

Project Proposals on Sustainable Use of Living Resources

MARICULTURE DEVELOPMENT IN SUB-SAHARAN AFRICA

1. IDENTIFIERS

- Project Number:** RES-2
- Project Title:** Mariculture development in sub-Saharan Africa
- Requesting Country (ies):** Cote d'Ivoire, The Gambia, Ghana, Kenya, Mauritius, Mozambique, Nigeria, Seychelles, South Africa and Tanzania
- Requesting National Organizations:**
- Cote d'Ivoire: Ministry of Agriculture and Natural Resources
 - The Gambia: National Environment Agency -NEA, Organisation pour la Mise en Valeur de la Fleuve de la Gambie (OMVG)
 - Ghana: Ministry of Environment & Science, Ministry of Food and Agriculture
 - Kenya: Fisheries Department
 - Mozambique: Ministry of Fisheries
 - Nigeria: Nigerian Institute of Oceanography and Marine Research (NIOMR)
 - Seychelles: Seychelles Fishing Authority (Ministry of Agriculture and Marine Research)
 - South Africa: Department of Environmental Affairs & Tourism
 - Tanzania: Ministry of Natural Resources and Tourism
- Executing Agencies:**
- Cote d'Ivoire: Direction of Fisheries and Aquaculture
 - Gambia: National Environment Agency -NEA, Organisation pour la Mise en Valeur de la Fleuve de la Gambie (OMVG), Department of Water Resources
 - Ghana: Ministry of Food and Agriculture, Directorate of Fisheries
 - Kenya: Fisheries Department
 - Mozambique: National Directorate of Fisheries Administration, Institute for the Development of Small Scale Fisheries (IDPPE)
 - Nigeria: Nigerian Institute of Oceanography and Marine Research (NIOMR)
 - Seychelles: Seychelles Fishing Authority
 - South Africa: Department of Environmental Affairs & Tourism (DEAT), Coastal provincial Departments
 - Tanzania: Department of Fisheries
- Required National Partners:**
- Cote d'Ivoire: P.A.L. (Lagoon Aquaculture), Aquaculture Department of the Centre Oceanographic Research, other private projects
 - Nigeria: Federal Ministry of Agriculture, Federal Ministry of Environment
 - The Gambia: Department of Agricultural Services, Department of Community Development
 - Ghana: Marine Fisheries Research Division (Directorate of Fisheries, Ministry of Food and Agriculture), Department of Oceanography and Fisheries, University of Ghana, Department of Zoology, University of Cape Coast, Water Research Institute (CSIR)
 - Mozambique: Universidade Eduardo Mondlane, Centre for Sustainable Development, Ministry for Coordination of Environmental Affairs
 - South Africa: Coastal Provincial Departments, Academic and Research Institutions, South African Fishing Industry, South African Mariculture Association
 - Kenya: Kenya Marine and Fisheries Research Institute, Coastal Development Authority (CDA), National Environmental Management Authority (Ministry of Environment and Natural Resources), NGOs (Kipini Community

Conservation Group, Wasini Womens Conservation Group, Mida Creek
Womens Conservation Group)
Seychelles: Seychelles Centre for Marine Research and Technology, Marine Parks
Authority, Islands Development Company
Tanzania: Ministry of Agriculture

Priority Issue Addressed: GIWA issue(s): Overexploitation of fisheries and other living resources

Regional Scope: West Africa (Cote d'Ivoire, Gambia, Ghana, Nigeria), East Africa (Kenya, Mauritius, Mozambique, Seychelles, Tanzania), and South Africa)

Project Location: Cote d'Ivoire: Le Grand-Lahou, Vridi and Assinie inlets
Ghana: Ada-Anyanui Mangrove complex, Volta Estuary, River Pra Estuary
Kenya: Mida Creek, Kipini, Wasimi Island
Mozambique: Zambezi Delta, Sofala
Nigeria: Lagos, Eket, Bonny/Ogoni, Dodo
Seychelles: Mahe, Praslin
South Africa: All coastal provinces (Northern Cape, Western Cape, Eastern Cape, KwaZulu-Natal)

