



PARTNERSHIP APPRAISAL AND PRIORITIZATION REPORT: VIETNAM

The USAID Oceans and Fisheries Partnership



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ACRONYMS AND ABBREVIATIONS

ACDS ASEAN Catch Documentation Scheme
ASEAN Association of Southeast Asian Nations

ASF ASEAN Seafood Federation

CDT Catch Documentation and Traceability

CTI-CFF Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security

D-FISH Vietnamese Directorate of Fisheries Vietnam

DARD Department of Agriculture and Rural Development
eACDS Electronic ASEAN Catch Documentation Scheme
eCDT Electronic Catch Documentation and Traceability

EU European Union

GIZ German International Aid Agency

ICT Information and Communications Technology

IUU Illegal, Unreported and Unregulated

MARD Ministry of Agriculture and Rural Development

NFI National Fisheries Institute

NGO Non-Governmental Organization
PPC Provincial People Committee
PPP Public Private Partnership

RIMF Research Institute for Fisheries Management

SARD Sustainable Agricultural Rural Development Initiative
SEAFDEC Southeast Asian Fisheries Development Center

SFP Sustainable Fisheries Partnership

SIAS Seafood Industries Association Singapore

SIMP United States Seafood Import Monitoring Program

USAID U.S. Agency for International Development

USAID Oceans U.S. Agency for International Development Oceans and Fisheries Partnership

VASEP Vietnam Association of Seafood Exporters and Processors

VCCI Vietnam Chamber of Commerce and Industry

VIFEP Vietnam Institute of Fisheries Economics and Planning

VINAFIS Vietnam Fisheries Association
VINATUNA Vietnam Tuna Association
WWF World Wide Fund for Nature

EXECUTIVE SUMMARY

The U.S. Agency for International Development Oceans and Fisheries Partnership (USAID Oceans) is a five-year activity, working in partnership with the Southeast Asian Fisheries Development Center (SEAFDEC), the Coral Reefs, Fisheries, and Food Security (CTI-CFF), and a wide range of public and private sector partners at regional, national, and local levels. USAID Oceans combats illegal, unreported, and unregulated (IUU) fishing and conserves marine biodiversity in the Asia-Pacific region through support for the design, development, and implementation of electronic catch documentation and traceability (eCDT) systems. The program works across Southeast Asia with ASEAN member countries, with two learning sites in General Santos, Philippines and Bitung, Indonesia. Since the program's launch, USAID Oceans has worked across ASEAN member countries to support enhanced traceability efforts, and in 2017 and 2018 engaged heavily with Expansion Site Countries, including Vietnam, to complete catch documentation and traceability (CDT) analyses and partnership appraisals.

To improve transparency in the seafood supply chain and ensure the successful implementation of eCDT systems, USAID Oceans engages a variety of fisheries stakeholders, including governments, intergovernmental organizations, seafood industry associations, technology companies, fisher groups, and non-governmental organizations (NGOs) as partners in eCDT system design, testing, and implementation. USAID Oceans develops and implements partnerships to enhance industry support and participation, leverage public and private sector resources in support of system implementation and deploy cutting edge innovation to improve connectivity and data collection. USAID Oceans also works with its partners to build their capacity in executing public and private partnerships (PPPs).

Drawing on the program's expertise and experience in developing effective PPPs, over 2017 and 2018, USAID Oceans engaged with the government of Vietnam to conduct a Partnership Appraisal to identify high-value partnership opportunities, which is linked to a complementary CDT Gap Analysis Report. USAID Oceans' Partnership Appraisals are conducted through a multi-step process, including desk research, field interviews, and participatory work sessions designed to uncover opportunities for public-private collaboration. During the process, USAID Oceans' PPP and CDT teams worked together closely to engage buyers, seafood companies, and organizations working on seafood traceability to identify their interests, challenges, opportunities for collaboration, and to design an eCDT roadmap that supports eCDT system design and implementation. This report summarizes the main findings of the Vietnam Partnership Appraisal, as well as recommendations for next steps to develop partnerships that will support eCDT implementation.

Across its Expansion Site Countries, the program has found that seafood supply chains are commonly complex and fragmented, using paper-based catch documentation and certification systems as the predominate tool for traceability. With the increasing pressure on the fisheries export industry, particularly by EU regulations and the U.S. Seafood Import Monitoring Program (SIMP), fisheries authorities and seafood industries across the Southeast Asia have noted their recognition of the importance of improving CDT protocols by moving from paper-based to digital systems, as well as the value of leveraging partnerships opportunities to facilitate eCDT system design and implementation.

USAID Oceans' research in Vietnam uncovered many opportunities to leverage current system strengths, as well as identified numerous technical, financial, economic, and psychological barriers that highlight the need to demonstrate the business case and added value of eCDT systems, for both government and the private sector. This Partnership Appraisal Report identifies recommended approaches to identify and engage with a range of key organizations, customized for Vietnam's specific country systems and contexts. USAID Oceans is pleased to continue its role as a technical advisor in order to support effective government-led partnerships, where partner roles and responsibilities are clearly stated under a legal framework that can create the conditions required for a sustainable eCDT system and an improved seafood supply chain.

I. INTRODUCTION

The U.S. Agency for International Development Oceans and Fisheries Partnership (USAID Oceans) is a five-year activity, working in partnership with the Southeast Asian Fisheries Development Center (SEAFDEC), the Coral Reefs, Fisheries, and Food Security (CTI-CFF), and a wide range of public and private sector partners at regional, national, and local levels. USAID Oceans combats illegal, unreported, and unregulated (IUU) fishing and conserves marine biodiversity in the Asia-Pacific region through support for the design, development, and implementation of electronic catch documentation and traceability (eCDT) systems. The program works across Southeast Asia with ASEAN member countries, with two learning sites in General Santos, Philippines and Bitung, Indonesia. Since the program's launch, USAID Oceans has worked across ASEAN member countries to support enhanced traceability efforts, and in 2017 and 2018 engaged heavily with public and private sector partners in Vietnam to complete a catch documentation and traceability (CDT) analysis and partnership appraisal.

The following report proposes different pathways that can be taken to build dynamic partnerships, as well as identifies some key organizations that could play positive roles in system development. In the context of the fishing industry, government-led partnerships require a step-by-step approach to first engage all internal government agencies, to agree on common objectives, roles and responsibilities, resources allocations, and a timeline. Such engagement can take the form of a dedicated CDT task force with representatives from all relevant agencies, a clearly defined organization, specific capacities, budget, and planning. Then, taking a leading role, the relevant fisheries authority – or CDT task force – may identify and engage external public and private partners based on their contribution and interest to test the usability and scalability of a CDT system. Such engagement may require a government agency to use both its authoritative power and specific incentives to promote CDT and motivate engagement.

In other circumstances, a model where there is a close collaboration and co-investments between the public and private sector could also be a viable option that requires less resources from the public sector. The eCDT system will then be co-financed and managed by private companies while relevant government agencies would be systems users for data collection and the validation process. This option also requires less resources for the government to promote adoption since the industry 'First Movers' will voluntarily adopt the system.

Regardless of the partnership model, throughout the process of developing and implementing an eCDT system, continuous stakeholder engagement is vital. Government and industry association play a key role in marketing and promoting the eCDT system as a way to increase seafood industry competitiveness, products' quality and safety, and ultimately create new market opportunities. The scalability and sustainability of the eCDT relies heavily on continuous support and commitment from both the public and private sector.

I.I USAID Oceans' Partnership Strategy

To improve transparency in the seafood supply chain and ensure the successful implementation of eCDT systems, USAID Oceans engages a variety of fisheries stakeholders, including governments, intergovernmental organizations, seafood industry associations, technology companies, fisher groups, and non-governmental organizations (NGOs) as partners in eCDT system design, testing, and implementation. USAID Oceans develops and implements partnerships to: enhance industry support and participation, leverage public and private sector resources in support of system implementation and deploy cutting edge innovation to improve connectivity and data collection. USAID Oceans also works with its partners to build their capacity in executing public and private partnerships (PPPs).

USAID Oceans' partnerships have been formed with governments, regional institutions, and the private sector aim to achieve the following objectives, and encourages its partners to develop their own partnerships that meet these criteria:

- Industry Support and Participation. USAID Oceans develops strategic, market-driven partnerships that capitalize on industry technical expertise, market position, and capacity to engage national and local government counterparts. Developing partnerships in the seafood industry has anchored USAID Oceans-supported eCDT systems within the seafood industry's regional and international realities, while bolstering system scalability and sustainability. Engaging buyers, industry, and non-governmental organizations (NGOs) is essential to motivating suppliers to adopt and scale eCDT and establishes a forum for common industry dialogue on traceability standards and requirements.
- Long-Term Sustainability. USAID Oceans engages development organizations, foundations, and
 other partners to leverage public and private sector funding that can further investments into
 traceability initiatives. Banks, impact investors, and other financial institutions are ideal candidates for
 providing sustainable investment and financing mechanisms to address cost barriers and support
 wider system adoption.
- Deployment of Cutting-Edge Technology. USAID Oceans partners with technology providers
 to harness the latest communication technologies and traceability innovations to ensure the eCDT
 systems is supports are developed and implemented with the best available connectivity, data
 capture, and transmission capabilities.
- Capacity Building. USAID Oceans strongly believes that robust partnerships are a critical foundation for any eCDT project and thus engages national fisheries agencies to build their capacities in developing partnership strategies, identifying high-value partnerships, and executing partnership agreements to further national and local objectives.

