



PROJECT DOCUMENT

PROPOSED ACTIVITIES FOR THE YEAR 2020

Project ID: 2020040102

| | | | |
|--------------------------------|---|---|---|
| Program Category: | ASEAN-SEAFDEC ASSP and FCG Mechanism | | |
| Project Title: | Research for Enhancement of Sustainable Utilization and Management of Sharks and Rays in the Southeast Asian Region | | |
| Program Strategy No: | I | Total Period | 2020 - 2024 |
| Lead Department: | Marine Fishery Resources Development and Management Department (MFRDMD) | Lead Country: | None |
| Donor/Sponsor: | Japanese Trust Fund (JTF) | Total Project Budget: | USD 225,000 |
| Project Partner(s): | TD, SECTETARIAT | Budget for 2020: | USD 40,000 |
| Lead Technical Officer: | Wahidah Mohd Arshaad, Senior Research Officer / MFRDMD | Project Participating Country(ies) | Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam |

PART I: PROJECT DESCRIPTION

1. Executive Summary:

In the last few decades, the increase in landing to meet the demand for fins and other downstream products of sharks and rays have caused a decrease in several shark and ray resources worldwide. In order to ensure the survival and sustainable utilization of these resources, many governments in the Southeast Asian region have taken several important steps to mitigate the decrease of the resources. SEAFDEC has undertaken the important step of formulating the Regional Plan of Action (RPOA-Sharks) for the conservation and management of sharks and rays in the region. RPOA-Sharks emphasizes the needs to manage and exploit the shark resources at sustainable level and at the same time safeguarding the livelihood of the fishers in the region. Although sharks and rays are not the targeted fishes for the most fisheries in the region, any decision made on the regulating the international trade by listing several common species in Appendix II CITES will affect the livelihood of traditional fishers and traders in the region. Therefore, the governments need to collect landing and biological data on these species and to prepare management plans when needed. Identification of elasmobranchs (sharks & rays) species is fundamental of data collection and law enforcement related to CITES. Expertise on identification and biological data collection on sharks and rays in the region needs to be strengthened. In addition, information on the utilization of by-catch sharks and rays will be collected and compiled in order to enhance understandings on the importance of sharks and rays in the Southeast Asian region and necessity of fisheries management measures.

2. Background and Justification:

Information on biodiversity of sharks and rays varies across the Southeast Asian region. Indonesia recorded the highest diversity with 114 species from seven orders and 27 families followed by the Philippines with 96 species (nine orders and 27 families), Thailand 76 species (8 orders and 21 families), Vietnam 70 species (7 orders and 23 families), Malaysia 68 species (7 orders, 19 families), Myanmar 64 species (8 orders and 19 families), Brunei Darussalam 45 species (6 orders and 15 families), and Cambodia with 26 species from 5 orders and 10 families. Many species still need to be confirmed and most probably misidentified. In general, data collections and shark and ray studies are limited in many

countries in the region such as Brunei Darussalam, Myanmar, Cambodia and Vietnam. Only a few countries such as Indonesia, Malaysia and Thailand have the historical data and more comprehensive studies on this group of fishes. Most countries in this region are still recording landing of sharks and rays by group (sharks and rays) not up to species level. Some countries still did not include sharks and rays landing in their national statistics. Other information such as biological data, stock structure, spatial and temporal distribution of sharks and rays are still lacking in some countries.

Since the landing of sharks and rays recorded commonly less than 2% of the total marine landing (except for Indonesia normally more than 5% relative to bony fishes), most countries did not allocate specific funding or budgets to conduct data collection up to species level, special training on taxonomy or specific research on shark and ray resources. Landing sites are also scattered, and there are too many private landing sites in some countries. Most countries are also facing lack of expertise and competent officers in elasmobranch taxonomy as well as references in their national languages.

