

# Applying the Comprehensive Traceability Principles and Pathway in Tanzania

*Guidance and Lessons Learned from Kilwa District Octopus Fishery*



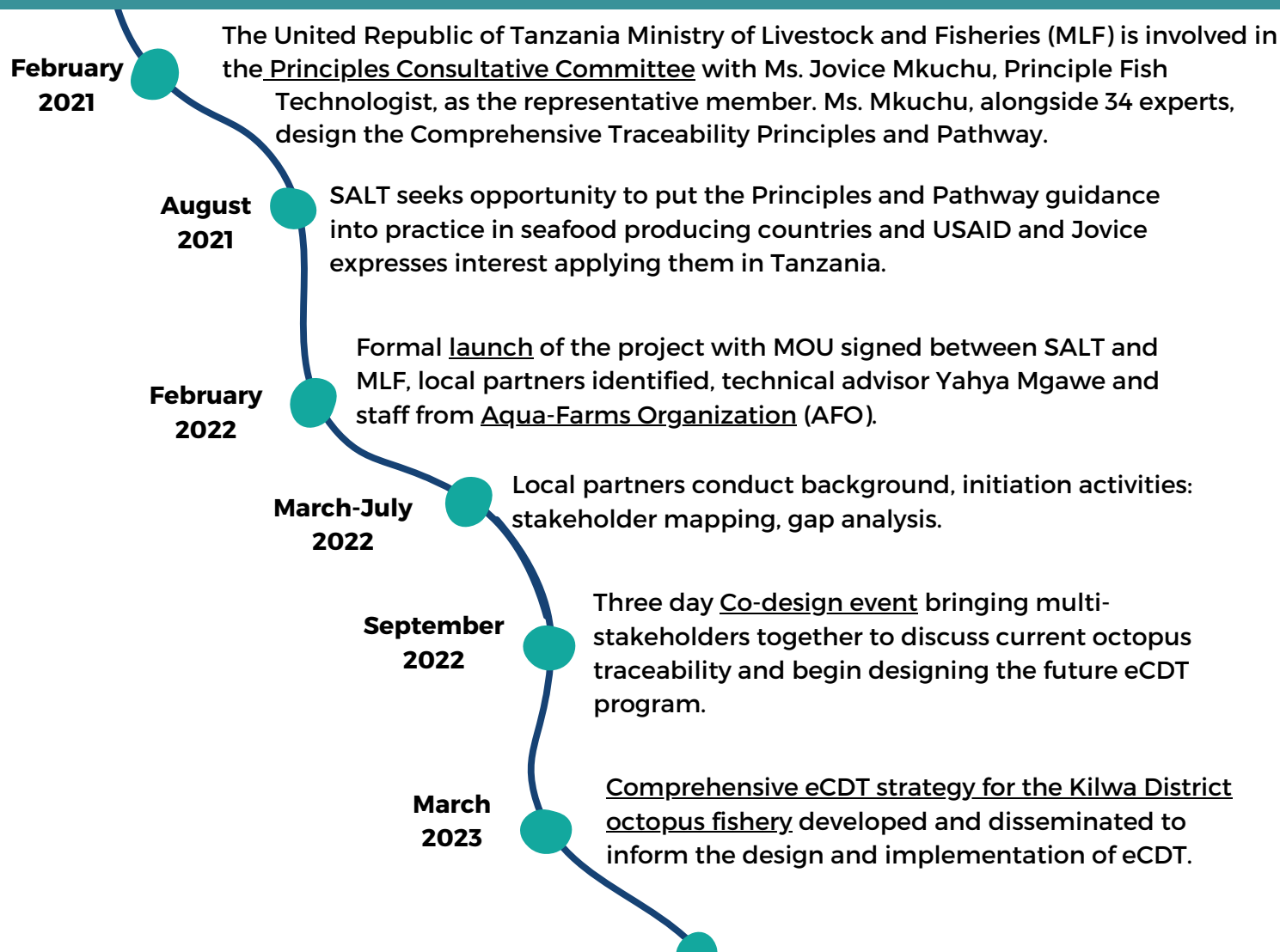
Credit: SALT

## What are the Comprehensive eCDT Principles?

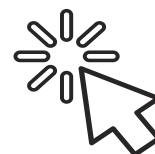
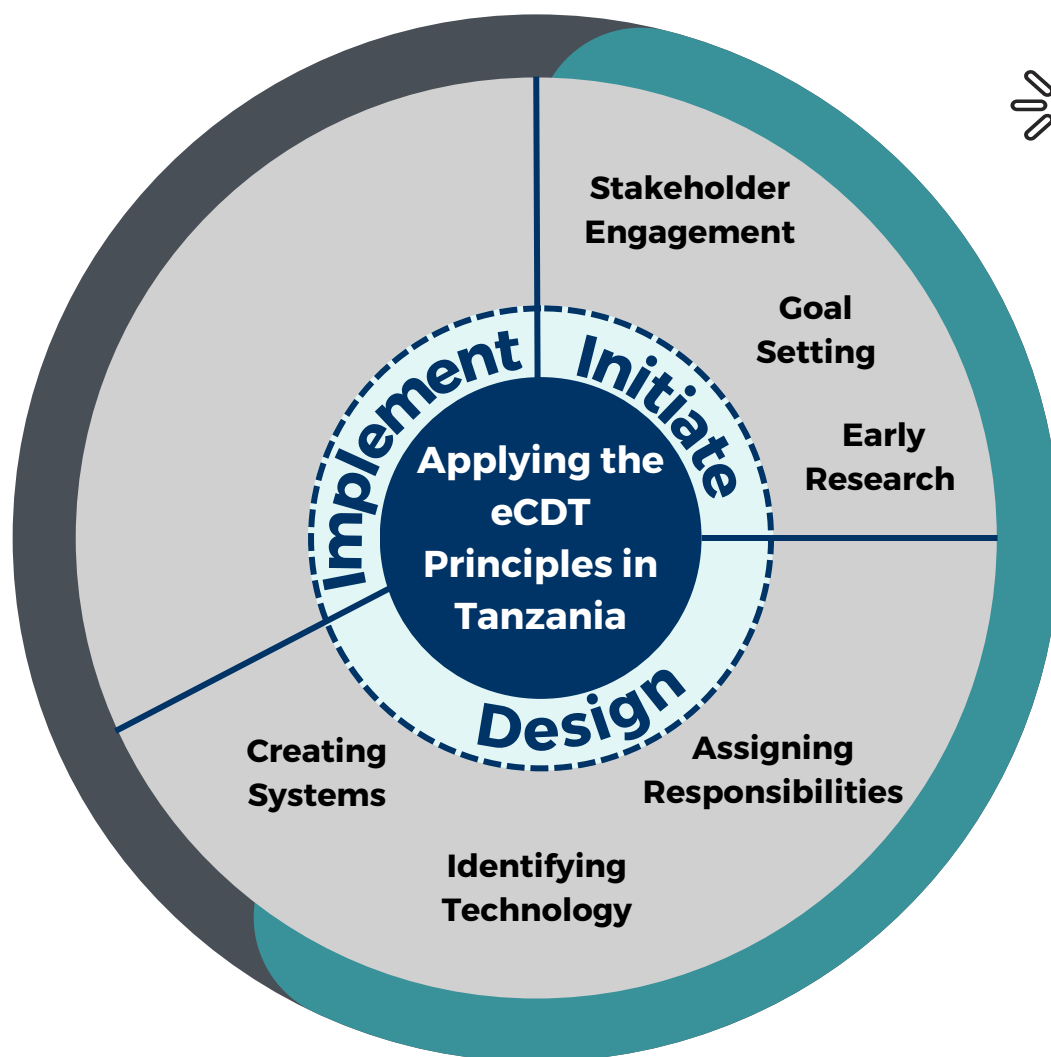
The Principles are core tenants of designing or improving an electronic traceability program to reap ecological, social, and economic benefits. The practice of digitally collecting, sharing, and tracking verifiable information about the harvesting, processing, and transportation of seafood products is electronic catch documentation and traceability (eCDT). But how do governments go about improving or implementing eCDT programs? This was the motivating question behind the creation of the Comprehensive eCDT Principles. To support the application of these themes, the "Pathway to the Principles" details the potential activities to put the Principles into practice.

This interactive document details a case study in Tanzania where the activities and progress towards a comprehensive eCDT program were informed by the Principles and Pathway. The purpose of the case study is to provide actionable guidance to those interested in using the Principles and Pathway. To do this, the document pairs key considerations for using the Pathway guidance with specific activities executed in the Kilwa District octopus fishery project. Leading questions and additional resources linked throughout the document provide additional tools and examples of outcomes from the Pathway activity that can inform what is transferable and what may need to be adapted in other cases.

