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Annex 1: Proposal Outline and Content

A. Applicant

Name of Organization:	Direction Générale de la Pêche et de l'Aquaculture Madagascar
Established	1960
Number of members	DPP: 14 – DDA: 08
Number of similar projects implemented	04 (four)
Number of similar projects ongoing	Development of Fishing's Collaborative Layout Plan: 03 Villager's aquaculture Development Project: 01
Mailing Address	BP 1699 Ampandrianomby, Antananarivo - MADAGASCAR
Physical Address:	Direction du Développement de la Pêche ; Direction d'Appui au Développement de l'Aquaculture
Telephone:	261 (0) 3405 562 22/ 261 (0) 34 05 562 23
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E-Mail:	njakka@gmail.com ; nirihanta2008@yahoo.fr
Project Title	Local governance of fishing resources in ten villages from the Sofia Region, Madagascar: The case of the mangrove crab, <i>Scylla serrata</i>.
Principal Officer (Name and Position)	Tilahy Désiré (Secrétaire Général du Ministère de l'Agriculture, de l'Elevage et de la Pêche) Etienne Bemanaja (Directeur Général de la Pêche et de l'Aquaculture)
Project Contact/Manager (Name and Position)	- Hantanirina Rasoamanajara (Directeur d'Appui au Développement de l'Aquaculture) - RATSIMANARISOA Njaka (Directeur du Développement de la Pêche)
Proposed Starting Date	May 2021
Estimated closing date	November 2022
Expected Project Duration	18 months

B. Project Proposal Content

Background/ introduction	The fishery for the mangrove crab (<i>Scylla serrata</i>) is a purely traditional fishing practice on which many fishing communities are completely dependent. Three main production areas for crabs have been identified as Boina region, Menabe region and
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	<p>Sofia region (in the mangrove swamp of Sahamalaza (around Maromandia). Fishing productivity is estimated at about 2.5 mT/km²/year (Ralison, 1987).</p> <p>Two main factors impact on the sustainability of the crab fishery:</p> <ol style="list-style-type: none"> 1- Madagascar's mangrove swamps are showing alarming signs of degradation with a net loss of 13% from 1995 to 2018. Mangrove coverage in Madagascar has decreased from 310,452 ha (1995) to 236,402 ha (2018) (WWF 2019, unpublished). Mangrove area of Sahamalaza, excluding Rafaralahy Bay (5,900ha), is about 10,200 ha. 2- The high international demand for mud crab has increased pressure on the stock. 75% of products are exported. Even with increased market demand, production has decreased in Sofia region in recent years as illustrated in the table below: <table border="1" data-bbox="647 831 1294 909"> <thead> <tr> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>223,86 t</td> <td>216,96 t</td> <td>167,10 t</td> </tr> </tbody> </table> <p style="text-align: center;"><i>Source : SRPA Sofia, 2020</i></p> <p>It is also apparent that under-sized individuals are sometimes harvested which are below the minimum size as required by regulation in order to ensure crab stock renewal, leading to a decrease in exploitable biomass. Only exported products are controlled and illegal products are marketed locally, due to the lack of application of the regulations.</p> <p>Human population growth without the option of alternative livelihoods has led to an increase in pressure on mangroves and their resources over time. Without any concrete management actions linked to the creation of alternative income generating activities, and proper empowerment of communities in resource management, this sector may disappear entirely, causing significant ecological and economic losses.</p>	2017	2018	2019	223,86 t	216,96 t	167,10 t
2017	2018	2019					
223,86 t	216,96 t	167,10 t					
<p>Project rationale: relevance and linkage to the project principal goal as well as national priorities</p>	<p>This demonstration project has two main purposes:</p> <ol style="list-style-type: none"> 1- Arustic crab housing system is introduced to reduce pressure due to the intensification of fishing effort. Recovering post-harvest loss of up to 22% to 50% (Kasprzyk, 2012) would proportionally reduce the fishing effort for a given income. 2- A co-management approach of the small-scale fishery and supporting ecosystems is established for better adoption of management measures in order to ensure stock sustainability. 						

	<p>The combination of these two goals will allow learning from good practices that can be implemented in other marine and coastal ecosystems. Further:</p> <ul style="list-style-type: none"> - The criteria for effective community engagement in fisheries management and ecosystem preservation will be identified through this project; and - Policies and/or strategies for rural aquaculture in general and the fattening of crabs in particular will be strengthened during the implementation of the project. <p>In this way, the project will attempt to contribute to the following issues of national concern:</p> <ol style="list-style-type: none"> i. local issues in terms of livelihoods sustainability of fishing communities which are among the most vulnerable groups due to their high degree of dependence on natural resources; ii. development of a national policy for the protection of critical habitats recognizing their importance for the provision of ecosystem services such as carbon capture, nurseries for many marine fauna species, coast protection, and climate change regulation; iii. contribute to Madagascar’s blue policy where aquaculture is considered as a promising sector due to its contribution as a source of foreign currency (through the exports of farmed shrimp, seaweed and crabs) as well as for its participation in improving the income of fish farmers; iv. Contribute to the achievement of SDG 14, considering fishing and aquaculture as an opportunity to reduce hunger, improve nutrition, decrease poverty, stimulate economic growth as well as to ensure better use of natural resources.
Design principles and strategic considerations	<p>The three guiding principles of an ecosystem approach to fisheries and aquaculture are mobilized and tested in this demonstration project:</p> <ol style="list-style-type: none"> i. The participative/inclusive approach for better management performance ii. The conciliation of socio-economic targets vs ecological goals iii. Institutionalization of local management regulations.
Project Objective, Outcomes and Outputs/activities	<p>Objective: The sustainable and rational management of mangrove crab exploitation in the Sofia Region of Madagascar is established.</p> <p>R1: Local management of the marine ecosystem is enhanced to ensure sustainable fisheries.</p>