USAID Oceans has focused on identifying partners to support eCDT system design and architectural development; developing market-driven partnerships in its learning sites and along the value chains to key markets; and developing partnerships with key 'Information and Communications Technology' (ICT) companies with proven technology and applications that enable cost-effective "first mile" data collection at-sea and in landing sites. USAID Oceans continues to expand its market/buyer partnerships and ICT partnerships to establish end-to-end digital traceability in its learning sites in Indonesia and the Philippines.

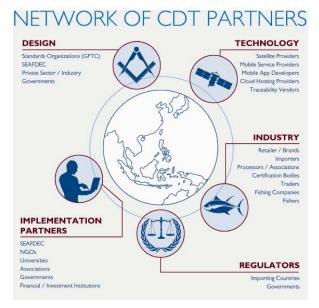


Figure I. Diagram of USAID Oceans' partnership approach

1.2 Methodology and Approach

Partnership Appraisals identify high-value partnership opportunities and provide recommendations to support a government-led implementation of eCDT systems in a specified country. To complete this Partnership Appraisal, close coordination was required between USAID Oceans' PPP and CDT teams, under the authority of the Vietnam Department of Fisheries.

The Appraisal was implemented in the following three key stages:

- Desk research and stakeholder mapping to create a list of relevant companies and organizations;
- 2. Fieldwork to interview priority companies and organizations; and
- 3. **Validation workshop** to refine and finalize the initial findings and partnership concepts from the Partnership Appraisal and CDT Gap Assessment and secure commitments from relevant ministries.

USAID Oceans' Partnership Appraisals focus on the identification of key stakeholders to participate in eCDT system design and testing, and as such engaged the following key stakeholder groups:

- Governmental agencies involved in the seafood supply chain, including fisheries, rural
 development, trade and industry, customs, and coast guard agencies to facilitate interoperability
 between current and existing systems and validation processes;
- **Industry stakeholders** with interests in exporting to the EU and US markets, including fishermen, vessel owners, processing companies, buyers, exporters, and industry associations;
- Information and communication technology companies, such as mobile and satellite
 telecommunication service providers, smart devices suppliers, and data analytics services, to
 provide the technical foundation for digital data collection and validation; and
- Conservation and non-profit organizations, including NGOs and international aid agencies, who are already involved in fisheries management and transparency programs, to build on their connection and valuable experience in engaging diverse stakeholders around traceability.

Following eCDT system design, development, implementation, and testing, USAID Oceans encourages its partners to scale eCDT systems at a national level—and beyond. As such, in consideration of longer term goals to bring eCDT systems to scale, strategic approaches need to be developed to both extend the number of stakeholders involved with the eCDT system and to develop new engagement opportunities. As such, USAID Oceans' held discussions with Appraisal participants to develop a strategy for:

- Engaging additional associated stakeholders related to the seafood industry, such as
 financial institutions and insurance companies, who can provide the significant incentives for an
 eCDT system implementation and scale;
- Developing specific incentives for companies using the eCDT system with specific rewards (i.e., easier licensing and certificate approval and renewal, subsidies for small scale, etc.) to ensure industry commitments and embed eCDT system in their day-to-day process; and
- Developing a marketing strategy in concert with other departments and industry
 associations to promote the eCDT systems in terms of seafood industry competitiveness,
 product quality, and safety that could create new market opportunities.

The Vietnam Partnership Appraisal was conducted by USAID Oceans' local consultants, Mr. Thong Nguyen Ba and Ms. Cu Thi Le Thuy, in collaboration with USAID Oceans' CDT Gap Analysis consultant, Mr. Hao Tran.

1.3 Organization of the Report

This report presents USAID Oceans' Partnership Appraisals findings through four key sections: (i) an introduction to the country's partnership with USAID Oceans; (ii) background on Vietnam's fisheries sector and context for the partnership appraisal; (iii) appraisal findings; and (iv) partnership recommendations. Partnership Appraisal studies were done in parallel with CDT Gap Analyses, which can be accessed online at www.seafdec-oceanspartnership.org/resources.

2. VIETNAM PARTNERSHIP APPRAISAL FINDINGS

USAID Oceans worked closely the Vietnam Directorate of Fisheries (D-FISH) to assess Vietnam's tuna fisheries readiness for eCDT through a CDT Gap Analysis and this corresponding Partnership Appraisal to identify potential partnership opportunities to support eCDT system design and implementation. The following section presents Partnership Appraisal findings. Findings from the CDT Gap Analysis can be found online at www.seafdec-oceanspartnership.org/resource/vietnam-cdt-gap-analysis-and-partnership-appraisal.

2.1 Introduction

Vietnam's fisheries export industry has been facing increased pressure, particularly as a result of EU regulations and the 2018 launch of the U.S. Seafood Import Monitoring Program (SIMP). As such, under their partnership with USAID Oceans, the Vietnamese Department of Fisheries expressed their interest in improving the nation's CDT system by moving from a paper-based to a digital system and leveraging partnership opportunities to facilitate its design and implementation.

USAID Oceans completed its Vietnam Partnership Appraisal from October 2017 to February 2018. During October and November 2017, USAID Oceans visited Nha Trang, Vietnam to conduct research for the CDT Gap Analysis and Partnership Appraisal. Under this study USAID Oceans conducted 35 interviews with industry associations, fisheries, processors, government, and port authorities to understand the specificities of the local context and gather key information and feedback on their interest/capacities to develop and implement an eCDT system. To validate and finalize the team's findings, on December 14, 2017, USAID Oceans and D-FISH organized a stakeholder validation workshop in Nha Trang to consult with relevant stakeholders, refine key findings, and provide concrete input for the final assessment. Following, from January to February 2018, USAID Oceans' local consultants reviewed the outcomes of the validation workshop, conducted additional research and interviews, and contacted additional stakeholders to confirm their interest in a potential collaboration.

2.2 Country Context

Since 1997, Vietnam's fishery industry has been growing considerably in terms of the number of fishing vessels, which increased from 71,500 in 1997 to 110,950 in 2016 as well as its total annual landing volume, which increased from 1.08 million million tons (MT) in 1997 to 2.93 million MT in 2016. Binh Dinh, Phu Yen and Khanh Hoa are the main oceanic tuna fishing provinces in Vietnam.

Vietnam's sizeable industry has faced recent regulatory challenges, with the European Union issuing the country a "yellow card" in October 2017. As a result, several urgent priorities were identified, such as improving the legal framework for fisheries management, scaling up the country's VMS systems, enhancing catch monitoring and traceability, banning "blue boat" operations, and using an evidence base for management. These recommendations, as well as new U.S. SIMP regulations have encouraged Vietnam to rapidly move for fisheries reform. In addition, international and regional instruments related to combating IUU fishing and promoting traceability for seafood import/export have put pressure on the Vietnamese government and fisheries industry sector to demonstrate full transparency and traceability to exporting markets and take the appropriate measures, such as the development of an eCDT system. These instruments include the Port State Measures Agreement (PSMA, 2009), UNFSA (1995), the FAO Compliance Agreement (1993), and the United Nations Convention on the Law of the Sea (1982).

Recognizing the importance of the fisheries sector for the country economy and the need to achieve sustainable seafood production, the Vietnamese government has developed national Plan of Action to prevent, mitigate and combat IUU fishing practices. Aligning with this plan, the Vietnamese Directorate of

Fisheries Vietnam (D-FISH) is working to move from a paper-based catch documentation to an eCDT system and requested assistance from USAID Oceans to assess its current systems and provide recommendations for future system development.

2.3 Appraisal Findings

The CDT gap assessment and partnership appraisal in Vietnam (based in Hanoi and Nha Trang) were conducted from October 2017 to February 2018 by holding discussions with over 35 stakeholders from government, civil society, and industry. The following section presents key findings from USAID Oceans' research.

2.3.1 Industry

Partnership Appraisal interviews with members of industry highlighted several key opportunities, challenges, and recommendations for consideration, including identifying and offering clear incentives and rewards systems, from both government and buyers, to convince supply chain actors (including both boat owners and captains) to share more information and support the implementation and deployment of a new eCDT system. Industry members who participated in the appraisal were from all nodes of the supply chain, from small-scale fishers, fishing companies, and processing companies.

Tuna processors that USAID Oceans interviewed understand the growing market demand for sustainable tuna sourcing and the benefits of an eCDT system to improve traceability, meet buyers' requirements for export markets, sustain business with existing buyers, and gain access to high value markets (in particular in the EU and US).

