

IOTC-OFCF Collaborative Project Phase V activity –  
Enhancement of capacity to evaluate socio-economic contribution of the IOTC tuna  
fisheries

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**The IOTC-OFCF Collaborative Project Phase V - Overview:**

The IOTC-OFCF Collaborative Project was established the collaboration in 2002 for the purpose of enhancing the data collection, reporting and dissemination capacity of the developing coastal states in the IOTC Area of Competence and since then, the Project has supported capacity building of around 20 countries. After the completion of the Phase IV of the Project in 2017, the OFCF expressed its intention to provide a support for an additional three years starting from April 2017 as Phase V. Correspondingly, the 21st Session of the IOTC Commission meeting, held in Yogyakarta, Indonesia, between 22 and 26 May 2017, approved the extension of the existing Memorandum of Understandings (MOU) with the IOTC.

The author was tasked to develop a project activity proposal to be implemented under the Phase V of the Collaborative Project based on the consultation with relevant scientists, CPCs, and the IOTC Secretariat. The consultation revealed a strong and common interest of establishing comprehensive and comparable indicators of social and economic aspect of tuna fisheries contribution, in order to properly integrating social and economic aspects into fisheries management decision-making process. This has particular relevance in developing management measures and in implementation and monitoring of ecosystem-based fisheries management that ultimately aims for a long-term sustainability of full spectrum of ecosystem services received by the human society. In this context, the 21st Session of IOTC requested the Secretariat to implement a scoping study to identify what type of social and economic data are most relevant to CPC and IOTC, and how these data can be obtained.

The Project Activity Proposal, submitted in the early July to the IOTC and OFCF and attached in this document, aimed to explore the feasibility and usefulness of fishery satellite account within the System of National Account (SNA) in addressing the questions raised by the Commission. The SNA satellite account approach was selected from various reasons, including:

- The methodologies and concepts have been well-established and examined,
- It allows an evaluation of fisheries contribution not only throughout whole value-chain, but also including contribution through supporting activities and government expenditure, according to the user need,
- Indicators obtained will be comparable among economic activities within a given country, and could be used for rough comparison among countries, and
- Majority of countries have some experience and capacity of SNA compilation

On the other hand, the extent of usefulness of indicators largely depends on the availability of data. While the extent of potential uses of SNA satellite account will be explored through an experimental recompilation at a limited number of countries that already have accumulated adequate detailed information, the Project will also examine much simpler approach to extracting the contribution of fisheries related activities from the SNA where the availability of fisheries related information is rather limited. The findings will be developed into a practical guideline.

After the long process of administrative clearance, the Project is finally ready to implement. This document was prepared to introduce the general concept of socio-economic indicators to be developed with the Project (Activity 1), to call for any potential interests in participating the process of experimental compilation of indicators (Activity 2) and to initiate consultation toward developing a practical guideline for the compilation of indicators (Activity 4).

### **Types of indicators aimed by the Project:**

The Project aims to establish a methodology of evaluating an overall economic and social contribution derived from the utilization of fish resources, to support decision-making in the fisheries management context. The importance of socio-economic information is almost always referred with an extent of dependency on a certain resources/ economic activities, e.g. local community almost exclusively relying on coastal tuna fishing. In the other words, the indicators that the Project aims to develop would be desired to be more accurate in evaluating relative contribution than providing absolute value.

At the same time, in order to support the decision-making at the RFMOs, including the IOTC, it is important that the indicators submitted from different CPCs represent the same thing, even if not fully comparable. One of objectives of developing a tuna fishery satellite account is to evaluate an overall benefit that a country obtains through utilization of the tuna resources, not limited to fishing itself but also including both downstream activities (e.g. processing, marketing, retailing) and upstream activities (e.g. boat building, gear and machinery supply, fuel supply). The range to be included in satellite account can be determined depending the national priority and social and economic structure, whilst the standard definition needs to be established in order to utilized as the IOTC socio-economic indicators.