	<p>1.1- <i>Ten locally managed fishing areas supported by local management plans are institutionalized</i></p> <ul style="list-style-type: none"> - Professionalize small-scale fishing (by the formalization of fishermen's associations, the dispensation of fishermen's card and the canoes' registration) - Elaborate an appropriate management tool (<i>dina</i>) - Support communities in the implementation of management measures, as stipulated in the local fisheries management plan - Establish and strengthen a community-based permanent monitoring-control of fisheries - Establish and strengthen community-based monitoring of catches and ecology <p>R2- Community livelihoods are improved to reduce their vulnerability</p> <p>2.1- <i>Crab holding system, an alternative source of income and nutrition (to direct fishing) is developed</i></p> <ul style="list-style-type: none"> - Set up a group of village farmers - Build village-scale holding ponds - Train village farmers regarding the appropriate holding techniques - Popularize the crab holding techniques in the Sofia region <p>R3: Test and disseminate best practices for an ecosystem approach of fisheries and aquaculture management</p> <p>3.1- <i>A participatory monitoring-evaluation system is implemented and operational</i></p> <ul style="list-style-type: none"> - Established a local monitoring-evaluation committee - Identify in a participatory way of monitoring indicators of the project's impacts - Set up and operationalize mechanism for the systematic dissemination of the participatory monitoring-evaluation results <p>3.2- <i>The demonstration site results will be disseminated</i></p> <ul style="list-style-type: none"> - Organize a national / regional workshop to capitalize on the achievements of the project - Draw up a management guide for village crab holding farms
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Key indicators, risks and assumptions	The main indicators of project success are the following:	
	Objective	Indicators
	OBJ: The sustainable and rational management of mangrove crab exploitation in the Sofia Region is established.	A decrease of fisheries and mangrove user infringements (expressed in % compared to the situation before the project)
	R1: Local management of the marine ecosystem is enhanced to contribute to a sustainable fishery.	Community participation in natural resources management (decision-making bodies, community control and surveillance)
	R2- Communities' livelihoods are improved to reduce their vulnerability	Increased income of village farmers (expressed in % compared to the situation before the project)
R3: Test and disseminate best practices for an ecosystem approach of fisheries and aquaculture management	An ecosystem-based management model is developed and validated	
<p>The major hypothesis in the execution of the project is:</p> <p>« The crab holding facilities are financially cost-effective ». Previously, a very high post-capture mortality was observed, from 22% to 50% (Kasprzyk, 2012), as well as a growth rate by weight of crabs in housing (18.1%) during 15 days with an appropriate diet (Rakotonirina Dina, 2015). The holding facilities and techniques used in this demonstration facility should try to overcome the high mortality challenges encountered previously as well as improve fattening techniques and growth rates.</p> <p>Recovering post-harvest loss would proportionally reduce the fishing effort for a given income. The application of regulations will be reinforced by the implementation of local fisheries management plans (minimum catch size, closure period, overall volume of authorized catch). This will ensure the renewal of natural stocks without prejudice to the income of fishermen.</p> <p>The risks during the implementation of the project are:</p>		

	<ul style="list-style-type: none"> - Social conflict generated by the community monitoring and control of fisheries - the short duration of the project for a satisfactory institutional anchoring
Cost-effectiveness	<ol style="list-style-type: none"> 1. Effective co-management of natural resources reduces management costs, and, in a context of limited capacity of the State to enforce regulations, co-management improves management performance 2. Effective Crab fattening facilities increase the commercial value of fishery products and access to the international market
Sustainability	<p>The sustainability of the project depends on the institutional anchoring of the system put in place to perfect the co-management of fisheries: the "fisheries managers" Associations and the community Monitoring-Control Committees.</p> <p>After the completion of the demonstration project, sustainability conditions are implemented, in particular on:</p> <ol style="list-style-type: none"> i. Institutionalization of community structures guaranteeing the effectiveness of co-management. ii. Improvement of the value chain of the sector (marketing circuit).
Replicability	From a procedures guide of the implementation of an ecosystem-based approach, the project can be developed in other potential areas.
Project Results Framework	Project results framework (see Annex)
Detailed Budget and Annual Work Plan	Detailed budget and annual work plan (see Annex)
Management Arrangements	<p>Management modalities:</p> <ul style="list-style-type: none"> • Marine administration (central/regional) • Forest Administration (central/regional) • Focal point of Nairobi Convention • Focal Point« SAPPHIRE » • Decentralized territorial communities • Basic community • Madagascar National Parks (for the management of the protected area of Sahamalaza) • Land use planning and public works
Monitoring and Evaluation Framework	A Participatory Monitoring - Evaluation system of the project will be set up, which is an integral part of the local fisheries