Project Duration: 4 years

Working Group of the African Process Sustainable Use of Living Resources

2. SUMMARY

Overfishing and declining availability of fish has been highlighted in Phase 1 of the African Process for the Development and Protection of the Marine and Coastal Environment in Sub-Saharan Africa as being one of the most critical issues facing coastal communities in this region. Poverty is rife in coastal areas in sub-Saharan Africa, with large segments of the population living below international accepted poverty levels. In most cases harvesting pressures continues unabated, therefore, and in some cases is even increasing in spite of declining state of the resources. Mariculture represents an important alternative to natural resource harvesting but constraints to its development prevent it from reaching its full potential in sub-Saharan Africa. In an effort to alleviate these problems, this project seeks to

1. Recognize the principal legal and policy related constraints to the development and/or enhancement of the mariculture industry in sub-Saharan Africa
2. Recognize principal negative environmental effects of existing mariculture initiatives and key means of addressing these impacts
3. Encourage governments to develop new or to streamline existing policy and legislation frameworks to enhance ecological and economic sustainable mariculture industries,
4. Promote research activities required to identify ecologically and economically sustainable culture species in each country and to provide information on biological, infrastructural and market requirements for these species,
5. Initiate pilot projects in cooperation with private industry and community groups in some of the participating countries to demonstrate the feasibility of mariculture initiatives.

The regional approach proposed for this project offers considerable added value over and above single country projects as it will allow for sharing of expertise in the region, regional capacity building and will facilitate access to overseas markets and enhance export potential through common marketing of products.

3. COSTS AND FINANCING (MILLION US \$)¹

International & bilateral sources:	Financing by potential source:	USD8.920
<i>Co-financing:</i>	<i>Governments in cash & kind:</i>	<i>USD5.745</i>
Total Project Cost:		USD 14.665

4. GOVERNMENT ENDORSEMENT (S)

Cote d'Ivoire:	Minister, Ministry of Agriculture and Natural Resources
Ghana:	Minister, Ministry of Environment & Science
Kenya:	The Permanent Secretary, Ministry of Agriculture and Rural Development
Mozambique:	Ministry for Coordination of Environmental Affairs
Nigeria:	Honourable Minister, Ministry of Environment
Seychelles:	Principal Secretary, Ministry of Agriculture and Marine Resources
South Africa:	Honourable Minister, Department of Environmental Affairs & Tourism
Tanzania:	Minister for Natural Resources and Tourism

5. GOVERNMENT FOCAL POINT (S)

Cote d'Ivoire:	Direction des Pêches, Abidjan
Ghana:	Directorate of Fisheries, Ministry of Food and Agriculture
Kenya:	Director: Fisheries Department
Mozambique:	Mrs Lidia Abibe, National Director of Fisheries Administration
Nigeria:	Dr A. Solarin, Nigerian Institute for Oceanography and Marine Research (NIOMR)
Seychelles:	Mr P. Boule, Seychelles Fishing Authority
South Africa:	Director General, Department of Environmental Affairs and Tourism (DEAT)
Tanzania:	Institute of Marine Sciences

6. AFRICAN PROCESS WORKING GROUP FOCAL POINT (S)

Country Co-ordinators on the Programme of Interventions of the Partnership Conference of the African Process:

Cote d'Ivoire:	Dr Jaques Abe, Centre de Reserches Oceanologiques
The Gambia:	Dr Momodou Cham, National Environment Agency
Ghana:	Dr Julius Wellens Mensa, Hydrological Services Department
Kenya:	Mr Ali Mohammed, Ministry of Environmental and Natural Resources
Mauritius:	Santaram Mooloo, Ministry of Environment
Mozambique:	Dr Evaristo Baquete, Ministry for Coordination of Environmental Affairs (MICOA)
Nigeria:	Dr Larry Awosika, Nigerian Institute for Oceanography and Marine Research
Seychelles:	Terry Jones, Ministry of Tourism and Transport
South Africa:	Mr Andre Share, Marine & Coastal Management, Department of Environmental Affairs & Tourism

Co-ordinator and experts of the Thematic Working Group on the Programme of Interventions of the Partnership Conference of the African Process

Co-ordinator:	Dr Barry Clark, Zoology Department, University of Cape Town, South Africa
Experts:	Mr Jacob Ochiewo, Kenya Marine and Fisheries Research Institute, Kenya
	Dr Kwame Koranteng, Marine Fisheries Research Division, Ministry of Food and Agriculture, Ghana

¹ This budget is preliminary and has not undergone a full consultation process with the respective countries. Therefore, it does not indicate the actual financial commitment that would be provided by participating countries once the project proposal and its components are finalised.

