

Development co-operation for Marine Research in East and West Africa

Lessons Learned and Future Directions



IUCN Global Marine Programme



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**Report from the Scientific Exchange and Technical
Review Meeting, Stockholm, May 21-22, 2007**

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Page 7: Coral reef survey. Photo by Gabriel Grimsditch / IUCN.

Page 11: Research activities. Photo by Maria Bodin.

Page 16: Coastal panorama. Photo by Anna Jonsson.

Back page: Enforcement. Photo by Gabriel Grimsditch / IUCN.

Table of Contents

Summary.....	1
Introduction.....	2
Key meeting objectives.....	3
Organisation and logistics.....	4
Synthesis of discussions and recommendations.....	5-9
Background note for the meeting.....	10-12
References.....	13-14

Annexes

- Annexe 1. Acronyms
- Annexe 2. List of participants
- Annexe 3. Meeting programme
- Annexe 4. Working group division

Summary

From the mid 1970s, a number of ambitious programmes and activities, supported by Norway, Finland, France, Sweden, UK and others countries as well as international agencies and organisations (e.g. GEF, IUCN), were initiated in both East and West Africa, with special focus on capacity building and strengthening of the research base for better understanding of coastal processes and marine ecosystems as well as for coastal management interventions. In addition, several programmes aimed at improving basic education and the development of institutional capacity at academic institutions.

It is time to take stock of accomplishments, and to identify key factors for success in order to optimise future efforts in the area of development co-operation for marine research at regional, national, and local levels in East and West Africa. To this regard a scientific review and technical exchange meeting, “Development co-operation for marine research in East and West Africa; lessons learned and future outlook” was held in Stockholm, May 21-22, 2007.

The objectives of the meeting were to:

- (1) Review the functioning of different modalities of development assistance for marine research, as well as foci of research, in different geographical and institutional contexts.
- (2) Enhance networking to ameliorate the scopes for regional and interregional co-operation, and to promote extended research collaboration between Swedish (and other countries) and African scientists and institutes.

51 key people involved in current, planned, and past research capacity building initiatives in Africa, as programme directors, coordinators or senior scientists, from 14 countries participated in the meeting. Over 40 different organisations, universities, and departments were represented.

Experiences and lessons from the process of capacity building for marine research, including different modalities for capacity building, collaboration between North and South, sustainability of efforts, and local ownership were presented and discussed. The meeting also treated how the built capacity is being utilized, and how the research capacity responds to local management and policy needs and priority issues. Research gaps and interactions between research and management/policy were discussed and exemplified. Encouraging enough, the discussions largely came to centre on synergies, strategies and concrete actions for establishing collaboration between West and East Africa, as well as potential obstacles in this process. It was broadly expressed among participants from both East and West Africa that there is scope and a need for inter-regional collaboration under a broader coastal management framework, as well as for scientific, technical and administrative exchange.

Introduction

BACKGROUND

The coastal ecosystems of East and West Africa provide food security and livelihoods for millions of people, through for example fishing, aquaculture, gleaning and tourism. During the last few decades, however, signs of degradation of the environment, natural resources, and biodiversity have become more and more obvious. Simultaneously, the links between decreased productivity of marine ecosystems services and impeded human social and economic development have been clearly illustrated by for example dwindling fish catches, coastal erosion, and conflicts among user groups.

On the other hand, if the trend can be halted and reversed towards more effective and sustainable management of marine ecosystems, the marine natural resources may in fact constitute a basis for economic growth and social development in coastal areas of East and West Africa.

Knowledge of ecological and socio-economic processes, including existing problems and risks, are essential prerequisites for making informed decisions and developing appropriate policies and responses to manage marine ecosystems and their resources effectively. Relevant and accurate data is also important to conduct cost-benefit analyses to justify and continuously evaluate management measures. To cite Snoussi and Awosika (1998) who discuss the situation in West- and North Africa, "Economic growth cannot be achieved without science. Since the coastal areas are centres of socio-economic activities, marine science capacity development is an integral part of economic development".

Although this insight is receiving increasing attention most developing countries are impoverished when it comes to scientific information and research capacity (Crawford et al. 1993, Lindén & Lundin 1996, Olsen et al. 1998, Snoussi & Awosika 1998, Hale & Anaral 2000). To a large extent research has also been focused on time

and spatial scales that are not sufficient for dealing effectively with coastal management issues, development, and sustainable use of natural resources (e.g. Moffat et al. 1998, Berg et al. 2002).