	<p>management plan. The system gives a key place to local actors from the identification of indicators to the collection of data and the interpretation of the results.</p> <ol style="list-style-type: none"> 1- Formalization of a Local Monitoring-Evaluation Committee 2- Participatory development of the project's implementation model 3- Identification of the progress indicators and the perceptible impacts of undertaken actions over the Project horizon 4- Establishment of the data collection system of indicators to set up the monitoring-evaluation framework <p>The indicators on the achievement of the project impacts will relate to improving performance of the mode of governance initiated: reduction of infringements and offenses on fisheries and ecosystems.</p>
Stakeholder Involvement Plan	<p>The involvement of stakeholders will be specified in the local fisheries management plan. It will jointly define the roles of the State and the communities in the management of fishery resources. A part of the sovereign responsibility for fisheries/aquaculture management will be transferred to local communities.</p> <p>The main steps to generate community participation are the following:</p> <ol style="list-style-type: none"> 1- Sensitization of communities on the challenges of economic development vs ecosystem integrity, support of their livelihoods 2- Suggestion by the State of strategic orientations for ecosystem-based management 3- Operational planning of participatory implementation (supported by MAEP¹) 4- Organizational support for MAEP 5- Technical training 6- Activities initiation <p>The stakeholders' contributions will be the following:</p> <ol style="list-style-type: none"> 1- State : <ul style="list-style-type: none"> - Land allocation for the construction of holding facilities - Technicians allocation - Expertise transfer - Supports for project beneficiaries - Provides offices for the Project Management Unit - Provides vehicles

¹Ministry of Agriculture, Livestock and Fisheries

	<p>2- Beneficiaries (local community) :</p> <ul style="list-style-type: none"> - Labour for the construction of the holding facilities - Fishing boats - Fishing equipment
Compliance with UN Safeguards	Compliance with conditionalities in terms of social and environmental protection
Exit strategy	<p>The project continuity strategy after the funding of the SAPPHIRE programme is based on the two points below:</p> <ol style="list-style-type: none"> 1- The strengthening of the organizational and institutional capacities of these community structures to become self-organized 2- The MAEP will continue, by its sovereign function, to monitor the institutions and structures in place
Legal Context	<p>The legal context governing the implementation of the project is described by:</p> <ul style="list-style-type: none"> • Law 2015-053 of February 03, 2016 regarding Fisheries and Aquaculture Code and the decree relating to the management transfer of halieutic resources • Decree No. 2016-1492 of 06 December 2016 on the general reorganization of maritime fishing activities • Decree No. 2016-1493 of 06 December 2016 regulating aquaculture activities • Order n ° 27786/2017 of 09 November 2017 setting the required criteria for mangrove crab aquaculture in Madagascar. • Order n ° 32 102/14 of 24/10/2014 setting the conditions for the storage of crabs in the holding facilities. • Order regarding the establishment of the Integrated Mangrove Management Committee

C. Proposed Budget

Requested Fund	USD80,000
Fund from other sources including own contribution	USD 54.000 GOVERNEMENT IN KIND
Total project budget	USD134,000

D. Organizational Background and Capacity to implement the Proposed Project

Nature of the proposing institution: Government institution

The fisheries development administration has existed since Madagascar's independence in 1960. Until 1996, it had been incorporated within a "large" ministry responsible for rural development. From 1996, the fisheries administration became an independent ministerial department and remained as such for 23 years. In 2020, the fishing sector was reintegrated again into the Ministry of Agriculture, Livestock and Fisheries.

Objective and main activities of the institution: The executive management of Fisheries and Aquaculture (**Direction Générale de la Pêche et de l'Aquaculture DGPA**) is responsible for designing, orienting and planning the Ministry's policy regarding fisheries, aquaculture, and ocean governance.

The organizational approach in the execution of the project is articulated around two technical departments within the DGPA:

- The Aquaculture Development Support Department (**Direction d'appui au Développement de l'Aquaculture DDA**) responsible for implementing aquaculture development strategies taking into account extensive, semi-intensive and intensive production systems as well as village and industrial approaches, and the promotion of techniques and innovations. The DDA comprises three services, one of which deals specifically with the development of inland water and marine Aquaculture.
- The Department of Fisheries Development (**Direction de Développement de la Pêche DDP**) which is responsible of the implementation of development strategies for small-scale, artisanal and industrial fisheries, taking into account the imperative need to preserve the stocks of fishery resources exploited as well as the marine and coastal environment. The DDP includes four (04) services, one of which is specifically concerned with the development of small-scale fishing among others.

