

SUPPORT TO THE PREPARATION OF A STRATEGY FOR IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT IN ZANZIBAR



STRATEGY FOR IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT IN ZANZIBAR

***(FINAL DRAFT TO BE ENDORSED BY MINISTERIAL TECHNICAL
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Table of Contents

1. INTRODUCTION	4
2. RATIONALE FOR DEVISING A STRATEGY	5
2.1. MAJOR CONCEPTS RELATED TO FISHERIES GOVERNANCE	5
2.2. ROLE AND POSITIONING OF THE STRATEGY IN THE GOVERNANCE AND MANAGEMENT OF FISHERIES	6
2.3. MAJOR SECTORAL ISSUES TO BE CONSIDERED IN THE STRATEGY	6
2.3.1. CURRENT PERFORMANCE OF THE FISHERY SECTOR WITH REFERENCE TO THE VISION 2020 AND MKUZAII	7
2.3.2. MAJOR GAPS AND WEAKNESSES IN THE CURRENT GOVERNANCE SYSTEM	9
2.3.3. STRENGTHS AND OPPORTUNITIES IN THE GOVERNANCE SYSTEM.....	10
3. OBJECTIVES AND GUIDING PRINCIPLES OF THE STRATEGY FOR IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT	10
3.1. OBJECTIVES OF THE STRATEGY	10
3.2. MAJOR GUIDING PRINCIPLES	11
3.2.1. MANAGEMENT OF INSHORE FISHERIES	11
3.2.2. DEVELOPMENT OF FISHING FURTHER OFF-SHORE IN DEEPER WATERS.....	12
3.2.3. VALUE ADDITION IN FISHERIES	13
3.2.4. OTHER IMPROVEMENT IN THE GOVERNANCE SYSTEM TO MAKE IT MORE IN ADEQUACY WITH THE NEED OF A ‘BETTER-STATE’ IN THE MANAGEMENT OF THE FISHERY SECTOR	14
4. ROAD-MAP TOWARDS IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT	15
4.1. SHORT-TO-MEDIUM TERM (YEAR 1 TO YEAR 3)	15
4.1.1. STRENGTHENING KEY ELEMENTS OF THE FISHERIES GOVERNANCE FRAMEWORK.....	15
4.1.2. IMPROVING THE DELIVERY OF KEY FISHERIES MANAGEMENT SERVICES.....	16
4.1.3. LEGALIZATION AND PROFESSIONALIZATION OF FISHING AND RELATED ACTIVITIES	18
4.1.4. OPERATIONALIZING THE EXISTING MCAs	19
4.1.5. PROMOTING THE PSE APPROACH FOR THE MANAGEMENT OF INSHORE FISHERIES OUTSIDE MCAs.....	19
4.1.6. LAUNCHING OF FMP PROCESS ON SELECTED PRIORITY FISHERIES	20
4.1.7. PREPARATION OF AN INTEGRATED FAD DEVELOPMENT PROGRAMME	20
4.1.8. FORMULATION OF AN AQUACULTURE STRATEGIC PLAN	21
4.2. MEDIUM-TO-LONG TERM (YEAR 4 TO YEAR 7).....	22
4.2.1. IMPLEMENTATION OF INTEGRATED FAD DEVELOPMENT PROGRAM AND OF AQUACULTURE STRATEGIC PLAN	22
4.2.2. UP-GRADING THE MANAGEMENT OF INSHORE FISHERIES	22
4.2.3. PROMOTING ACTIONS FOR VALUE ADDITION AND ENHANCED PRO-POOR GROWTH	23
4.2.4. CONTINUING REFORMS FOR IMPROVED FISHERIES GOVERNANCE	23
4.3. SUMMARY OF ROADMAP TOWARDS IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT	24

Abbreviations and Acronyms

CHABAMCA	Changuu-Bawe Marine Conservation Area
DFD	Department of Fisheries Development
DFO	District Fisheries Officer
DMR	Department of Marine Resources
DSFA	Deep Sea Fishing Authority
EEZ	Exclusive Economic Zone
ESA-IO	Eastern Southern Africa – Indian Ocean
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FETA	Fisheries Education and Training Agency
FMP	Fisheries Management Plan
GDP	Gross Domestic Product
GMP	General Management Plan (for MCA)
ICZM	Integrated Coastal Zone Management
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IMS	Institute of Marine Science
IUU	Illegal, Unreported and Unregulated Fishing
KMKM	Zanzibar Navy
MACEMP	Marine and Coastal Environment Management Project
MBCA	Menai Bay Conservation Area
MCA	Marine Conservation Area
MCS	Monitoring, Control and Surveillance
MCU	Marine Conservation Unit
MIMCA	Mnemba Island-Chakwa Bay Conservation Area
MKUZAII	Zanzibar Strategy for Growth and Reduction of Poverty 2010-2015
MLF	Ministry of Livestock and Fisheries
MSY	Maximum Sustainable Yield
NGO	Non-Governmental Organization
PECCA	Pemba Channel Conservation Area
PSE	Priority measures for Strong Enforcement
SUZA	State University of Zanzibar
SWIOFish	South West Indian Ocean Fisheries Governance and Shared Growth Programme
SWIOFP	South West Indian Ocean Fisheries Programme
TAFIRI	Tanzania Fisheries Research Institute
TUMCA	Tumbatu Marine Conservation Area
VFC	Village Fishing Committee
Vision 2020	Zanzibar Development Vision, 2020
VSFC	Village Seaweed Fishing Committees
WIOMSA	West Indian Ocean Marine Science Association
ZAMP	Zanzibar Agricultural Marketing Policy
ZMA	Zanzibar Maritime Authority

1. INTRODUCTION

The United Republic of Tanzania is composed of mainland Tanzania and Zanzibar. Zanzibar consists of two islands called Unguja and Pemba, with about 50 other small islets forming the Zanzibar Archipelago. Within the Union framework, Zanzibar has full mandate over the management of the fisheries located in its territorial waters (12 nautical miles) and internal waters (which means the waters on the landward side of the territorial waters to a point equidistant between mainland Tanzania and Zanzibar). The fisheries taking place in the territorial waters (12 nm) and the internal waters of Zanzibar are managed by Departments involved in fisheries and aquaculture under the Ministry of Livestock and Fisheries (MLF) of Zanzibar, namely the Department of Fisheries Development (DFD) and the Department of Marine Resources (DMR). In the present document, the term 'Fisheries Administration', which includes both DFD and DMR, will be used for easier reading.

Considering the importance of the fisheries sector in the Zanzibar economy, the Ministry in charge of fisheries has supported a very significant number of initiatives aimed at promoting sustainable and responsible fisheries. These initiatives have included the enactment of a new Fisheries Act in 2010, the restructuring of the Fisheries Administration in the same year, the drafting of Marine Conservation Unit (MCU) regulations to improve the governance of the marine protected areas (MCAs), the preparation of draft General Management Plans in each MCA, the strengthening of control and surveillance of fisheries particularly in the MCAs, the promotion of participation of fishing communities in the management of fisheries through the establishment of Village Fishing Committees (VFCs), and the development of collaboration with other institutions to support Integrated Coastal Zone Management (ICZM) initiatives.

The fishery sector is however faced with a certain number of problems that impact the sustainability of fish resources in shallow waters and hamper the sector from fully contributing to the social and economic development of Zanzibar. Moreover, the current performance of the fishery sector does not adequately contribute to the overarching objectives stated in the Zanzibar Development Vision, 2020 (Vision 2020) and the Zanzibar Strategy for Growth and Reduction of Poverty 2010-2015 (MKUZAI), which focus on ensuring sustainable management of inshore fisheries and contributing to the preservation of the richness of the reef ecosystem, as well as on developing fisheries further off-shore in deeper waters where fishery resources are considered to be moderately exploited.

In order to address these key challenges, the Ministry in charge of fisheries has initiated a revision of its out-dated fisheries policy of 2000 and engaged in the preparation of an ambitious fisheries project to be funded through a regional World Bank initiative (SWIOFish Programme).

The Ministry in charge of fisheries also requested the EU-funded SmartFish Programme to assist in the development of a Strategy for improved fisheries governance and management in Zanzibar (here-after called the 'Strategy'). The purpose of the Strategy is to provide guiding principles in relation to the incorporation of good governance principles in the management of the fishery sector and to propose a road-map towards the improvement of the current fisheries governance system to enable the fishery sector to better contribute to Zanzibar economic and social development, in line with the Vision 2020 and MKUZAI. The Strategy calls for the involvement of various public and private institutions that are directly or indirectly concerned by fisheries, with the Fisheries Administration being the leading institution in its implementation and monitoring.