Opportunities

USAID Oceans observed good traceability practices amongst several long and handline tuna fishery actors, that could be leveraged in eCDT system implementation, including from Hung Vuong, Tin Thinh, the Sustainable Seafood Company, Anova, and the Fishing and Living Program. In addition, interviewed tuna processors understood the growing market demand for sustainable tuna sourcing and the benefits of eCDT to improve their traceability management systems, meet buyers' requirements in export markets, sustain business with existing buyers, and obtain access to high value markets like the EU and US. They recognize that production planning, marketing, and certifications can provide some advantages in setting up a cost-effective and efficient seafood traceability system. Some seafood processors and buyers, such as Anova, Hung Vuong, Tin Thinh, Sea Delight, and the Sustainable Seafood Company are already involved in the WWF-led tuna long line and hand line Fisheries Improvement project (FIP) that provides certain good practices in traceability for the yellow-fin tuna supply chain in Vietnam—thus, they are already familiar with and prepped to implement new, advanced traceability protocols. These participants indicated that their raw material suppliers, including skippers, boat owners and buyers, would be able to record and maintain data in e-logbook or electronic systems. Through the Appraisal, several potential First Mover partners were identified, listed in Annex I.

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 $^{^1\ \}text{http://seafoodsustainability.org/portfolio/vietnam-yellow fin-tuna/}$

During Appraisal interviews, industry members identified several potential challenges to be considered in eCDT system design and implementation. Tuna fishers in Nha Trang City voiced concern on their ability to maintain an eCDT system without sufficient incentives. Sharing such detailed information, including capture locations, type of species, and volume represents a risk to lose potential catch areas to competitors, especially in a context of declining tuna stocks and higher competition with a growing number of fishing fleets. In addition, recording and maintaining a paper-based CDT system is still considered as time consuming and is some cases is not necessary as fishers usually sell their products to wholesalers who do not often require traceability information. Converting these potential users will need particular attention. Most tuna fishers in Nha Trang City also cited several other potential challenges, including the extra costs related to the purchase and use of new devices and airtime requested for data collection, and that data security and retention is perceived as a new threat to uses, particularly related to capture information. These findings confirmed the need to present concrete benefits of eCDT with industry members, including assurance that data will be confidential, and participation rewarded.

For tuna processors, getting sufficient CDT information is also considered to be a laborious process. Most tuna processing factories in Nha Trang source raw materials domestically, either directly from fishers or from traders in Binh Dinh, Phu Yen, Khanh Hoa, and Quang Ngai provinces. In most cases, the CDT information is difficult to verify, as the captain is not always available, or does not meet minimum requirements. To address this issue, some tuna processors have directly arranged supply contracts with local fishing vessels and importers as they are also sourcing raw materials from other countries including Thailand, South Korea, Taiwan, and Indonesia and have accompanying CDT documentation. While the implementation of an eCDT system has the potential to ease these challenges, small-scale buy-in and data validity must be considered addressed.

2.3.2 Information and Communication Technology Providers

In Vietnam, marine satellite communication equipment and technology is available nationwide and provided by several large companies such as the Vietnam Post and Telecommunication Group, Vietnam Maritime Communication and Electronics LLC, VTC Telecommunications JSC, HT Vietnam Services Joint Stock Company, Zunibal, Viettel, among others. However, despite high interest in applying technology in the fisheries sector, Appraisal research found that technology providers are keeping a cautious approach, looking for more clarity in future regulations, including future regulations for satellite communications services and VMS licensing that will determine who has authority to operate and sell to fishing companies.

Potential partners identified through the Appraisal include:

- **VIETTEL** The largest telecom company in Vietnam and partners of Zunibal, which designs information and communication technology solutions for the fishing sector, including VMS.
- VISHIPEL Vietnam Martine Communications and Electronics provides marine satellite communication equipment and services in Vietnam. As an Inmarsat Silver Partner, the company has experience in providing satellite communication services to maritime fleets, including fishing vessels, and represents an added value in terms of experience and expertise on the Vietnamese market.
- VTC Telecom Part of the Vietnam Post and Telecommunication Group that contributed to the
 development of the largest telecom network in Vietnam. Since 2016, they have partnered with
 satellite provider, Thuraya, which has demonstrated high interest in scaling their solutions to the
 fishing industry.
- Hanoi Telecom (HTC) Has developed a traceability solution called DeepTrace, a potential solution to be harnessed by D-FISH.

2.3.3 Associations, Organizations, and Research Institutes

A range of well-established organizations were identified through the RPA that have the potential to provide valuable support for the eCDT system's design, promotion and implementation. A diverse group of well-established industry associations and conservation organizations could provide valuable support.

Seafood Industry Associations, like the following, play a key role in building trust with fishers, traders and processors; mobilizing active participation; and conducting trainings on data recording technology.

- VinaTuna was identified as the most promising partner due to its strong leadership at the national level in the tuna sector and its large membership of tuna fisheries, processors, importers, and exporters. They already partner with the Vietnamese government, VINAFIS, VASEP, and play a coordination role in the yellowfin tuna FIP with WWF-Vietnam. They have launched activities to raise awareness on sustainable fishing practices and traceability and are interested in taking a lead role in designing the eCDT system and engaging its members to promote adoption.
- Vietnam Association of Seafood Exporters and Producers (VASEP) is a well-established organization
 working with seafood industry members to enhance their products' competitiveness, access the
 export market, and build connections with international partners, such as the US-based National
 Fisheries Institute (NFI); ASEAN Seafood Federation (ASF); Seafood Industries Association;
 Singapore (SIAS); Vietnam Chamber of Commerce and Industry (VCCI).
- Vietnam Fisheries Society (VINAFIS) has members from a wide range of fisher operations across the
 country. VINAFIS has been involved in several programs promoting good practices and developing
 fisheries management policy, working closely with central and local governments.
- The Seafood Task Force is an industry-led group that includes seafood processors, feed producers, buyers, retailers, with government and NGOs observers. Previously known as the Shrimp Task Force, the group has addressed issues surrounding labor and illegal fishing in Thai seafood supply chains and has now expanded its activities to include all seafood products. The Task Force has expressed interest in promoting eCDT in fishing industry across Southeast Asia, including in Vietnam where Task Force members have business connections in the country, particularly with shrimp and tuna fisheries.

Non-Governmental Organizations/Conservation Agencies

- WWF Vietnam is particularly active in promoting FIPs for the tuna industry in Vietnam and has built strong connections with local industry associations. WWF has significant experience in Vietnam fisheries and is already a member of the Partnership for Sustainable Agriculture in Vietnam (PSAV)², which is engaged in a number of fisheries projects to promote sustainable seafood in the country.
- The Sustainable Fisheries Partnership (SFP) is deeply involved in numerous fisheries-related number
 of projects in Southeast Asia, as well several important fisheries roundtables/supply roundtables such
 as the Seafood Task Force.
- Oxfam has been established in Vietnam for a long time, but only recently started to work in the seafood sector, cooperating with VINAFIS on shrimp aquaculture projects and labor right issues.
 Based on this initial work, Oxfam expressed interest in extending its activities in the fisheries sector with a gender and social angle.

Academia

 The Nha Trang University-Institute for Marine Science and Fishing Technology already provides training and conducts research in fishing technology, fisheries resource management, and marine science. Therefore, the institute should be involved in future partnerships to provide technical

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² http://psav-mard.org.vn/fisheries.htm

expertise in fisheries management and support eCDT implementation through capacity building and awareness-raising activities.

2.3.4 Labor and Welfare

This assessment had limited exposure to labor and welfare issues. In conducting the assessment, the following details were gathered in relation to CDT protocols, capabilities, and areas of opportunity but are not a comprehensive report on human welfare conditions in Vietnam's fisheries sector.

Bearing the characteristics of a small-scale fishery, many fishers involved in the industry are part-time fishers and the country has no fisher registration, even though some bylaw documents such as Decree 66/2005/NDCP have been established which regulates that fishing vessels must be accompanied by a list of crew and that vessel owners must buy at-sea insurance for crew and other peoples working onboard. The decree also regulates that that fishing vessel must be equipped with at sea safety equipment, a communication system to ensure the safety of the crew and the vessel, and a working contract between the crew and vessel owner. Vietnam's government has a program to support insurance for fishing and support vessels, and in some cases, fishing vessel owners may receive financial support to buy communication devices. The government also provides a subsidy for capacity building in use of new technologies, fishing gears, and vessels. Important infrastructure and facilities for the fishing industry, such as fishing ports, landing sites, and shelters, are also invested in by the state budget.

In relation to seafood processing, many companies were found to operate with a high level of concern for social and human welfare issues, particularly to comply with buyer and market requirements. Some certain International Organization for Standardization (ISO) standards and third-party certificates, like MSC, have mandatory social responsibility standards for approved processing plants and seafood items. Research found that most processors utilize working contract and strictly comply with national labor law in terms of working hours and conditions. According to current labor laws, all labors working for more than three months must be provided with social security and health insurance, which seafood processing plants are normally in compliance with.