Project management experiences of the fisheries administration for the last recent years are listed below:

- Development and implementation of the co-management in the establishment of APGL, and elaboration of the Concerted Fisheries Layout Plans
- Professionalization of the work of small fishermen
- Village approach to holothuriculture and seaweed culture with private operators and research institutions

The target population group of the current proposal includes:

- Ten villages in the rural community of Maromandia, Sofia region.
- 174 fishermen including 33 women (Enquête Cadre National, MRHP, 2012)

E. Proposed Methodology and Approach to implement the Project

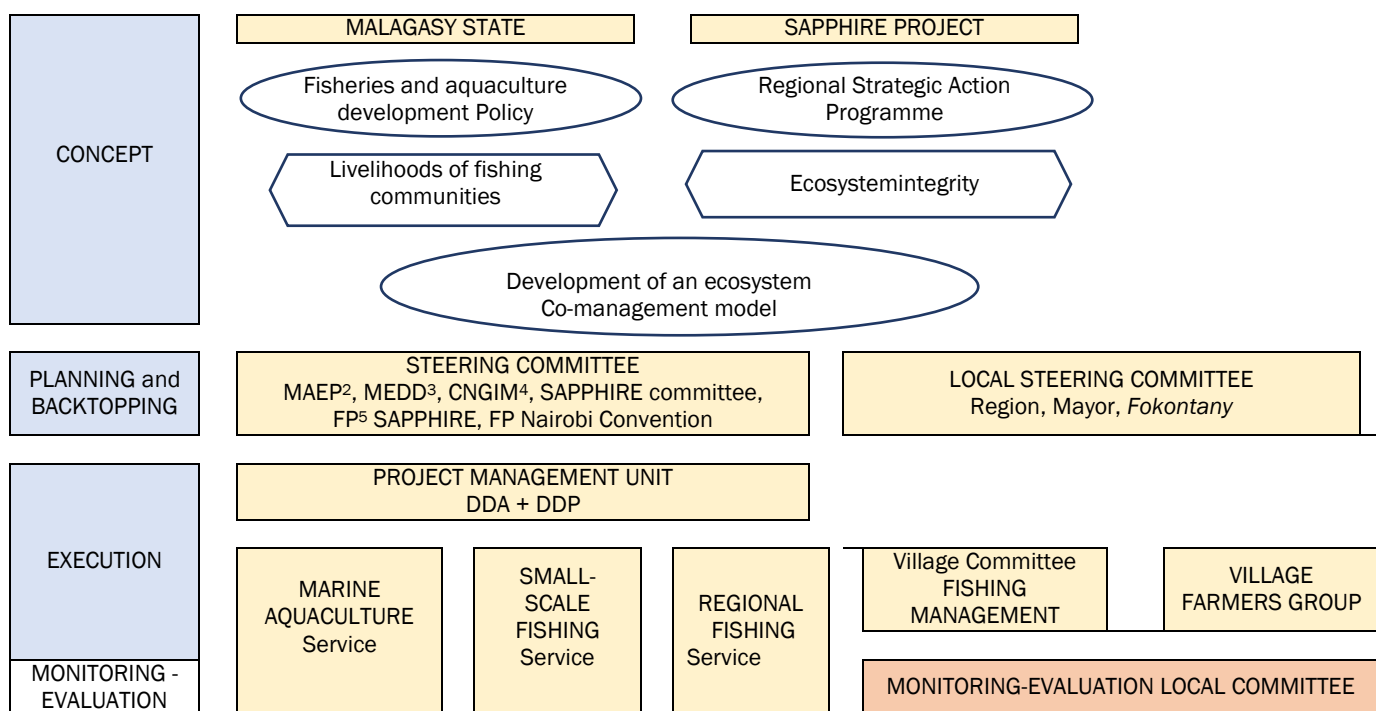
The approach consists of the empowerment of independent community structures who will be able to fulfill their function in the implementation of genuine co-management of natural resources.

- i. The Fisheries Management Committee representing the fishermen communities to which will be delegated part of the sovereign mandate of the State: the planning of Fisheries management, the fisheries monitoring and control - and - ecological monitoring
- ii. Farmer-village groups who will be entrusted with the management of their own economic activities

The main steps for the empowerment of village structures and hence the process of involving fishing communities are:

- 1- Legitimization:** Awareness of their need for a better appropriation
- 2- Legalization:** Institutionalization of village structures
- 3- Capacity building:** Training about the exercise of their mission (fishing management, crab culture)
- 4- Systematic support:** Monitoring and supervision by the State in the exercise of their function.

For Project Management, the organizational structure is designed as below:



- The conceptualization of the project is based on the relevance of an eco-systemic co-management model development. Indeed, the call for proposals issued by the SAPPHIRE Project, outlining the regional Strategic Action Programme, coincides with the Malagasy State priorities as expressed in its Fisheries and Aquaculture Development Policy.
- Project planning and supervision are carried out at central and then local levels of Steering Committees.
- The project execution is entrusted to the Project Management Unit at the Fisheries Administration level, and the village structures once in place
- Monitoring and evaluation mainly involves the local Monitoring - Evaluation Committee, supported by the executive services within the Fisheries Administration.