PROJECT DESCRIPTION

1. BACKGROUND & JUSTIFICATION

Overfishing and declining availability of fish has been highlighted as one of the most (if not the most) critical issues facing coastal communities in sub-Saharan Africa both in this programme (the African Process for the Development and Protection of the Marine and Coastal Environment in Sub-Saharan Africa) as well as other studies (e.g. Sheppard 2001², Obura 2001³). Virtually all living marine resources on the subcontinent are under severe pressure, being exploited to maximum sustainable limits or even beyond this. Few, if any, resources offer opportunities for increased harvesting. In most cases harvesting pressures continues unabated, and in some cases is even increasing, in spite of declining state of the resources. This is because few alternatives exist for people to make a livelihood or to feed themselves and their families. Poverty is rife in coastal areas in sub-Saharan Africa, with large segments of the population living below international accepted poverty levels. Attempting to introduce sustainable harvesting practices or to reduce effort through improved enforcement offers little assistance in this situation as someone that is starving has scant respect for the rule of the law. The only way to successfully reduce pressure on fishing resources is to introduce alternative sources of livelihood or income at the same time as or even prior to attempting management reforms.

Mariculture represents an important alternative to natural resource harvesting in many parts of the world; cited benefits include reducing pressure on wild stocks, provision of employment and a reliable supply of cheap protein. Constraints to development of mariculture in sub-Saharan Africa are numerous and varied but not always well understood. Some of these include insufficient investment capital available, and lack of suitable markets, lacking infrastructure, political instability, lack of expertise, inappropriate government policies, lack of research into suitability of local culture species. Many of these constraints are fuelled by concerns brought on by previous attempts at establishing mariculture facilities in Africa and elsewhere, that have either failed or that have had negative ecological consequences. In many instances coastal communities are trapped within a cycle of poverty where lack of individual wealth and access of capital constrains individual development, which in turn limits available infrastructure and discourages investment from outside.

A co-ordinated and harmonised approach is thus required where ecologically and economically sustainable mariculture industries can either be initiated or promoted within appropriate national policy frameworks in selected countries in sub-Saharan Africa. By initiating and promoting such projects, benefits realised (principally in the form of increased personal wealth and tax revenue) will stimulate further development in this field both within in the participating countries and neighbouring ones. Ultimately this will contribute towards a reduction in fishing pressures on wild stocks (as alternatives become more profitable) and increased affluence amongst coastal populations.

2. OBJECTIVE & EXPECTED RESULTS

The overall goal of this project is to promote mariculture operations in sub-Saharan Africa with a view to creating sustainable livelihood opportunities for people living in coastal areas thereby creating a mechanism to reduce reliance on natural resource harvesting.

The immediate objectives and the expected results of this project are to:

1. To address and attempt to eliminate major constraints to mariculture development in sub-Saharan Africa

Expected output(s):

- Thorough understanding of the principal legal, policy, financial, and environmental constraints to development and/or enhancement of mariculture industry in sub-Saharan Africa

² Sheppard, C. 2001. The main issues affecting coasts of the Indian and western Pacific oceans: a meta-analysis from the seas at the millennium. *Mar. Poll. Bull.* 42: 1199-1207.

³ Obura, D.O. 2001. Kenya. *Mar. Poll. Bull.* 42: 1264-1278.