### A Journey to Applying the Comprehensive Traceability Principles and Pathway in Tanzania



The Pathway to the Principles provides guidance to put the Principles into practice. It details activities to apply the Principles when designing, implementing, or improving a comprehensive eCDT program. The series of activities in the Pathway are not necessarily meant to be acted upon linearly. Different traceability improvement efforts will begin the Pathway in different phases and prioritize different activities. In the case of the Kilwa District octopus fishery, it was decided that we would start in the Initiate Phase and begin the Design Phase activities. **The project did not complete the Design Phase or reach the Implement Phase.**



## Interact

Based on your interest, click "Initiate" or "Design" to learn more about what Principles to consider and how we navigated the Pathway in Tanzania.

## and Reflect



Use the guidance and case study example to reflect on what is relevant in your case. Some example reflection questions are found in boxes with the question mark.

## Other buttons to know about:



On the top right of the page, this button brings you back to this page



This button will bring you to the recommended next steps for the Principle based on the learnings.



Each Principle has an icon. Clicking on the icon on detail pages will bring you to the online guidance.

**Collaboration Mapping**



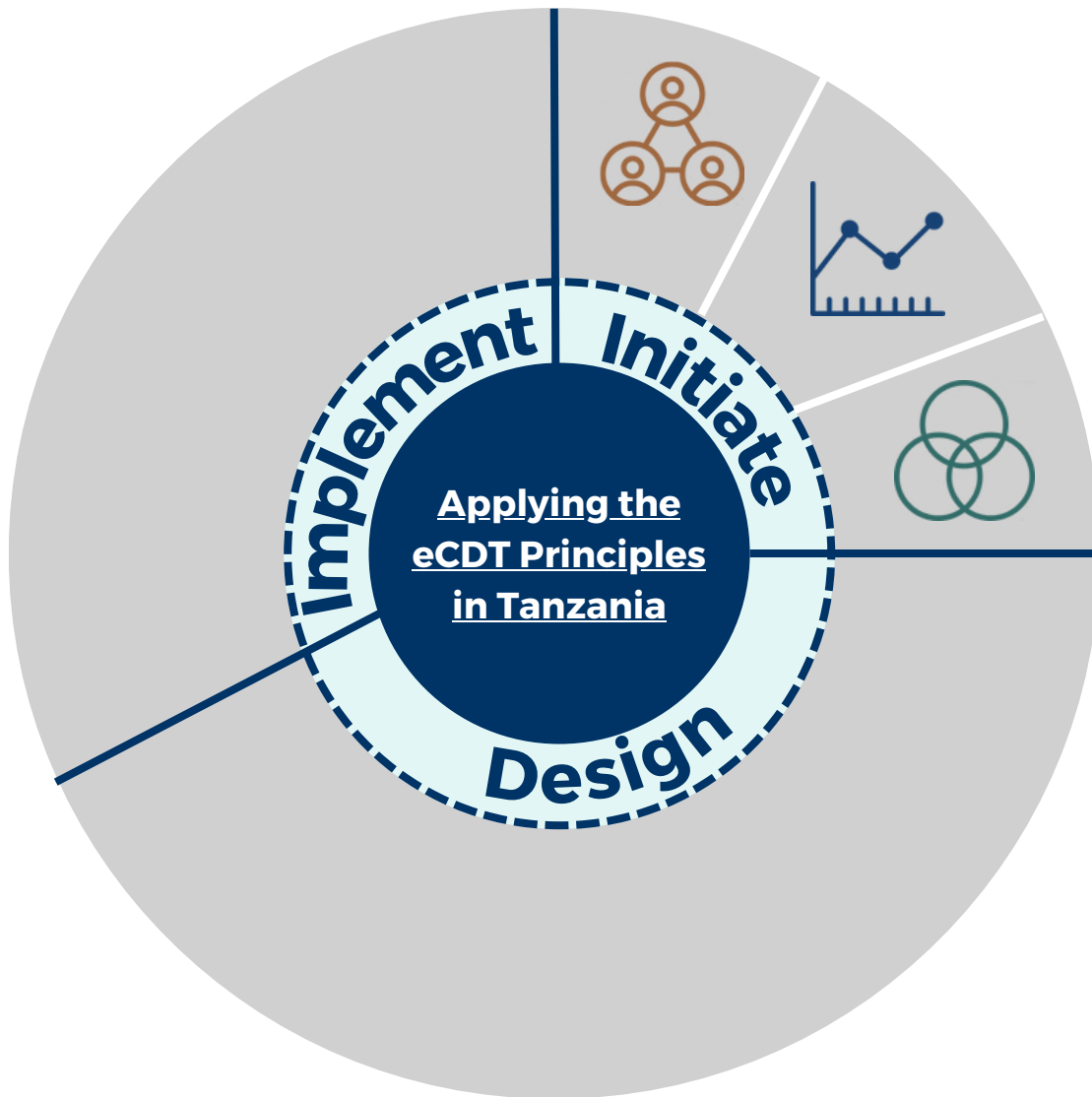
click on grey boxes to visit online resources