²Ministry of Agriculture, Livestock and Fisheries

³Ministry of the Environment and Sustainable Development

⁴National Committee for Integrated Mangrove Management

⁵Focal Point

F. Staff capacity and suitability for the project implementation:

The DGPA will provide the following expertise for the execution of the project:

- An agronomy engineer specialized in project management
- A food sciences engineer specialized in aquaculture
- Two halieutic engineers / hydro-biologist
- An oceanographer/biologist

Annex 2. Project Logical Framework

Project Goal/ principal Objective	The sustainable and rational management of mangrove crab exploitation is established in 10 fishing villages in the Sofia Region
Outcome1.	Local management of marine ecosystem is improved for the sustainability of the fishery
Output 1.1	Ten (10) locally managed fishing areas, supported by local management plans are institutionalized
Activity 1.1.1	Professionalize small-scale fishing (by the formalization of fishermen's associations, the dispensation of fishermen's card and canoe registration)
Activity 1.1.2	Elaborate an appropriate management tool (<i>dina</i>)
Activity 1.1.3	Support communities in the implementation of management measures, as stipulated in the local fisheries management plan
Activity 1.1.4	Establish and strengthen a permanent system of community monitoring-control of fisheries
Activity 1.1.5	Establish and strengthen community monitoring of the catches and ecology
Outcome 2	Communities' livelihoods are improved to reduce their vulnerability and increase their food security
Output 2.1	The crab housing system, an alternative source of income and nutrition (to direct fishing) is developed
Activity 2.1.1	Set up a group of village farmers
Activity 2.1.2	Build village-scale holding system
Activity 2.1.3	Train the village farmers regarding the appropriate holding and fattening techniques
Activity 2.1.4	Popularize the crab grow-out and housing techniques in the Sofia region
Outcome 3.	Capitalize and disseminate the best practices for an ecosystem approach of fisheries and aquaculture management
Output 3.1	<i>A participatory monitoring-evaluation system is implemented and operational</i>
Activity 3.1.1	Established a local monitoring-evaluation committee
Activity 3.1.2	Identify in a participatory way the monitoring indicators of the project's impacts
Activity 3.1.3	Set up and operationalize mechanism for the systematic dissemination of the participatory monitoring-evaluation results
Output 3.2	<i>The demonstration site results will be disseminated and capitalized</i>
Activity 3.2.1	Organize a national / regional workshop to capitalize on the achievements of the project
Activity 3.2.2	Draw up a management guide for village-level crab fattening farms
	Indicators

Project Objective	A decrease of fisheries and mangrove use infringements (expressed in % compared to the situation before the project). <ul style="list-style-type: none"> - 10 local management plans developed - 174 fishermen involved
Outcome 1	Increased community participation in natural resources management (decision-making bodies, community control and surveillance)
Outcome 2	Increased income of village farmers (expressed in % compared to the situation before the project)
Outcome 3	An ecosystem-based management model is developed and validated

Annex 3. Annual Work Plan (AWP) Format



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Annual Work Plan

Institution	DGPA /MAEP
Country	Madagascar
Project Title	Local governance of fishing resources in ten villages from the Sofia Region, Madagascar: The case of the mangrove crab, <i>Scylla serrata</i> .
Project Brief Description	
<u>Outcome 1:</u>	Local management of marine ecosystems is improved for the sustainability of the fishery
<u>Outcome 2:</u>	Communities' livelihoods are improved to reduce their vulnerability and increase their food security
<u>Outcome 3:</u>	An ecosystem-based management model is developed and validated

Project Period	18months	Total resources required	USD134, 000
Start date	May 2021	Total allocated resources	
		• NCS/UNEP	USD 80, 000
		• Institution	
		• GOVERNEMENT IN -KIND	USD 54,000
		• Other	
End Date	November 2022		

Agreed by Institution : Direction Générale de la Pêche et de l'Aquaculture

Agreed by National Focal Institution (Point)

Agreed by Nairobi Convention Secretariat/UN Environment Programme:

WORK PLAN

Expected Project Outcome	Planned Activities		Budget						Responsible Party	Fund Source		
			Q1	Q2	Q3	Q4	Q5	Q6			Total	
Outcome1. Local management of marine ecosystems is improved for the sustainability of the fishery Indicator : Community participation in natural resources management (decision-making bodies, community control and surveillance) Base line : 0% Target : 80%	Output 1.1	<i>Ten (10) locally managed fishing areas, supported by local management plans are institutionalized</i>							20000	DDP		
	Activity 1.1.1	Professionalize small-scale fishing (by the formalization of fishermen's associations, the dispensation of fishermen's cards and canoe registration)	2250	2250						4500		NCS
	Activity 1.1.2	Elaborate an appropriate management tool (dina)	750	750						1500		NCS
	Activity 1.1.3	Support communities in the implementation of management measures, as stipulated in the local fisheries management plan		1000	800	500	500			2800		NCS
	Activity 1.1.4	Establish and strengthen permanent community monitoring-control arrangements for fisheries	1000	1000	1000	1000	700			4700		NCS
	Activity 1.1.5	Establish and strengthen community monitoring of the catches and the ecology	1000	1000	1000	1000	1000	1000		6500		NCS

