PRACTICAL ISSUES IN THE IMPLEMENTATION OF THE ELECTRONIC ASEAN CATCH DOCUMENTATION SCHEME (eACDS) IN CAPTURE FISHERIES

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Developed by the Southeast Asian Fisheries Development Center (SEAFDEC), the electronic ASEAN Catch Documentation Scheme (eACDS) leverages technology to track the entire supply chain from fishing to consumption, in order to combat IUU fishing and ensure sustainable fisheries. This electronic platform integrates various modules, including Catch Declarations, Movement Documents, Statements of Catch, and Catch Certificates, facilitating data collection and information sharing among stakeholders. Through pilot implementations in several ASEAN Member States, the eACDS has demonstrated its potential to improve fisheries management, enhance transparency, and contribute to the sustainable development of the ASEAN fisheries sector.

Catch Documentation Schemes seek to determine whether fish originate from catches in accordance with relevant international obligations.[1]

According to data on the global production of aquatic animals from capture fisheries in 2021, the top three countries with the highest output were China (64.16 million tonnes), followed by India (14.40 million tonnes) and Indonesia (12.70 million tonnes). The average production by continent was as follows: Asia (111.9 million tonnes), Southeast Asia (46.16 million tonnes), America (22.98 million tonnes), Europe (17.7 million tonnes), Africa (12.44 million tonnes) and Oceania (1.7 million tonnes).

Fishery products are among the most traded goods in the world. In 2021, the total volume was 218 million tonnes, with a value of USD 176 billion. This represents an increase compared to USD 151 billion during the previous year, which was affected by the COVID-19 pandemic. According to FAO statistics from 2017 to 2021, the top three countries with the highest import volumes of aquatic products were the United States of America (17%), China (10%) and Japan (8%); while in Southeast Asia, the top three were Thailand (2.18%), Vietnam (1.18%) and Malaysia (0.77%). As for exports, the leading countries globally were China (12%), Norway (8%) and Vietnam (5%); in Southeast Asia, the top three were Vietnam (5.12%), Thailand (3.06%) and Indonesia (2.99%).

A major challenge for all countries in monitoring global trade flows is ilegal, unreported and unregulated (IUU) fishing. To ensure the sustainable utilisation of fishery resources, several tools (such as catch documentation schemes) have been developed by Southeast Asian Fisheries Development Center (SEAFDEC) and other organisations. The ASEAN Catch Documentation Scheme (ACDS) is aimed at improving traceability within marine capture fisheries in order to prevent the entry of fish and fishery products from IUU fishing into the supply chain. A regional initiative between the Southeast Asian Fisheries Development Center (SEAFDEC) and the ASEAN Member States (AMS), the ACDS was endorsed at the Twenty-fifth Meeting of the ASEAN Sectoral Working Group on Fisheries (25ASWGFi) in May 2017 in Singapore. Later in the same year, the document was adopted at the Senior Officials Meeting of the ASEAN Ministers on Agriculture and Forestry (SOM-AMAF).

To support the implementation of the ACDS, an electronic system was considered necessary, taking into consideration the guidance from the SEAFDEC Council that the process should not create an unnecessary burden, cost or lengthy process for all supply chain importers/exporters. Accordingly, SEAFDEC initiated the electronic ASEAN Catch Documentation Scheme (eACDS), which was implemented in Brunei Darussalam as a pilot project in 2016 and later launched during the Inaugural Ceremony of the Forty-ninth Meeting of the SEAFDEC Council in June 2017 (Figure 1). Its use was expanded as requested in Myanmar (2018), Vietnam (2018), Malaysia (2019), and Cambodia (2022).

[1] *The FAO Voluntary Guidelines for Catch Documentation Schemes (VGCDS) is the first international policy document with comprehensive elaboration about CDS.*

Figure 1. Forty-ninth meeting of the SEAFDEC Council in June 2017

The electronic ASEAN Catch Documentation Scheme (eACDS)

The eACDS is an application designed to enhance the traceability of fish and fishery products, covering the entire process from fishing to the consumer's plate (Figure 2). Effective implementation of the eACDS relies on good governance in fisheries management, with a particular focus on monitoring, control, and surveillance. For instance, the system necessitates port control, catch reporting at sea, catch verification at ports, maintaining records of fish purchases, tracking the movement of fish to markets and processing plants, recording raw material usage, and finalising fishery products for consumption or export.