It is in this context that the SmartFish Programme has provided temporary assistance to the Ministry in charge of fisheries since July 2013 in the preparation of such Strategy. The process for the preparation of the Strategy has notably included the carrying-out of an in-depth diagnosis-analysis of the fishery sector based on investigations conducted by technical commissions and the findings of a multi-stakeholders workshop held in Pemba in December 2013. This workshop also provided significant inputs that supported the drafting of the Strategy.

The process also has included the holding of another multi-stakeholder workshop that was held in Stone Town in mid-March 2014. The objective of this workshop was to discuss and further elaborate a first draft Strategy prepared by the consultant.

The present document corresponds to the final draft Strategy for improved fisheries governance and management in Zanzibar. This final draft will be examined by the Ministerial Technical Committee of the Ministry of Livestock and Fisheries in view of its validation and adoption.

In a later stage, the SmartFish Programme is intended to assist the Ministry in charge of fisheries to ensure validation and adequate ownership of the Strategy at governmental level and link with the Fisheries Policy of 2000 under up-dating and revision. The future Fisheries Policy should be considered as one of the major policy instruments to support the implementation of the Strategy as is further explained below.

2. RATIONALE FOR DEVISING A STRATEGY

2.1. MAJOR CONCEPTS RELATED TO FISHERIES GOVERNANCE

In simple terms, governance refers to the manner of governing. Further, good governance is to govern well, but in a context where governing well may refer to subjective notions and socio-cultural considerations that may not be the same according to the countries.

However, the general understanding at the international level is that good governance is the design of a State promoting public action that is more efficient and closer to the general interest. This notion of "better State" in the exercise of power (as opposed "all-State" and "non-State") refers to processes that are guided by a number of virtuous principles such as access to information, dialogue with users, public-private partnership for the production of certain services, efficiency of public action, etc.

Working on governance therefore implies giving emphasis to the way in which public action is designed and executed (the manner), but it also implies focusing on the quality of public action (with reference to the adequacy/consistency of the action).

Applied to the management of the fishery sector, the concept of good governance is often cited as a condition for achieving the goal of sustainable and responsible fisheries.

As a reminder, the fishery resource is a renewable public resource whose exploitation is generally based on the granting of rights to private entities whose primary purpose can be to generate profits, create jobs and/or provide livelihoods. The nature of these rights in principle reflects the way the government wants the resource to be exploited and the fishery sector to contribute to the social and economic development of the country. The mode of allocation and exploitation of fishery resources therefore involves important, and sometimes contradictory, public and private interests.

Also, the essence of state involvement in the management of the fishery sector is to ensure the maximizing of economic and social benefits that can be derived from fishing and related activities, to the benefit of everyone, and preserving the renewal capacity of fishery resources and ecosystems that support them.

To this end, and for the purpose of the SmartFish Programme, good governance in fisheries means that the State must establish an adequate system of governance composed of a governance framework that is consistent and incorporates other principles of good governance related to the way public action is conducted, such as transparency, participation (which includes co-management), efficiency, etc.

A governance framework can be defined as the set of policies, institutions, laws, regulations and services that influences exploitation, value addition and management of the fisheries. To be consistent, a governance framework must take into consideration the needs and specificities of the management of fishery resources, the international commitments and obligations of the

country with regard to responsible fishing and conservation of marine resources, but it should also reflect the policy objectives of the country and the objectives assigned to the fishery sector.

2.2. ROLE AND POSITIONING OF THE STRATEGY IN THE GOVERNANCE AND MANAGEMENT OF FISHERIES

The process of preparing the Strategy for improved governance and management in Zanzibar has been guided by the desire to bring a new perspective on how the fishery sector has been governed until now and how this can explain the current performance of the sector, and to propose some changes to the governance system in order to improve the situation. This process has also been conducted with the understanding that the Strategy should also allow the fishery sector to better participate in the economic and social development of Zanzibar while preserving the quality of aquatic ecosystems.

Therefore, the Strategy should first be considered as a document aimed at providing policy guidance to improve the system of governance of the fishery sector in Zanzibar over a time period superior to 5 years. The underlying challenges include improving the overall governance framework (legislation, regulation, planning documents, institutions and management services) and facilitating the application of good governance principles for better-State, with particular emphasis on promoting value for money in fisheries management in a context of budgetary and human constraints.

The goal of the Strategy is to reach the general objectives assigned to the fishery sector that are stated in the Vision 2020 and MKUZAI. The Strategy can thus be considered as a sectoral policy document aimed at detailing how the fishery sector should be governed to satisfy these overarching objectives.

Experience has shown that good governance of the fishery sector should involve the full range of fishery stakeholders, and in particular the Fisheries Administration and fishers and related actors. But it should also bring together other public and private institutions that are directly or indirectly concerned with the management of the sector such as academic research institutions, Navy, maritime authority, local governments, tourism commission, ministry of environment, NGOs, etc. For this reason, the Strategy should reflect a common vision based on consensus-building and its implementation should be the responsibility of several institutions, with the Fisheries Administration leading and playing a catalytic role in the process.

In the context of the above, the Strategy is intended to serve as a reference document to support future planning exercises of the Fisheries Administration. This should notably support the revision of the Fisheries Policy of 2000, which is actually a comprehensive and very useful planning document to organize the work of the different structures of the Fisheries Administration over a period that should not however exceed 4 to 5 years. The revised Fisheries Policy (as well as the fisheries legislation) should be considered as a major policy instrument to support the implementation of the Strategy. The revised Fisheries Policy is also expected to include activities aimed at facilitating complementarities and synergies with other public and private institutions for the delivery of certain management services which will be essential for the success of the Strategy.

Finally, it should be highlighted that improving a system of fisheries governance is a relatively long, gradual and iterative process. It therefore requires the provision of a road-map indicating priority actions and their phasing. The proposed duration of the Strategy is seven (7) years (i.e. 2014-2020) in order to be in adequacy with the Vision 2020. Actions included in the road-map are classified as short-to-medium (year 1 to year 3) and medium-to-long term (year 4 to year 7) for easier implementation.

2.3. MAJOR SECTORAL ISSUES TO BE CONSIDERED IN THE STRATEGY

The fishery sector is a strategic sector for the economic and social development of Zanzibar, as recognized in the Vision 2020. The Vision 2020 also establishes a link between the fishery

sector and the tourism sector through emphasizing the need to strengthen the management of marine and coastal resources to support sustainable tourism development while conserving the richness of the environment.

In line with the Vision 2020, MKUZAII (2010-2015) includes the fishery sector in the cluster that is primarily intended to address the growth challenges in Zanzibar. This cluster has one broad outcome, namely “achieved and sustained equitable pro poor growth”, along with four goals as follows: create an enabling environment for growth; promote sustainable and equitable pro-poor and broad based growth; reduce income poverty and attain overall food security; and create a vibrant private sector for economic growth. MKUZAII also highlights that most fishing activities are done in inshore waters, which are unsustainably over-exploited, whereas there is room for developing fisheries further off-shore in deeper waters on moderately- or under-utilized resources.

Total fish production in Zanzibar waters, which includes both territorial and internal waters, has shown a steady increase for the last 10 years, according to official data. This can be considered as an indicator of the dynamism of fishers and to a certain extent of the successful public policies in the fishery sector. The following section further contextualizes the current situation regarding the status of resources and the performance of the fishery sector with reference to the overarching objectives stated in the Vision 2020 and MKUZAII.

2.3.1. CURRENT PERFORMANCE OF THE FISHERY SECTOR WITH REFERENCE TO THE VISION 2020 AND MKUZAII

Sustainability of inshore fisheries

In the inshore zone, and particularly in the coral reef areas, there is a general trend of a slow decline of the overall fish production and individual catch rates of artisanal fishing units. This has mostly resulted from the combination of the overcapitalization of the sector, confinement of fishing activity to inshore and shallow waters within the reef ecosystem due to technological limitations, and poorly regulated fisheries due to some weaknesses in the system of governance and management.

Overcapitalization of the inshore fishery sector is apparent through the observed continuous increase of fishing capacity in terms of the number of fishing craft, the rate of motorization, the number of gears that can exert a substantial fishing effort such as purse seines, seine nets and ring nets, and technological innovation (e.g. slight increase of the average lengths of craft) as well as extended fishing areas.