3. PARTNERSHIP RECOMMENDATIONS

Based on the findings from the Partnership Appraisal, coupled with CDT Gap Analysis results, USAID Oceans has developed the following recommendations to support the Vietnam Department of Fisheries to develop an appropriate eCDT system engagement strategy, identify high-value partnerships that will leverage additional system resources, and ensure the overall success of the eCDT system's design and implementation.

USAID Oceans recommends that D-FISH follow a step-by-step approach, including the following key steps:

- Engage key industry stakeholders (fishermen, vessel owners, processing companies, buyers, exporters) with interests in exporting to the EU and US markets in the design and implementation of the eCDT system.
- Engage key information and communication technology companies, such as mobile and satellite telecommunication service providers, smart devices suppliers, data analytics services, to provide the technical foundation for digital data collection and validation.
- Engage other associated stakeholders related to the seafood industry, such as financial
 institutions and insurance companies, who can provide significant incentives for eCDT system
 implementation and scaling.

- Identify specific incentives for companies using the eCDT system with specific rewards (i.e. easier licensing and certificate approval and renewal, subsidies for small scale, etc.) to ensure industry commitments and embed eCDT in their day-to-day process.
- In the longer term, develop a marketing strategy in concert with other departments and industry associations to use eCDT as a tool to increase Vietnam seafood industry competitiveness, promote Vietnam seafood products' quality, safety and responsibility, and create new market opportunities.

In terms of partnership implementation, USAID Oceans suggests two partnership concepts to support the design and development of the CDT system in Vietnam, as listed in the following subsections. Both concepts, based on co-investments and/or co-management between government and industry, align with Vietnam's public and private partnerships approaches to upgrade infrastructure in priority sectors.

3.1 Government-Led Investment and Management

This concept focuses on a fully government-led approach in terms of capital investment and system management, in which the central and local governments support infrastructure investments (IT infrastructure, VMS systems and other devices needed such as tablets, communication/internet lines, etc.) and fisheries agencies manage and operate the system. This concept requires strong engagement and coordination between all seafood-related governmental institutions, at local and national levels, including the Fisheries Information Center (FiCen), Fishing Vessel Information Center under D-FISH, and port authorities.

Under this concept, technology and traceability systems providers (including software/hardware, data analytics services) deliver technical solutions, devices, and training activities with a fee-based system, either paid by the government or seafood industry using the system. For awareness raising and capacity building purposes, the government will leverage existing collaborations with key fisheries and processors, industry associations, academia (university, research institute), local and international conservation organizations.

The benefit of such an approach is that system buy-in is increased and the system itself is integrated across all governmental agencies, aligning with the centralized governmental system used in Vietnam. This concept, however, requires strong government leadership to unite institutions under an internal cross-department partnership model with clear roles and responsibilities and transparent leadership. It is also important to ensure that such an approach addresses industry concerns related to data storage and confidentiality. Both the central government and technology providers will need to make the necessary commitments to ensure confidentiality as a condition for a trust-based and long-term engagement from the fishing industry.

Under this concept, the following partner roles and responsibilities are recommended.

Table I. Roles and responsibilities of relevant stakeholders

Stakeholder	Role	Responsibility	Method of implementation	Remarks			
Strategy I: Capital investment and system management by state government							
Central	System owner	Financial	Develop an	D-FISH/ and			
Government		investment (cover the costs for installation of VMS and relevant devices, airtime and services)	investment plan to support eCDT implementation	Ministry of Agriculture and Rural Development (MARD) and relevant ministries (Finance, Investment, Information) and			

				approved by the Prime Minister
Local Government	System owner	Financial investment	Develop a co- investment plan to support eCDT implementation, local fishers/vessel owners and seafood processors/traders to develop co- investment plan for CDT	Department of Agriculture and Rural Development (DARD) and Provincial People Committee (PPC) in collaboration with D- FISH/MARD
Port Authority	Operate CDT	 Capacity building, Operate Catch declaration database, Monitor vessel license database 	Collaborate with DARD, D-FISH	Designated ports nominated by central government
Provincial Dept. of Fisheries	Operate CDT	 Capacity building, Operate Catch declaration database, Monitor VMS, Licensees, catch documentation across supply chain Manage CC database 	Develop guidelines for seafood/fish supply chain, local authorities (Department of fisheries, port authority) in implement CDT	In collaboration with SARD, D- FISH/MARD
Fisheries Associations	Capacity building	Capacity & Awareness building	Members engagement and trainings	VINAFIS, VASEP, local fisheries associations
Regional Fisheries Management Organization (RFMO)	Capacity building	Capacity building via pilot project e.g. application of ACDS	Cooperation through SEAFDEC mechanisms	D-Fish, SEAFDEC
VMS Technology Providers	Provide VMS devices and relevant applications	- Provide devices (VMS, PDA and accessories) and applications / software - Maintain VMS system/application	- Comply with bidding procedures promulgated by government - Payment by either central government or seafood industry	Viettel in partnership with Zunibal, Inmarsat/Vishipel etc.
Traceability Technology Providers	Provide traceability technology in supply chain (from vessel to table)	Provide applications/ software	- Comply with bidding procedures - Payment by either central	HTC/Deeptrace / ICheck/RTA etc.

Vessel owners	- Operate VMS - Provide input for eCDT system (data on catch, species, transshipment, declaration based on regulations)	Maintain the traceability system Comply with regulations on installation and operation of VMS on board, provide information for logbook/catch report/declaration and transshipment	government or seafood industry - MCS and enforcement - Capacity and awareness building (workshops, dialogues, forum etc.) - Pilot projects	
Seafood supply chain (fish buyers, retailers, seafood/fish processors)	- Request & validate suppliers' data to provide sufficient information for traceability, internal traceability in the processing plants	Implement traceability system (track, update, maintain) for seafood/fish products at every step (critical events)	All supply chain stakeholders' agreement on traceability system interoperability and ethical code of conducts	
NGOs (global and local)	- Capacity building & awareness raising in cooperation with seafood supply chain and government - Funding mechanism for small-scale fishers	Based on specific requests from seafood supply chain or interests by donors whom are interested in promoting sustainable fishery in Vietnam	Involve in seafood supply roundtables, forum, dialogues etc.; fundraising and piloting relevant projects/activities	Seafood Task Force, SFP, WWF, German aid agency (GIZ), IDH Sustainable Trade Initiative, SNV etc.
Academia	Provide capacity building, awareness raising in cooperation with seafood supply chain and government	Based on specific requests from seafood supply chain; implement the relevant assignments by government	 Involve in seafood supply roundtables, forum, dialogues etc.; Fundraise and pilot relevant eCDT projects/activities 	Nha Trang University, Research Institute for Fisheries Management (RIMF), Vietnam Institute of Fisheries Econo mics and Planning (VIFEP), etc.

3.2 Market-Driven Investment with Government Management

This concept focuses on a co-investment approach in which the government requests the private sector (technology and software providers, fishers/vessel owners, seafood buyers) to co-finance IT installations, device and software purchase, and build a co-management model. The eCDT system will be managed by private companies in charge of maintenance and operations, with direct payments from the seafood industry under a PPP agreement to ensure fair pricing rules. Relevant government agencies and seafood supply chain stakeholders would be systems users for data collection and the validation process. Similar to the previous

concept, the awareness-raising and capacity-building component is conducted in collaboration with relevant fisheries associations, academia (university, research institute/ centers), local/international NGOs

This is concept, based on the public and private partnership model, aims to develop a cost-sharing investment model while ensuring long-term commitments from all stakeholders. As the government will hand over some key responsibilities to the private sector under this strategy, the partnership agreement will need to be particularly well defined in terms of roles, responsibilities, and cost/revenue sharing. As mentioned previously, such a model requires higher commitments in terms of data security and confidentiality at both central/local government and technology providers levels.