In general, the social and economic aspects of economic activity are referred with three components; contribution to i) food security, ii) monetary production, and iii) direct and indirect employments. While the SNA satellite theoretically handle the latter two, the Project primarily focuses on monetary production (i.e. contribution to Gross Value Added). This is partly due to a difficulty of interpreting full-time equivalent employment to reflect community reliance on fishing depending on their operational patterns and seasonality. However, it should be noted that the economic (monetary production) contribution could not be an proxy of social (employment) contribution, as the small-scale sector usually to provide higher number of employments per unit of monetary production, comparing with the industrial-scale operations. provide high contribution

Regarding the contribution to the food security, the Food and Agriculture Organization of the United Nations (FAO) regularly disseminates the estimates of contribution of fish and fisheries products for most of the countries. The estimation was made through accumulating edible portions of the equation below for a range of fish and processed products:

$$[\text{Domestic Consumption}] = [\text{Production}] + [\text{Import}] - [\text{Export}]$$

The statistics disseminated include fish consumption per capita, and contribution of fish and fisheries products to total as well as animal protein intakes. Those statistics is also available for species group for some countries. Currently the FAO has made its effort to separate pelagic fish into two groups, small pelagic fish (e.g. sardine, mackerels) and large pelagic fish (e.g. tuna and tuna-like species). Separation of the IOTC resource component could be developed once such statistics would become publicly available.

Attachment

**PROJECT ACTIVITY PROPOSAL for  
PHASE V of the IOTC-OFCE COLLABORATIVE PROJECT**

**SECTION 1 - RELEVANCE**

**1.1 General Context**

The main objective of fisheries management is to ensure the conservation and optimum utilization of fish stocks. Based on the fact of fisheries as commercial activities, it is natural to consider that the concept of ‘optimum utilization of fish stocks’ is not limited to direct harvest of stocks but should include overall social and economic contribution obtained from the utilization of fish stocks. For example, the Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC) stated in the Article V its Objectives as “to promote cooperation among its Members with a view to ensuring, through appropriate management, the conservation and optimum utilization of stocks covered by this Agreement”. The same Article listed its Functions and Responsibilities that includes a monitoring of social and economic contribution, “to keep under review the economic and social aspects of the fisheries based on the stocks covered by this Agreement”, together with the monitoring responsibility of stocks, “to keep under review the conditions and trends of the stocks” and “to ensure the conservation of the stocks covered by this Agreement”.

On the other hand, when determining the fisheries management measures, in particular through the Regional Fisheries Management Organizations (RFMOs) including the IOTC, the primary focus is given to the stock status and trend and it is rare to consider on social and economic impacts of such measures in a scientific way. Development of harvest strategy has integrated social and economic component through including stability in quota allocations. A certain measures may not be adopted due to significant adverse impacts to economy and job status of those members who heavily rely on the given fish resources. In both cases, the decision relies on the expert judgement of the administrators, without quantitative and objective evidences due to a simple lack of such information.

In general, the most common and simplest indicator for fisheries contribution is the contribution to the National Gross Domestic Product (GDP) by the fisheries sector for economy and the proportion of people engaged in fisheries for social aspect. The United Nations (UN) System of National Accounts (SNA) is an international standard system of national accounts, the first international standard being published in 1953 and the most updated Handbook available as the 2008 revision<sup>1</sup>. Despite frequent and continuous criticism, especially on global comparability of GDPs, the concept of SNA is well accepted as a primary and powerful tool of measuring and analysing a country’s economy. The UN Statistics Division compiles annual data on gross product, investment, capital transactions, government expenditure and foreign trade with SNA using economic and financial data provided from the member countries and publishes in National Accounts Statistics: Main Aggregates and Detailed Tables and National Accounts

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<sup>1</sup> <https://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf>

Statistics: Analysis of Main Aggregates<sup>2</sup>. The main aggregate of SNA follows the class of the UN International Standard Industrial Classification of All Economic Activities (ISSC) where the fisheries are aggregated into “Agriculture, Hunting, Forestry, Fishing”.