Open access to resources, difficulties in transferring fishing capacity and effort further off-shore in deeper waters, steady increase of fish prices (which continues to provide incentives for fishing despite a decline in individual catch rates), and low capabilities of fishing communities to diversify income-generating activities, are believed to have been the major factors that have contributed to overcapitalizing the inshore fishery sector.

Moreover, fisheries are not adequately regulated resulting in poor compliance by fishers with the few existing regulatory measures aimed at preserving the integrity of fishery resources and the coastal environment, even in the Marine Conservation Areas (MCAs).

Therefore, and despite the lack of scientific evidence, inshore fisheries can be considered vulnerable because they are likely to be fully or over-exploited (at or above maximum sustainable levels which explains the apparent decline in catch per unit of effort) and because of the poor level of compliance with fishing regulations. Inshore fisheries can also be considered unstable because of the massive amount of catching capacity in the inshore waters.

Development of artisanal fisheries in deeper waters

In the recent past and currently, several public interventions have been promoted with a view to supporting the emergence of an artisanal fisheries sub-sector capable of operating further off-shore in deeper waters. A particular emphasis has been placed on the development of fisheries using Fish Aggregating Devices (FADs) and targeting medium and large pelagics which are

considered to be moderately exploited. However, the deeper territorial and internal waters of Zanzibar still remain underexploited and this is mostly due to the failure of public policies to create an enabling environment that encompasses technological, human, financial, institutional and marketing considerations. On the other hand, experience and lessons learnt from past initiatives can now serve the purpose of identifying sound strategies for future initiatives.

Aquaculture development

Seaweed farming has dramatically developed over the last decade and is now a source of income that has increased the socio-economic status of coastal communities. Seaweed farming is however faced with value addition problems which affect the profitability of the activities and hamper the sector to adequately contribute to poverty reduction within coastal communities, in particular women. Seaweed farming is also believed to contribute to beach erosion since seaweed replaces sea-grass beds which are more efficient to resist to water erosion. Other emerging and promising aquaculture activities include the culture of finfish, pearls, oysters and crab fattening. But such activities are still in their infancy.

Economic, social and environmental challenges associated to aquaculture development are significant in Zanzibar. Meanwhile, and as it is the case in most countries, aquaculture mostly involves entrepreneurs and women and cannot necessarily be considered as an alternative economic activity for fishers capable of reducing fishing pressure from inshore waters.

Reduced poverty within fishing communities

Another consequence of the mismanagement of inshore fisheries and the difficulty of developing fisheries further off-shore in deeper waters is that there might be little or no profitability (or wealth) being generated from fisheries at present, and existing profits are being steadily dissipated. Poverty within fishing communities is therefore believed to be gradually increasing as a result of limited or no growth in overall revenues among an increased number of fishers. In some areas, this situation has led to higher frequency of conflicts between fishers for accessing resources.

Increased contribution of the fishery sector to food security

The apparent per capita fish consumption in Zanzibar has remained relatively high when compared with other countries in the region, thanks to the steady increase of domestic fish production. However, standards in terms of fish quality are not adequately met in many cases. Moreover, an increased share of the high value and good quality demersal fish is being consumed by tourists to the detriment of local consumers. This should also call the need to develop FAD fisheries targeting tuna and tuna like species that could satisfy the tourist demand of high valued fish and leave more demersal resources to local consumers.

Adequacy between the development of the fishery and tourism sectors

Zanzibar's economy is primarily driven by the agriculture (including fisheries) and the tourism sector which accounts for about one third of the GDP. Tourism is vital under the current structure of the economy in Zanzibar, in a context where the industry mostly relies on the richness of the reef ecosystems and the natural beauty of the environment. In order to address the paradigm of developing fisheries while preserving the coastal ecosystems, Zanzibar has supported the development of a network of marine protected areas (MCAs) in sensitive areas, with the support of various partners. This policy has proved to produce some positive results in terms of preserving the richness of some sensitive ecosystems. However, the operationalization of MCAs, particularly with regard to surveillance activities, has been closely linked to outside-funded projects, and is unlikely to be sustained without institutional and legal reforms aimed at improving the governance of MCAs taking place.

The current situation of poorly regulated inshore fisheries in Zanzibar, even in MCAs, may gradually have a negative impact on the marine ecosystem, including biodiversity, with possible prejudicial consequences on the tourism industry.

As a preliminary conclusion, it can therefore be argued that despite an apparent steady increase in fish production, the current status of fishery resources in reef areas and the performance of the fishery sector are not adequate for the achievement of the overall objectives stated by the Vision 2020 and MKUZAI.

Besides the complexity and difficulty inherent to the management of inshore fisheries that are small-scale, multi-gear and multi-species fisheries, this situation has also resulted from the combination of a lack of consistency of certain elements of the fisheries governance framework and the insufficient application of good governance principles in implementing public action in the sector.

2.3.2. MAJOR GAPS AND WEAKNESSES IN THE CURRENT GOVERNANCE SYSTEM

These can be summarized as follows:

- ☞ **Out-dated and inadequate Zanzibar Fisheries Policy.** This prevents the sector having a reference document which would include a clear vision and strategy with priority actions, and which could serve as a guide to plan the activities of the Fisheries Administration. Such a document could also serve to support active participation of other public and private stakeholders concerned with fisheries development and management – instead, the nature of the current fisheries policy document is more like a work plan for the Fisheries Administration, reflecting the organizational structure and missions of MLF Department involved in fisheries, rather than priority actions to be carried out to create an enabling environment for responsible fisheries in line with Vision 2020.
- ☞ **Weak fisheries legislative and regulatory framework.** In particular, this is incomplete (enabling regulations of the Fisheries Act of 2010 still need to be adopted) which creates some confusion with regard to regulations that are in force and hampers the implementation of important policy instruments such as the operation of MCAs and the delivery of key management services such as MCS. It also gives excessive discretionary powers to the Minister and does not encourage the application of other important good governance principles including participation and transparency.
- ☞ **Difficulties of public institutions to satisfactorily deliver other key services in support of fisheries management.** This refers to the following services: legal status of economic actors involved in fishing and related activities (fishers, fish processors, fishmongers), training and extension, fisheries monitoring, research, control and surveillance and enforcement. The underlying reasons that explain this situation include institutional weaknesses, and human, logistical and financial limitations faced by the Fisheries Administration, both at central and field levels in both Unguja and Pemba Islands.
- ☞ **Little consideration given in general to consultation with fisheries stakeholders** in decision-making and to the development of public-private partnership arrangements, particularly outside MCAs, for the delivery of some key management services.
- ☞ **Weakness of collaborative mechanisms with mainland Tanzania** to address fisheries issues of common interest including supporting the joint management of the shared stock of small pelagics.

In this context, public action in the fishery sector has mostly consisted of running day-to-day general affairs such as collecting statistical data, preventing major risks in relation to IUU fishing, mitigating local conflicts and driving extra-funding to support the operationalization of MCAs.

The fisheries administration also has put significant efforts towards assisting fishing communities to develop alternative livelihoods with a view to diminishing the fishing pressure in the coral reef areas, including though promoting aquaculture and fishing further off-shore in deeper waters.

It should also be stressed that public action in fisheries has mostly relied on external assistance, to the detriment of its continuity and sustainability. For instance, surveillance in MCAs has been less effective since the end of the Marine and Coastal Environment Management Project (MACEMP) funded by the World Bank. Moreover, due the lack of clear vision and strategy, public action has mostly consisted of conducting isolated and un-coordinated specific projects/actions which although being relevant separately (e.g. support to VFCs, conducting of research in selected areas, deployment of FADs, strengthening of MCS capacities, etc.) have resulted in overall low effectiveness and efficiency.