In recognition of these challenges, a number of ambitious programmes and activities, supported by Norway, Finland, France, Sweden, UK and others countries as well as international agencies and organisations (e.g. GEF, IUCN), were initiated in both East and West Africa from the mid 1970s, with special focus on capacity building and strengthening of the research base for better understanding of coastal processes and marine ecosystems as well as for coastal management interventions. A considerable number of marine biologists and others have reached PhD and Master-levels through these initiatives. In addition, several programmes aimed at improving basic education and the development of institutional capacity at academic institutions.

TAKING STOCK

A significant body of experiences in strengthening of marine research capacity has been generated through different modalities of development cooperation in coastal states of Africa. It is time to take stock of accomplishments, and to identify key factors for success in order to optimise future efforts in the area of development co-operation for marine research at regional, national, and local levels in East and West Africa. Moreover, the successful collaboration between research and management bodies, within and between different countries, can be further advanced by providing a venue for the development of new dialogue and contacts and the strengthening of existing collaborative networks. To this end a scientific review and technical exchange meeting, "Development co-operation for marine research in East and West Africa; lessons learned and future outlook" was held in Stockholm, May 21-22, 2007.

Key meeting objectives



The objectives of the meeting were:

- (1) **Review the functioning of different modalities of development assistance for marine research, as well as foci of research**, in different geographical and institutional contexts. We also sought to identify key factors for success, in the light of specific aims of the efforts, local ownership perspectives, and management needs.
- (2) **Enhance networking to ameliorate the scopes for regional and interregional co-operation**, and to promote extended research collaboration between Swedish (and other countries) and African scientists and institutes, as well as among African researchers and efforts. Encouraging enough, the discussions largely came to centre on synergies, strategies and concrete actions for establishing collaboration between West and East Africa, including potential obstacles in this process.

Organisation and Logistics

The two-day meeting was held in Stockholm at the recently inaugurated Stockholm Resilience Centre. 51 key people involved in current, planned, and past research capacity building initiatives in Africa, as programme directors, coordinators and senior scientists, from 14 countries participated in the meeting. Over 40 different organizations, universities, and departments in 14 countries were represented. The objectives were tackled through one main theme for each day. The first day the focus was on the process of capacity building for marine research as such, including different modalities for capacity building, collaboration between North and South, sustainability of efforts, and local ownership. After inaugural talks by representatives from the co-hosting organizations, presentations were given by representatives from a number of organizations and institutes with extensive experience in research capacity building and insight in both local and regional settings, needs, obstacles and success factors.

On the second day, the focus moved to how the built capacity is being utilized, and how the research capacity responds to management and policy needs and priority issues. This day presentations highlighted strategies, achievements and difficulties in converting scientific findings into management and policy actions. Gaps in research capacity for the implementation of management-oriented programmes were also exemplified. Presentations can be viewed at www.iucn.org/marine under Resources/Publications.

The general schedule was similar for the two days. After seven enlightening presentations within the focus of the day, and following ad-hoc discussions (see Programme Annexe 3), issues were carried on for discussions on working groups in the afternoon. Each group was free to discuss any issues that related to the theme of the day. A number of optional topics were also provided in advance. Discussions

were held in four different working groups each headed by a facilitator and a co-facilitator that took notes. At the end of each day all participants met up in plenary for presentations of working group outputs and further discussions.



Dr Ahmed Senhoury

Simultaneous two-way (English and French) interpretations of presentations and discussions were provided in plenary during the whole meeting. In two of the four working groups a professional interpreter provided assistance. In the division of participant into working groups, geographic, organisational and linguistic representation were taken into consideration (Annexe 5).

The first evening of the meeting participants were invited for dinner at “Kräftans Inn” hosted by Swedish Water House. On May 23rd, the meeting was concluded with a guided field trip by boat in the National Urban Park in Stockholm, the world’s only national park within city borders. The park was included in the UN-initiated Millennium Ecosystems Assessment, and results were presented by one of the researchers involved in the study.

Synthesis of Discussions and Recommendations

1. ISSUES OF RESEARCH CAPACITY BUILDING AND FOCUS OF RESEARCH

- The local access to research results needs to be improved. To enhance the feedback of knowledge to local academic and management settings, local platforms for scientific exchange are desirable.
- Local and national funding sources are often allocated for institutional and staff maintenance. The funds for research are comparably low. A general lack of international and national core funding highly compromise long-term data sets and quality of research. The international financial sources for long term support to capacity building and marine research (from e.g. Sida/SAREC) is still imperative.
- Success factors for capacity building programmes include clearly defined needs, realistic objectives, transparency, dedication, local ownership, and funding agencies that are flexible, provide long term commitment, and assist in monitoring of progress and evaluation.
- Support to basic science is important for creating good research environments, to strengthen national research curricula, and for long lasting effects of capacity building. Capacity building should be viewed as a continuous process rather than a project. Once a critical mass of research capacity has been established, institutional, national and regional networking facilitates self-fertilisation in capacity building, and thereby also enhances sustainability of efforts. Well-directed and targeted support (e.g. training provided at regional level) can have catalytic effects to this end.
- Linkages to direct poverty reducing applications of research can be improved without compromising the strengthening of research quality and the development of good research environments (for long-term and sustainable effects). The poten-

tial problem may be in terms of conflicting time scales, for example between the calls for fast responses and both the cumulative and precautionary nature of basic research and the need for long term data sets.