Many of the countries compile and publish their own national accounts, often following the SNA as a guideline with local adjustments, including further disaggregation of economic activities. Some countries, although not so many, regularly disseminate the Gross Value Added (GVA) by fishing, separately from agriculture and forestry. The GVA by fishing represents the economic value of fish produced through fishing activity (including aquaculture) and directly passed to the final market including exports and in principle does not include fish passed to processing plant nor the production from fish processing plants. Needless to say, it does not include any economic activities supporting fishing, e.g. port services, fuel supply, gear and boat supply etc., or those relying on fish, e.g. fish markets, retailers, storage, etc. The fisheries quite often induce more significant economic contribution to those secondary, supplementary, or supporting activities than to the fishing sector itself. In that sense, the GVA by fishing is a minimum estimate and largely underestimate the overall economic contribution derived from the utilization of fish resources.

This project aims to establish a methodology of evaluating an overall economic and social contribution derived from the utilization of fish resources, by developing a satellite account for fishery-related activities that include downstream activities (e.g. processing, marketing, retailing) and upstream activities (e.g. boat building, gear and machinery supply, fuel supply). The satellite account will rearrange the central national account and extract the components covered under the key interest, in this case, fishery-related economic activities. In this way, the satellite account would provide full picture of monetary and physical flow and estimate of overall social and economic contribution, keeping comparability with the central national account.

The possible extent of recompilation of the satellite account largely depends on the availability of data. The project will work together with the countries of interest who already accumulated adequate detailed information, and support in designing the satellite account according to their own needs with technical advices, facilitations and assistance for enhancing their information processing system as required.

The concept of the satellite account, its potential uses, and the progress of development will be regularly reported to the appropriate meetings of the IOTC. At the completion of the project, the project results, and lessons learnt will be disseminated as a preliminary guideline with the minimum information required and examples of analysis tables.

Experiences through the project implementation and guideline developed will contribute in establishing standard way to monitor social and economic contribution of tuna fisheries and to integrate social and economic component in overall policy making of fishery management measures in the IOTC area.

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<sup>2</sup> <https://unstats.un.org/unsd/nationalaccount/pubsDB.asp?pType=3>

### **1.1.1 Rationale**

The IOTC Secretariat and the Overseas Fishery Cooperation Foundation of Japan (OFCF) established the collaboration in 2002 for enhancing the data collection, reporting and dissemination capacity of the developing coastal states in the IOTC Area of Competence and since then, around 20 countries have received assistance. The OFCF offered the continuation of support for additional three years as Phase V. Correspondingly, the 21<sup>st</sup> Session of the IOTC, held in Yogyakarta, Indonesia, between 22 and 26 May 2017, approved the extension of the existing Memorandum of Understandings (MOU) with IOTC.

The IOTC Members increasingly indicated the importance of integrating the social and economic consideration in determining the appropriate management measures. Noting the dearth of information available on the social and economic aspects of tuna fisheries in general, the 21<sup>st</sup> Session of IOTC requested the Secretariat to implement a scoping study to identify what type of social and economic data are most relevant to CPC and IOTC, and how these data can be obtained.

The issue raised at the 21<sup>st</sup> Session of IOTC relating with the information on social and economic aspects of tuna fisheries is in full accordance with the central objective of the project and therefore, the project will provide significant support to the IOTC Secretariat with the minimum financial and resource burden.

The UN SNA introduced the concept of satellite account in its 1993 revision and further expanded in the 2008 revision with several examples, including one for tourism and another for environment both of which provide useful guidance in designing the satellite account for fishery-related activities. The SNA is well established and utilized tool with detailed step-by-step guidance as well as quite extensive use-case scenarios readily available. Reserving the SNA structure as it is, the designing of the satellite account can mainly focus on identifying the economic activities to be covered and extracting corresponding information (or estimating proportion to place under the fishery-related activities).

Corresponding to the IOTC interests, the project will seek a possibility of further separating the satellite account into those relied on oceanic tuna resources, those on neritic tuna resources, and other fish resources. Considering that tuna fisheries tend to operate independently and to utilize a specific fish flow, the separation of oceanic tuna component is considered to be feasible and rather straightforward.