2.3.3. STRENGTHS AND OPPORTUNITIES IN THE GOVERNANCE SYSTEM

These include in particular the following:

- ☞ **Existence of collaborative mechanisms** between the Fisheries Administration and other public institutions, particularly with regard to MCS and enforcement, and to integrated coastal zone management (ICZM).
- ☞ **Existence of a network of MCAs** that are legally backed by Orders and whose function could potentially easily be up-graded provided that draft MCU regulations are adopted. Experience has shown that MCAs are adequate policy tools to improve fisheries management and governance in declared areas, including through adopting specific regulations (e.g. no-take zones, gear limitation, prohibition of migrant fishers camps), establishing community development funds, providing fora to support dialogue between the Fisheries Administration and other public and private stakeholders, and offering the possibility for fishing communities to promote specific bylaws.
- ☞ **Existence of a network of VFCs**, particularly in the MCAs, that can serve as a basis to build strategies for further involvement of stakeholders in fisheries planning and management. It should be noted also that there is a strong fishing tradition within coastal communities and this can be considered as an asset as demonstrated by co-management initiatives promoted by the Fisheries Administration.
- ☞ **On-going initiatives aimed at extending the network of MCAs** in Zanzibar, which is an indication of the political will to address the paradigm of developing the inshore fisheries while promoting conservation of coastal ecosystems.
- ☞ **Development projects under preparation** including notably the Tanzanian component of the SWIOFish project, which includes a focus on improved governance and management of Zanzibar fisheries in both territorial and internal waters.
- ☞ **Existence of a Research Unit within the Ministry in charge of fisheries** which could potentially play a significant role in promoting the development of an adequate fisheries research system and is ideally positioned in the Ministry in charge of fisheries to make the connection between research and policy formulation.
- ☞ **Existence of a Fisheries Development and Management Fund** that could be potentially an important tool to contribute to a sustained financing and hence continuity of public actions for improved fisheries governance and management in Zanzibar, particularly in MCAs.

3. OBJECTIVES AND GUIDING PRINCIPLES OF THE STRATEGY FOR IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT

3.1. OBJECTIVES OF THE STRATEGY

The objectives of the Strategy, whose implementation will involve those public and private institutions that are directly or indirectly concerned with fisheries, including in particular the Fisheries Administration, are in line with the overarching objectives stated in the Vision 2020 and MKUZAI.

The objectives of the Strategy will be to:

- ❖ **Ensure the sustainability of fishery resources and contribute to preserving the integrity of the reef ecosystem** which will, among other things, contribute to sustaining the development of tourism and related activities;
- ❖ **Enhance the social and economic performance of the fishery sector** through improving the management of inshore fisheries, creating a conducive environment for the development of artisanal fisheries targeting moderately exploited species further off-shore in deeper waters, and accelerating aquaculture development; and
- ❖ **Increase fish supply and improve quality of fish and fish products** in line with food security requirements of the population of Zanzibar and meeting international standards.

3.2. MAJOR GUIDING PRINCIPLES

3.2.1. MANAGEMENT OF INSHORE FISHERIES

It should be very challenging to reverse the overall tendency of overcapitalization in the inshore fisheries in the short-to-medium term due to high political, social and institutional costs that would be associated with the application of strong and rigorous measures. Also, it should be very difficult to promote a wealth-based fisheries management approach for most inshore fisheries in the short-to-medium term. Complexity of fisheries (multi-gear and multi-species), inadequate scientific knowledge, strong belief in an open access system, increased price of fish which compensates decreased catch rates, strong fishing culture and tradition resulting in low opportunity costs for fishers to leave the sector, and local political interferences are among the major reasons explaining the likely high transaction costs. Instead, the approach should be gradual and focus on priority actions in terms of value for money in order to prevent the collapse of some fish stocks and the degradation of the reef ecosystems.

Conceptually speaking, this would require the acceptance that fisheries could be temporarily overfished but in a 'sustainable' manner (i.e. above MSY but without a risk of fish stock collapse), thanks to the effective implementation of priority management measures and the creation of conditions that would allow further regulation of fishing capacity and effort, and the gradual fine-tuning of management measures in inshore waters.

In order to implement these guiding principles for the management of inshore fisheries, particular attention should be placed on the following:

- ☞ Progressively putting an end to the open access regime to resources and encourage the professionalization and legalization of fishers and related actors.
- ☞ Initiate a process for the gradual regulation of fishing capacity in inshore waters (inside and outside MCAs to avoid jeopardizing the positive impact of MCAs on resources).
- ☞ Promoting the concept of Priority regulation for Strong Enforcement (PSE) including in controlled areas such as MCAs.

The PSE concept would consist of concentrating MCS and enforcement efforts on those regulations that can be considered priority (for biological, social and/or economic reasons), possibly in selected sensitive areas, and that are relatively easily enforceable with an objective of 100% compliance. Experience has indeed shown that targeting 100% compliance on all regulations is not realistic in the current context, which has a negative impact on the overall effectiveness of MCS and discourages voluntary compliance. It is therefore highly recommended that the focus be placed on a list of priority measures with an objective of 100% compliance and that other measures be gradually introduced when the system is fully effective. The PSE approach would also imply increasing the level of penalties and sanctions in cases of infringement with these priority measures for increased deterrence and concentrating MCS and prosecution efforts on priority regulations.

- ☞ Strengthening the efforts towards the operationalization of existing MCAs, including through improving their governance (management, participation of fishers, integration in coastal zone management, sustained financing, etc.). The operationalization of MCAs

should be seen as an immediate and appropriate action to ensure sustainable development of fisheries in inshore waters while contributing to preserving the biodiversity of reef ecosystems to the benefit of both fishers and other users like the tourism industry.

- ☞ Promoting the removal of fishing capacity and effort from shallow to deeper waters further off-shore whilst focusing on the development of FAD fisheries (see below).
- ☞ Facilitating the access of fishing communities to educational programmes with a view to increasing their capabilities to diversifying their livelihoods outside the fishery sector.
- ☞ Promoting the development of Fisheries Management Plans (FMP) on selected fisheries that can show a certain degree of coherence based on biological, geographical, social and/or economic considerations, and for which FMPs can be relatively easily implemented. Examples of relevant fisheries management units where FMPs could be developed in the current context of the Zanzibar fisheries would include octopus, crab, sea-cucumber and small pelagics (provided that cooperation with mainland Tanzania is put in place),.

3.2.2. DEVELOPMENT OF FISHING FURTHER OFF-SHORE IN DEEPER WATERS

The deployment of FADs is an opportunity to increase fish production in territorial as well as internal waters. In attracting pelagic fish temporarily, FADs (with structures marked out with buoys) give access to marine resources previously out of reach for most artisanal fishermen (being unable to operate beyond the coral reef and using low-speed boats that make trolling on schools impossible). Moreover, FAD fisheries can result in a transfer of fishing effort from the inshore demersal fisheries to tuna and tuna-like species concentrated further off-shore in deeper water in precise locations, thereby diminishing the pressure on inshore fisheries. It is to be stressed also that the fish stocks further off-shore in deeper waters appear to be moderately exploited which implies that the development of FAD fisheries can be envisaged without risk of negative impact on resources, providing that capture of juveniles is prohibited. Therefore, FADs can fulfil a double function, both as an efficient fishing technique/system to improve the socio-economic conditions of artisanal fishers and the contribution of the fishery sector in the GDP (including pro-poor growth) and food security, and as a complementary tool to support the management of inshore fisheries. It is to be noted that FADs can also be used to support development of sport fishing.

Several initiatives for the development of FAD fisheries have been conducted in the South West Indian Ocean region, including in Zanzibar, over the last two decades, with the support of projects. The effectiveness of FADs has been demonstrated; however the impact of FAD fisheries with regard to economic and management challenges has varied greatly and most initiatives have proved not to be sustainable after the end of the projects. All these initiatives have however produced significant lessons learnt, particularly as regards to governance aspects, and should be considered in the present Strategy. The major lesson learnt from past experiences is that FAD fishing initiatives should be included in an **integrated development and management approach**, taking into consideration technological, social, economic and trade aspects, and should be closely monitored. In other words, an approach that would be limited to the deployment of FADs is unlikely to produce satisfactory results.

More specific guiding principles that can be derived from experiences and lessons learnt are presented below; they mostly refer to a recent study carried out with the support of the South West Indian Ocean Fisheries Project (SWIOFP)¹.

- ☞ Success of FADs in terms of increased catch and selectivity is largely dependent on technological aspects and there is a need to mobilize demonstrated technical and multi-disciplinary expertise at the different stages of the development process (such expertise may not be available in Tanzania, notably with regard to fishing technology). Technological aspects refer particularly to the localization of FADs (appropriateness of the areas where FADs are to be deployed based on oceanographic and socio-economic considerations),

¹ Failler et al. (2011). Socio-economic assessment of local FAD fisheries in the South West Indian Ocean. COFREPECHE.

type of FADs to be deployed, fishing craft and techniques to be promoted, training of fishers in fishing and safety at sea, etc. Provision of credit facilities for the purchase of adequate motorized craft and selective gears should also be seen as a condition required for success.