However, the pressure on international trade of sharks and rays is growing. Until 2017, 11 species of sharks and 18 species of rays were listed under CITES. They are basking shark (*Cetorhinus maximus*), whale shark (*Rhincodon typus*), oceanic whitetip shark (*Carcharhinus longimanus*), porbeagle shark (*Lamna nasus*), scalloped hammerhead shark (*Sphyrna lewini*), smooth hammerhead shark (*Sphyrna zygaena*), great hammerhead shark (*Sphyrna mokarran*), great white shark (*Carcharodon carcharias*), silky shark (*Carcharhinus falciformis*), pelagic thresher (*Alopias pelagicus*), bigeye thresher (*A. superciliosus*) and thresher shark (*A. vulpinus*). All those shark species were listed in Appendix II. For rays, all six species of sawfishes (family Pristidae) were listed in Appendix I, all nine species of mobula rays and all three species of manta rays in Appendix II. However, some species such as scalloped hammerhead shark (*Sphyrna lewini*), mobula rays and thresher sharks are considered as common species in some countries in the region such as Indonesia. In the CoP-18 CITES to be held at Geneva in 2019, two species of sharks, all species of guitarfishes and all species of wedgefishes are proposed to be included in CITES Appendix II. Based on the adoption of all proposals to include species of sharks and rays during the CITES CoP-17 in 2016, more species were expected to be listed during the CoP-18. In this regard, the countries needed to conduct a Non-Detrimental Findings (NDFs) study by species if the products of those species are for export purposes. To fulfill NDFs requirements and other management purposes, the countries need to collect landings, biological, socio-economy and trade data on these CITES listed species and to prepare management plans when needed. Expertise on identification, landings and biological data needs to be strengthened. In addition, information on utilization of sharks and rays are very useful in order to enhance understandings on the socio-economy importance of sharks and rays in the Southeast Asian region.

These activities correspond to the 2011 Resolution (No. 10: Strengthen knowledge/science-based development and management of fisheries through enhancing the national capacity in the collection and sharing of fisheries data and information) and Plan of Action (No. 4: Enhance regional fishery information systems and mechanisms to facilitate sharing, exchange and compilation of statistics and information) that are required at sub-regional and regional level and apply, where appropriate, regionally standardized definitions and classifications for statistical data to facilitate regional compilation, analysis and data exchange; No. 76: Increase participation and involvement of Member Countries in international fora and technical committees such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Codex Alimentarius Commission; Food and Agriculture Organization of the United Nations (FAO); Office International des Epizooties (OIE); Regional Fisheries Bodies (RFBs); and World Trade Organization (WTO); and promote ASEAN interest, recognizing that fisheries policies of relevance to the ASEAN region are increasingly discussed and agreed upon at the global level) at the ASEAN-SEAFDEC Conference.

3. Gender Sensitivity of the Project

This is a gender-sensitive project where women and men are given equal opportunity to involved. Gender-sensitive indicators will be analyzed from socio-economic survey data and capacity development program will be conducted. The development of socio-economic survey questionnaire will

include gender-sensitive questions. The sex disaggregated data will also be collected for all activities implemented.

4. Project Goal, Outcome, Outputs, Activities, Indicators and Verification:

2

4.1 Logical Framework

| GOAL (Overall Objectives) | Indicators | Means of Verification |
|--|--|---|
| Sustainable Utilization of Sharks and Rays in the Southeast Asian region. | <ul style="list-style-type: none"> - Incomes of workers (e.g. fishers, traders, processors, etc.) related in the fishery industry will not decrease through sustainable fishery production - Number of AMSs incorporating the management advice on resource utilization in their national policies | <ul style="list-style-type: none"> - Historical bycatch data on sharks and rays provided by enumerators - Data from socio-economic surveys of workers (e.g. fishers, traders, processors, etc.) related in the fishery industry in the Southeast Asia - NPOA and NDF |
| OUTCOME | Indicators | Means of Verification |
| Stock assessments and management advice for Sharks and Rays in the Southeast Asia region | <ul style="list-style-type: none"> - Number of stock assessments and number of publications for shark and ray management - ASEAN Member States (AMSs) implement the strategic program for improving landing data, biological information, marketing and trade channels as well as fishers' livelihood - Well arrangement of fisheries statistics for important species through correct identification by enumerators and easily accessed electronical materials - Establishment of National/state repositories | <ul style="list-style-type: none"> - Conference presentations, publications, technical reports and scientific papers - Government made polices or regulations on the conservation and management based on the latest available information |
| OUTPUT 1 | Indicators | Means of Verification |
| Capacity development in taxonomy, new species/record identifications and management of major shark species | <ul style="list-style-type: none"> - About 40 experts well trained during 4 on-site trainings (10 persons/training: north-Viet Nam, Philippines, Yangan and Kalimantan) and one workshop (for 16 persons/workshop) conducted - Improved fisheries, customs and enforcement officers knowledge in identification of CITES listed species during inspection at sea and ports. - Effective fishery management of important species through clarification of their genetic | <ul style="list-style-type: none"> - Conference presentations - SOP (Standard Operating Procedure), - Technical reports and scientific papers |