- Interdisciplinary approaches need further encouragement and support. Capacity for multidisciplinary research is low, although it is improving to some extent. However, for capacity building efforts not to be hampered at the level of specialisation in different disciplines, interdisciplinarity should primarily be rewarded at an overarching level, and not an absolute criterion for individual projects.
- Multidisciplinary work is best promoted through certain approaches or subjects that incite collaboration among research areas, for example the ecosystem approach in fisheries. Another example is where a regional focus on coral reefs has prompted a diversity of interdisciplinary work in many countries, including biological, social, economic, cultural, educational, and management studies.
- “Collegial networking and collaboration among researchers is still only in basic stages. The level of scientific self/internal/peer criticism within networks (here mentioned for East Africa) is relatively low, due to a variety of cultural, political and donor dependency factors”.

2. LINKING SCIENCE TO MANAGEMENT AND POLICY

- Science and policy differ in many fundamental ways. Treatment of knowledge is objective in science, and uncertainties are systematically handled. There may be a resignation among scientist when it comes to linking to policy, as the latter treat information more selective, is more prone to generalize, and is often only

weakly connected to quality research. Different research areas also have different accessibility to policy makers, depending on level of public interest and clarity of market values.

- The scientific illiteracy and low capacity for using information in decision making is considered a bottleneck. In several areas, management actions are clearly not derived from research results. At the same time, researchers are often not trained in translating research findings to influence policy or making public policy analyses. The scientific community need to contribute more to the development of decision making tools and risk managing models, and to awareness raising.



Ecosystem monitoring in coastal Kenya

- Knowledge transfer, usage of data, and range of application of findings in decision-making processes and management should be continuously evaluated, and the packaging of information should be an adaptive and learning process. The target audiences, in terms of key stakeholder and level of governance, needs to be better taken into consideration.
- Functional ways to link research to management are to conduct the research, including even basic research, within a management framework (e.g. Marine Protected Areas, fisheries) and practical

management programmes, involve stakeholders, including management authorities and policy makers, in the development and implementation of research projects, and to support the development of management tools and training (e.g. manuals, toolkits, courses, exchange visits). It was also seen as scientist's responsibility as members of society to share knowledge and clarify their positions. At the same time, cautions were raised about letting policy makers becoming too involved in setting the research agenda, not to undermine independency and integrity of science.

- The local and regional capability of research priority setting and funding should be strengthened, to better cater for relevance of research and linkages to local settings and management issues.

3. SOME PRIORITY ISSUES AND RESEARCH GAPS

- In order to reduce pressure on coastal environments and making the coastal communities less dependent on fluctuating or dwindling marine resources, to reduce poverty, as well as to motivate local people for protective management measures, sustainable alternative and supplementary livelihoods need to be provided. In order to optimise future alternative livelihood programmes, the establishment of a database, providing reviews of past and current efforts in Africa and other parts of the world, was suggested. The database should include information on under what conditions the introduction of livelihood opportunities work, what difficulties there are, and where further information is available. A lack of adequate basic socioeconomic and cultural information, as well as of assessments of potentials and risks (economic, conflicts) of different community development approaches were pointed out.
- Community involvement in management allows different actors to exchange experiences, and make management and policy action more efficient. Local stakeholders and resource users have important traditional as well as up to date knowledge of natural and human resources, and needs, that will affect the design and success of management plans, and can provide useful feedback in the form of critical questions and possible solutions.

- Marine protected areas (MPA) are imperative tools for biodiversity and habitat conservation, fisheries management, and for broadening and sustaining local economic options. A representative network of MPAs requires a concerted approach at regional scale. Local ecological and social settings create different threats to MPAs, but overall monitoring approaches and conflict resolution- and management strategies needed are similar across regions.