- ☞ Success of FADs is also dependent on the absorption capacity of the fish markets. The demand for tuna and tuna-like species can be heavily supported by the tourism industry. However, markets can be better supplied if daily landings by the fishermen are not limited by the lack of fish preservation methods (such as refrigeration or ice) and difficulties in transporting fish all over the island. This implies that actions in support of FAD fisheries should also adequately address development of infrastructure and facilities in selected fish landing sites and be based on value chain analysis.
- ☞ Success of FADs is also dependent on the implementation of a sound FAD exploitation plan aimed at formalizing the use of the FADs. Such a plan should establish practical access and use modalities including specific licencing and regulations (gear limitation, species and size limitations, closed season, etc.). Such a plan should also consider MCS and safety at sea aspects.
- ☞ Participation of fishers at the different stages of the development process is a key condition of the success of FADs, both in terms of ensuring adequate development and management services and of limiting the risks of intra- and extra-community conflicts.
- ☞ Sustainability of FADs is obviously dependent on the success of the fishing in terms of increased catch and revenues. But is also largely dependent on the devising of an adequate maintenance and replacement strategy of the devices. To this end, technical aspects should be considered in order to limit maintenance and especially replacement costs. For instance, FADs should be designed so that only the upper part gets damaged in case of bad weather, collision, trawling accident, etc. and be replaced when needed. A key issue to be considered relates to the legal status of FADs and there are basically two options. The first option, which has been the preferred one in the region, has consisted in considering that FAD maintenance and replacement should be the responsibility of fishers after project funding ends. In the context of small-scale fisheries, this option has proved not to be very successful. The second option, which could be tested in Zanzibar, would consist in considering that FADs are public property and that maintenance and replacement should be the responsibility of a specific agency supported by adequate financing (e.g. through the payment of adequate access right to FADs).
- ☞ Finally, the success of FADs both as the basis for an emerging new fishery and as a complementary tool for the management of the inshore fisheries needs to be closely monitored. The monitoring function is essential so as to be reactive to any changes that may occur in the fishery sector or to unexpected outcomes that would be in contradiction with the objectives assigned to FAD fisheries, as well as to comply with possible regional management measures such as those of the Indian Ocean Tuna Commission (IOTC). A FAD monitoring system should include several modules as follows: FAD fishing performance, fish markets performance, human well-being improvement, FAD fishing management performance (access to FADs and their resources), and impact of FADs on the decrease of fishing capacity and effort in inshore resources.

3.2.3. VALUE ADDITION IN FISHERIES

In a context of poorly regulated fisheries, any initiatives relating to value addition in fisheries that would have the effect of increasing the prices received by fishers, would contribute to stimulating entry of new fishers or exacerbating the already existing problems of fully or over-exploited fishery resources in shallow waters. This would also exacerbate problems relating to low compliance of fishers with existing regulations. This means that the success of actions aimed at increasing added value in the sector will be largely dependent upon the capacity of Zanzibar to make the necessary institutional reforms to improve the management regime of inshore fisheries and notably to effectively control the fishing capacity and effort.

Therefore, there will be a need for a gradual and coherent process when promoting value addition in the post-harvest sector, and to link related initiatives to progress made in the management of inshore fisheries and the development of fisheries further off-shore in deeper waters.

This should not prevent however supporting actions aimed at reducing physical and economic post-harvest losses and by-catch and improving sanitary conditions in fish handling, storing, processing and marketing along value chains (fish quality generally speaking). Moreover, actions relating to value addition should be encouraged on some specific fisheries targeting moderately exploited resources such as oysters that are collected by women. Oyster market could be further developed with hotel and restaurants provided that sanitary conditions are improved.

There will also be a need to pay particular attention to gender issues in the conducting of value chain analysis in order to ensure that pro-poor growth can also benefit women.

3.2.4. OTHER IMPROVEMENT IN THE GOVERNANCE SYSTEM TO MAKE IT MORE IN ADEQUACY WITH THE NEED OF A 'BETTER-STATE' IN THE MANAGEMENT OF THE FISHERY SECTOR

The application of this guiding principle calls for the conducting of certain institutional and legal reforms that are further specified below in section 4.1.1. The purpose of these reforms is to strengthen the key components of the current fisheries governance framework.

This will also call for a better application of good governance principles when defining and executing public action in the sector including delivery of management services. The key good governance principles that should be given particular attention include the following:

- ☞ Improved transparency. With reference to the current situation of statistics, scientific knowledge and information system, so as to improve decision-making and the monitoring and evaluation of policies, to create a conducive environment for improved participation and ICZM, and to increase the effectiveness of the different structures of the Fisheries Administration.
- ☞ Value for money in fisheries management. In addition to promoting the concept of PSE for the management and MCS of inshore fisheries, the application of this good governance principle which refers to the efficiency of actions, can also be better satisfied through promoting a clear sharing of responsibilities for the delivery of certain management services, between the Fisheries Administration and other public institutions concerned, on the one hand, and between public and private institutions (Public-Private Partnership), on the other hand.
- ☞ In line with the above, there will be a need to give priority to structuring and unifying projects when identifying projects/interventions in order to strengthen the links between fisheries administration, research, fishers and other actors of ICZM including tourism, environment, local government and NGOs.
- ☞ Reactiveness and opportunism. In the current context of human and budgetary restrictions it will be important to be adaptive and opportunistic with regard to the implementation of the Strategy. The Strategy calls for the application of guiding principles and proposes a road-map for improved fisheries governance and management of the fisheries. Even if some of these strategic elements do not fully satisfy the requirements and agendas of development partners, this should not constitute an obstacle to securing support considering that improved governance in fisheries is a gradual an adaptive process. Meanwhile, it is strongly recommended that the strategic elements stated in the present Strategy be taken into consideration to support future dialogue between the Zanzibar Government and development partners.

4. ROAD-MAP TOWARDS IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT

4.1. SHORT-TO-MEDIUM TERM (YEAR 1 TO YEAR 3)

4.1.1. STRENGTHENING KEY ELEMENTS OF THE FISHERIES GOVERNANCE FRAMEWORK

Up-dating and revision of the Fisheries policy of 2000

The revised Fisheries Policy should be considered as the main planning document for the Fisheries Administration that will allow it to adequately support the implementation of the Strategy. This Fisheries Policy will also address other public actions for which the Fisheries Administration has a key role to play and which are not adequately covered by the Strategy. This refers notably to aquaculture development and fish quality improvement.

Finalization and adoption of enabling texts of the Fisheries Act of 2010

The Zanzibar Fisheries Act No. 7 of 2010 (Fisheries Act, 2010) repealed the Fisheries Act of 1988, and constitutes a major improvement with regard to the management and development of fisheries in the internal and territorial waters of Zanzibar. Minor amendments to the Act would however be needed to improve governance of the fishery sector, with reference notably to the high degree of discretionary power granted to authorities, including for promoting FMPs, and the lack of consultative mechanisms with main public and private institutions concerned with the fishery sector to support decision-making. Priority in the short-to-medium term is however to strengthen the implementation of the new Act considering that this would significantly improve the management of inshore fisheries.

In particular this refers to the finalization and adoption of the draft MCU regulations, which will enable the operationalization of the improved governance system of existing MCAs.

This also includes the finalization and adoption of a new set of fishing regulations to support the Fisheries Act of 2010. Major challenges include the update of offences and penalties (for increased deterrence) whilst taking into consideration the PSE approach, the alignment to recent international developments, and the alignment to the recently established Deep Sea Fisheries Authority (DSFA) and related regulations.

Improving the effectiveness of the fisheries administration

The Fisheries Administration was recently restructured with the aim of improving its efficiency. The major reform was the split into two departments; one dealing with fisheries (Department of Fisheries Development, DFD) and the other with aquaculture and fish utilization (Department of Marine Resources, DMR). There are however some overlaps between the mandates of some units/sections of both Departments to the detriment of the efficiency of the Fisheries Administration. Most importantly, the current structure does not allow for a clear distinction between fisheries exploitation (e.g. licencing, extension, statistics, infrastructures), fisheries management and conservation (e.g. MCA, FMP, fisheries monitoring), and fish utilization, and it gives little financial and operational autonomy to MCS which should be optimally ranked at a level of Department.

It is therefore proposed that a slight restructuring of the Fisheries Administration is considered to optimize the use of limited public resources and increase the overall efficiency of the fisheries administration.

Improving the effectiveness of the fisheries administration should also consider the following:

- Training of staff in fisheries management and related aspects (including basics such as knowledge of regulations and the application thereof), preferably in the context of specific interventions/actions (i.e. avoid the 'training for the sake of training' approach);
- Enhancing the human, financial and logistical capacities of field administration and strengthening the functional and operational links between the central and decentralized levels of the fisheries administration;
- Improved information sharing between different structures.