| | | |
|---|---|---|
| | structures. - Clarification of genetic structure for major shark species in the Southeast Asian region | |
| ACTIVITY 1 | Indicators: key inputs (Number to be conducted, Where, Time) | Means of Verification |
| Activity 1.1: One training course and workshop on chondrichthyans taxonomy and biology | A five-day Regional training will be conducted at MFRDMD in 2022 | - Training report - At least 2 participants of participating member countries and TD |
| Activity 1.2: On-site training on taxonomy and biology at selected landing sites | Four-day trainings will be conducted in 5 countries (i.e. Cambodia, Indonesia, Philippines Myanmar, and Viet Nam), and shared, exchanged and improved the data and information collections in 2021, 2022 and 2023 | - Training reports - At least 10 local officers at each training |
| Activity 1.3: Meetings on chondrichthyans research and Access and Benefit Sharing in the region | Regional meetings will be organized by MFRDMD to compile and sharing information in 2020 and 2024 | - Meeting reports - At least 2 participants of participating member countries, TD and Secretariat |
| Activity 1.4: Publication of up-dated guidebook on identification of chondrichthyans in the region | New guidebook will be published to update latest information including new species and new records in the region in 2024 | Guidebook in the last year of the project (2024) |
| Activity 1.5: Supporting data collection at least one site in Indonesia, Malaysia, Myanmar, Philippines, Vietnam and Thailand (Proposed by TD and MFRDMD) | Targeting at least one site/year from 2020, 2021,2022, 2023 and 2024 | Long-term landing data very useful for estimating stock and biomass using models like Bayesian Surplus Production model and Bayesian State Space Surplus Production Model |
| Activity 1.6: Training workshops on sharks for stock assessment models (Proposed by TD) | Four-day training workshops in 2021 and 2023. | - Workshop reports - Participants of participating member countries, TD and Secretariat |
| OUTPUT 2 | Indicators | Means of Verification |
| Confirmation of stock structures for at least two common species of sharks/rays and one CITES listed species in participating | Biomass at least two common species estimated from 2022 | Information on biomass of six common species in participating countries |

| | | |
|---|--|--|
| countries (shared-stock or separate stocks) | | |
| ACTIVITY 2 | Indicators: key inputs (Number to be conducted, Where, Time) | Means of Verification |
| Activity 2.1: Study of stock structures of selected species of sharks and rays by genetic markers | 12 populations for mtDNA studies in 3 species (<i>Chiloscyllium hasseltii</i> , <i>Carcharhinus sorrah</i> and <i>Sphyrna lewini</i>) in the 4 regions (WCPM, ECPM, Kota Kinabalu and Tawau) | - Study report - Report presented at international fora and published |
| OUTPUT 3 | Indicators | Means of Verification |
| Development of socio-economic studies in the northern part of Vietnam, Western part of Myanmar and Celebes Island or Kalimantan Indonesia using methods such as Multifactor Partitioning Analysis | Enhancement of legal exports on products of sharks and rays in the SAE region through development of NDF documents. | Government transparencies in marketing and trade control of CITES listed species and endangered species |
| ACTIVITY 3 | Indicators: key inputs (Number to be conducted, Where, Time) | Means of Verification |
| Activity 3.1: Survey on fishers' dependencies, marketing and trade of sharks and rays in the region/country visited | 5 regions covered: mid-Viet Nam, north-Viet Nam, Irrawaddy, Mindanao (Sulu and Sulawesi Seas) and Bali in years 2021, 2022 and 2023 | - Survey report - Information on marketing trade and channels of sharks and rays in participating countries - Development of NDF documents for selected CITES listed species especially considered as common in this region such as <i>Sphyrna lewini</i> , <i>Alopias pelagicus</i> , <i>Alopias superciliosus</i> , <i>Carcharhinus falciformes</i> , <i>Mobula japonica</i> and <i>M. thurstoni</i> . Development of NDF documents for selected CITES listed species especially considered as common in this region such as <i>Sphyrna lewini</i> , <i>Alopias pelagicus</i> , <i>Alopias superciliosus</i> , <i>Carcharhinus falciformes</i> , <i>Mobula japonica</i> and <i>M. thurstoni</i> |

4.2 Project Implementation Plan for 2020 - 2024

| Activities | 2020 | | | | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | |
|------------------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Output 1: | | | | | | | | | | | | | | | | | | | | |
| Activity 1.1 | | | | | | | | | | | X | | | | | | | | | |
| Activity 1.2 | | | | | X | | | | X | | | | X | | | | | | | |
| Activity 1.3 | X | X | X | | | | | | | | | | | | | | X | X | | |
| Activity 1.4 | | | | | | | | | | | | | | | | | | | X | |
| Activity 1.5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Activity 1.6 | | | | | X | | | | | | | | | | X | | | | | |
| Output 2: | | | | | | | | | | | | | | | | | | | | |
| Activity 2.1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Output 3: | | | | | | | | | | | | | | | | | | | | |
| Activity 3.1 | | | | | | | X | | | | X | | | | X | | | | | |