In addition, the project considers the inclusion of physical flow table and supply and use account in the satellite account to provide direct linkage with catch quantity. Possible linkage with the System of Environmental-Economic Accounting (SEEA), in particular with the asset accounts of aquatic resources that have relevance to the fish stock status and trends, may be considered as much as practical.

The collaborative countries will be selected based on i) the country's interest and extent of commitment, ii) data availability, and iii) type of tuna fisheries operations. At the commencement of the project, two candidate countries, Indonesia and Seychelles, are tentatively

selected based on the latter two criteria. Additional countries may be identified according to the progress in implementation, availability of resources, and possible interests from countries.

### **1.1.2 OFCF's comparative advantage**

The OFCF has long history of providing support to developing coastal states not only through the IOTC-OCFC Collaborative projects but also through various bilateral arrangements as well as through trainings on fishing operations, fishery management, stock assessment and management, and sustainable use of marine resources. Its contribution has been well recognized and appreciated by many of receiving countries, which led to a firm trust to the institution.

The OFCF delivers various training courses every year, including two courses focusing on government officials who are expected to take administrative roles in fisheries management. Those training courses would provide the best opportunity to advocate the new concept once a standard methodology to evaluate social and economic contribution of fisheries. The OFCF network established will facilitate to seek for potential interests, feedbacks and brainstorming on the concept of satellite account of fishery-related activities in a broader context.

The OFCF expert assigned to this project is the former Senior Fishery Statistician of the FAO and led the development of standard methodologies and indicators on social and economic aspects of fishery related activities, including the development of fisheries census guideline, the fishery component of the SEEA Agriculture, Forestry, and Fisheries, the asset accounting of aquatic resources in the SEEA central framework, evaluation of disaster impacts to the fisheries, and fisheries related indicators for the United Nations established the Sustainable Development Goals. She provided many technical backstopping for designing and implementing statistical survey including the social and economic aspects of fisheries. Together with her long experience and in-depth knowledge in tuna fisheries, her vast human network with statistics experts and economists would be a valuable asset to the project.

The usefulness of evaluation of social and economic aspects is not limited to the coastal developing countries. The same concept can be applied, for example, for evaluation and analysis of economic efficiencies of various operational strategies of the distant water fishing fleets. Once the compiled data would become available, it would be possible to compare the economic contribution by countries, gears, or fleet segments. The OFCF position, providing support to the coastal developing states based on the interests of Japan, the distant water fishing nation, would induce additional view points in considering a range of use case scenario and possible analysis.

### **1.1.3 Participants and Other Stakeholders**

The project will provide technical support to the government officials of the countries of implementation in designing the satellite account according to their own needs with technical advices, facilitations and assistance for enhancing their information processing system as required. Fishery management authorities and National Statistical Bureaus of the countries of implementation are responsible for actual compilation of satellite fishery account.

The countries of implementation will be selected based on i) the country's interest and extent of commitment, ii) data availability, and iii) type of tuna fisheries operations. At the commencement of the project, two candidate countries, Indonesia and Seychelles, are tentatively selected based on the latter two criteria. The current situation of those two countries is as follows:

Indonesia:

Tunas catch accounts around one quarter of total annual fish catch of 6 million tonnes, with 6 percent of oceanic tunas, and close to 10 percent of skipjacks and neritic tunas, respectively. Tunas contributes close to 15 percent of export value of fish and fish products, while its contribution is less than 2 percent in terms of volume. Large majority of fisheries operate with small boat of less than 10 tonnes without or outboard engines and relatively high reliance of neritic tunas and juvenile tunas in particular at local coastal communities.

Indonesia conducted the fishery census in 2013. In addition, fish and fisheries related components are separated from agriculture in most of statistics. Bureau of Statistics Indonesia (BPS) conducts censuses and other statistical surveys and is responsible for compilation and dissemination of national statistics, while the Ministry of Marine Affairs and Fisheries (KKP) collects the information required for fisheries management and stock assessment. The fisheries subsector accounts 17 percent of agriculture VAA and slightly over 2 percent of GDP.