Within the Initiate Phase, there are three Principles to consider: 1) Be inclusive and collaborative with stakeholders, 2) Use data to inform decision-making, and 3) Maximize ecological social, and economic benefits.



**Click on the Principle icon** that is most relevant to your work to better understand the process of applying the Principles, guided by the Pathway activities.



#### PRINCIPLES KEY

 MAXIMIZE ECOLOGICAL, SOCIAL, AND ECONOMIC BENEFITS	 BE INCLUSIVE AND COLLABORATIVE WITH STAKEHOLDERS
 USE DATA TO INFORM DECISION-MAKING	 BUILD A LASTING AND SCALABLE PROGRAM
 CREATE A PROGRAM THAT IS ELECTRONIC, INTEROPERABLE, AND DATA SECURE	 ADDRESS DATA AND VERIFICATION NEEDS ACROSS FISHERIES AND SUPPLY CHAINS







Within the Design Phase, all six Principles are applicable. This is the only phase that includes every Principle. Because of this, it is expected that the Design Phase will take time and dedication to meet the needs of the users and fully integrate comprehensive characteristics into the eCDT program.



**Click on the Principle icon** that is most relevant to your work to better understand the process of applying the Principles, guided by the Pathway activities.



**PRINCIPLES KEY**

- |   |  |
|---|--|
|  MAXIMIZE ECOLOGICAL, SOCIAL, AND ECONOMIC BENEFITS                  |  BE INCLUSIVE AND COLLABORATIVE WITH STAKEHOLDERS                       |
|  USE DATA TO INFORM DECISION-MAKING                                  |  BUILD A LASTING AND SCALABLE PROGRAM                                   |
|  CREATE A PROGRAM THAT IS ELECTRONIC, INTEROPERABLE, AND DATA SECURE |  ADDRESS DATA AND VERIFICATION NEEDS ACROSS FISHERIES AND SUPPLY CHAINS |



## INITIATE:

# Be inclusive and collaborative with stakeholders

Applying  
the eCDT  
Principles  
in Tanzania

## Define goals and scale of the eCDT system

Consider the users of the eCDT and define goals that will meet their needs. The scope and scale of the project should be informed by government and supporting implementers to ensure the process lessons and pilot system can inform a long term, scaled up, national eCDT program.

*An MOU was established between SALT and Ministry of Livestock and Fisheries to define scope of the project and commit to collaboration. Initial project conversations also included USAID with MLF to identify overlapping priority areas aligned with long term development goals. In the co-design event, multi-stakeholders presented their desired future and benefits, which informed the goals of the Kilwa District octopus fishery eCDT program.*

## Be inclusive and collaborative with stakeholders

Remember that fishery stakeholders include those beyond the value chain (e.g., managers, researchers, civil society, community members). Being intentional with collaboration can help streamline efforts and improve efficiency of the project.

*In Tanzania, local partners, Aqua-Farms Organization (AFO), completed a stakeholder mapping exercise to identify key stakeholders in the Kilwa District octopus fishery. Collaboration mapping was used to identify cooperation opportunities, avoid duplication of efforts.*



Credit: AFO

Collaboration Mapping

AFO Stakeholder Report

Best Practices for Engagement

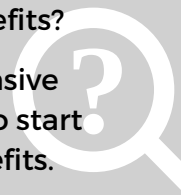
## Communicate incentives/benefits to foster stakeholder collaboration

Incentives and benefits can be broad and rooted in lessons from other initiatives. However, benefits should be relevant to the user group. Different stakeholders will respond to different incentives.

*Stakeholders at the co-design event participated in activities to identify desired benefits to inspire a program that meets the needs of the users and encourage long-term collaboration.*

Do stakeholders in your case need a tool to better conceptualize comprehensive benefits?

Use the comprehensive benefits worksheet to start brainstorming benefits.