Table 2. Roles and responsibilities of relevant stakeholders

Stakeholder	Role	Responsibility	Method of implementation	Remarks
	nvestment by fishing ers will manage, mai			nt will operate
Central Government	System owner	Provides co-finance (costs for VMS and relevant devices, accessories, IT infrastructure)	Develop co- investment plan for eCDT implementation nationwide, involving industry, processors and buyers.	D-FISH/MARD and relevant ministries (Finance, Investment, Information) and approved by PM
Local Government	Partner in developing and implementing CDT	Co-Finance investment		
Port Authority	Partner in developing and implementing CDT	 Capacity building, Operate Catch declaration database, Monitor vessel license database 	Collaborate with DARD, D-FISH	Designated ports nominated by central government
Provincial Dept. of Fisheries	Operate VMS	- Capacity building, - Operate Catch declaration database, - Monitor VMS, Licensees, catch documentation across supply chain - Manage CC database	Develop guidelines for actors in seafood/fish supply chain, local authorities (Department of fisheries, port authority) in implement CDT	In collaboration with Sustainable Agricultural Rural Development (SARD) Initiative, D-FISH/MARD
Fisheries Associations	Capacity building	Capacity building, awareness building	Members engagement and trainings	VINAFIS, VASEP, local fisheries associations
Regional Fisheries Management Organization (RFMO)	Capacity building	Capacity building via pilot project e.g. application of ACDS	Cooperation through SEAFDEC mechanisms	D-FISH, SEAFDEC

VMS Technology Provider	Co-investment mechanism to provide VMS devices and applications with fee-based system from users/gov.	Provide devices (VMS, PDA and accessories) and applications/ software	Authorized systems purchased by fishing industry (with government incentives)	Viettel in partnership with Zunibal, Inmarsat/Vishipel etc.
Traceability Technology Providers	Provide traceability technology in seafood supply chain (from vessel to table)	Provide applications/ software Maintain the traceability system	Authorized systems purchased by fishing industry (with government incentives)	HTC, Deeptrace, Icheck, RTA etc.
Vessel owners	- Operate VMS - Provide input information (transshipment, catch reports, declaration) - Co-invest in CDT devices (VMS, traceability)	Comply with regulations on installation and operation of VMS on board, provide information for logbook/catch report/declaration and transshipment	Negotiate with government, seafood processors/buyers and tech providers to share investment costs for VMS, traceability system	
Seafood supply chain (fish buyers, retailers, processors)	- Request fish/seafood suppliers to provide sufficient information for traceability - Provide internal traceability in the processing plants - Co-invest in devices (VMS, traceability)	Implement traceability system (track, update, maintain) for seafood/fish products at every step (critical events)	- All supply chain stakeholders' agreement on traceability system interoperability and ethical code of conducts - Negotiate Coinvestment mechanism	
NGOs (international and local)	Provide capacity building, awareness raising in cooperation with seafood supply chain and government	Based on specific requests from seafood supply chain or interests by donors interested in promoting sustainable fisheries	Involve in seafood supply roundtables/forum/ dialogues etc.; fundraising and piloting relevant projects/activities	Seafood Task Force, SFP, WWF, GIZ, IDH Sustainable Trade Initiative, SNV etc.
Academia	Provide capacity building, awareness raising in cooperation with seafood supply chain and government	Based on specific requests from seafood supply chain; implement the relevant assignments by government	 Involve in seafood supply roundtables, forum, dialogues etc.; Fundraise and pilot relevant eCDT projects/activities 	Nha Trang University, Research Institute for Fisheries Management (RIMF), Vietnam Institute of Fisheries Econom ics and Planning (VIFEP), etc

APPENDIX I: VIETNAM STAKEHOLDER MAPPING – SEAFOOD INDUSTRY

Company Name	Company Profile	Company Products & Productions figures (volume, market shares, etc.)	Market (domestic or export EU / US / Others)	Sourcing	Location & Contact information	Viewpoints about ECDT & Partnership Opportunities			
High Priorit	ligh Priority Companies								
Hai Vuong Group	Hai Vuong group's main activities include processing, trading, marketing, and exporting products to many countries and territories including Europe, USA, Japan, South Korea, Philippine, and Africa. Annual sales is up to US\$250M, including US\$190M for tuna and pelagic products. Main products: Frozen yellow fin tuna (90%). Other products include Mahi mahi and oil fish. Main market: 60% of products are exported to EU, 20% to USA, 10% to Africa and 10% to other markets. Hai Vuong Group includes four processing enterprises and one hatchery with about 3,000 staff and workers in total. 1. Hai Vuong factory: processing capacity: 50 tons material per day 2. Nha Trang Bay factory: processing capacity: 80 tons material per day 3. Tuna Vietnam Factory: Processing capacity: 100 tons material per day 4. Dragon Waves Factory: processing capacity: 80 tons material per day 5. Hoa Son Hatcheries: 20 million tilapia fingerlings per year Cert: MSC CoC, BRC, HACCP, Dolphin Safe, Friend of the Sea, Halal, CSR The group members are financially independent with separate accounts. Sales, marketing and production planning are administered by the group administration as well.	Main products: Frozen yellow fin tuna Other products: Oilfish, mahi mahi and other seafish Annual production capacity: - 100,000 MT final products per year. Of which: 75,000 MT is tuna & pelagic fishes - Export volume: 40,000MT finished seafood products per year including 32,000MT tuna and pelagic fish - Annual sales: USD250 million including USD190 million from tuna and pelagic fish	50 countries in Europe, USA, Asia, Middle-East 60% of products exported to EU, 20% to USA, 10% to Africa and 10% to other market. Export volume is increasing but profit is declining because of increased operational costs while selling price stagnate	The company is sourcing from 40,000 tons to 50,000 tons tuna per year. 80% of raw materials are imported from Taiwan, Thailand, South Korea and Indonesia. 20% of raw materials are sourced from within Vietnam through 5 wholesalers. Domestic sources are less while it is more purchase competition.	Location: Lot B13-B14, No. I St., Suoi Dau Industrial Zone, Suoi Tan Commune, Cam Lam District, Khanh Hoa Province Contact information: Mr. Nguyen Cong Bay Email: ha.bay@haivuo ng.com Tel: +84 2583.743.333 +84.2583.743.3 34 Website: www.haivuong. com Email: nam@haivuong .com sales@haivuong .com	eCDT system is considered as manageable, providing more transparency and accuracy. However for stronger system adoption by fishers, it would require specific incentives mechanisms.			

Company Name	Company Profile	Company Products & Productions figures (volume, market shares, etc.)	Market (domestic or export EU / US / Others)	Sourcing	Location & Contact information	Viewpoints about ECDT & Partnership Opportunities
Sustainable Seafood Company Ltd. (SS Co. Ltd.)	Established in 2009, SSC is a private company processing and exporting fresh and frozen tuna (yellow fin and big eye), barramundi, mahi mahi and opakapaka. Main products are frozen tuna loin. Monthly production is 1,000 tons of products. Annual sales are 9.5 million USD. 90% of products are exported to USA. Other markets include Canada, Mexico and Chile. Buyers from USA require more information about the products and higher quality than buyers from other markets. The company is certified with BRC, HACCP. In addition, the company participates in FIP project supported by WWF. The company is a member of VASEP and VINATUNA. Recently the company collaborated with VINATUNA in provided training on IUU combat fishing and DOLPHIN SAFE to fishers. The company has been collaborating with its clients in Trace Register for almost two years and successfully registered and connected. Data provided into the system including type of products, origin of products and scanned supporting documents. The company is aware of SIMP requirements and has organized a team to complete documents that meet with SIMP requirements. The company's main sourcing areas are Binh Dinh, Phu Yen and Khanh Hoa provinces. Its suppliers are fishers and wholesalers.	Frozen products: Main products: Tuna (yellow fin and big eye): Loin, cube, steaks, strips and skewers Other products include: - Mahi mahi: Fillet, strips and portion - Barramundi: Fillet - Opakapaka: Whole and fillet Monthly production: 1,000 tons of products per month	Main market: USA. 90% of company products are exported to USA Other market: Canada, Mexico and Chile	I 100% raw materials are sourced within Vietnam. Main supplies are from Binh Dinh, Phu Yen and Khanh Hoa provinces. Of those Binh Dinh province is the main supplies. Suppliers in Phu Yen and Binh Dinh are fishers and wholesalers. In Khanh Hoa, suppliers are wholesalers. The company has business relationship with 35 fishers.	Location: Lot F5+ F6, Suoi Dau industrial zone, Cam Lam district, Khanh Hoa province, Vietnam Contact information: Mr. Nguyen Dinh Hau Vice Director/Sale Manager Tel: +84.2583.744.226 Fax: +84.2583.744.225 Mobile phone: +84.903.500.674 Email: hauvt.nt@gmail.com Skype: hauvt-nt Website: www.sustainableseafood-co.com Email: sustainableseafood.co@g mail.com	eCDT is considered a useful and efficient data collection tool for documentation and traceability. The company is wondering about annua fees to register into the system. Challenges might be about convincing fishers to adopt the technology, which must be userfriendly and easy to operate in fishing environment. The company is willing to be involved in promoting the eCDT system and provide training to fishers in using relevant technology. The company represents a good partnership opportunity. It has a business relationship with both fishers and wholesalers. In addition the company is involving in FIP project and also has experience from participating in Trace Register with its clients in the US.