- Detailed understanding of existing and likely future environmental impacts of mariculture operations
 - Appropriate guidelines and mitigation measures to ensure minimal negative environmental impacts associated with the growth and continued existence of mariculture operations in sub-Saharan Africa
 - Recommendations delivered to national governments, industry and local community representatives regarding proposed mechanisms and necessary incentives required to address or mitigate principal constraints identified
2. To promote streamlining of mariculture related policies and legislation amongst governments of participating countries

Expected output (s):

- Enhanced policy and legislation frameworks in participating countries designed to promote growth and sustainability in mariculture industries within the region
3. To build capacity within relevant government departments, research organisations, NGOs, CBOs & industry to undertake and manage mariculture projects

Expected output(s):

- Enhanced capacity within the region to undertake and manage mariculture projects and mariculture related activities
 - Enhanced research activity in the region directed towards identifying suitable culture species, and enhancing knowledge regarding their biological, infrastructural, social, economic and market requirements
 - Research results identifying species suitable for culture with necessary information on life histories, culture requirements (including propagation, spawning, settlement, growth rates, feed, optimal stocking densities etc.), mechanisms for disease control, etc.
4. To promote or initiate pilot projects in conjunction with private industry and community groups in some of the participating countries to demonstrate the feasibility of certain culture initiatives and explore constraints to further development

Expected output(s):

- Limited number of pilot projects in key coastal areas involving community and industry partnerships
- Development of new projects involving industry-government-community partnerships

3. PROJECT COMPONENTS/ACTIVITIES

Broadly, the project comprises four major components each consisting of a number of project activities:

Component 1: Status of mariculture activities, major constraints to further sustainable development and opportunities identified in each country and regionally

Activity 1.1: Prepare mariculture status reports on all aspects of the status of and potential constraints to mariculture in participating countries including policy and legislation, capacity for and current status of research initiatives into mariculture, current and future planned mariculture initiatives, requirements for ecological and economic sustainability, requirements for capacity building amongst management authorities, areas and opportunities for further development, and requirements for further research

Activity 1.2: Develop country specific recommendations and interventions to address major constraints identified to further development of mariculture

Activity 1.3: Review regional coherence and feasibility

Activity 1.4: Present recommendations to national governments, industry and community representatives

Component 2: National governments assisted in streamlining policies and legislation as required

Activity 2.1: Explore and discuss findings of mariculture status reports focusing on national mariculture policies and legislation and make recommendations for harmonization of policies and legislation amongst countries within the region

Activity 2.2: Provide legal support for the enhancement of the national legislation in this area

Component 3: Capacity built within government departments, research institutes, NGOs, CBOs and private industry and support provided for key mariculture-related research projects

Activity 3.1: Provide capacity building activities to assist governments, private industry and the research community to implement recommendations from 2 and 3 above and to undertake necessary mariculture related research

- through training and capacity building initiatives,
- exchange of expertise within the region,
- South-South collaboration (site visits to SE Asia, importation of expertise from other developing countries outside of the region) and North-South collaboration (site visits to Europe, USA, importation of expertise from developing countries in the northern hemisphere)

Activity 3.2: Promote and facilitate research activities by inviting project proposals from government agencies and the private sector to address research needs identified in the constraints analysis and providing support funds for and monitoring of progress of research activities

Component 4: Pilot projects initiated in partnership with national governments, NGOs, CBOs and private industry

Activity 4.1: Encourage CBOs, NGOs and private companies to build partnerships and to submit proposals for financial and technical assistance in developing mariculture initiatives in priority areas

Activity 4.2: Select projects and provide support to the development and implementation of key projects and monitor progress thereof

4. LINKAGES TO OTHER NATIONAL OR REGIONAL ACTIVITIES / TRANSBOUNDARITY

Development of the mariculture industry in certain sub-Saharan African countries has been recognised as a priority in the past and several mariculture related initiatives have been undertaken or are currently underway.

The Southern African Development Community (SADC) commissioned a survey of the status of mariculture in the southern African sub-region in 1995 (Policy Study for Sustainable Mariculture Development) that made recommendations for a three phased project approach. The first phase was set to cover the planning of a mariculture project and included a review, the development of a strategy, and policy guidelines for mariculture development in this region. A project proposal was to be prepared for this first stage and submitted to UNOPS for possible funding via the Norwegian element of Nordic Funds. Appropriate linkages need to be established with this initiative to avoid any duplication of effort.