Benefits Worksheet

Next

Future Work





# INITIATE

## Be inclusive and collaborative with stakeholders

Applying  
the eCDT  
Principles  
in Tanzania

### Consult stakeholders early, repeatedly, and with sensitivity to their needs

Communication should be strategy and leverage platforms and styles that are approachable and assessable to the stakeholders need to reach (video, radio, graphics). Different stakeholder groups may respond to different styles of consultation.

#### Octopus eCDT Video

*In Tanzania, special attention was given to targeting groups with less familiarity with eCDT. An animated video, specific to the octopus fishery, was created to introduce eCDT concepts and benefits.*

What communication avenues are appropriate in your case?

How can you best make information accessible?



### In consultation with stakeholders, clearly define objectives (ecological, social, and economic) of the comprehensive eCDT program.

Practitioners or facilitators may have to ask pointed questions to make sure the objectives are comprehensive and reflect the desires of users.

*A multi-stakeholder group at co-design event presented their aspirations for an eCDT program including the desired benefits and future state. Five outcomes were identified that have ecological, social, and economic impact and detailed in the eCDT strategy:*

1. Improved Income and Livelihoods
2. Market Access and Growth
3. Sustainable Fishery Management
4. Social Development
5. Transparency of Data



Credit: AFO

Co-design participants wrote their desired social benefits from an eCDT program.



#### Include local knowledge and experience.

Comprehensive understanding of the fishery is important to understand local dynamics, processes, and identify champions early in the process. Practitioners need to include local experiences via frequent conversations and/or site visits. Site visits are helpful to build rapport and trust in the process. Frequent consultation allows for information assessment and validation before design and implementation are finalized.

Future  
Work

Back



# INITIATE: Data informed decision making

Applying  
the eCDT  
Principles  
in Tanzania

## Conduct research, assessment, or gap analyses on the existing programs and enabling environment to identify supporting regulatory frameworks, enforcement, and political will

### AFO Gap Analysis

*Aqua-Farms Organization (AFO) completed a gap analysis and the results informed priority areas to address during the co-design event and identify opportunities to build upon existing efforts.*

## Learn from existing programs

Existing programs can be implemented by non-governmental organizations and/or government entities. Referring to government entities, technical experts, global initiatives, and traceability best practices, such as current data standards (e.g., Global Dialogue on Seafood Traceability), are helpful to learn from and can inform platform design.

*The gap analysis documented existing paper-based and electronic data collection efforts (e.g., eCAS). Because stakeholders are already familiar with eCAS, it is managed by government, and has the capability to be adapted, finding an electronic platform was a less daunting task.*

## Characterize supply chain

This activity is important for multiple reasons:

- understand product journey
- uncover information flow (or lack there of)
- learn how different people and entities are involved in the product and when



**Consider people and product.** Especially in small-scale fisheries, one person can be involved in multiple parts of the system. In this case, a fisher can also be a Beach Management Unit member.

### eCDT Strategy

*Visit the eCDT Strategy to see how we characterized the supply chain (Figure 5).*

## Assess existing exposures and risks

### SWOT Analysis

*With multi-stakeholder participation, current challenges and weaknesses of the traceability system were assessed using a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis.*

Future  
Work

### **Build for the real world.**



Characterizing the supply chain and validating it with stakeholders ensures accuracy and includes product routes that may be less common. Include a traceability expert in these conversations to make sure information gathered is interpreted correctly. Supply chains are complicated and with many players, it can be difficult to piece together. Practitioners should not assume to know the product journey. Ask different supply chain actors what happens to the product in their case and build for reality. A traceability system should track a product regardless of what market it is reaching (i.e., local versus international).