Capacity-building of private fishery institutions

Improved governance and management calls for the promotion of legitimate and effective private institutions at national and field levels.

Significant progress has been made towards the capacity-building of VFCs at village level, particularly in the MCAs. There is still a need however to continue capacitation of these community-based organizations. Capacitation should include training activities, possibly with the support of NGOs, and clarification of the legal status of VFC and their role in fisheries management, as well as the development of self-financing mechanisms. There is also a need to promote consultation mechanism between VFCs sharing a same fisheries management area (e.g. bay, islet, estuarine area) considering that village jurisdiction cannot overlap with these areas and that there is a need to coordinate and harmonize local by-laws. This could lead to the identification of local fisheries management areas.

At national level, there are no associations for fishers and related actors. This is a major gap in the current governance framework and actions should be taken to promote the setting-up of such institutions to support dialogue between the fisheries administration and fishery stakeholders.

Strengthening international, regional and national fisheries cooperation

International and regional fisheries cooperation is a Union matter and there are already existing mechanisms in place to support participation of Tanzania fishery institutions to relevant institutions (IOTC, SWIOFC, FAO/COFI, and CAMFA). There is a need however to promote further involvement of Zanzibar fishery institutions in the existing mechanisms, with reference in particular to IOTC and SWIOFC scientific meetings

Furthermore, collaborative mechanisms between Zanzibar, mainland Tanzania and Union fishery institutions such as DSFA and Tanzania Fisheries Research Institute (TAFIRI) are not well developed in spite of the existence of fishery issues of common interest and the need to develop collaborative arrangements to adequately address the management of shared fisheries like the small pelagic fishery which extends in the territorial and internal waters of both entities. Cooperation with mainland Tanzania is mostly done on an *ad hoc* basis and there is a need to strengthen and institutionalize such mechanisms.

To this end, particular attention should be given to information-sharing and technical and scientific cooperation on issues of common interest such as the management of inshore fisheries, the development of FAD fisheries, the improvement of statistics (including carrying-out of coordinated frame surveys) and the development of community-based organizations (VFCs for Zanzibar and Beach Management Units - BMUs - for mainland Tanzania) to support fisheries co-management.

There would be also a need to establish a 'bilateral' consultative fisheries commission between Zanzibar and mainland Tanzania to support the joint management of shared fisheries like small pelagics as well as the harmonization of fishing regulation in respective territorial and internal waters.

4.1.2. IMPROVING THE DELIVERY OF KEY FISHERIES MANAGEMENT SERVICES

Refining the statistical and reporting system

The current statistical system has been recently analyzed by international experts. Major weaknesses include the difficulties for beach recorders to comply with the data collection protocol, lack of participation of fishers in data collection, inadequate data raising procedure and reporting system, and limited detail captured on catch and effort. The system also cannot capture the ecological complexity of the Zanzibar fisheries and hence cannot effectively support decision-making for fisheries management.

There is a need to refine the existing statistical system to adequately address these issues and this should lead to the formulation and implementation of a specific project. There will be also a need to ensure the publication of annual statistical report on the sector.

Continuing consolidation of fisheries control and surveillance

Zanzibar has made significant progress over the last decade for the delivery of satisfactory fisheries control and surveillance, particularly in MCAs. This has resulted from the increase of human, financial and logistical means allocated to the MCS section of DFD, and the development of collaborative mechanisms between the Ministry in charge of fisheries and other institutions involved in fisheries MCS and safety at sea, such as the Navy (KMKM) and DSFA. The Ministry in charge of fisheries could also develop adequate collaboration with the Police and the Judiciary system (including in prosecution matters).

The effectiveness of the MCS system has however mostly relied on external assistance and it has not been well sustained in the absence of projects. This calls for possible institutional reform within the Fisheries Administration to ensure improved efficiency and sustainability of fisheries MCS (see also below). Other issues that should be addressed to strengthen fisheries control and surveillance include weak planning of operations, insufficient internal communication within the Fisheries Administration, inadequacy of patrol boats as regards safety at sea, and the lack of an MCS intelligence information system. The possibility of furthering collaboration with DSFA and mainland Tanzania MCS should also be considered.

Furthermore, it is recommended that planning of MCS operations focusses on MCAs and on priority regulations outside MCAs in line with the PSE approach.

Developing an adequate fisheries research system

A workable fisheries research system should basically consist of a system capable of adequately providing information on the status of fishery resources and their ecosystems, facilitating a better understanding of main fishery dynamics based on bio-ecological, social and economic considerations, and formulating scientific advice to support decision-making that is in line with adopted management options and regulatory tools. Despite the existence of several academic and non-governmental institutions or initiatives and of a Research Unit within the Ministry in charge of fisheries, the current research system in Zanzibar is far from being able to fulfill all of these missions.

In order to solve this major gap in the current fisheries governance system, it is highly recommended to enhance the capacities of the Livestock and Fisheries Research Unit of MLF in promoting an adequate fisheries research system in Zanzibar. The Unit is established as a specialized Technical Unit dealing with research under the Department of Planning, Policy and Research. The Research Unit includes a Technical Research Committee which has the mandate and the capacity to promote the implementation of a scientific programme dealing with fisheries and involving existing institutions including Institute of Marine Science (IMS) and State University of Zanzibar (SUZA). The Technical Research Committee has also the possibility to establish Research Groups for different research fields. Key challenge associated to the enhancement of the Research Unit would be to improve demand-driven scientific knowledge on fisheries, notably through indirect assessment methods and applied research activities, and most importantly to support, coordinate and communicate on fisheries research effort in Zanzibar.

In a longer term, and according to its mandate, the Research Unit may wish to promote the setting-up of a specific fisheries research entity to be under the control of the Ministry in charge of fisheries.

Furthermore, several actions should be considered in the short-to-medium term in view of the development of an adequate research system including the following:

- Develop a MoU for data sharing and processing between the Research Unit and the Fisheries Administration.
- Identify and implement a basic and advanced research training plan for researchers.
- Identify a list of priority research needs and develop a coordinated fisheries research plan involving both public (MLF Research Unit and academic research institutions) and private (NGOs) institutions.

- Organize under the umbrella of the MLF Research Unit a scientific working group on fisheries in Zanzibar every 4 to 5 years that would bring together Zanzibar institutions such as SUZA, mainland Tanzania institutions such as TAFIRI, Union institutions such as IMS and DSFA, and possibly regional institutions such as SWIOFC, IOTC and WIOMSA.
- Develop a mechanism aimed at ensuring regular feed-back on research results to fishing communities.

Developing a fisheries Information system

The main purposes of a fisheries information system is to improve decision-making, increase the effectiveness of public and private institutions, create a conducive environment for improved participation and voluntary compliance, and contribute to reduced political interference for improved governance and management of the fishery sector. A fisheries information system should be supplied with data emanating from several institutions and be composed of three modules as follows:

- Fisheries management framework – data and information on institutions, policies, law, regulations, GMP of MCAs, FMP, development project, etc.
- Status of the fishery sector – data and information relating to the status of resources, the size of fishing fleet, the number of fishers, number of licences (craft, fishers and related actors), cases of infringements, number of sanctions, marketing outlets, etc.
- Performance of the fishery sector as regards to the objectives of Zanzibar social and economic development and ecosystem preservation – data and information should refer to value chain analysis, fish consumption, marine biodiversity, etc.

Monitoring and evaluation of the Strategy

There will be a need to be adaptive, reactive and opportunist to support the implementation of the Strategy. To this end, regular monitoring and evaluation of the Strategy based on carefully chosen monitoring of performance indicators should be given particular attention.

Furthermore, it would be important to organize a multi-stakeholder workshop every 3 years to evaluate the level of implementation of the Strategy and propose adjustment for possible improvement.

4.1.3. LEGALIZATION AND PROFESSIONALIZATION OF FISHING AND RELATED ACTIVITIES

Establishing minimal conditions of access

The Maritime Transport (Registration and licensing of vessels) Regulations of 2007 and the Fisheries Act of 2010 make provision for the registration of fishing crafts, the licencing of fishing craft and the licencing of fishers and related actors. However, in spite of the existence of legal provisions and the relatively low compliance cost for fishers and related actors (licence fee is relatively cheap), most fishing and related activities are carried out on an informal basis.