The ALCOM programme (Aquaculture for Local Community Development Programme) designed to encourage aquaculture development in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania and Zimbabwe is another ongoing activity in the region. It is being executed by the FAO with funding from Sweden and is supporting the introduction and extension of fish farming by demonstrating new methods and techniques through which rural populations may improve their living standards. Links will also be established with the Southwest Indian Ocean Fisheries project, currently under consideration by the World Bank for GEF funding, to ensure maximum synergy between these two projects.

Signatories to the Nairobi Convention have an obligation “to ensure sound environmental management of natural resources” (Article 4) and “cooperate, within their available capabilities, directly or through competent regional and international organizations, in the provision of technical and other assistance in fields relating to pollution and sound environmental management” (Article 14) both of which are addressed by this proposal.

5. DEMONSTRATIVE VALUE & REPLICABILITY

The impacts of poorly managed and unsustainable mariculture practices that are evident in many areas of the world strongly discourage development and expansion of the mariculture industry. Governments tend to adopt very stringent policies and regulations to control mariculture operations, but this often has the effect of stifling their potential for growth. By simultaneously promoting the growth of the sustainable mariculture projects, practices and policies and by building capacity within relevant management bodies, mariculture industries in the participating countries will be encouraged to grow in a sustainable manner without the catastrophic environmental impacts that generally accompany such growth. The benefits of such sustainable practices will be evident throughout the region and will encourage other countries not participating directly in this project to follow a similar route in promoting their own mariculture industries.

6. RISKS AND SUSTAINABILITY

A number of risks have been identified that threaten the sustainability of this project or that may arise as a result of the implementation of this project. Risks to the sustainability of the project include:

- National governments being unable to afford in-country contributions required to fund/sustain the project
- Insufficient expertise available within the participating countries for successful prosecution of the project
- National governments unwilling/unable to adopt recommendations developed by the project
- Failure of pilot projects due to disease, natural disaster, financial difficulties
- Lack of suitable markets
- Changes in market demands after initiation of pilot projects
- Insufficient investment capital available
- Lacking infrastructure
- Political instability

Risks potentially arising from the implementation of the project include:

- a variety of negative environmental impacts frequently associated with mariculture projects (e.g. introduction of alien invasive species, spread of disease to wild populations, eutrophication natural water bodies due to discharge of effluent with high nutrient content, release of antibiotics and other chemicals into the environment, impacts on biodiversity where culture is undertaken in natural environment)
- transboundary impacts resulting from the spread of alien species introduced for mariculture purposes

It is clear that implementation of this projects is not without risk. However, the level of risk associated with the proposed project is considered “acceptable” in the context of the clear need to reduce pressure on renewable natural resources in the Sub-Saharan Africa and the stated commitment to this process. A number of measures have nevertheless been incorporated into project design to mitigate this risk where possible:

- Building capacity within national governments and other management institution whose task it is to oversee developments in the coastal zone is considered an important component of this project. Exchange of information and expertise between countries within the region, as well as south-south collaboration between African and Southeast Asian and north-south collaboration between European and African countries will be given a high priority on this project.
- Policy and regulations promulgated by national governments to control the mariculture industry within their countries will need to comply with regionally and internationally accepted standards. Mariculture projects for which support is provided under this project will be required to meet very strict guidelines designed to ensure that they are both ecologically and economically sustainable. Initiatives supported under this programme are thus likely to have a high probability of success and will sustained well beyond the life of this project. Successful projects will foster development of necessary infrastructure to promote further growth at local, national and regional scales.
- Partnerships will be fostered with and between government and research organisations, private industry, non-government organisations, community based organisations, private industry and industry

associations to ensure that in country benefits are spread as widely as possible. Participating organisations will be required to comply with best accounting practices and will have to prove their commitment to whichever projects they are involved through commitments in kind or as cash investments.