Company Name	Company Profile	Company Products & Productions figures (volume, market shares, etc.)	Market (domestic or export EU / US / Others)	Sourcing	Location & Contact information	Viewpoints about ECDT & Partnership Opportunities
Tin Thinh Co. Ltd. (TITHICO)	Tin Thinh Co. Ltd. is a private company established in 2002. Currently it employs 500 workers. Its annual sales are 29,5 million USD. Company's cold storage capacity is 2,000 tons. Cert: BRC, HACCP, Dolphin Safe, Halal, IFS, Kosher. It is a member of VASEP and VINATUNA. The company has exported frozen tuna for more than 10 years. 4 years ago the company started with canneries products. 80% of the company turnover is from tuna export. In recent years, the company's market growth has tended to decrease due to economic crisis. Currently the company has more than 10 raw material suppliers including suppliers from South Korea and Taiwan. They are all wholesalers. The company is aware of SIMP requirements and prepared for it.	Main products: Frozen tuna loin - 80% of total turnover Other products: Frozen squid, groupers and shrimps Canned products: Tuna, Sardine and Clam Tuna products, mahi, red snapper, grouper, reef fish, seafood mix, squid, cuttle fish, octopus (These are products) Processed 15,000 tons final frozen seafood products & 2,000 tons tuna cannery per year	Main market: USA and EU. 50% of frozen products are exported to USA and 50% to EU Canneries products are exported to USA, EU, Africa and Middle East	50% of raw materials are imported from South Korea and Taiwan. 50% are sourced domestically from wholesalers in Khanh Hoa, Binh Dinh and Quang Ngai provinces. Domestic material sources are declined because of higher competition between processors.	Location: Lot F1, Suoi Dau industrial zone, Khanh Hoa province, Vietnam Contact information: Mr. Nguyen Anh Tuan Vice Director Tel: +84.258.374.4275 Mobile: +84.905.114.735 Email: anhtuan.tinthinh@gmail.c om Skype: tuan.tt Website: www.tinthinh.com.vn Email: tungtinthinh@vnn.vn; tinthinh@tinthinh.com.vn Tel: +84.258.374.4155 Fax: +84.258.374.4165	The current company challenges are about uncomplete data provided by fishers. The eCDT system could help to improve data collection in a timely and cost-efficient way. However to make eCDT system work, there would need an awareness raising campaign and trainings targeting fishers, a simple and easy to use technology with the involvement from government agencies, enterprises and associations. The company could be a possible partner in the CDT pilot.
Hoang Hai Co. Ltd.	Hoang Hai was established in 2001. Employees are from 100 - 200 people Cert: BRC, HACCP. Its business activities include hospitality, tourism, aquaculture and seafood processing. Aquaculture products include cobia and barramundi. Seafood processing products include tuna, mackerel and mahi mahi.	Fresh tuna, cobia and barramundi whole Frozen: tuna, marlin loins; cobia and barramundi fillet 200 tons per month. 2% of products are fresh and exported via airlines.	USA and EU. 70% products are to USA and 30% to EU	I00% raw material sources are within Vietnam, mainly from Khanh Hoa province, some is from Binh Dinh province. The company has a collection point at the port but mainly get supplies from wholesalers. It is not easy to buy fish directly from the fishing vessels. The company currently get fish from 4 wholesalers.	Location: 298-2/4 Street, Vinh Phuoc Ward, Nha Trang City, Khanh Hoa – Vietnam Contact information Mr. Quoc Email: namhuanseafoods@gmail .com Mr. Hung - QC Email: qc@hoanghaico.vn Tel: +84.2582.217.666 Website: www.hoanghaico.vn Email:luthingocanh0109 @gmail.com	The eCDT system can help enterprises meet with market requirements. The main concern is about the difficulty to trace each finished product batch as raw materials usually come from many different sources. In addition, cost could also be an issue based on limited investment capacities.

Company Name	Company Profile	Company Products & Productions figures (volume, market shares, etc.)	Market (domestic or export EU / US / Others)	Sourcing	Location & Contact information	Viewpoints about ECDT & Partnership Opportunities
Ports						
Hon Ro Port	Hon Ro port is one of the largest ports in the central region of Vietnam. It is a state-owned port. The port's berth is 370m long which can host from 20 - 30 vessels at a time. Human capacity: 26 people. The port has 50 sorting plots, each of them is 70cm2. The port charges fee based on volume of fish going through. Fish volume is reported to its supervising agency by email on daily basis. A consolidated report of fish went through ports is made and officially reported in every ten days. There are about 5 to 7 tuna traders having tuna collection points at the port.	It is mainly tuna fishing vessels arrive this port. In peak seasons there are about 80 vessels arrive a day. In low season there are about 40 vessels arrive. In September 2017 there were 25 skipjack caught (40kg/each fish). Each vessel could catch about 2 - 4 fish.			Location: Hon Ro Area, Phuoc Dong Commune, Nha Trang City Contact information: Mr. Nguyen Trung Hieu Email: hieu.honro@gmail.com Mobile: +84.914470646 Tel: +84.2583.714.193	The port is getting ready to implement the latest Government circular 50 related to traceability requirements. The eCDT could align with such requirements and port can take a role in informing and training fishers.
Vinh Luong Port	Vinh Luong is a small scale state owned port. It has two berths. One is 100m and one is 47 m long that can host 20 vessels. It is mainly trawling fishing vessel arrive this port. The port charge fees on fish wholesalers but not fishers. Annually there is no vessels arrive the port because of high wave.	There were about 13,000 tons small fish went through the port in 2016. Total fish volume went through the port is not disaggregated by vessels but by wholesalers. This data is reported to port supervising center in every 10 days.			Location: Luong Son village, Vinh Luong Commune, Nha Trang City	
Fishing Vess	el Owners in Nha Trang					
- Mr. Tinh - Mr. Ba - Mr. Muoi	Those fishing vessels owners are from the same fishing team. They usually fish tuna. There are 40 tuna fishing vessels in the team. This team is split into 6 smaller team. Each vessel has 7 crew members. Each season they can catch from 30 tons to 40 tons. Each trip they can catch from 1 to 2 tons. They are not willing to share information about where they are fishing. They are afraid of losing	Tuna 30 - 40 tons per vessel per year. Selling to tuna processing factories			Mr Tinh: +84.905.240.221 Mr. Ba: +84.120.838.6824 Mr. Muoi: +84.122.348.3867	They are willing to cooperate if there is premium price paid for their fish.
	the fishing place. In the vessel they have GPS, telephone and pagers equipped. They can share data related to catching areas and volume if there is price premium paid.					

APPENDIX 2: VIETNAM STAKEHOLDER MAPPING – INDUSTRY ASSOCIATIONS

Name	Descriptions	Contact information	Partnerships Opportunities
Vietnam Tuna Association (VINATUNA)	Vietnam Tuna Association was established in October 2010. It is a social organization aiming to improve efficiency and sustainability in seafood industries through collaboration amongst its members and with other relevant organizations and agencies. Its head office is in Nha Trang city, Khanh Hoa province. Scope: VINATUNA can operate in the whole country and collaborate with other organizations. Its operations are under technical management of Ministry of Agriculture and Rural Development (MARD) and administrative management of Ministry of Home Affair (MOHA) Operations: Mobilization of stakeholders involving in reservations and sustainable tuna fishing and processing in Vietnam; Policy dialogues between its members and relevant authorities; promotion of markets and international cooperation related to tuna industries Members: Tuna processors, importers & exporters, fishers, scientists, managers Partners: WWF, VIETRADE, ICAFIS, VINAFIS, VASEP Currently VINATUNA is a Co-ordination Unit of Vietnam yellow fin tuna FIP together with WWF-Vietnam & WWF Coral Triangle	Address: 09 Nguyen Dinh Chieu street, Nha Trang city, Khanh Hoa province, Vietnam Phone: +84.2583.502.585 Email: hiephoicanguvietnam@gmail.com Website: www.vinatuna.org.vn	The association has large number of members and tuna is considered as one of the most important fishing industries in VN, the central government and relevant stakeholders are collaborating in promoting improvements for tuna fishery, Vina Tuna shall have chances and responsibility in this partnership
Vietnam Fisheries Society (VINAFIS)	Vietnam Fisheries Society was established in May 2000. It is a social organization aiming to mobilize stakeholders in aquaculture, capture, processing, marketing and logistics for improvements of efficiencies and sustainability of fisheries of Vietnam as well as livelihoods of the stakeholders involved in the industries. VINAFIS is an official member of Father Front of Vietnam, The Vietnam Union of Science and Technology (VUSTA), South East Asian Fisheries Federation (AFF), Civil Society for Food Security and Poverty Elimination Network (CIFPEN) Scope: Operate in whole Vietnam and under administrative management of Ministry of Agriculture and Rural Development (MARD) Members: 34,000 individual members; more than 70 institutional members including universities, research institutes, training and education organizations and enterprises Organization and resources: Head office is located in Hanoi; 2 branch offices in Nha Trang and Ho Chi Minh city; 4 technical departments and 7 affiliates including Press Agency - www.thuysanvietnam.com.vn - A Seafood magazine	Address: 10 Nguyen Cong Hoan street, Hanoi, Vietnam Phone: +84.2437717739 Email: hoinghecavn@gmail.com; admin@hoinghecavietnam.org Khanh Hoa Fisheries Association Branch: No. 4 Phan Chu Trinh - Nha Trang City Websites: www.hoinghecavietnam.org.vn www.khafa.org.vn	The society has members from wide ranges of operations and covers fishing industry nationwide. VINAFIS has been doing/involved in number of programs in promoting good practices, developing fisheries management policy and closely works with central/local governments in encouragement of better fisheries management, currently, the society is member of Vietnam fisheries PPP task force.