# INITIATE: Maximizing Ecological, Social, and Economic Benefits

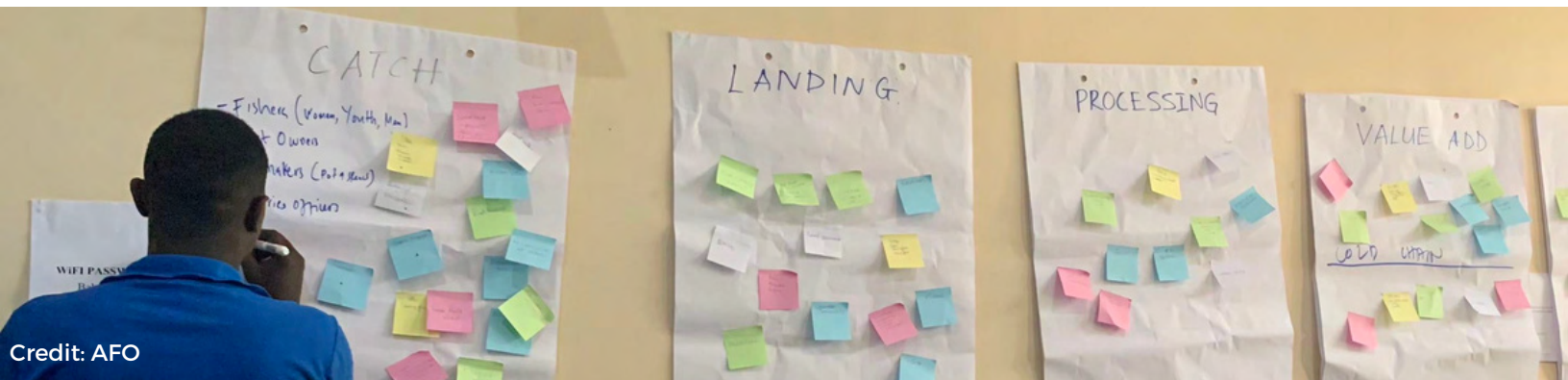
Applying  
the eCDT  
Principles  
in Tanzania

## Be inclusive in identifying stakeholders

To best understand the system and those invested in a fishery, the project needs to engage stakeholders in different locations, with different accessibility. To be sensitive to different stakeholders needs, deploy a range of mechanisms to ensure stakeholder inclusivity.

What barriers to inclusion exist related to power dynamics, income, gender, or education?

Refer to the framework and methodology for assessing inclusion to thoughtfully and accurately involve stakeholders.



Credit: AFO

Ample time (5 months) was spent identifying stakeholders that are involved and impacted by the Kilwa District octopus fishery. No single organization identified stakeholders, it was a collaborative process. Through various activities, Aqua-Farms Organization (AFO) was advised by those who have been working closely in the fishery.

### Activities:

- Key informant interviews
- Online workshops and webinars to reach regional stakeholders
- Kilwa District community site visits and questionnaires
- In person brainstorming and feedback with multi-stakeholder advisory group

**AFO Stakeholder  
Report**



### Collaborate intentionally.

There will be different priorities and readiness based on the regional cases.

There will be different priorities and

readiness based on the regional cases. In this project, the cost-benefit analysis activity was not prioritized to create the strategy. This activity requires the collection of baseline data of costs of current programs. Because the Pathway is not linear, it is recommended that this activity be revisited in order to advise the design and evaluate the feasibility of a long lasting program. To help evaluate your priorities, visit the Prioritization Worksheet. Identify Pathway priorities first to then identify necessary collaborations from the onset of the project (e.g., an economist).

**Activity Prioritization  
Worksheet**

Future  
Work



## DESIGN:

# Be inclusive and collaborative with stakeholders

Applying  
the eCDT  
Principles  
in Tanzania

## Clarify roles, responsibilities, and needs by stakeholder

By documenting the expectations in a public document, as seen in the eCDT strategy, each stakeholder group understands their role and is held accountable. Highlight stakeholder groups of crucial importance that impact the future success of traceability design and implementation (e.g., co-management entities).

*To validate stakeholder roles in the Kilwa District octopus fishery, each co-design participant self reported their role to ensure practitioners did not overlook a key role. The eCDT strategy described that Beach Management Units play a pivotal role in traceability design and implementation, and their capacity needs to be supported. Program design was informed by stakeholder groups who identified information needed from a traceability program to be able to reap the comprehensive benefits they prioritized.*

## As needed, formulate agreements between agencies for sharing information and responsibilities



### Collaborative Actions

As suggested by the whole system in the room (WSR) framework, co-design participants committed to short-term (three months) and long-term (three years) implementation plans towards the eCDT common vision created.

## Ensure stakeholders from relevant supply chains formally agree to support the eCDT program

The goal of including stakeholders from the onset of the project is to bolster long-term commitment and encourage formal agreements.

*Co-design demonstrated commitment from the government and regional representatives. The formal launch with the Minister of Livestock and Fisheries (MLF) demonstrated the importance of the initiative and instilled a sense of value in the participants. It is recommended that MLF create a national eCDT task force to establish a long-term custodian of the eCDT program.*



Credit: SALT



### Design matters.

SALT adopted the five pillars of SCALE+ to co-design this project and create a

participatory agenda for a three day co-design event. Important to the success of this event was the multi-stakeholder representation and intentional design with the whole system in the room (WSR) workshop tenants.