- Links will be established with regional fora and development banks to assist in obtaining and leveraging additional funding and expertise for the programme and to assist in identifying other countries and other experts that may wish to or may be in a position to participate in or contribute to the programme.
- Harmonisation of mariculture policies and legislation throughout the region will ensure sustainable development of this industry and will reduce the risks of negative transboundary effects such as introduction of alien species and diseases to wild stocks

To further assist in the assessment of risk for this project, potential risks are identified in the logical framework (see Annex 1).

7. STAKEHOLDER PARTICIPATION

The primary objective of this programme is to promote the development of mariculture as an industry in the whole of sub-Saharan Africa. One of the major benefits this will have is to direct attention away from harvesting of natural resources through the provision of alternative sources of income and livelihood for coastal communities. Participation by members of the local coastal communities and/or employment of people from these communities will be established as prerequisites for any project seeking support from this programme. The initiation of any new mariculture projects and/or expansion of any existing projects will require fully participative environmental impact assessments. These EIAs will further assist in building strong relationships with local coastal communities and local interest groups. They will also ensure that any proposed developments are environmentally sustainable and do not impact on or preclude other opportunities in the coastal zone. The linkages between the participated institutions have to be created or strengthened. Where no such institutions exist, a new institutional arrangement may need to be created.

8 PROJECT MANAGEMENT & IMPLEMENTATION

It is envisioned that activities in each country will be co-ordinated by a national multidisciplinary team comprising representatives from government, research organisations and industry, while the overall project coordination will be undertaken by a team comprising representatives from each of the national teams, mariculture experts with national, regional and international expertise. It is envisioned each in-country team will consist of at least one representative of the government ministry or department responsible for administration and management of mariculture activities, at least one representative from the government institution(s) or organisation(s) responsible for research into mariculture activities, one or more representatives from academic and other research institutes in the country involved in mariculture related research, one or more representatives from the private sector and one or more consultants responsible for the preparation of the national mariculture status reports. It is envisioned that the regional coordinating team will consist of at least one of the government representatives from each country, two or three representatives from the private sector and one or two consultants with international experience in mariculture research and management. Consultancy fees, subsistence and travel costs and costs of convening all project related meetings will be covered by the project but costs of time input by government representatives will be covered through in-kind contribution of the government concerned. This project will seek to take advantage of lessons learnt both within the region and elsewhere, particularly those in other developing countries. Both South-South and North-South collaboration will be encouraged, by supporting fact-finding visits between participating countries and missions to countries in Southeast Asia and Europe.

In order to benefit from the pilot projects, government authorities of participating countries will be required to endorse and adopt recommendations for sustainable management of their mariculture industries and to demonstrate implementation of such practices (e.g. ensuring that requirements for environmental impact assessment and effluent water quality guidelines are adhered to).

9. PROJECT FINANCING & DURATION

The project is expected to last for a total of four years and is expected to cost \$14, 665.00. A detailed breakdown of costs for all phases and activities is shown below. Costs to National governments will be in the form on in-kind contributions only.

	External Source of Funds	National Government		Total
		Cash	In-kind	
1. Assess status of mariculture, constraints and opportunities				
1.1. Mariculture status reports	\$250,000.00		\$250,000.00	\$500,000.00
1.2. Develop recommendations	\$50,000.00		\$50,000.00	\$100,000.00
1.3 Review regional coherence	\$120,000.00		\$120,000.00	\$240,000.00
1.4 Present recommendations to key stakeholders	\$20,000.00		\$5,000.00	\$25,000.00
2. Streamlining of policies and legislation				\$0.00
2.1 Harmonising policies and legislation	\$160,000.00		\$120,000.00	\$280,000.00
2.2 Legal support for harmonisation	\$160,000.00		\$40,000.00	\$200,000.00
3. Capacity building and research support				\$0.00
3.1 Training and capacity building	\$400,000.00		\$200,000.00	\$600,000.00
3.2 Research support	\$1,600,000.00		\$800,000.00	\$2,400,000.00
4. Pilot projects				\$0.00
4.1 Build partnerships	\$160,000.00		\$160,000.00	\$320,000.00
4.2 Provide support for development and implementation	\$6,000,000.00	\$2,000,000.00	\$2,000,000.00	\$10,000,000.00
TOTAL	\$8,920,000.00	\$2,000,000.00	\$3,745,000.00	\$14,665,000.00

Note: This budget is preliminary and has not undergone a full consultation process with the respective countries. Therefore, it does not indicate the actual financial commitment that would be provided by participating countries once the project proposal and its components are finalised.