4.3 Proposed Budget for 2020 - 2024

(Unit: USD)

| Output | Activities | Year 1 (2020) | Year 2 (2021) | Year 3 (2022) | Year 4 (2023) | Year 5 (2024) |
|------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Output 1 | Activity 1.1 | | | 25,000 | | |
| | Activity 1.2 | | 5,000 | 5,500 | 8,000 | |
| | Activity 1.3 | 25,000 | | | | 26,000 |
| | Activity 1.4 | | | | | 2,000 |
| | Activity 1.5 | 5,000 | 5,000 | 5,000 | 5,000 | 6,000 |
| | Activity 1.6 | | 21,500 | | 22,000 | |
| Output 2 | Activity 2.1 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Output 3 | Activity 3.1 | | 3,000 | 3,000 | 3,000 | |
| Sub-Total | | 40,000 | 44,500 | 48,500 | 48,000 | 44,000 |

PART II: PROJECT ACHIEVEMENTS IN 2019

Note: No information in 2019 are available since the new JTF 6-II activities will commence in 2020.

PART III: PROPOSED ACTIVITIES FOR THE YEAR 2020

1. Project Summary in 2020:

| |
|---|
| Although sharks and rays are not the targeted fishes for the most fisheries in the region, any decision made on the regulating the international trade by listing several common species in the CITES |
|---|

Appendix II will affect the livelihood of traditional fishers and traders. Therefore, governments need to collect landing and biological data on these species and to prepare management plans when needed. SEAFDEC continues to support the member countries for the sustainable utilization of shark and ray resources. MFRDMD will organize a meeting to introduce the new project in 2020. The meeting aims to introduce the JTF 6-II project on sharks and rays from 2020 to 2024 and to share information regarding the previous JTF project and Access and Benefit Sharing (Convention of Biological Diversity) in the region. TD and MFRDMD will support landing data collection in participating countries. For confirming stock structures of 3 shark species (*Chiloscyllium hasseltii*, *Carcharhinus sorrah* and *Sphyrna lewini*), samples will be collected in the region.

2. Outcome, Outputs and Activities and Proposed Budget:

(Unit: USD)

| Proposed Activities | Descriptions | Proposed Budget |
|---------------------|--|-----------------|
| Outcome | Stock assessments and management advice for Sharks and Rays in the Southeast Asia region | |
| Output 1 | Capacity development in taxonomy, new species/record identifications and management of major shark species | |
| Activity 1.3 | <p>MFRDMD will organize a meeting to introduce the project in 2020. Two participants from each country will be invited. The Core Expert Meeting (CEM) in 2020 aims to obtain information on the current landing data collection and trade of sharks and rays in SEAFDEC Member Countries; to update current national initiatives related to management of sharks and rays; to present the results of the JTF 6 project conducted from 2015-19; to explain the JTF 6-II project on sharks and rays from 2020 to 2024; and to develop appropriate on-site trainings proposal to improve national information collection on sharks and rays in participating countries. The meeting will be conducted in Malaysia.</p> <p><Estimates> Travel Costs (MCs+TD): <i>Air fare: 370 x 2prs x 8 (7 countries + TD); (Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam and TD): \$ 5,920</i> <i>DSA: \$70 x 16prs x 3 days = \$ 3,360</i> <i>Terminal allowances: \$40 x 16 prs = \$ 640</i> <i>Accommodations: \$70 x 16 prs x 4 nights = \$ 4,480</i></p> <p>Travel Costs (MFRDMD): <i>Airfare: \$130 X 7 prs = \$ 910</i> <i>DSA (officers): \$35 x 7prs x 4 days = \$ 980</i> <i>DSA (Secretariat of meeting) = \$30 x 2 prs x 5 day = \$ 300</i> <i>DSA (Drivers) = \$25 x 2 prs x 5 day = \$ 250</i> <i>Terminal allowances: \$80 X 7 prs = \$ 560</i> <i>Accommodations (officers): \$70 x 7 prs x 4 nights = \$ 1,960</i> <i>Accommodations for secretariat & drivers of the meeting \$70 X 2 room (2prs) x 5 nights=\$ 700</i></p> <p>Meeting Arrangements <i>Meeting package: \$70 x 25 prs = \$ 1,750</i> <i>Welcome dinner: \$20 x 30 prs = \$ 600</i></p> <p>Meeting Costs <i>Stationery: \$190</i> <i>Souvenir (t-shirt): \$10x 40 prs = \$ 400</i> <i>Printing of proceeding (ebook): = \$ 900</i></p> | 25,000 |