Future  
Work

**SCALE+**

**Whole System in the  
Room (WSR) Tools**



## DESIGN:

# Maximizing Ecological, Social, and Economic Benefits

Applying  
the eCDT  
Principles  
in Tanzania

## Design eCDT program to fit within larger fisheries management program

It is first important to understand the existing regulatory frameworks and identify relevant regulations, both national and regional (see figure 7 in the [eCDT strategy](#)). Include managing entities, including co-management entities, in the project from its conception. Their knowledge of the project and participation in the design aids in buy-in and builds internal capacity on eCDT and how it fits within a broader fisheries management program.

*In Tanzania, because traceability is already included in the legal framework, there is an opportunity to update regulations to include comprehensive eCDT. The gap analysis was helpful to identify management frameworks and existing programs, such as eCAS (see photo).*

*It was determined that Beach Management Units (BMUs), an entity for co-management, are essential for the long term success of the program. Communicating their importance to the national and regional agencies, encourages continued support of BMUs and their involvement in the eCDT program.*

**AFO Gap Analysis**



A data collection system exists in Tanzania (eCAS) and is used by managers.

What technology tools and management frameworks exist in your case that may be adapted to fit traceability program needs?



### Partners are crucial.

Identifying local partners that have established rapport with government agencies

will benefit the longevity of the program. Partnering with someone that has experience with management and understands local context and customs helps to ensure the right government representatives and agencies are involved. Additionally, partners should be respected and trusted by the community to encourage adoption and buy-in of the program. Governmental positions can change frequently and without warning. Having a champion to advise as throughout these changes will provide continuity.

Future Work





## DESIGN:

Create a program that is electronic, interoperable, and data secure

Applying  
the eCDT  
Principles  
in Tanzania

### Avoid creating trade barriers

Initiating and designing the program collaboratively with stakeholders helped to map supply chain, understand the product flow, identify different markets, and where there may be information bottle necks.

### Identify eCDT technologies to fulfill data collection and analysis needs

A thorough gap analysis helps address several of the Pathway activities at the same time, including informing technology selection.

*Aqua-Farm Organization's (AFO) Gap Analysis identified current data collection programs and noted the value of adapting eCAS, a current electronic program use for management. The SALT project did not go to the extent of committing to a specific technology, but it is recommended in the future work.*

**AFO Gap Analysis**

### Prioritize interoperability with existing traceability programs and data

Identifying current traceability programs and initiatives helps the project select stakeholders to include in the development of the comprehensive program in order to streamline efforts where possible. Referring to traceability best practices and data standardization aid in interoperability, or the ability to share data between systems.

*The eCDT strategy recommended traceability information to be collected and detailed that best practice is to have an agreed-upon format for data collection and data-sharing protocol to encourage interoperability.*

**GDST Standard**

### Develop eCDT programs and technologies with "human-centered design" approaches



#### Design to fit for purpose.

A "human-centered design" approach is important to ensure the design is accessible to users and meets their needs. SALT learned that some words are not easily translated, such as 'interoperable' in Swahili, which is a key concept for an eCDT program. Practitioners need to confirm with stakeholders that language is not a barrier and make jargon approachable. Pay special attention to literacy barriers in the design of the technology. Data collection interface may need to leverage graphics and other innovative solutions to collect certain types of numerical data (e.g., price).

Future  
Work



## DESIGN:

# Address data and verification needs across fisheries and supply chains

Applying  
the eCDT  
Principles  
in Tanzania

## Map data needs and constraints along full supply chain



Credit: APO

Mapping data that users have, want, and are willing to share can help understand where there is traceability alignment, bottlenecks, or opportunities to better realize desired benefits.

Ask stakeholders questions to help understand the data needs and constraints in your case:

- Who already has access to useful data?
- Who else would benefit from accessing the information?



*Current octopus information flow was mapped to identify potential data gaps and constraints due to data sharing challenges (see Figure 8 in eCDT strategy)*

## Design eCDT program with verification needs and challenges in mind

Verification of information and design assumptions should be conducted throughout the process, especially by those who are most impacted by the eCDT program.

*SALT utilized the co-design event to collect information about the future eCDT program and current challenges were documented.*



### Verification needs transparency.

Within the eCDT program, stakeholders expect data transparency. Data can be made available, or transparent, between supply chain partners as well as with traceability or governmental platforms. When designing a traceability program and determining what information is collected and shared, consider the need to cross check data within the supply chain. Verification often benefits from transparent data sources (e.g., vessel registries). Identifying what information needs to be transparent and to whom is critical for addressing verification needs.