Outcome 2 Communities' livelihoods are improved to reduce their vulnerability (increase food security) Indicator: Increased income of village farmers (expressed in % compared to the situation before the project) Base line : 0 Target : 15%	Output 2.1 <i>Crab housing system, an alternative source of income and nutrition (to direct fishing) is developed</i>							40000	DDA	
	Activity 2.2.1 Set up a group of 10 villager farmers	1500	1500	1000				4000		NCS
	Activity 2.2.2 Build 10 village-scale holding and fattening facilities	11600	8700	8700	0			29000		NCS
	Activity 2.2.3 Train the village farmers regarding the appropriate stabling techniques	1200	900	900	0			3000		NCS
	Activity 2.2.4 Popularize the crab grow-out and housing techniques in the Sofia region (study trips to pilot sites)			1000	1000	1000	1000	4000		NCS
Outcome 3. Capitalize and disseminate the best practices for an ecosystem approach of fisheries and aquaculture management	Output 3.1 <i>A participatory monitoring-evaluation system is implemented and operational</i>							4800	DDP	
	Activity 3.1.1 Established a local monitoring-evaluation committee	500	300	300	200	200	100	1600		NCS
	Activity 3.1.2 Identify in a participatory way the monitoring indicators of the project's impacts	500	300	300	200	200	100	1600		NCS

Indicato : An ecosystem-based management model is developed and validated Base line :0 Target: 1	Activity 3.1.3	Set up and operationalize mechanism for a systematic dissemination of the participatory monitoring-evaluation results	500	300	300	200	200	100	1600		NCS	
	Output 3.2	<i>The demonstration site results will be disseminated and capitalized</i>								7200		
		Launching workshop	3 200							3200		
	Activity 3.2.1	Organize a national / regional workshop to capitalize on the achievements of the project						2000	2000			
	Activity 3.2.2	Draw up a management guide for village crab housing farms						2000	2000			
TOTAL ACTIVITIES						USD	72.000			NCS/UNEP		
PROJECT MANAGEMENT FEES						USD	8.000			NCS/UNEP		
SALARY, VEHICLE, OFFICE, RESOURCE PERSONS,						USD	54.000			GVT in kind		
TOTAL PROJECT						USD	134.000					

Achèvement calendar

Expected Project Outcome	Planned Activities		CALENDAR					
			Q1	Q2	Q3	Q4	Q5	Q6
Outcome1. Local management of marine ecosystems is improved for the sustainability of the fishery Indicator: Community participation in natural resources management (decision-making bodies, community control and surveillance) Base line: 0% Target: 80%	Output 1.1	<i>Ten (10) locally managed fishing areas, supported by local management plans are institutionalized</i>						
	Activity 1.1.1	Professionalize small-scale fishing (by the formalization of fishermen's associations, the dispensation of fishermen's cards and canoe registration)						
	Activity 1.1.2	Elaborate an appropriate management tool (dina)						
	Activity 1.1.3	Support communities in the implementation of management measures, as stipulated in the local fisheries management plan						
	Activity 1.1.4	Establish and strengthen permanent community monitoring-control arrangements for fisheries						
	Activity 1.1.5	Establish and strengthen community monitoring of the catches and the ecology						
Outcome 2 Communities' livelihoods are improved to reduce their vulnerability (increase food security) Indicator:	Output 2.1	<i>Crab housing system, an alternative source of income and nutrition (to direct fishing) is developed</i>						
	Activity 2.2.1	Set up a group of 10 village farmers						
	Activity 2.2.2	Build village-scale holding and fattening facilities						

Increased income of village farmers (expressed in % compared to the situation before the project) Base line: 0 Target: 15%	Activity 2.2.3	Train the village farmers regarding the appropriate stabling techniques						
	Activity 2.2.4	Popularize the crab grow-out and housing techniques in the Sofia region						
Outcome 3. Capitalize and disseminate the best practices for an ecosystem approach of fisheries and aquaculture management Indicator: An ecosystem-based management model is developed and validated Base line:0 Target: 1	Output 3.1	<i>A participatory monitoring-evaluation system is implemented and operational</i>						
	Activity 3.1.1	Established a local monitoring-evaluation committee						
	Activity 3.1.2	Identify in a participatory way the monitoring indicators of the project's impacts						
	Activity 3.1.3	Set up and operationalize mechanism for a systematic dissemination of the participatory monitoring-evaluation results						
	Output 3.2	<i>The demonstration site results will be disseminated and capitalized</i>						
		Launching workshop						
	Activity 3.2.1	Organize a national / regional workshop to capitalize on the achievements of the project						
	Activity 3.2.2	Draw up a management guide for village crab housing farms						

Annex : Key Personal CVs

RASOAMANANJARA Hantanirina

Directeur d'Appui au Développement de l'Aquaculture

Ministère de l'Agriculture, de l'Élevage et de la Pêche, Madagascar

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Expériences professionnelles

Directeur d'Appui au Développement de l'Aquaculture jusqu'à ce jour (2019 à ce jour)

Enseignante à l'Institut Supérieur Privé de L'Agronomie (ISPAG) pisciculture (2011 à ce jour)