Indonesia initiated the port sampling program to collect the size and species composition of landings at six landing sites in Sumatra in 2014 with the support of the Bay of Bengal Large Marine Ecosystem (BOBLME) funded by the Global Environment Facility (GEF) and the IOTC-OFCF collaborative project. Indonesia continued the sampling activity with own funding and plans to expand as a part of the tuna management plan established in 2015 for enhancing data collection and fishery management capacity. Department of Fishery Management also plans to improve and consolidate the databases for port sampling, observers and logbook.

The Centre for Data, Statistics and Information of KKP is currently implementing the One-data project under a strong initiative of the Minister of Fishery, trying to harmonize all data collection and registrations conducted under the KKP that includes production and frame information of capture fishery, aquaculture, processed plants, storage, wholesalers and retailers into 16 enumeration forms and one consolidated information system.

Preliminary discussion with the KKR indicated a strong interest in compilation of fishery satellite account, while the BPS had been keen to develop a satellite account for the fishery.

Seychelles:

Seychelles is a leading Member of the IOTC promoting the improvement of social and economic data collection and utilization in decision making for fishery management.

Seychelles heavily relies on the economic contribution of foreign fleet utilizing the port and exploiting the tuna resources within its EEZ through license agreement. Catch taken by foreign fleets was around 280 thousand tonnes, mainly composed of yellowfin and skipjack, while taken by national fleet was the level of 75 thousand tonnes, accounting for 21 percent of total amount

of harvest from its EEZ waters. The domestic artisanal fleets, mainly composed of small boats with outboard engines, harvest various fish, lobsters and sea cucumbers and play an important role in providing local livelihood and food supply.

Canned tunas dominate the Seychelles export in terms of both value and volume, accounting for more than 95 percent of total export of fish and fish products. Tourism that is closely linked with fisheries and aquatic resource utilization in Seychelles generates a significant contribution in earning foreign currency.

The Seychelles Fishing Authority disseminates in its annual report a broad range of social and economic statistics of the fishing and fishery related activities, including its GDP contribution, employment and revenues from the foreign fleets. According to the National Bureau of Statistics (NBS)<sup>3</sup> the GDP contribution of fishing was 0.8 percent in 2015 and together with manufacture of food, assuming tuna canning dominated, the contribution increased to 2.7 percent.

In 2010, the NBS estimated the GDP contribution of fisheries related activity by assigning the estimated proportion relating with fisheries to each of ISIC activities and the resulted GDP contribution ranged 6 – 9 percent for the period between 2004 and 2009<sup>4</sup>.

The NBS currently works to modify the base methodology of calculating the national account to be used for the next ten years starting from the 2008 accounting. The modification includes the regular compilation of tourism satellite account and the NBS indicated its interest of developing in parallel the satellite account for fisheries related activities, noting the potential benefits due to close linkage and some overlaps between them.

The preliminary consultation received the positive feedbacks on the project from the Central Bank of Seychelles (CBS), the Fishermen Boat Owners Association, Seychelles (FBOA) and the Seychelles Fishing Authority (SFA).

#### **1.1.4 Lessons learned from past and related work, including Evaluation**

In 2016, the Senior Adviser of the Statistics Norway conducted a mission for evaluating the current status for improving economic information about fishing related industries in the Seychelles. The final report suggested five indicators useful to describe the economic contributions of fisheries related industries and recommended a list of action points. The report is largely along the same line with the concept of this project and the project will built upon the accumulated experiences and lessons learnt.

## **1.2 Expected Results**

### **Impact**

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<sup>3</sup> source: <http://www.nbs.gov.sc/files/ANA-2015.pdf>

<sup>4</sup> <http://www.nbs.gov.sc/download-archive/files/National%20Accounts/National%20Accounts%20Statistics%202004-2009.pdf>

Socio-economic consideration well integrated into the fisheries management under the auspice of the IOTC.

### **Outcome**

Socio-economic contribution originated from and/or related with the utilization of tuna resources in the Indian Ocean fairly estimated and evaluated in a comparable manner.

### **Outputs**

Output 1: Experimental compilation of fishery satellite account, with divisions originated from and/or related with the utilization of tropical tunas and neritic tunas resources, for selected countries.