Name	Descriptions	Contact information	Partnerships Opportunities
International center for Aquaculture and Fisheries Sustainability (ICAFIS) Under VINAFIS	ICAFIS is a non-profit organization with the mandate of promoting aquaculture and fisheries sustainability within Vietnam and sharing experiences from Vietnam internationally, primarily to developing countries in Asia-Pacific, Africa and Latin America. Mandate: - Strengthening VINAFIS - Providing advice on sustainability issues to private and public sector organizations and individuals, both in Vietnam and internationally - Developing and implementing programs and projects towards branding, certification and traceability of aquatic products - Developing international cooperation programs and projects, especially with developing countries in Asia-Pacific, Africa and Latin America - Developing and implementing research projects on aquaculture and fisheries sustainability - Build and strengthen networks with organizations, projects, producers, etc.	Office in Ha Noi: Address: 3rd Floor, A7 House – 10 Nguyen Cong Hoan St, Ba Dinh, Hanoi, Vietnam Office/Fax: +84-43-7245121 Email: info@icafis.vn Dr. Le Thanh Luu - director Email: Email: luu.lethanh@icafis.vn or luuria1@yahoo.com Website: http://icafis.vn	ICAFIS is under VINAFIS and doing works assigned by VINAFIS
Vietnam Association of Seafood Exporters and Producers (VASEP)	Vietnam Association of Seafood Exporters and Producers (VASEP) is a non-governmental organization established in June 1998 aiming to improve coordination and linkages between enterprises in seafood industries, enhance competitiveness of Vietnamese seafood through improvement of product value and efficiency of the industries. Its members include Vietnamese seafood producers, exporters and services providers. VASEP is a member of United States National Fisheries Institute (NFI); ASEAN Seafood Federation (ASF); Seafood Industries Association; Singapore (SIAS); Vietnam Chamber of Commerce and Industry (VCCI); and Vietnam Advisory Council for Administrative Procedure Reform, Members: from various sectors including seafood industries, banks and technology	Add: 218 Road Nguyen Quy Canh, Zone A, An Phu An Khanh New Urban Area, District 2, HCM city, Vietnam Tel: (+84 8) 62810430 / Fax: (+84 28) 62810437 / Email: vasephcmcity@vasep.com.vn	VASEP is closely working with seafood processing and exporting sectors. Presently, the association is a member of Vietnam fisheries PPP taskforce and involved in advocacy fisheries management policy etc. The organization is obviously able to participate as a partner in improvement of the fisheries industry in the country
Seafood Task Force	Seafood taskforce is a group of seafood processors, feed producers, buyers, retailers, government representatives and NGOs who have come together to address issues surrounding labor and illegal fishing in seafood supply chains currently focusing on the seas around Thailand. The task force was initially called – shrimp task force and was renamed to be Seafood task force in 2016. Main activities of the task force are on combating IUU fishing practices in Thailand and the Southeast Asia region, promoting seafood/fish traceability and catch documentation in fishing industry	Tonette Lim, Director, Quezon City, Philippines Tel: +63.998.551.8434 Email: tonette.l@seafoodtaskforce.global Website: http://www.seafoodtaskforce.global	The task force has number of participants and stakeholders who have business connections with Vietnam fisheries and intention to expand to work in Vietnam, particularly, shrimp and tuna fisheries.

APPENDIX 3: VIETNAM STAKEHOLDER MAPPING – TECHNOLOGY PROVIDERS

Company Name	Company Profile	Company Products/ Services related to fishing sector	Market	Contact information	Partnership Opportunity
VTC Tele- communications JSC	VTC Telecommunications JSC (vtctelecom) is a subordinate organization of Vietnam Posts and Telecommunications Group (VNPT) which contribute to the construction and development of the largest telecommunications network in Vietnam: VNPT's telecommunications network. It provides Satellite Communications. Partnerships with Thuraya, Siemens, Fujitsu, Alcatel, Ericsson, NEC, Huawei, ZTE, Charter capital: VND450 billion Staff: 250 THURAYA signed an agreement with VNPT to launch Mobile Satellite Services in Vietnam in August 2016	Provide installation services in telecommunications systems such as mobile communication, optical transmission, microwave transmission, switchboards, access devices on a national scale.	Nationwide Clients: VNPT, mobifone, vinaphone, GMOBILE, VIETTEL, Vietnamobile	Address: 750 (3rd floor) Dien Bien Phu, ward II, district 10, Ho Chi Minh City, Vietnam Tel: +84.2838.331.106 Website: www.vtctelecom.com.vn	Partner with THURAYA
Vietnam Posts and Telecommunication Group (VNPT)	Vietnam Posts and Telecommunications Group (VNPT) is the service provider that laid the first stone for the development of the Posts - Telecommunications sector in Vietnam. The group has also played an important role in bringing Vietnam into the top 10 nations with highest posts - telecommunications growth rate. 67 year of experiences plus 90,000 employees, advanced telecommunications infrastructure and a service network covers all 63 provinces and cities of Vietnam. Services include voice, data, internet, other value-added services deploying on an advanced network infrastructure and many IT solutions. Market share of landline: 80%, internet: 64%, mobile: 61%. Provide data transmission services based on Vinasat-1 and Vinasat-2 satellites, private channel leasing services. VNPT has 5 affiliates and 17 companies that VNPT has less than 50% of charter capital	Two satellites Vinasat-1 and Vinasat-2 - enable connectivity to neighbor countries and countries in the South East Region.	Nationwide	Address: 57 Huynh Thuc Khang Str., Lang Ha Ward, Dong Da District, Ha Noi TEL: +84.2435.775.104 E-mail: vanphong@vnpt.com.vn E-mail: vnpt_website@vnpt.vn Website: www.vnpt.vn www.vnpt.com.vn	

Company Name	Company Profile	Company Products/ Services related to fishing sector	Market	Contact information	Partnership Opportunity
Vietnam Maritime Communication and Electronics LLC (VISHIPEL) Silver partner of Inmarsat	VISHIPEL was established in July 1982 which provides marine satellite communication equipment and services in Vietnam. It is an INMARSAT Silver Partner and provides communication services to fleets including fishing vessels. Services: GMDSS and Non-GMDSS - Coastal communications Telecommunication: Inmarsat, VSAT, VoIP, Internet and Data, MMSI, IMN, VT02 Products include: GMDSS equipment - EPRB, Inmarsat, MF/HF, Navtex. VHF The company has customer care center in Hanoi and Ho Chi Minh city	Services: - Fleet broadband - F77/F55/F33 - Inmarsat-C/mini-C - Telephone communication between vessels and inland Related equipment: Fleet broadband/F77/F55/F33/Inmarsat-C/mini-C	Nationwide	No.2 Nguyen Thuong Hien Street, Minh Khai ward, Hong Bang district, Hai Phong City, Vietnam Tel: (+84.2253.746.464 Email: contact@vishipel.com.vn truyenthong@vishipel.com.vn Website: www.vishipel.com.vn	Partner with Inmarsat
Marine Equipment Joint Stock Company (MECOM)	Marine Equipment Company was established in 1989 – as the State owned company. It was privatized in March 2005 and became Marine Equipment Joint Stock Company (MECOM). Main business: Trading marine electronic equipment, radio communication equipment and services on fishing and cargo ships Supply, install and maintenance of marine electronics equipment and radio communication station It has 3 branches in Hanoi, Ho Chi Minh City and Vung Tau. More than 100 agents over the countries Member of VINAFIS	- Marine electronics equipment for fishing boat, cargo ship, oil & gas service vessel (fish finder, sonar, GPS navigation, marine radar, compass, etc.) - MF/HF/VHF/UHF radio communication equipment for marine, land and aviation, including GMDSS equipment. Equipment for fishing vessels are including: - Navigation and Fish finder Equipment - GPS - Chart Plotter - Fish Finder - Marine Radar - GPS Chart Plotter - AIS Combo - Satellite Compass - Radio Buoy - Echo sounder - Fish finder - GPS chart plotter - FF-AIS Combo - Sonar - Scanning sonar - VHD Fishery Buoy Communication equipment: - VHF transceiver - CB radio - HF transceiver GPS integration - MF/HF transceiver for fishing boat	Nationwide	Head office: 22-24-26 Mac Thi Buoi - Ben Nghe ward - district I - Ho Chi Minh city, Vietnam Tel: +84.2838.210.132	