- 2019 : Chef du Service Régional de la Pêche et de l'Aquaculture Analamanga
- 2017-2018 : Directeur Régional des Ressources Halieutiques et de la Pêche Analamanga
- 2012-2017 : Chef du Projet « Développement de la Pêche Continentale »
- 2009-2016 : Chef du Service de la Pêche Continentale
- 2011 : Conseiller technique/ MRHP
- 2005-2008 : Chef de la Division de l'Aquaculture en Eau douce et de la Pêche Continentale
- 2002-2003 : Inspecteur auprès du Secrétariat d'Etat de la Pêche et des Ressources Halieutiques
- 1996-2002 : Inspecteur auprès du Ministère de la Pêche et des Ressources Halieutiques (MPRH)

Formations

Diplômes

- Diplôme d'Etudes Spécialisées (D.E.S) en Aquaculture; 2004; Université de Liège, Belgique
- Gestion Publique; 2000 ; Institut des Affaires Publiques, Département du Centre Universitaire de Charleroi CUNIC, Belgique

- Ingénieur Technologue; 1993 ; Institut Technologique de l'Industrie Alimentaire de Kiev, Ukraine

Certificats

- Formation en Algoculture et Holothuriculture; 2020; Institut Halieutique des Sciences Marines , Toliara
- Formation en algoculture; 2019; Asian Institute of Technology , Thailand
- Développement de la pisciculture; 2019; The Egyptian International Center for Agricultural, Cairo, Egypt
- Formation en pêche; 2017; Université de Montpellier, France
- Pêches Maritimes et gestion globale des zones côtières; 2014; Fujian Institute of Oceanography, Xiamen, République Populaire de la Chine
- Développement de la pisciculture; 2010; The Egyptian International Center for Agricultural (EICA), Cairo, Egypt
- Promotion et Valorisation des Produits de la Pêche, Marketing et Etudes de Marché; 2008; Centre de Qualification de la Pêche Maritime de Larache, Royaume du Maroc

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Expériences professionnelles

Directeur du Développement de la Pêche (Sept 2020 à ce jour)

Personne de contact de la Commission des Thons de l'Océan Indien (CTOI) pour les questions techniques relatives à la pêche aux thons (2010 à ce jour)

- 2010 – Sept 2020 : Chef du Service de la Gestion de la Pêche Thonière, Direction de la Pêche – Ministère des Ressources Halieutiques et de la Pêche
- 2014 – 2016 : Point Focal du Deuxième Projet de gouvernance des pêches et de croissance partagée du sud-ouest de l'Océan Indien (SWIOFish2) Madagascar, financement IDA, FEM et PHRD.
- 2008 – Mai 2011 : Coordinateur National de la Composante "Data gap analysis and information technology" - South West Indian Ocean Fishery Project (SWIOFP)
- 2008 – 2010 : Chef du Service Pêche Maritime – Direction de la Pêche – Ministère de la Pêche et des Ressources Halieutiques
- 2007 – 2008 : Responsable de la Pêche Industrielle – Service Promotion de la Pêche – Ministère de l'Agriculture, de l'Élevage et de la Pêche
- 2006 - 2007 : Responsable de la Pêche Traditionnelle – Service Promotion de la Pêche – Ministère de l'Agriculture, de l'Élevage et de la Pêche
- 2003 – 2005 : Chef de ferme à la Société AQUABIO, Namakia
- 2002 – 2003 : Consultant permanent du Bureau de Consultation pour la Pêche et l'Aquaculture BCPA en charge des études sociales et économiques
- 2001 : Biologiste à la société AQUAMAS, Soalala

Formations

Diplômes

- **Master of Business Administration (MBA)**, Option : gestion d'entreprises; 2013; INSCAE Antananarivo
- Diplôme d'**Ingénieur en Agronomie**; 2001; Ecole Supérieure des Sciences Agronomiques, Université d'Antananarivo

Certificats

- Négociation internationale des accords de pêche; 2018; Université de Montpellier - France
- Certificat de fin de formation sur le « Leadership Training Courses on Fisheries Management; 2013 ; Faculté des Pêches, Université de Kagoshima – Japon
- Oceanographic and biological training program; 2008 ; Cape Town – Afrique du Sud
- Planning of Fisheries Community Development; 2007 ; Yokohama - Japon
- Institutional Development and Organizational Strengthening; 2007; Yokohama - Japon
- Projet Cycle Management (Participatory planning); 2007; Yokohama – Japon

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Expériences professionnelles

Point focal « Pêche » dans la Cellule d'Appui à la Mise en Œuvre des Projets - Direction de Développement de la Pêche (2020 à ce jour)

Enseignante vacataire à l'Institut Supérieur en Sciences, Environnement et Développement Durable, Université de Toamasina

Présidente d'honneur du Réseau National des Femmes de la Pêche à Madagascar RENAFEP-MADA

- 2019 – 2020 : Chef de Service Régional de la Pêche et Aquaculture Atsinanana
- 2018 -2019 : Directeur régional des Ressources Halieutiques et de la Pêche de la Région Menabe
- 2016 – 2018 : Directeur Régional des Ressources Halieutiques et de la Pêche de la Région Atsinanana
- 2015-2016 : Chargée d'étude à la Direction de l'Aquaculture
- 2014-2015 : Chargée d'étude à l'Office National pour l'Environnement (ONE) sur le suivi des Plans de Gestion Environnementale des fermes aquacoles, cas OSO Farming LGA
- 2012 : Consultante auprès de l'ISSEDD sur la pêche traditionnelle dans la région Atsinanana