Output 2: Practical guideline of compilation of fisheries satellite account and data required

Output 3: IT system for data collection, processing, and database integration of the selected countries enhanced to support regular compilation of the fishery satellite account.

## **SECTION 2 – FEASIBILITY**

### **2.1 Environmental Impact Assessment**

Planned activities are enhanced communication and desktop analysis and no significant environmental impacts are foreseen.

### **2.2 Risk Management**

Availability of data required and the extent of commitment of the implementing countries are two main risks involved. Evaluation survey of information status and consultation with the interested countries is essential part prior to moving into the implementation phase in order to minimize the adverse impacts caused by these two risks. Regarding the two countries identified as candidate for implementation, those risks were considered to be minimum.

### **2.3 Work plan**

#### **Activity 1: Preparation and promotion of the concept**

- 1.1 The concept of the satellite accounts, general methodology and benefits introduced
- 1.2 Preparatory consultation with a country interested in the project implementation
- 1.3 Pre-implementation survey of data availability and information status of the interested country
- 1.4 Project Implementation Agreement formally exchanged

#### **Activity 2: Experimental compilation of satellite account for fisheries related activities**

This activity only applies to those countries with whom the Project Implementation Agreement exchanged:

- 2.1 The Project counterpart nominated and the Project Board established
- 2.2 Introductory workshop - Main objectives and a range of activities covered with the satellite account determined
- 2.3 The structure of satellite account and compilation methodologies designed
- 2.4 Data preparation and compilation of satellite account
- 2.5 Compilation results disseminated

**Activity 3: Enhancement of the data collection and information system supporting the regular compilation of the satellite account.**

This activity only applies to those countries with whom the Project Implementation Agreement exchanged and only if the need of enhancement of IT system agreed between the Project and the relevant country's authority:

- 3.1 The problems identified and the possible solutions agreed
- 3.2 Evaluation of potential solutions with the IT expert and amendment plan developed, taking into account the technical feasibility and availability of resources
- 3.3 Implementation of amendment plan
- 3.4 Training of newly implemented components
- 3.5 Evaluation of the system enhancement

**Activity 4: Development of practical guideline for designing and compiling the satellite account for fisheries related activities**

- 4.1 Historical examples of evaluating social and economic contribution of fisheries related activities assembled
- 4.2 Progress in designing and compilation of experimental satellite accounts recorded and regularly reported
- 4.3 Zero draft of guideline prepared
- 4.4 Workshop to share the experiences of experimental compilation and to review the zero draft of the guideline
- 4.5 Initial draft of the guideline together with the workshop report prepared
- 4.6 External review with interested countries and experts and feedbacks collected
- 4.7 First version of the guideline disseminated

## **2.4 Implementation and Management Arrangements**

### **2.4.1 Institutional Framework, Partnerships Information Management and Knowledge Sharing and Coordination**

Fishery management authorities and National Statistical Bureaus of the relevant States are responsible for designing and compiling the fishery satellite account and data preparation required with the technical backstop provided through the project. When and where need, a limited additional financial support could be available in particular for enhancement of IT system of data communication and integration required for assisting toward the regular satellite account compilation.

The Indian Ocean Tuna Commission (IOTC) will provide a general supervision and technical assistance in implementing the project through regular monitoring and consultation, and technical backstopping, when required, working in close collaboration with the OFCF and the relevant CPCs.

The Overseas Fishery Cooperation Foundation of Japan (OFCF) is responsible for the implementation of the project through an international fisheries and statistics expert and technical backstopping, in a close collaboration with the IOTC Secretariat, Fishery Management

Authorities and National Statistical Bureaus of the relevant States, and the other national and international experts.

#### **2.4.2 Budget and inputs of donor / partners**

The project is planned to run for 3 years with an estimated total budget of the level of JPN 60 million, with the 1<sup>st</sup> year (2017) allotment of JPN 24 million.