Figure 2. Workflow of the eACDS from fishing to the consumer's plate

To ensure that the eACDS performs effectively, comprehensive data collection is essential throughout the value chain, encompassing fishing, landing, marketing, processing, and exporting activities. The system requires Key Data Elements (KDEs), which include information such as boat owner details, validation of fishing boat registration licenses, a list of fishing ports, a list of fish species with their corresponding codes and local names, standardised fish product codes; and lists of fish buyers, processing plants, and exporters.

The eACDS operates on two primary platforms:

i. eACDS web application: The eACDS Web Application is designed to serve various user groups involved in fisheries management and traceability. The designated users include: "Fishing Boat Owners or Fishing Masters" (users can access the web application to request port-out and port-in approvals); "Processing Plants or Processors" (can utilise the web application to request Statements of Catch and Catch Certificate documents); and "Government and Authorised Officers" who validate and issue essential certificates, as well as manage data, including approving port-out/port-in and verifying catch weight, issuing Catch Declarations (CD), issuing Movement Documents (MD), issuing Statements of Catch (SC), issuing Catch Certificates (CC), viewing reports and managing Key Data Elements (KDEs) (Figure 3).

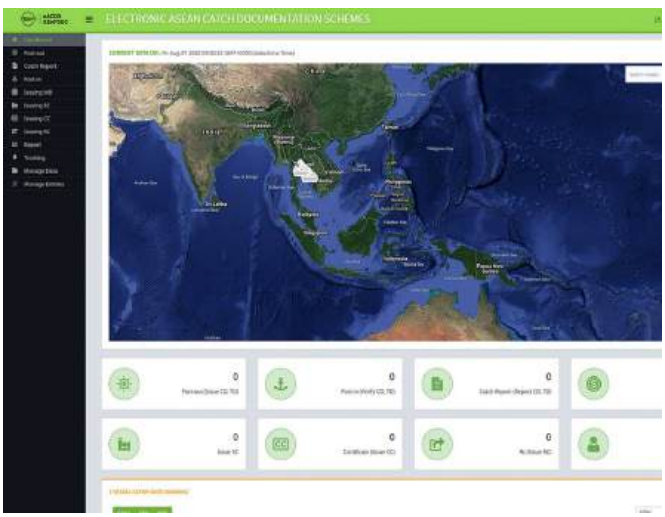

Figure 3. Dashboard of eACDS web application

ii. eACDS mobile applications: The eACDS system also includes two mobile applications (available for both Android and iOS devices), tailored for different stages of the supply chain. The mobile application separates into: (i) the eACDS-Catch Report App (Figure 4) (specifically designed for fishing masters to report their catch from sea operations to the eACDS server. It supports both online and offline functionalities, ensuring uninterrupted usage regardless of connectivity); and (ii) the eACDS-Market App (Figure 5) for fish buyers, including processors who purchase fish directly from fishing vessels. Fishing masters or boat owners can use this application to accept or decline the sale of their catch to buyers.

Figure 4. eACDS-Catch Report Application in Playstore

Figure 5. eACDS-Market Application in Playstore

The eACDS system consists of four (4) parts described along with traceability system processes, covering catching to landing, purchasing, transferring of catch to processing, using raw materials in processing, issuing the certification, and exportation, as follows:

Part 1: Catch Declaration (CD)

The Catch Declaration (CD) process encompasses several key activities, including requesting port-out approval, catch reporting at sea, requesting port-in approval, verifying catch weight, and issuing the Catch Declaration (CD) certificate to the fishing master. The primary stakeholders involved in this process are the fishing master or boat owner and the port authority. Upon completing the reporting process, the system generates a Catch Declaration (CD), a certificate issued to the fishing master. This document certifies that the fishing activities were legally reported and regulated according to national management regulations.