Surveying coral reef systems

- Research gaps for effective, integrated and adaptive MPA management include ecological, social, cultural, and economic baseline and impact data, conservation status on species and habitats, and effectiveness of MPA networks in terms of connectivity and degree of representation. Reasons for the gaps include poor interaction between MPAs and the research community, insufficient funding, and lack of harmonisation of research efforts and methods.
- Although variable between countries and research areas, human and institutional (core funding, employment opportunities, equipment, laboratories, IT-facilities) capacities are generally weak. Access to data, including global data sets, due to insufficient data collection and accessibility adversely affect scientific quality, and hampers the development of both good research environments and management tools. There is, further, a need to improve skills in sta-

tistical analyses and design of experiments and surveys, as well as in writing and reporting at multiple levels (scientific, management, policy, education).

- Reasons for low efficiency or absence of management and policy measures include for example lack of long term data on dynamics of coastal and marine resources and social settings, overlapping management responsibilities and poor coordination, and inadequate enforcement and awareness of related legislation.

4. COLLABORATION BETWEEN EAST AND WEST AFRICA

4A OPPORTUNITIES FOR COLLABORATION IDENTIFIED

- Collaboration and networking in building of research capacity and performance of research is a widely acknowledged way to enhance quality and sustainability of science. East-West African collaboration should be no exception.
- Existing technical capacity has evolved based on preconditions in the two regions. However, the perceived difference between the regions may be overshadowed by the similarities – a lot of issues are broadly the same (fisheries, tourism, MPAs, coastal erosion etc).
- There should also be a number of technical solutions, scientific methods, and operational and administrative approaches to share. The extensive research collaboration between Scandinavian and African scientists exemplifies the potentials of exchange despite differences in local coastal settings.
- While North-South co-operations in capacity building for marine research and research ventures are relatively advanced, channels for exchange between East and West Africa are scarce.
- West Africa has comparably well-developed activities within for example MPAs and fisheries, while East Africa has a longer history of research capacity building, formal integrated coastal management projects, and management effectiveness assessments. (At the same time, inter-disciplinary work in general is lagging behind in both regions, and e.g. fisheries science

has largely not been able to manage natural resources. There are also a lot of shortcomings in tourism development and equity in revenue sharing).

- There is scope and a need for inter-regional collaboration under a broader coastal management framework, bringing together diverse issues and including the complete range of stakeholders, not just scientists. Integration of management tools may be more fruitful if it includes experiences from both regions.
- The long-term capacity building efforts in East Africa could serve as model for replication in West Africa. Institutes and Networks in East Africa (e.g. IMS, WIOMSA) could be used as resources for starting up education/training programmes in West Africa.
- Joint East-West research ventures with mixed teams on climate change related issues were proposed. Individual ongoing initiatives (e.g. at IMS) need to be identified. Possibilities of EU-funding (promoting joint climate change projects) could be investigated.
- At political level there is agreement on stimulating exchange between East and West Africa. For example, there will be a joint Conference of Parties of the Nairobi and Abidjan Conventions. Progress has been made at institutional level, e.g. African Process, COSMAR secretariat under NEPAD in Kenya. Interest for strong collaboration has also been expressed at WCC Bangkok. There may thus be good scope for achieving support for concrete activities.

4B POTENTIAL OBSTACLES AND CONCERNS RAISED

- There is little current cooperation between East and West Africa. This may be due to differences in e.g. interests/issues, bio-physical environment, priorities, and importantly also language, which is a main obstacle (also a problem within the regions)
- It was emphasized that inter-regional collaboration should be based on needs, rather than “forced” upon countries/institutions. Are the needs and common factors strong enough? If there were better means for collaboration, would there be collaboration?

- Are the regional capacities and research networks mature enough for inter-regional collaboration? There are examples of complex collaborations within regions, but in practice most activities are national, and there is not a lot of joining of forces between countries. This problem is even larger between regions. One would “need to crawl before walking or trying to run”.
- Funding may be a major obstacle – this type of collaboration easily gets very expensive, and in spite of rhetoric there seems to be a lack of understanding or acceptance of this among the donor community.
- Limited funding and competition for funding may lead to that many recipients see to “own needs” before “common needs”, which could hamper true collaboration. Thus, financial support for inter-regional collaboration needs to not threaten or undermine country specific processes. It must rather be perceived to strengthen these.

4C MEANS AND STRATEGIES FOR COLLABORATION SUGGESTED

- There is a need for careful and slow development of steps towards increased exchange, with clearly defined aims, objectives and outcomes at every stage, to create a gradual process that responds to actual needs and provides a service that no other process currently is providing or can provide.
- To initiate something concrete relatively fast that at the same time is sustainable, collaboration should start small-scale, with exchange between researchers at different universities and institutes at an individual and technical level.
- Build activities and networks on what is already there, for example PRCM, FIBA, IMS, WIOMSA. Further, IUCN and WWF are already represented in both regions, and work within all areas where there are scopes for inter-regional collaboration.
- There are in some cases needs to strengthen regional or sub-regional networks that can be the basis for inter-regional collaboration. A network in West Africa may be possible to create

under the Abidjan Convention, as WIOMSA was under the Nairobi Convention.