Formations

Diplômes

- **Ingénieur Halieute**, option Aquaculture ;2015 ;Institut Halieutique et Sciences Marines (IH.SM) Tuléar
- **Master 2 en Gestion des Ressources Naturelles** et Environnement, option Pêche ; 2013; ISSED, l'Université de Toamasina
- **Licence en Gestion** des Ressources Naturelles et Environnement ; 2011 ;ISSED, Université de Toamasina

Certificats

- Executive Public Management, INSCAE [en cours]
- Formation des femmes en traitement, conservation et Hygiène dans la manipulation des produits halieutiques, Dakar, Sénégal [2016]

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Expériences professionnelles

Agent au sein du Service Aquaculture Marine et Continental de la Direction de l'Aquaculture (2017 à ce jour)

Chargé de cours d'Aquaculture ; Institut Supérieur Protestant Paul Minault (IPPM) (2017 à ce jour)

Membre du Comité Interministériel de gestion des Ressources Génétiques.

Membre du Comité Nationale de la Formation Agricole et Rurale Secteur Halieutique

- 2016 - 2017 : Responsable de la Circonscription des Ressources Halieutiques et de la Pêche, Atsimo-Atsinanana
- 2011 : Gestion de Crise Pathologique et Conducteur de Pêche, Ferme ; UNIMA, Aquaculture de la Mahajamba, Mahajanga
- 2005-2010 : Responsable de production de Microalgue Entreprise : ANTENNA TECHNOLOGIE SPIRUSUD, Toliara
- 2003-2004 : Technicien de Grossissement en Crevetticulture Entreprise : AQUAMAS Sa., Soalala - Mahajanga

Formations

Diplômes

- **Diplôme d'Ingénieur Halieute** (Option Aquaculture) ; 2015 ; Institut Halieutique Et Des Sciences Marines -Toliara
- **Aptitude à l'Etude Approfondie en Sciences Marines – Océanographie Appliquée ; 2008** ; Institut Halieutique et des Sciences Marines -Toliara
- **Diplôme de Maîtrise des Sciences et Techniques de la Mer et du Littoral** (Aquaculture-Pêche) ; 2008 ; Institut Halieutique et des Sciences Marines -Toliara
- **Diplôme Professionnel Universitaire/Mer et Littoral** (Option Aquaculture) ; 2003 ; Institut Halieutique et des Sciences Marines -Toliara

Certificats

- Marine and Inland-water Aquaculture (Diseases) ; Banyuwangi, East Java, INDONESIA
- Bio-aquatic resources Management (water physicochemical); Ambon-Maluku, INDONESIA

Annex 4: Technical Evaluation Criteria

Evaluation forms for technical proposals are presented below. The obtainable number of points specified for each evaluation criterion indicates the relative significance or weight of the item in the overall evaluation process.

The Technical Proposal Evaluation Forms are: FormA: Expertise of Organization Submitting Proposal; FormB: Proposed Work Plan and Approach; FormC: Personnel.

Summary of Technical Proposal Evaluation Forms		Score Weight	Obtainable Points	Company / Other Entity				
				A	B	C	D	E
1	Expertise and Experience of the institution submitting project Proposal	25%	25					
2	Quality of the project proposal, understanding of the scope of work, knowledge of the West Indian Ocean region countries& proposed work plan and approach	55%	55					
3	Qualification of personnel and suitability to implement the project	20%	20					
Total			100					

Note: The score weights and points obtainable in the evaluation sheet are tentative and may be changed depending on the need or major attributes of technical proposal.

Summary of Technical Proposal Evaluation Forms		Score Weight	Points	Applicants				
				A	B	C	D	E
A.	Form 1 Expertise and experience of the organization submitting Proposal							
1.	Reputation of the organization; national and local (community level) importance	2						
2.	Experience in implementing similar projects in the Western Indian Ocean region countries	10						
3.	Track record of working with Western Indian Ocean region countries' local community and governments	2						
4.	Ability of organization to deliver task in line with time plan (Reliability)	1						
5.	Geographical knowledge of the Western Indian Ocean region; political, socio-economic, ecological landscapes and ecosystems	10						
	Percentage	25 %	25					
B	Form 2 Understanding of the Scope of Work & Proposed Work Plan and Approach							
6.	Understanding of the scope of work defined on the call for proposal	10						
7.	Adequacy of the proposal to achieving the objectives of the project (realistic and efficient)	5						
8.	Proposed Work Plan (sequence of activities and planning)	5						
9.	Cost effectiveness and value for money	30						
10.	Quality Assurance procedures	5						
	Percentage	55 %	55					
C	Form 3 Quality of personnel and suitability for the assignment.							
	Experts(s)							
11.	Key experts' knowledge of natural resources management, sustainable fisheries and land management and experience in handling similar assignments	10						
12.	Educational qualification and relevance to the project	5						
	Senior Personnel							
13.	Overall technical qualification, proven coordination, planning and design of developmental projects and programmes (Curriculum Vitae all key personnel must be provided)	5						
	Percentage	20 %	20					
	Total	100%	100					