Part 2: Movement Document (MD)

The Movement Document (MD) process encompasses the purchasing procedures after fish have been landed and verified for sale, followed by the issuance of the MD certificate to the fish buyer. The primary stakeholders involved in this process include fish buyers, processors, fishing boat owners or masters, and port authorities. Upon completing the purchasing process, the system generates a Movement Document (MD), certifying that the fish purchased originated from legally reported, and regulated fishing activities. This certificate assures compliance with national management measures. Additionally, it verifies that fish from the landing port are properly documented and regulated, whether for the domestic market, further processing, or eventual export to the international market.

Part 3: Statement of Catch (SC)

The Statement of Catch (SC) process involves two main groups of users: (i) fish processors; and (ii) fishing port authorities or fisheries management authorities, depending on the structure and policies of each country regarding the monitoring and regulation of raw materials used in processing plants and the issuance of SC documents. The eACDS application used in this process is a web-based system. Upon completion of the process, the system generates a document called the Statement of Catch (SC), which serves as a certificate for fish processing plants or processors wishing to use fish brought from ports or other sources as raw materials for further processing into fishery products. The SC certificate ensures that the fish or raw materials used in processing are monitored and can be traced back to their origin, with regulation extending through to the final stages of fishery product production. This certificate, issued to fish processors, guarantees that the fish stored in processing plants come from legally reported and regulated fisheries, and that processing adheres to the traceability system before the products are exported to international markets.

Part 4: Catch Certification (CC)

The Catch Certification (CC) process involves the request for a catch certificate for exporting fishery products to the international market, which is initiated by fish processors or processing plants, and the issuance of the certification by the fisheries management authority. The eACDS application used in this process is a web-based system. Upon completion, the system generates the Catch Certification, which serves as a certificate for fish processors or processing plants wishing to export fishery products to international markets. The CC assures that the fishery products from the processing plants are sourced from legally reported and regulated fishing activities, and that the processing follows the traceability system. The Certification also applies to the domestic market, ensuring that fish and fishery products can be traced back to their origin.

For international export documentation, the process is linked to various information through SC, MD, and CD QR-Codes attached to the documents. This system serves as a powerful tool to ensure that fishery products intended for export are not sourced from Illegal, Unreported, and Unregulated (IUU) fishing activities.

Successful implementation in countries

The process in the promotion and implementation of the eACDS in the participating countries as mentioned above would involve the following five phases:

- Introduction - the eACDS system including its structure and functions is demonstrated to relevant authorities and stakeholders in participating countries.
- Baseline survey and situation analysis - baseline survey is carried out, and analysis of the situation in issuing CD, MD, and CC as well as identification of KDEs, is conducted involving relevant authorities and stakeholders in the respective AMSs.
- Prototype development - the eACDS is modified and appropriate prototypes developed taking into consideration the context of the respective AMSs.
- Testing and improving the system - the eACDS is pilot tested with relevant users (e.g., relevant authorities, fishing masters, fishing vessel owners, buyers, and processers) who are trained on the use of the application, and problems addressed in order that the system is tailored to the context of the respective AMSs (Figure 6).
- IT transfer - During the testing phase, all data are stored in the SEAFDEC cloud server, and afterwards, the database would be transferred to, and maintained by, the respective AMSs.

Figure 6. eACDS Training in Malaysia

Participating countries have reported successful usage of the eACDS application, including installing the application on the cloud server. In fact, Vietnam has developed its electronic catch documentation and traceability (eCDT) system based on the eACDS demonstration.

Conclusion

In conclusion, the eACDS represents a significant step forward in combating IUU fishing within the ASEAN region. By leveraging technology to enhance traceability throughout the entire seafood supply chain from catch to consumer, the eACDS aims to ensure that fish and fishery products originate from legal and sustainable sources. The system's modular approach, encompassing Catch Declarations, Movement Documents, Statements of Catch, and Catch Certificates, facilitates data collection and information sharing among stakeholders, enabling effective monitoring and control. While challenges remain, such as ensuring data accuracy and achieving widespread adoption across all ASEAN Member States, the successful pilot implementations and ongoing development of the eACDS demonstrate its potential to contribute significantly to the sustainable development of the ASEAN fisheries sector.

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