- There is a need to establish a mechanism for identification of what is relevant and applicable for both regions, as some approaches cannot be copied and pasted.
- Political decisions and certain target countries for development cooperation may, in terms of funding, limit the scopes for multilateral initiatives. However, through regional or sub-regional networks engagement of relevant countries can be ensured.
- Identify funding sources, taking into consideration different regional and topical interests of donor countries.
- Consider the regular publication of special West African issues in WIOMSA's Western Indian Ocean Journal of Marine Science, or invite West African authors for issue specific publications, for example after following major meetings/symposia. It should be possible to submit papers in French (a possible long term goal may be a cross-regional bi-lingual journal).

4D. FIRST CONCRETE ACTIONS PROPOSED

- Ensure representation by scientists/programme coordinators from West Africa at the WIOMSA symposium in October 2007. After further identification of areas for collaboration, a side meeting could serve to work out concrete activities, means of co-operation, and funding potentials.
- Propose the setting up of an East-West African Network at the Joint Nairobi Abidjan Conventions in September 2007.
- Organize joint scientific seminars to present experiences from different countries/cases in East- and West Africa.
- Identify human and institutional resources in the regions, with explicit interdisciplinary considerations. WIOMSA is currently performing an assessment of capacity in East Africa.
- Engage heads of institutions through common small-scale projects, promoting cutting regional issues while maintaining the local application of research.
- Establish a mechanism for exchange of expertise and students for projects and lecturers. West African students and lecturers could for example take part in the upcoming Master's Programme at IMS, Tanzania.

Background note for the meeting:

Research capacity building in developing countries; some key issues and strategies

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INTRODUCTION

There have been significant accomplishments in capacity building for marine research in Africa over the past couple of decades, and several universities and other research institutes have established a critical mass of research capacity (Rudengren et al. 1996, Olsen et al. 1999, Lindén 2002). Some long-term development cooperation initiatives have been signified by a timely formation of new strategic phases over time, with foci of efforts continuously building on past achievements (Olsen et al. 1999, Berg et al. 2002, Boeren et al. 2006). Common experiences from efforts within marine science as well as from other disciplines in different parts of the world are discussed below.

APPROACHES AND STRATEGIES FOR RESEARCH CAPACITY BUILDING

“Networks of scientists are one of the most important ways to tackle capacity building” (Strigl 2003). Collaboration with others and professional outreach enhance quality, efficiency and prospects for self-sustenance (Strigl 2003, Boeren et al. 2006). However, it has been noted that the opportunities for collaboration between researchers and projects are often under utilized, locally, nationally and regionally, as well as across disciplines (Harris 2004, Boeren et al. 2006, Trojer 2006).

Apart from the obvious opportunities for cross-fertilization and outreach, enhanced networking may facilitate the development of further funding and collaboration possibilities. One of the major means

to strengthen universities/research institutes in a sustainable way is to build relevant academic capacity that can, with time, to an increasing degree attract different sectors of the society, including funding agencies/entrepreneurs/institutes. Long-term support is usually vital to achieve long lasting effects (e.g. Lindén 2002).

On the other hand, the stability provided by continued donor funding may not create the driving forces needed for self-sustenance (Boeren et al. 2006). Some “income diversification”, or identification of alternative and innovative financing mechanisms, is often desirable*. To ensure benefits of training and development of research bodies in the long term, well-developed collaboration between programmes as well as the building of institutional and individual capacity to prepare proposals and attract funds from external sources are imperative (White 2002, Boeren et al. 2006).

Another issue that relates to sustainability of efforts is that adequate opportunities for trained individuals (e.g. MSc, PhD students) to apply their skills in their home countries, which benefits their home universities as well as the relevance of research, need to be available. The “sandwich model”, where the students carry out the lion part of the research at their home institutions, while supported through supervision and courses by their collaborators in the North and South, enhances the scopes for the research capacity to stay in the country (e.g. Denny 2001, Lindén 2001, Berg et al. 2002).

* Note, though, that it may be as Boeren et al. (2006) states that “heavy dependence in contract and donor funding is not a healthy basis to maintain quality in the research capacity. Thus national governments may need to make sufficient funds available for academic, but relevant research to strike a balance”.