#### **Indian Ocean Tuna Commission (IOTC)**

The IOTC will provide an overall supervision and technical and administrative support to the smooth and effective project implementation, through close communication with the CPCs, in particular those selected CPCs for project implementation. The IOTC support includes:

- 1 Appointment of the Project Manager to provide a general supervision for ensuring the project activities in accordance with the IOTC objectives and the CPCs interests.
- 2 Establishment of the Steering Committee to monitor regularly the progress of the project implementation and to keep close communication with relevant stakeholders, including OFCF and the recipient as well as interesting CPCs.
- 3 Provision of technical inputs, advisories, and supports, according to the needs and availability of resources.
- 4 Promotion of the project concept, including dissemination through its own web-site, and securing the opportunity of sharing the project progress and outputs within the IOTC as well as other related frameworks.
- 5 Appropriate office space, office furniture and equipment, telephone and internet connections and costs, office supplies, secretarial support needed for the expert to efficiently complete the missions.

#### **Overseas Fishery Cooperation Foundation of Japan (OFCF)**

The OFCF will provide the funding of the project and will support its timely and effective implementation through MAF, NBS, and other related institutions of selected countries, including through provision of the following support:

##### International Consultants

International Consultant, with a high level of expertise in accounting, to provide expert advisory inputs for designing satellite accounts and its compilation.

International/ Local Consultants, with a high level of IT skills and experiences in fisheries and economic data processing, to provide technical and advisory inputs for improving the IT systems in the selected countries in accordance with the needs to support the compilation of the fishery satellite accounts.

##### Travel

Travel and daily subsistence allowance for the selected experts, while designing and overseeing technical aspects of field/survey, technical inputs in technical analysis, and participating in meetings.

##### Training

No additional training is involved in this project.

Equipment

No equipment is involved in this project at the moment of project initiation.

Technical support services

Designated OFCF expert on the 50% time basis to provide technical and advisory inputs for designing satellite accounts, overseeing the data process and compilation as well as the necessary modifications and improvements in supporting information systems, facilitation and overall supervision of the project operation.

General operating expenses

An allocation covering the costs of operations including preparation of surveys, data analysis, local transport, sundries, editing and printing of project technical reports.

Project servicing costs

No project servicing costs is charged to the project.

**National Institutions of the selected countries:**

Fishery management authorities and National Statistical Bureaus of the countries of implementation are responsible for actual compilation of satellite fishery account, with the technical backstop provided through the project. Main roles of the National Institutions of the selected countries include:

- 1 Appointment of a National Project Coordinator. The National Project Coordinator will act as a secretary of the National Project Board and Project Task Force and will ensure on-going communication and collaboration among the government assigned team, all stakeholders, IOTC and OFCF.
- 2 Establishment of the National Project Board with a participation of all stakeholders. The Project Board is responsible for determining the overall design of the satellite account, in particular for identifying the components to be included, identifying the data sources, and reviewing and evaluating the progress of the project.
- 3 Assigning adequate resources to support implementation of project activities and work in close collaboration with the national and international experts, including those in fishery management, fishing operations, processing, storage, marketing and distribution including in small-scale local level, port services, economics, accounting, IT support and database maintenance, and statistics.
- 4 Compiling the fishery satellite account in close collaboration with the national and international experts, IOTC and OFCF.
- 5 Dissemination of the results, including a submission of report to the IOTC relevant meetings.
- 6 Appropriate office space, office furniture and equipment, telephone and internet connections and costs, office supplies, secretarial support needed for the experts to efficiently complete the missions.
- 7 In-country transport needed for the experts to efficiently complete the missions.

8 Visas and stay permits as needed for the experts to efficiently complete the missions.

### **2.4.3 Procurement**

The project will not include any procurement at the moment of project initiation. However, when and where necessary, the OFCF is responsible for the procurement according to its internal rules.

### **2.5 Monitoring and Reporting**

The designated OFCF expert will submit a final report summarising the work and recommendations.

### **2.6 Communication**

Communication from FAO concerning the objectives and results of the project will be confined to MAF. The Government of the Sultanate of Oman will handle any additional communication of the results to other stakeholders.