| | | |
|-----------------|---|---------------|
| | <i>Communications and internet fees: \$ 1,100</i> <i>Total: \$ 25,000</i> | |
| Activity 1.5 | During the JTF 6, TD has supported data collection in Indonesia, Malaysia, Myanmar, Vietnam and Thailand. Data should be collected continuously for at least five years for CPUE and stock assessments. In this regard during the JTF 6-II project, at least one site from each participating country will be sponsored for landing data collection until 2024. <Estimates> <i>Enumerators: \$1,000 x 5 countries = \$ 5,000</i> | 5,000 |
| Output 2 | Confirmation of stock structures for at least two common species of sharks/rays and one CITES listed species in participating countries (shared-stock or separate stocks) | |
| Activity 2.1 | Study of stock structures of two common species of sharks and one CITES listed species in participating countries by genetic markers. At least 30 specimens per species of <i>Chiloscyllium hasseltii</i> , <i>Carcharhinus sorrah</i> and <i>Sphyrna lewini</i> from West Coast of Peninsular Malaysia, East Coast of Peninsular Malaysia, Kota Kinabalu and Tawau will be collected. Study will be conducted from 2020-2024. <Estimates> <i>Sampling (Kuantan)</i> <i>Transport: \$ 300</i> <i>DSA: \$35 x 4prs x 5days = \$ 700</i> <i>Accommodation: \$70 x 4 prs x 4 nights = \$ 1,120</i> <i>Specimens: 90 pcs x \$5 = \$ 450</i> <i>Total = \$ 2,570</i> <i>Sampling (Kota Kinabalu)</i> <i>Air fare: \$350 x 2pr = \$ 700</i> <i>DSA: \$35 x 3prs x 5days = \$ 525</i> <i>Terminal Allowance: \$80 x 2prs = \$ 160</i> <i>Accommodation: \$70 x 3 prs x 4 nights = \$ 1,120</i> <i>Specimens: 90 pcs x \$5 = \$ 450</i> <i>Transport: \$ 200</i> <i>Total = \$ 3,155</i> <i>Research Expenses</i> <i>Consumable equipment supplies: \$600</i> <i>Chemicals and reagents: \$ 500</i> <i>DNA PCR kit: \$ 1,000</i> <i>Marker and primer: \$ 175</i> <i>DNA sequencing: \$25 x 80 samples = \$ 2,000</i> <i>Total = \$ 4,275</i> | 10,000 |

3. Implementation Plan of Activities in 2020:

| Activities | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Output 1: | | | | | | | | | | | | |
| Activity 1.1 | | | | | | | | | | | | |
| Activity 1.2 | | | | | | | | | | | | |
| Activity 1.3 | | | | | | | | | | | | |
| Activity 1.4 | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Activity 1.5 | | | | | | | | | | | | | |
| Activity 1.6 | | | | | | | | | | | | | |
| Output 2: | | | | | | | | | | | | | |
| Activity 2.1 | | | | | | | | | | | | | |
| Output 3: | | | | | | | | | | | | | |
| Activity 3.1 | | | | | | | | | | | | | |

4. Expected Activity Results in 2020:

| Planned activity | Expected Activity Results |
|---|--|
| Output 1 Capacity development in taxonomy, new species/record identifications and management of major shark species | |
| Activity 1.3: Meetings on chondrichthyans research and Access and Benefit Sharing in the region | <ul style="list-style-type: none"> • Understanding of the Phase II JTFVI project on sharks and rays from 2020 to 2024 • Sharing information regarding the previous JTF project and Access and Benefit Sharing (Convention of Biological Diversity) in the region |
| Activity 1.5: Supporting data collection at least one site in Indonesia, Malaysia, Myanmar, Philippines, Vietnam and Thailand (proposed by TD and MFRDMD) | <ul style="list-style-type: none"> • Starting data collection in participating member countries |
| Output 2 Confirmation of stock structures for at least two common species of sharks/rays and one CITES listed species in participating countries (shared-stock or separate stocks). | |
| Activity 2.1: Study of stock structures of selected species of sharks and rays by genetic markers | <ul style="list-style-type: none"> • Collection of samples (<i>Chiloscyllium hasseltii</i>, <i>Carcharhinus sorrah</i> and <i>Sphyrna lewini</i>) |