There are many examples, however, where the research salaries are not competitive (many have to take up jobs on the side), or the academic incentives, research facilities, merit systems, or scopes for advancement are deficient (e.g. Rudengren et al. 1996, Gaillard & Tullberg 2001, Denny 2001, Boeren et al. 2006). Discouragement to continue with research, low “post-PhD absorbability” and, as in some cases, lack of incentives for institutes to maintain research activities and capacity, limit the impact of the educated individuals to improve the education and research culture at the universities, or contribute to research leading to development in their respective countries.

To better cater for long term effects of human capacity building the objectives of development support for research has, over the last 10-15 years or so, commonly broadened from rather fragmented efforts to more comprehensive approaches. These include cooperation not only in research activities but also in development of adequate management- and administrative structures and research policies (Jones & Blunt 1998, Boeren et al. 2006, Trojer 2006). For example, “Sida and other donors have emphasised three areas where universities and national knowledge systems need to be strengthened; 1, Research Policy, 2, Research management, and 3, Research Environment” (Boeren et al. 2006).

A commonly used modality for this is the “twinning model”, where an institute in the South partner up with an institute in the North for a long-term multi-sector collaboration. This model has been recognised as perhaps the most effective arrangement at hand (Jones & Blunt 1998, Askvik 1999). However, in view of the strategic objectives, actual programme implementations have in some cases been limping, when scientific exchange has to a large extent been prioritised over institutional capacity building and organisational learning (e.g. Jones & Blunt 1999). Also, in the support and training of individuals, the emphasis is still largely on PhD training. Hence, efforts have been made to incorporate a broader range of key functions (e.g. financial-, technical-, research management-staff) at the research institutes in the process of institutional capacity building, as well as to focus more on MSc level students (e.g. Olsen et al. 1999, Boeren et al. 2006).

The foundation of development co-operation is to accommodate needs of the Southern organisation and build the necessary ownership of research- administrative- and financial processes, for relevance of research as well as long-term sustainability of capacity building efforts (e.g. Laugen & Lunde 1996, Denny 2001). Experiences from partnership-based programmes, nevertheless, indicate that “successful partnerships are built on personal and institutional commitments from both sides, a shared vision, rigorous planning of goals and expected outcomes, smooth project implementation and mutual interests” (Binka 2005, Boeren et al. 2006).



Fish sampling in seagrass meadows in Tanzania.

A balance must often be struck between ownership and partnership (Rawoo 2001, Binka 2005), as the collaborating organisation also needs to have a stake in the process, such as opportunities for joint research, staff and student exchange, publications or networking. If these incentives are in place there is good scope for a self-sustaining co-operation also after the donor assistance has ceased (Boeren et al. 2006).

CONTRIBUTIONS OF BUILT RESEARCH CAPACITY TO MANAGEMENT AND POLICY ADVICE

It is commonly made explicit that development collaboration for research should ultimately reduce poverty in a country. General objectives of development co-operation for research are usually simi-

lar to Sida's: "strengthen the research capacity of developing countries and their access to knowledge in areas of central importance for poverty-reducing development". And the approach can be exemplified by Sida/SAREC's two complementary objectives (Boeren et al. 2006);

- "To facilitate research of relevance and utility for development" (including links between research and society)
- "To build capacity for research in development countries" (including links between research and education)

In addition to encouraging problem-solving applied science that can enhance management and development of resources and society and lead to a better basis for economic growth, this implies that poverty reduction may also be targeted more indirectly. For example, capacity building for research may improve curricula and create stimulating and well functioning research environments at institutes of higher education, and thereby lead to development and poverty reduction in the longer term.

However, many authors, authorities, and global organisations have stressed that the need of the hour is for research capacity building in developing countries to focus on problem-driven interdisciplinary research (e.g. Moffat et al. 1998, Kates et al. 2001). Although many good practices have been described, it has commonly been noted that the "real life" application of the research results is not satisfactory, as "in many cases it seems that research outputs rarely reach all the way to outside users, and into processes towards poverty reduction" (e.g. Pomeroy 2005, Boeren et al. 2006, Trojer 2006).

It is often a delicate matter of striking the right balance between the establishment of a solid research foundation, including curiosity driven pro-active basic research (and high integrity of science; Cash et al. 2006), and the relevance of research topics for reactive problem-solving approaches and development (e.g. Kullenberg, G. 1998, Wishart & Davies 1998, Tobey & Torell 2003, Boeren et al. 2006). Researchers are consequently pulled in two directions; both towards specializations to

compete in cutting edge disciplinary research and towards broader trans-disciplinary approaches to deal with problems relevant for management of natural resources and socio-economic development (Wishart & Davies 1998, Gaillard & Tullberg 2001, Strigl 2003). There are also examples of friction caused by different incentives behind the research collaboration, where research partners in industrialised countries emphasise the scientific objectives, while their counterparts strive more for impacts of the research on the economic development in their respective countries (Denny 2001, Perolle 2005).

