also intended to teach law enforcement officers and rangers the importance and existence of evidence related to both tracks and sign on and in surrounding crime scenes, especially related to anti-poaching operations. Furthermore, it is designed not only to enable them to follow, locate and apprehend suspects, but also to a secure required evidence for prosecution and especially avoiding destroying or contaminating evidence in the process.



Women at the Frontline of Climate Change: Gender Hopes and Risks

<http://www.grida.no/publications/rr/women-and-climate-change/>

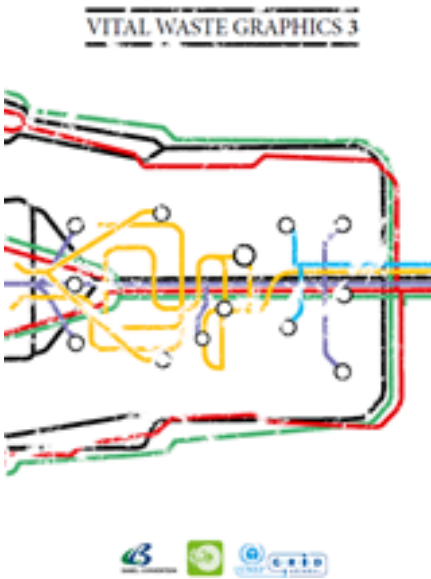
A Rapid Response Assessment report that was launched on 6 December at a side event during the UNFCCC COP 17 in Durban. The report illustrates that women are often in the frontline of climate change changing climate. Globally the world is seeing increasingly frequent droughts and floods, which have economic but also profound social consequences. The women and people of Asia are currently at greatest risk with over 100 million people affected in this region annually. The report also shows that women play a much stronger role than men in the management of ecosystem services and food security. Hence, sustainable adaptation must focus on gender and the role of women if it is to become successful.



Biofuels Vital Graphics: Powering a Green Economy

<http://www.grida.no/publications/vg/biofuels/>

The report addresses the complexity of biofuels, and highlights their potential for contributing to a green economy. It is based on a 2009 report entitled Towards Sustainable Production and Use of Resources: Assessing Biofuels by the International Panel for Sustainable Resource Management of the United Nations Environment Programme, as well as later studies (report will be launched in 2012).



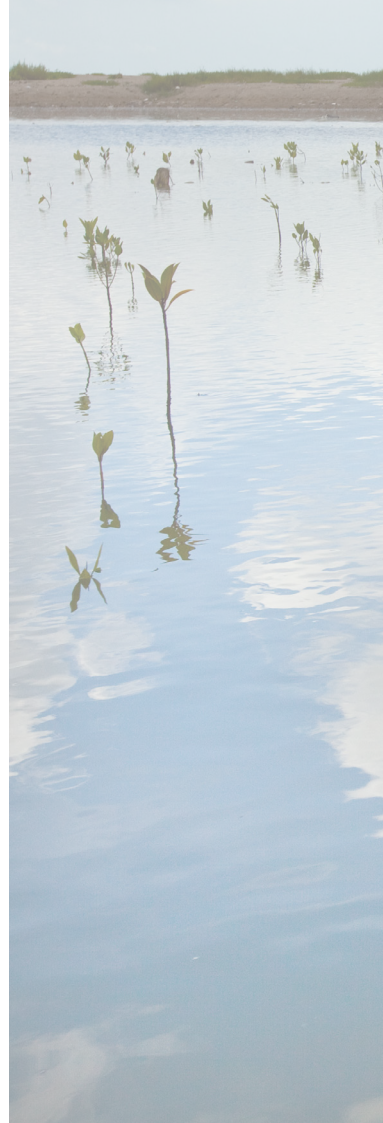
Vital Waste Graphics 3

Vital Waste Graphics 3 has a deliberately wider scope than the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. From generation to disposal, waste is a by-product of societal dynamics, and all too often absent from our consideration. Vital Waste Graphics 3 seeks to put waste in context by: looking at some of the forces driving global trends; examining various concerns and the strategies developed to address them; and, considering the difficulties encountered in implementing these strategies (report will be launched in 2012).



Blue Carbon: First Level Exploration of Natural Coastal Carbon in the Arabian Peninsula (With Special Focus on the UAE and Abu Dhabi)

GRID-Arendal was commissioned by the Abu Dhabi Global Environmental Data Initiative (AGEDI) to prepare this feasibility study on blue carbon that was launched at a major blue carbon event during the Eye of the Earth Summit in Abu Dhabi, 12-15 December. The report explores the mangrove forests, saltwater marshlands and sea grass meadows that act as natural carbon sinks in the Arabian Peninsula. The report is intended to generate regional support for the conservation and sustainable management of blue carbon ecosystems.



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