Establishing effective minimal conditions for access to fishery resources would represent a major step forward for improved fisheries governance and management in Zanzibar. This would constitute the first step towards the regulation of fishing capacity and related overcapitalization in the sector. The process of registration and licencing should be launched as soon as possible and be based on a close collaboration between the DFD, the Zanzibar Maritime Authority (ZMA), the District Fisheries Officers (DFOs) and the fishers through the VFCs. Related activities should include:

- Information and awareness-raising of fishers (both sedentary and migrant) and related actors to comply with registration and licencing;
- Capacity-building of DFOs for licencing;
- Establishment and management of a computerized database on registration and licencing at DFD level;

- Considering, and implementing where appropriate, creative and locally acceptable cellphone-linked licencing and registration mechanisms currently being piloted in mainland Tanzania and other parts of the region.

Finalizing the establishment of legalized fish landing sites

The Fisheries Act of 2010 provides for the establishment of fish landing sites by the Fisheries Administration in consultation with relevant Government Institutions. This is believed to greatly contribute to the legalization and professionalization of fishing and related activities and efforts towards the establishment of such landing sites should be continued.

4.1.4. OPERATIONALIZING THE EXISTING MCAs

A number of policy, legal and regulatory tools exist to support marine conservation in Zanzibar. The primary legal tool for managing the MCAs is currently the Fisheries Act of 2010 which provides for the establishment of the MCU. The Fisheries Act, 2010 will however be fully operationalized when the draft MCU regulations is finalized and adopted on the basis of close consultations with various stakeholders. The purpose of the draft MCU regulations is to propose a unified legal framework to replace the individual MCA' Orders and to improve the governance of the MCAs.

There will also be a need to strengthen the institutional core and management capability of the MCU in view of the operationalization of the MCAs. This will include increasing its human and financial resources in order that MCU can fulfill its mandate and responsibilities as a coordinated conservation unit for all MCAs in Zanzibar.

Moreover, each of the three established MCAs (PECCA, MIMCA and MBCA) has developed draft General Management Plans (GMPs) with a focus on fisheries management. The GMPs have been approved and will become official planning documents when the draft MCU regulations are adopted. This will also contribute to the operationalization of MCAs provided that there is adequate financing.

Finally, there will also be a need to ensure that specific management measures within the MCAs are identified in a participatory manner and based on minimal scientific evidence for maximizing their efficiency, and that they are in line with the PSE approach.

4.1.5. PROMOTING THE PSE APPROACH FOR THE MANAGEMENT OF INSHORE FISHERIES OUTSIDE MCAs

Major concepts and guiding principles relating to PSE have been presented above. In the course of the Pemba workshop that was held early in December 2013, participants were invited to establish priority regulations based on several criteria. Six (6) priority regulations outside MCAs were clearly identified. These relate to dragging fishing methods in coral reef areas, minimum mesh size for nets, beach seining in sensitive areas, use of spear guns, use of monofilament nets, and use of explosive and poisons. Complementary investigation may be required to establish a final list of priority regulations, based on further consultation with fishers, considering that, depending on fishing areas, the order of priority may change and other measures such as the minimum mesh size for traps may become priority. This preliminary list should however be given particular attention when adopting the final list of priority regulations, bearing in mind that the success of the PSE approach will mostly rely on the adoption of a limited number of priority regulations (5 to 6 maximum).

Furthermore, implementing the PSE approach should also include conducting the following actions:

- Mapping of fishing areas outside MCAs to identify sensitive areas where beach seining should be effectively banned.
- Awareness-raising and consultation with fishers (both sedentary and migrant) and related actors about PSE.
- Identify adequate penalties and sanctions for increased deterrence of priority regulations and translate these into fishing regulations.

- Inform the planning process of MCS operations so as to take into consideration the PSE approach.
- Awareness-raising of local government and field administration such as the Police and the Judiciary system about challenges associated to the PSE approach.
- Regular information and communication about PSE implementation, including voluntary compliance, cases of infringements, and sanctions.

4.1.6. LAUNCHING OF FMP PROCESS ON SELECTED PRIORITY FISHERIES

Fisheries management aims first of all at ensuring the sustainability of the resource/exploitation interaction, but it also aims at improving the overall socio-economic performance of fishing and related activities, and at contributing to the realization of other societal objectives in relation to integrated coastal zone management. Fisheries management in Zanzibar has mostly consisted until now of promoting a sectoral approach characterized by a general regulatory framework including technical conservation measures and of promoting marine protected areas (MCAs). In the meantime, the issues of the open access to resources and the accumulation of fishing capacity have been neglected.

Zanzibar is now willing to promote fisheries management plans (FMPs) to address some of these shortcomings. An FMP relates to a specific fishery that generally refers to a species or group of species and it gives in particular the opportunity to consolidate the general regulatory framework through adopting specific management measures including measures in relation to the regulation of the access to the fishery. It also enables the managers to fine-tune management objectives and to work more adequately on value-addition. FMPs are also considered as suitable management tools for increased participation of fishery stakeholders in management, and enhanced efficiency of both public and private fishery institutions resulting from the structuring effect of the Plans (delivery of key services like data collection, research and MCS will be driven by FMP demand).

Experience in Africa has shown that to be successful FMPs should be considered as a process for improved governance and management of the fishery that is subject to an FMP and the process should be composed of two separated and complementary phases. The first phase (short-to-medium term) should aim at identifying adequate management options according to the type of fishery and at preparing the necessary institutional reforms that will allow the future FMPs to be adopted and implemented on a routine base. This first phase should therefore focus on transforming the management system of the fishery that is subject to an FMP in view of the implementation of the FMP, although it can also include introducing new technical management measures (e.g. closed seasons) and making use of existing traditional management practices. The second phase (medium-to-long term) should deal more specifically with the implementation and revision of the finalized FMP.

The emphasis on scientific aspects and the unclear distinction between these two phases can explain the relative low progress of FMPs in the region. Other key elements for the success of FMPs include the need to define a discrete/coherent fishery management unit (e.g. a national FMP that would relate to a shared fishery resource is likely to result in low efficiency unless cooperation mechanisms are developed), and the need to be gradual and start with a limited number of 'priority' FMPs based on bio-ecological, social and economic considerations, as well as on criteria relating to feasibility. FMPs are complex and expensive processes and there is a need to pay particular attention to the application of the efficiency principle for the first FMPs (value for money in fisheries management). Finally, it will be important to place particular attention on training and capacity-building activities as well as on the involvement of specialized expertise that is not readily available in Zanzibar, when promoting the future FMPs.

4.1.7. PREPARATION OF AN INTEGRATED FAD DEVELOPMENT PROGRAMME

FAD fisheries development should be addressed in a coherent and gradual manner in order to reduce the risk of a failure of projects and waste of public funds. The first phase should consist of preparing an **Integrated FAD fisheries development and management programme**

based on guiding principles as stated above. For the preparation of the programme, particular attention should be placed on technological (fishing and navigation techniques, type and localization of FADs, etc.) and value addition (fish preservation on-board, fish storing, processing and marketing) aspects. This phase should include the conducting of experimental FAD fishing and consultation between the Fisheries Administration, other public institutions concerned with the FAD fishing development process (local government, KMKM, DSFA, Fisheries Education and Training Agency - FETA, credit institutions, etc.) and other fishery stakeholders. The programme should also make reference to the Tanzania Tuna Fisheries Management Strategy of 2012² which also concerns Zanzibar.

The Integrated programme should be composed of several components, including among other the following:

- FAD deployment strategy
- Enabling environment for FAD fisheries development (capacity-building of fishers, infrastructure, equipment, credit facilities, MCS, safety at sea, etc.)
- FAD exploitation plan
- FAD maintenance and replacement strategy
- FAD fisheries monitoring and evaluation (notably to measure the impact of FAD fisheries on social and economic development of Zanzibar and on the reduction of fishing effort in the shallow waters)

4.1.8. FORMULATION OF AN AQUACULTURE STRATEGIC PLAN

Seaweed farming has developed dramatically over the last decade and is nowadays one of the most important income-generating activities for coastal communities, particularly for women. The potential for further development does exist but seaweed farming is faced with marketing problems. Improving value addition would obviously boost the production and contribute to reduced poverty within coastal communities. Furthermore, there will be a need to place increased attention to environmental issues as seaweed farming will develop. To this end, the preparation of local coastal management plans including zoning measures (e.g. no seaweed zones) could be envisaged in close collaboration with existing Village Seaweed Fishing Committees (VSFCs).