10. MONITORING, EVALUATION & DISSEMINATION

Monitoring and evaluation are considered to be a very important component of this project. It is expected that internal/external monitoring and evaluation will play a significant role during implementation to ensure that the experience gained through pilot projects, consultancies and meetings, informs project management and decision-making. In addition, important external factors, such as developments in the fisheries, should also be monitored to ensure the project outputs and purpose remains relevant and achievable. All mariculture status reports produced by participating countries will be subject to peer review by acknowledged experts in the field.

General indicators of project achievement will include: enhanced monitoring of mariculture activities; effective legislative frameworks; development and initiation of approved plans for cost effective mariculture development; evaluation and testing of options for co-management of mariculture activities; conformity of resource allocation with policy and management objectives. The reports of national fisheries administrations and industry associations, national fisheries statistics, and economic data on the countries will be primary sources of verification.

11. WORK PLAN AND TIMETABLE

Table 2: Outline Work Plan and Timetable

1.1 Year	1				2				3				4			
1.2 Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Establish regional and national coordinating bodies																
1.1. Identify participants	■															
1.2. Convene regional and national meetings		■														
2. Constraints analysis																
2.1. Preparation of mariculture status reports			■	■												
2.2. Peer review of reports				■												
3. Develop mechanisms and recommendations to address constraints																
3.1. Convene regional meeting					■											
3.2. Develop recommendations					■											
3.3. Present recommendations to national governments						■										
4. Streamlining of policy and legislation																
4.1 Convene regional meeting					■											
4.2. Develop recommendations					■											
4.3. Present recommendations to national governments						■										
5. Capacity building and implementation																
5.1. Site visits, capacity building and training workshops							■									
5.2. Assistance with implementation of recommendations							■	■								
6. Pilot projects																
6.1. Invite and assess proposals for pilot projects									■							
6.2. Assist in implementation of projects										■	■	■	■	■	■	■

ANNEX 1: LOGFRAME MATRIX

	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION (MONITORING FOCUS)	CRITICAL ASSUMPTIONS AND RISKS
OVERALL GOAL			
To promote mariculture operations in sub-Saharan Africa with a view to creating sustainable livelihood opportunities for people living in coastal areas	<ul style="list-style-type: none"> • Increase in the number of mariculture projects in each county • Decrease in proportion of the coastal population reliant on harvesting natural resources for livelihood • Increase in the amount of foreign exchange generated by mariculture exports • New jobs created in mariculture industry 	<ul style="list-style-type: none"> • Lists of registered mariculture enterprises • Export statistics • Economic surveys of coastal communities 	<ul style="list-style-type: none"> • Continued political support for sub-Saharan Africa • Management measures for mariculture are well designed and with maximum stakeholder participation. • No major adverse changes in environmental, and economic conditions in the Region
PROJECT OBJECTIVES			
1. To address and attempt to eliminate major constraints to mariculture development in sub-Saharan Africa	<ul style="list-style-type: none"> • Increase in the number of mariculture projects in each county • Increase in efficiency w.r.t. processing of mariculture permit applications 	<ul style="list-style-type: none"> • National and regional mariculture and fishery status reports • Interviews with private sector 	<ul style="list-style-type: none"> • Recommendations developed by project adopted by national governments • Mariculture afforded a high priority by national governments in the region
2. To promote streamlining of mariculture related policies and legislation amongst governments of participating countries	<ul style="list-style-type: none"> • Common policies and legislation adopted throughout the region 	<ul style="list-style-type: none"> • National policy documents published by relevant government agencies 	<ul style="list-style-type: none"> • Recommendations developed by project adopted by national governments • Mariculture afforded a high priority by national governments in the region
3. To build capacity within relevant government departments, research organisations, NGOs, CBOs & industry to undertake and manage mariculture projects	<ul style="list-style-type: none"> • Increase in research output • Improved management of mariculture operations • Increase in range of species under culture in the region 	<ul style="list-style-type: none"> • Publications produced by academics and researchers in the region • National and regional mariculture and fishery status reports • Interviews with private sector 	<ul style="list-style-type: none"> • Sustained funding for mariculture related research in the region • Mariculture afforded a sufficiently high priority by national governments in the region
4. To promote or initiate pilot projects in conjunction with private industry and community groups in some of the participating countries to demonstrate the feasibility of certain culture initiatives and explore constraints to further development	<ul style="list-style-type: none"> • Numbers of pilot projects supported 	<ul style="list-style-type: none"> • Project evaluation and review reports 	<ul style="list-style-type: none"> • Sufficient funding obtained to support pilot projects