Arguments have, in addition, increasingly been made against the "linear model", where the research capacity directly tackles well-defined problems by managers, policy makers, and entrepreneurs (e.g. Postnote 2004). Knowledge may rather flow through more complex systems and networks "comprising dynamic linkages between individuals and institutions involved in the production, dissemination and use of knowledge" (Postnote 2004). Involvement of research users in the research process may, furthermore, make management and policy action more efficient (eg. Done 2001).

In capacity building efforts it has, thus, been suggested that more emphasis should be on enhancing networking across research disciplines, between research and civil society, between policy makers, between developing and developed countries, as well as among developing countries (e.g. Laugen & Lunde 1996, Shah et al. 1997, Hempel 1998, West & Shackleton 1999, Snoussi & Awosika 1998, Olsen et al. 1999, Kates et al. 2001, Rawoo 2001, Postnote 2004, Strigl 2003, Pomeroy 2005).

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Annexe 1

Acronyms

CMSC: Coastal Management Research Centre

COMSAR: The Coastal and Marine Programme area of NEPAD Environment Initiative

CORDIO: Coral Reef Research and Development in the Indian Ocean

FAO: Food and Agriculture Organization of the United Nations

FIBA: Fondation Internationale du Banc d'Arguin

GEF: Global Environment Facility

IMS: Institute of Marine Sciences

IUCN: International Union for the Conservation of Nature and Natural Resources (also known as the World Conservation Union)

KICAMP: Kinondoni Integrated Coastal Area Management Programme

NEPAD: The New Partnership for Africa's Development

NORAGRIC: the Department of International Environment and Development Studies, Norwegian University of Life Sciences

PRCM: Le Programme Régional de Conservation de la zone côtière et Marine en Afrique de l'ouest

SAREC: Department for Research Cooperation, Sida

Sida: Swedish International Development Cooperation Agency

UN: United Nations

UNESCO: the United Nations Educational, Scientific and Cultural Organization

WCC: The World Conservation Congress, the general assembly of IUCN members.

WIOMSA: Western Indian Ocean Marine Science Association

WWF: World Wide Fund for Nature (also known as the World Wildlife Fund)

Annexe 2

List of Participants



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Annexe 3

Programme

MAY 21

08.00- 09.00 REGISTRATION

09.00-09.40 INTRODUCTION

ADDRESS BY BERIT OLSSON, HEAD OF THE DEPARTMENT FOR RESEARCH COOPERATION (SAREC), SIDA

ADDRESS BY AHMED SENHOURY, PRCM/FIBA

ADDRESS BY FRANK THOMALLA, SRC

ADDRESS BY KARIN LEXÉN, SWH

INTRODUCTION AND OBJECTIVES; BY CARL GUSTAF LUNDIN (IUCN, MODERATOR), DAN WILHELMSSON & SARA GRÄSLUND (CO-MODERATOR)

09.40-11.40 PRESENTATIONS (COFFEE BREAK AT 10.20-10.40)

EXPERIENCES FROM PROGRAMMES/INSTITUTES OF DEVELOPMENT COOPERATION FOR CAPACITY BUILDING FOR MARINE RESEARCH.

- PRESENTATION OF PRCM AND ITS CAPACITY BUILDING PROGRAMME FOR MARINE AND COASTAL RESEARCH; BY AHMED SENHOURY
- BUILDING CAPACITY FOR LINKING SCIENCE TO MANAGEMENT: WIOMSA'S ACHIEVEMENTS, CHALLENGES AND LESSONS LEARNT; BY JULIUS FRANCIS
- PRESENTATION OF THE MASTER DEGREE PROGRAMME AT UNIVERSITY OF DAKAR IN THE INTEGRATED MANAGEMENT OF THE COASTAL ZONES AS AN EXAMPLE OF REGIONAL INTEGRATION; BY ALIOUNE KANE
- RESEARCH AND DEVELOPMENT IN MARINE SCIENCES IN TANZANIA; THE ROLE AND IMPACT OF THE SIDA-SAREC BILATERAL MARINE SCIENCE PROGRAMME; BY ALFONSE DUBI
- TWENTY YEARS OF SWEDISH SUPPORT TO CAPACITY BUILDING WITHIN BIOLOGICAL SCIENCES IN MOZAMBIQUE; BY LARS HERNROTH