Other mariculture activities include finfish culture specifically milkfish (*Chanos chanos*) and mullet (*Mugil sp*). Also, the culture of pearl oysters, bivalves, sea cucumber and crab fattening are carried out in some coastal areas of the Islands. Moreover, potential fish species that could be produced include *Caranx spp*. But these mariculture activities are still in their infancy and there is a need to promote public actions to boost the development of these promising activities.

This emphasizes the need to prepare a Zanzibar aquaculture strategic plan that would aim at creating an enabling environment for private sector-led growth with a view to achieving the objective of increased total mariculture production on the Island. The strategic plan should pay particular attention on promoting commercial aquaculture and Public-Private Partnership in accordance to MKUZAI.

The strategic plan should also address major constraints that hamper the development of the sector, including the relationships between buyers and seaweed farmers, the shortages of quality seed, fingerlings and feed for other mariculture activities, the lack of technical and managerial skills among most small-scale fish farmers, the difficulties for accessing adapted credit, the inadequate legal environment and weak extension services. Moreover, the strategic

² The overall goal of the Tanzania Tuna Fisheries Management Strategy is: "Sustainable management and utilization of tuna and other highly migratory resources to optimize the biological, environmental, social and economic benefits to the Tanzanian people." The underlying goal of the Tuna strategy is to improve the management of the Distant Water Fishing Nations (DWFN) fleets operating in the EEZ including deterring IUU, to increase value addition of the tuna catch and to promote the development of a domestic tuna fishing fleet.

plan should identify potential aquaculture zones, production systems and aquaculture species to be promoted. Finally, the strategic plan should adequately address the need of ensuring adequacy between aquaculture development and coastal environmental preservation and management.

4.2. MEDIUM-TO-LONG TERM (YEAR 4 TO YEAR 7)

4.2.1. IMPLEMENTATION OF INTEGRATED FAD DEVELOPMENT PROGRAM AND OF AQUACULTURE STRATEGIC PLAN

The content of these programs and plans will be based on the results of actions carried out in the short-to-medium term as described above in sections 4.1.2 and 4.1.3. Besides the fact that such programs and plans will contribute to the objectives of increased economic growth and improved food security as stated in Vision 2020 and MKUZAI, they will also contribute indirectly to facilitating the removal of fishing capacity in shallow waters and reducing the vulnerability of coral reef ecosystems and hence to meet the need to strengthen the management of marine and coastal resources to support sustainable tourism development as highlighted in Vision 2020.

4.2.2. UP-GRADING THE MANAGEMENT OF INSHORE FISHERIES

In the short-to-medium term, the Strategy would have focused on the improvement of the institutional and legal framework so as to stabilize the overall fishing capacity, improve the management of existing controlled areas, maintain a sustained overfishing outside MCAs through PSE, as well as prepare the conditions that will allow an effective regulation of fishing capacity and effort in inshore waters in the longer term. These actions that are directly linked to fisheries management can be summarized as follows:

- Effective implementation and monitoring of the fishing registration and licencing system with a view to put an end to the existing open and free access system;
- Operationalization of MCAs;
- Implementation of PSE approach inside and outside MCAs;
- Launching of FMP process on selected fisheries, whilst giving priority to activities aimed at transforming the current governance and management system of the fisheries concerned.

The objective of the Strategy in the mid-to-long term will be to reach the objective of well managed inshore fisheries through the general alignment of fishing capacity and effort with fishery resources in the shallow waters in line with management objectives. This will imply the establishment of **fishing right allocation plans at the most appropriate level** (specific resource or group of species, specific fishing craft, specific zone such as MCAs, bays, estuarine areas, islets), in close consultation with fishery stakeholders.

Other actions that will contribute to well-managed fisheries, in line with the Vision 2020, will also include the following:

- Continue improving the management of existing MCAs;
- Extension of MCAs network (CHABAMCA, TUMCA and Kojani in Unguja island);
- Fine-tuning of technical management measures inside and outside MCAs while still continuing promoting PSE approach;
- Conduct experiments on the deployment and management of artificial reefs in appropriate areas.
- Implementation (and revision) of FMP on selected fisheries ;
- Support to initiatives aimed at further including fishing communities in educational programs and diversifying income-generating activities for youth in coastal communities.

4.2.3. PROMOTING ACTIONS FOR VALUE ADDITION AND ENHANCED PRO-POOR GROWTH

As stated in the major guiding principles of the Strategy, promoting value addition activities in a context of poorly regulated fisheries would have the effect of exacerbating the existing bio-ecological, social and economic problems associated with the current status of fully or over-exploited fishery resources in shallow waters. Considering that such problems would have been solved in the medium-to-long term, promoting actions for value addition and enhanced pro-poor growth will thus gradually become a priority.

Such actions will have to be identified through the conducting of value chain analysis (from fishers to consumers) and other specific economic studies, in close consultation with fishery stakeholders and local authorities.

It is to be noted however that any actions aimed at improving fish quality, reducing physical and economic post-harvest losses (for small pelagics in particular) and ensuring a better sharing of value addition among fishery and related actors should not be disregarded in the short-to-medium term. As mentioned above, actions relating to value addition should also be encouraged in the short-to-medium term on some specific fisheries targeting moderately exploited resources such as oysters that are collected by women.

4.2.4. CONTINUING REFORMS FOR IMPROVED FISHERIES GOVERNANCE

The Fisheries Act of 2010 gives excessive discretionary powers to the Minister and does not encourage the application of other important good governance principles such as participation, transparency and continuity of public policies. It will therefore be important to consider amending the Act so as to improve the governance system of the fisheries in Zanzibar.

To this end, particular attention should be placed on examining the following issues:

- Establish a national consultative body with representatives from public and private institutions that are directly or indirectly concerned with fisheries management (Fisheries Administration, research, MCS and safety at sea, environment, tourism, local government, fishers and related actors, etc.) whose mandate would be to examine and formulate recommendations to the Ministry to support decision-making relating to major issues (e.g. adoption of an FMP, creation of an MCA, adoption of a licencing plan, etc.)
- Obligation for the Minister in charge of fisheries to manage and publish a fisheries information system.
- Further recognition of the need to improving consultation, including with VFCs and VSFCs, and promoting public-private partnership in decision-making.
- Improve the functioning of the existing Fisheries Development and Management Fund so as to ensure sustainable financing of public action in the fishery sector, in particular in MCAs.

4.3. SUMMARY OF ROADMAP TOWARDS IMPROVED FISHERIES GOVERNANCE AND MANAGEMENT

Outcomes and Actions		Short-to-medium term	Medium-to-long term
1. Strengthening key elements of the fisheries governance framework			
	Up-dating and revision of the Fisheries policy of 2000	XXXXXXXXXXXXXXXX	
	Finalization and adoption of enabling texts of the Fisheries Act of 2010	XXXXXXXXXXXXXXXX	
	Improving the effectiveness of the fisheries administration	XXXXXXXXXXXXXXXX	XXXXXXX
	Capacity-building of private fishery institutions	XXXXXXXXXXXXXXXX	XXXXXXX
	Strengthening international, regional and national fisheries cooperation	XXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXX
2. Improving the delivery of key fisheries management services			
	Refining the statistical and reporting system	XXXXXXXXXXXXXXXX	XXXXXXX
	Continuing consolidation of fisheries control and surveillance	XXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXX
	Developing an adequate fisheries research system	XXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXX
	Developing a fisheries Information system	XXXXXXX	XXXXXXXXXXXXXXXX
	Monitoring and evaluation of the Strategy	XXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXX
3. Legalization and professionalization of fishing and related activities			
	Establishing minimal conditions of access	XXXXXXXXXXXXXXXX	
	Finalizing the establishment of legalized fish landing sites	XXXXXXX	XXXXXXX
4. Operationalizing the existing MCAs		XXXXXXXXXXXXXXXX	
5. Promoting PSE approach for the management of inshore fisheries outside MCAs		XXXXXXXXXXXXXXXX	
6. Launching of FMP process on selected priority fisheries		XXXXXXXXXXXXXXXX	
7. Preparation of an Integrated FAD development programme		XXXXXXXXXXXXXXXX	
8. Formulation of an aquaculture strategic plan		XXXXXXXXXXXXXXXX	
9. Implementation of Integrated FAD development program and Aquaculture strategic plan			XXXXXXXXXXXXXXXX
10. Up-grading the management of inshore fisheries			XXXXXXXXXXXXXXXX
11. Promoting actions for value addition and enhanced pro-poor growth		X X X X X X	XXXXXXXXXXXXXXXX
12. Continuing reforms for improved fisheries governance			XXXXXXXXXXXXXXXX