	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION (MONITORING FOCUS)	CRITICAL ASSUMPTIONS AND RISKS
OUTPUTS			
Mariculture status reports	<ul style="list-style-type: none"> • Reports produced by each country 	<ul style="list-style-type: none"> • Peer review of status reports 	<ul style="list-style-type: none"> • Sufficient expertise available within each country
Enhanced policy and legislation frameworks in the region	<ul style="list-style-type: none"> • National policy and legislation frameworks 	<ul style="list-style-type: none"> • Review of national policy documents published by relevant government agencies 	<ul style="list-style-type: none"> • National governments endorse and adopt recommendations produced by the project • Availability of sufficient funds and expertise
Enhanced capacity within relevant government departments, research organisations, NGOs, CBOs & industry	<ul style="list-style-type: none"> • Training workshop reports • Record of attendance at training workshops • Increased capacity within government and industry to manage and operate mariculture enterprises 	<ul style="list-style-type: none"> • Interviews with government and industry personnel 	<ul style="list-style-type: none"> • Government commitment to enhancing living standard of coastal communities, mariculture earmarked as priority development area
Expansion in ecologically sustainable mariculture activity in the region	<ul style="list-style-type: none"> • Numbers of mariculture operation/farms 	<ul style="list-style-type: none"> • Lists of registered mariculture enterprises • Export statistics 	<ul style="list-style-type: none"> • Constraints to mariculture expansion insurmountable • Government commitment to enhancing living standard of coastal communities
PROJECT ACTIVITIES			
Assess status of mariculture, identify constraints and opportunities	<ul style="list-style-type: none"> • Reports from regional and national meetings • Mariculture status reports 	<ul style="list-style-type: none"> • Review of meeting reports • Peer review of status reports 	<ul style="list-style-type: none"> • Government commitment to enhancing living standard of coastal communities • Enhancement of mariculture seen as a priority by national governments • Cooperation by private sector mariculture operators
Streamlining of national policies and legislation	<ul style="list-style-type: none"> • Country specific recommendations • National policy documents published by relevant government agencies 	<ul style="list-style-type: none"> • Review of recommendations • Review of national policy documents and legislation frameworks 	<ul style="list-style-type: none"> • Government willingness to modify existing policies and/or adopt new policies

	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION (MONITORING FOCUS)	CRITICAL ASSUMPTIONS AND RISKS
Capacity building and research support	<ul style="list-style-type: none"> • Training workshop reports • Record of attendance at training workshops • Increased capacity within government and industry to manage and operate mariculture enterprises 	<ul style="list-style-type: none"> • Review of documentation from training workshops • Interviews with workshop participants • Change in productivity within government departments • Interviews with private sector operators 	<ul style="list-style-type: none"> • Government commitment to project, willingness by private sector to participate
Pilot projects	<ul style="list-style-type: none"> • Number of pilot projects underway • Project review reports • Financial statements 	<ul style="list-style-type: none"> • Lists of registered mariculture enterprises • Export statistics • Economic surveys of coastal communities 	<ul style="list-style-type: none"> • Availability of suitable pilot sites • Availability of funds • Cooperation by local communities and private sector