Company Name	Company Profile	Company Products/ Services related to fishing sector	Market	Contact information	Partnership Opportunity
Hanoi Telecom (HTS)	The company was established in 2001. The company mainly works on provision of internet/mobile services, development of mobile applications	Developed the iCheck Deeptrace - an electronic solution that helps traceability for fisheries/agriculture products. This application already applied to some local products such as orange in Nghe An province etc. For fisheries product, the application has been developed and ready to trial/use but the application owner (icheck) expects that someone should buy or pay the fee for this service and so far no one has invested or bought this application for fisheries products.	Nationwide	Mr. Pham The Hai - Director Mobile phone: +84.92205.6888 Email: haipt@hts.vn Head office: 02 Chua Boc, Trung Tu ward, Dong Da district, Hanoi Capital, Vietnam Tel: +84.4.3577.3009 Rep. Office: 385C Nguyen Trai, Nguyen Cu Trinh ward, district I, Ho Chi Minh city, Vietnam Tel: +84.8.3838.6023 Website: www.hts.vn	High
Zunibal	Zunibal is a tech providing company which is developing electronic services and products based on unique investigation and designs for their application in the marine sector for twenty years. The company develops personalized and adapted technological solutions and collaborates with other companies and technological centers in the development of innovative products that ensure the sustainability of marine resources. Additionally, Zunibal offers a comprehensive service, including investigation, design, prototyping, industrialization and post-sale service. Main services: Design of technology solutions for tuna fishing sector Manufacturing of electronic devices Distribution of products Post-sales services Satellite telecommunications expertise Research and development the innovative products	Design of technology solutions for tuna fishing sector including VMS	Globally, 22 countries using, 62 VMS dealers worldwide	Zunibal Idorsolo, I 48160 Derio Bizkaia, Spain T. +34 94 497 70 10 F. +34 94 452 28 14 Website: http://www.zunibal.com/	High

Company Name	Company Profile	Company Products/ Services related to fishing sector	Market	Contact information	Partnership Opportunity
VIETTEL YTSMART CENTER	Viettel Group was founded in 1989. The Group is currently the largest telecommunications group in Vietnam with 76 million customers. The group consists of more than 20 subsidiary companies running different types of business including telecom, investment, real estates, foreign trade and technical services. In 2014, Viettel Group reached US\$9.8 billion revenue and US\$2 billion profit, ranking among the top largest enterprises of Vietnam in term of revenue. Viettel is providing number of services including: Provide telecommunication service • Connectivity • Postal services • Distributing begin-end equipment • Financial investment • Propaganda • Investment in real estate • Import-export • Oversea investment The Group has about 30,000 staffs, working in Vietnam and oversea countries.	In partnership with Zunibal to pilot and develop VMS for Vietnam fishing vessels	Telecommunication services is internationally provided	285 Cach Mang Thang Tam Street, Ward 12, District 10, HCM City, Vietnam Website: http://www.viettel.com.vn	High
Inmarsat	Inmarsat plc (LSE: ISAT) is a British satellite telecommunications company, offering global mobile services. It provides telephone and data services to users worldwide, via portable or mobile terminals which communicate with ground stations through twelve geostationary telecommunications satellites. Inmarsat's network provides communications services to a range of governments, aid agencies, media outlets and businesses with a need to communicate in remote regions or where there is no reliable terrestrial network. The company was founded in 1979, about 1,760 employees in 2016.	Provide satellite based solutions for the fishing sector allowing fishing vessels and its crew to be connected while at sea Provides end to end services spanning across the needs of the fishing sector to communicate while at sea, including satellite airtime, hardware, consultancy and solutions	Globally	• 11 Lorong 3 Toa Payoh Block C #01-31 Jackson Square Singapore 319579 Website: www.inmarsat.com/service/fleet- one	High

APPENDIX 4: VIETNAM STAKEHOLDER MAPPING – NON-PROFIT AND ACADEMIA

Organization Name	Organization Profile	Activities related to fishing sector in Vietnam	Contact information	Partnership Opportunity
WWF	WWF Vietnam is part of the WWF Greater Mekong Programme which works on environmental and conservation issues across Thailand, Cambodia, Laos and Vietnam	WWF is promoting and supporting several fishery improvement project (FIP) targeting Tuna, crab or clams' fisheries which draws together fishers, industry, researchers, government and NGOs to help improve fishing practices and management. Through a transparent and comprehensive approach, the FIP will increase a fishery's level of sustainability and help it meet the requirements of the Marine Stewardship Council (MSC) standard.	WWF-Vietnam D13 Thang Long Int. Village Cau Giay, Hanoi, Vietnam Tel: +84.2437.193.049 +84.2437.193.048 Email: wwfvietnam@wwfgreatermekong.org FISHERIES: Nguyen Dieu Thuy (Ms.) Project Manager, Fisheries Tel: 844 37193049 Ext: 142 Email: thuy.nguyendieu@wwfgreatermekong.org Website: www.vietnam.panda.org	WWF has long experience in Vietnam fisheries and already member of Vietnam Private- Public Partnership task, engaged in number of projects/programs in promoting sustainable seafood in the country
Sustainable Fisheries Partnership (SFP)	Sustainable Fisheries Partnership (SFP) is a US-registered nonprofit that operates globally to rebuild depleted fish stocks and reduce the environmental and social impacts of fishing and fish farming. The organization works by engaging fishery stakeholders and seafood businesses throughout the supply chain to promote the sustainable production of seafood. SFP Partners include: ASDA, Walmart, High Liner Foods, Sainsbury's Seattle Fish Co. TESCO, BSF, Wegmans, Sobeys, Nestle, Congalsa, Fortune Fish & Gourmet, Davigel, Publix, Super INDO, US.FOODS	Some research about shrimps and pangasius in Vietnam, SFP provided supports to Trawl fisheries in Kien Giang, Ben Tre for promoting FIP projects. Additionally, the organizations has partnered with some other organizations including local and international ones to support capacity building in responsible seafood industry in Vietnam.	No. 4348 Waialae Ave. #692, Honolulu, HI 96816 USA Tel: +1-808-726-2582 Website: www.sustainablefish.org	The organization is paying much attention to the Southeast Asia region fisheries and number of projects/programs are being coordinated or co-coordinated by SFP. The organization is also involved in some important fisheries roundtable/supply roundtable (SR), Seafood Task Force etc.

Organization Name	Organization Profile	Activities related to fishing sector in Vietnam	Contact information	Partnership Opportunity
OXFAM in Vietnam	Oxfam's first activities in Vietnam took place in 1955, provided humanitarian assistance. Oxfam's Vietnam country strategy contributes to shaping the debate on extreme inequality in Vietnam and globally. It is in partnership with government, civil society, businesses, communities, media, research institutions and think tanks to influence policy and practices aiming at reversing economic, gender and social inequalities. One of its partners is VINAFIS	One of activities under the framework of Vietnam Change Goal 4 is to encourage sustainable wild capture fishery. In regards of aquaculture it supports shrimp farming in Mekong River Delta	Oxfam in Vietnam 22 Le Dai Hanh, Hanoi, Vietnam Tel +84.2439.454.448 Email: info.vietnam@oxfam.org Nguyen Thi Phuong Dung Media and Event officer Email: dung.nguyenthiphuong@oxfam.org Website: www.vietnam.oxfam.org	OXFAM just newly concerned in fisheries sector, the organization is cooperating with VINAFIS and other organizations to promote sustainable shrimp culture in Vietnam. Oxfam is also interested in promoting social responsibility in fishery, especially the labor issues
Nha Trang University- Institute for Marine Science and Fishing Technology	The Institute for Marine Science and Fishing Technology was established in August 2011. The main functions of the institute are of training and researching in fishing technology, fisheries resource management and marine science.	Provide training in fishing technology, fishing management and resource conservation, marine safety and ship steering. It also offers training courses for sea captains, fishing technology, navigation safety and equipment use in ships. The Institute also has collaboration with other universities and research institutes in conducting research on fish stock assessment, living marine resource management, fisheries resource management etc Center for Science and Technology can develop eLogbook. It has participated in development of fishing port management procedures and pilot implementation of	Address: 09 Nguyen Dinh Chieu, Nha Trang, Khanh Hoa, Vietnam Tel: +84.2582.471.393 Email: viencnkt@ntu.edu.vn Website: www.ntu.edu.vn/vienkhcnktts	The center may provide the technical support in certain areas in capture fishery, especially capacity building and awareness raising

Organization Name	Organization Profile	Activities related to fishing sector in Vietnam	Contact information	Partnership Opportunity
OceanMind	OceanMind is a not for profit organization working to increase the sustainability of fishing globally through actionable insights into the compliance of fishing activities in support of governments, the fishing industry and fishing industry associations. The organization works in the following areas: • Vessel analysis and compliance assessments • Patrol planning and asset direction • Coaching and training • Improved communication channels • Regulatory review • Information, advice and guidance • Catch compliance validation	The organization has wide range of specialization that may provide supports/services to Vietnam fishery toward more sustainable/responsible/better management fisheries. Technical support in relation to MCS measures, management policy, traceability can be advised by the organization that will provide additional advices to Vietnam government in better managing the fishery industry.	Nick Wise, Director and Founder, Electron Building, Fermi Avenue, Harwell Oxford, Didcot, Oxfordshire, OXII OQR, UK. Tel: +44 (0) 1235 567999 Email: Nicholas.wise@sa.catapult.org.uk Website: www.oceanmind.global	The organization has international experts working in vast areas in relation to fisheries, especially in VMS application, MCS that may have huge opportunities to involve in improvement of the fisheries as a partner with relevant stakeholders