11.40-13.10 LUNCH

13.10-13.50 PRESENTATIONS CONTINUED

- TOWARDS THE CREATION OF A REGIONAL INTER-UNIVERSITY NETWORK IN WEST AFRICA: OUTLINE, ROLE AND PARTNERSHIP; BY ALASSANE SAMBA.
- SEACAM, A PROJECT FOR MANAGEMENT CAPACITY BUILDING; BY OLOF LINDÉN

13.50-16.00 WORKSHOP SESSION 1:

- REVIEW OF CAPACITY BUILDING MODALITIES, SYNERGIES BETWEEN EFFORTS, LONG-TERM SUSTAINABILITY, COLLABORATION BETWEEN INSTITUTES AND RESEARCHERS, KEY SUCCESS FACTORS, OBSTACLES, RECOMMENDATIONS ETC.
- INTRODUCTION
- WORKING GROUP DISCUSSIONS (IN FOUR GROUPS), INCLUDING COFFEE BREAK AT 15.00
- SEE SEPARATE SHEET WITH GROUP DIVISIONS

16.00-17.00 REPORTS BACK TO PLENARY AND DISCUSSION

CLOSING AND HOUSE KEEPING

GROUP PHOTO

DINNER

17.30 WELCOME DRINK

18.00 DINNER AT KRÄFTAN'S INN (INCLUDING A PRESENTATION BY THE SWEDISH WATER HOUSE)

MAY 22

09.00—11.30 PRESENTATIONS (COFFEE BREAK AT 10.10-10.30)

CONTRIBUTIONS OF RESEARCH TO MANAGEMENT AND POLICY ADVICE, AND RESEARCH CAPACITY VERSUS PRIORITY ISSUES.

- RESEARCH IN DEVELOPMENT- CORDIO'S EXPERIENCE IN EAST AFRICA; BY DAVID OBURA
- ALARM ON COASTAL EROSION AND FLOOD RISKS IN WEST AFRICA; BY ISABELLE NIANG
- CONSERVATION OF PATRIMONIAL SPECIES AND HABITATS IN WEST AFRICA AND THE ROLE OF RAMPAO (REGIONAL MARINE PROTECTED AREAS NETWORK IN WEST AFRICA); BY CHARLOTTE KARIBUHOYE
- EXPERIENCES FROM A COLLABORATIVE RESEARCH PROJECT IN WEST AFRICA; THE CASE OF THE FIAS PROJECT; BY AL-ASSANE SAMBA
- KINONDONI INTEGRATED COASTAL AREA MANAGEMENT PROGRAMME -KICAMP, BY DANIEL SABAI

11.30-13.00 LUNCH

13.00-13.40 PRESENTATIONS CONTINUED

- INFLUENCING POLICY; THE IMPACT OF CORDIO IN THE WIO; BY ROLPH PAYET
- RESEARCH AND EDUCATION FOR MANAGEMENT OF TANZANIAN COASTAL AND MARINE RESOURCES; BY TOMAS LYIMO

13.40-15.50 WORKSHOP SESSION 2:

- RESEARCH CAPACITIES VERSUS PRIORITY MANAGEMENT NEEDS AT DIFFERENT GEOGRAPHIC SCALES AND LOCAL SETTINGS, INCENTIVES/MECHANISMS FOR PARTICIPATION OF SCIENTISTS IN INTERDISCIPLINARY RESEARCH AND DEVELOPMENT ISSUES, KEY SUCCESS, FACTORS, OBSTACLES, RECOMMENDATIONS ETC.
- INTRODUCTION
- WORKING GROUP DISCUSSIONS (IN FOUR GROUPS), INCLUDING COFFEE BREAK AT 15.00
SEE SEPARATE SHEET WITH GROUP DIVISIONS

15.50-17.00 REPORTS BACK TO PLENARY AND DISCUSSION

CLOSING STATEMENTS

MAY 23

08:30

MEET AT NYBROKAJEN

09.00-11.30

GUIDED EXCURSION BY BOAT IN THE WORLD'S ONLY NATIONAL PARK WITHIN CITY BORDERS

THE NATIONAL URBAN PARK WAS CREATED IN 1995, AND IS OF NATIONAL INTEREST DUE TO ITS ECOLOGICAL, CULTURAL AND RECREATIONAL VALUES. THE PARK WAS INCLUDED IN THE UN-INITIATED MILLENNIUM ECOSYSTEM ASSESSMENT STUDY, AND RESULTS WILL BE PRESENTED BY JAKOB LUNDBERG (ALBAECO) DURING THE TRIP.

Annexe 4

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