### **2.7 Provision for Evaluation**

The work will be evaluated by the IOTC at its annual meetings of the Commission and its subsidiary bodies, including the Scientific Committee and Working Party on Data Collection and Statistics, together with feedback gathered from the IOTC CPCs, in particular from the selected CPCs for project implementation.

## **SECTION 3 – SUSTAINABILITY OF RESULTS**

The project will utilize the national capacity to design and compile the experimental satellite account. Additional support, if needed, to enhance the existing data collection and information system is expected to facilitate to institutionalize the regular compilation of satellite account. As such the work is anticipated to prove fully sustainable.

## Appendix I: Results Matrix

RESULTS CHAIN	INDICATORS				
	Indicators	Baseline	Target	Means of Verification	Assumptions
<p><b>Impact:</b> Socio-economic consideration well integrated into the fisheries management under the auspice of the IOTC.</p>	Extent of social and economic impact considered in determining the IOTC measures	Status in 2016	50 % of management decision taking social and economic impacts into account	IOTC Report	
<p><b>Outcome:</b> Socio-economic contribution originated from and/or related with the utilization of tuna resources in the Indian Ocean fairly estimated and evaluated in a comparable manner.</p>	Number of CPCs submitting the required social and economic information to the IOTC	None	20% of coastal developing CPCs in 2020	IOTC Report	IOTC agreement on social and economic data submission and their standard formats
<p><b>Outputs:</b> 1. Experimental compilation of fishery satellite account, with divisions originated from and/or related with the utilization of tropical tunas and neritic tunas resources, for selected countries.</p>	Stakeholder satisfaction on the compilation results	Status in 2016	60 % of satisfaction and 80% of recognition of improvement	Feedbacks at the finalization workshop	
<p>2. Practical guideline of compilation of fisheries satellite account and data required</p>	Availability of guideline	None	Dissemination of practical guidelines	Final project reports	

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3. IT system for data collection, processing, and database integration of the selected countries enhanced to support regular compilation of the fishery satellite account.	Delivery of planned enhancement	Status in 2016	Implemented enhancement works as planned in regular working condition	Feedbacks from the stakeholders	
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## Appendix II: Risk Management Matrix

Risk Description	Category	Impact	Likelihood	Mitigating Action(s)	Owner	Status
Inadequacy of data for compilation	M (L for initial two candidates)	H	M (L for initial two candidates)	Pre-implementation data evaluation survey	OFCF Expert	In-project
Lack of country's commitment	L	H	M (L for initial two candidates)	Adequate pre-implementation consultation	OFCF Expert	In-project

## Appendix III: Work plan

Activity		2017			2018				2019				2020
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
	- Development of project contents												
	- Project Agreement signed between IOTC and OFCF												
<b>Activity 1: Preparation and promotion of the concept</b>													
1.1	The concept of the satellite accounts, general methodology and benefits introduced												
1.2	Preparatory consultation with a country interested in the project implementation (plan is for two initial candidates, for others plan to be developed later according to the needs)												
1.3	Pre-implementation survey of data availability and information status of the interested country (plan is for two initial candidates, for others plan to be developed later according to the needs)												
1.4	Project Implementation Agreement formally exchanged (plan is for two initial candidates, for others plan to be developed later according to the needs)												
<b>Activity 2a: Experimental compilation of satellite account for fisheries related activities - Indonesia</b>													
2a.1	The Project counterpart nominated and the Project Board established												



3.4	Training of newly implemented components																			
3.5	Evaluation of the system enhancement																			
<b>Activity 4: Development of practical guideline for designing and compiling the satellite account for fisheries related activities</b>																				
4.1	Historical examples of evaluating social and economic contribution of fisheries related activities assembled																			
4.2	Progress in designing and compilation of experimental satellite accounts recorded and regularly reported																			
4.3	Zero draft of guideline prepared																			
4.4	Workshop to share the experiences of experimental compilation and to review the zero draft of the guideline																			
4.5	Initial draft of the guideline together with the workshop report prepared																			
4.6	External review with interested countries and experts and feedbacks collected																			
4.7	First version of the guideline disseminated																			