Future  
Work



# DESIGN: Build a lasting and scalable program

Applying  
the eCDT  
Principles  
in Tanzania

## Identify potential pilot sites

Pilots build learning, buy-in, and can help limit cost concerns, but they are not always preferable to broader adoption. Scale and location of pilots should be considered with stakeholder feedback.

Is piloting your eCDT program necessary or is it possible to scale-up an existing pilot?

What is the right fishery or scale to maximize your available resources?

*Kilwa District was determined after conversations between SALT, USAID, and the Ministry of Livestock and Fisheries. These discussions determined a site that would inform future efforts and build on past and current efforts.*

*The octopus fishery's characteristics are applicable to other coastal fisheries in Tanzania that will benefit from a national eCDT program:*

- Supports local livelihoods
- Forecasted economic growth
- Includes women and youth
- Relies on an export market
- Opportunities for improved biodiversity conservation and fisheries management through improved data collection

## Encourage the adoption of these Principles into policy



Credit: AFO

This photo (above) shows AFO partner, Cretus Mtonga (left), and technical advisor, Yahya Mgawe (right), meeting with Hon. Abdallah Hamis Ulega, Minister for Livestock and Fisheries (middle). Mtonga and Mgawe shared the eCDT strategy in Dodoma, the capital city, to the Minister and 23 other representatives from MLF.



### Political will is powerful.

The request to use the Comprehensive Traceability Principles and the Pathway

originated from Tanzania's Ministry of Livestock and Fisheries (MLF). Their commitment and involvement throughout the process is important for the continuation of the project. MLF ultimately holds the role and responsibility of adopting comprehensive eCDT into policy. The eCDT strategy development is part of the process and will guide future steps in design and implementation.

Future  
Work





# Be inclusive and collaborative with stakeholders

Applying  
the eCDT  
Principles  
in Tanzania

Month 1

Develop messaging for the eCDT program and harmonize messages across all stakeholders to ensure there is no conflicting messaging.

Establish a national task force, chaired by the selected government office, **with inclusive agency representation**, to drive the eCDT process and ensure all activities, design, and implementation are accomplished.

Month 3-6

Develop an advisory committee to the implementing agency, with **representatives from all main stakeholders**, to support the development and communication of the eCDT program.

Identify the terms and expectations of the advisory committee.

Establish quarterly meetings to share milestones for the project

Share and vet Monitoring, Evaluation, and Learning (MEL) key indicators with users to ensure alignment on what success looks like.

Month 12

Be **inclusive when identifying first implementers**. Train all implementers, seeking their input. Plan for follow-up training throughout the eCDT program and beyond.

Develop a **feedback mechanism** with the technology vendor and set 2-3 official rounds of input for improving the technology and its application.

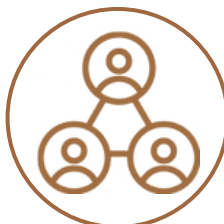
Throughout the process, continue to keep stakeholders apprised of key decisions, progress, and status of the program. Be cognizant of the message and target audience.

Different styles of communication are needed depending on the target audience.

- Host community events to share progress, reaffirm commitments from local stakeholders, address concerns and questions.
- Raise awareness about the eCDT program during environmental festivals.
- Campaign for traceability through radio approaches that will reach local stakeholders and highly listened to women.

Note that these examples are fit for a specific Tanzanian small-scale fishery case. Revisit communication avenues to identify what makes sense in a different cultural cases.

Initiate



Design



# Data informed decision making

Applying  
the eCDT  
Principles  
in Tanzania

Month 1

Assess and identify Tanzanian national agencies that should be involved in regulatory and data program decision-making. This will help **identify support for enforcement and political will**. **Assess exposures and risks** if an agency identified as important to the implementation and eCDT management does not participate in the national task force.

**Learn from existing programs** (e.g., other case studies and technology solutions) used in small-scale fisheries in other countries ([TrazApp](#), [ABALOB](#), etc.).

Month 3-6

**Validate data needs and constraints** along the full supply chain, consulting with more stakeholders, including Regional Fisheries Office, Fisheries Marketing and Quality Control, Tanzania Revenue Authority, Monitoring Control and Surveillance, Occupational Safety and Health Authority, and the Labour, Youth Employment and Persons with Disability offices

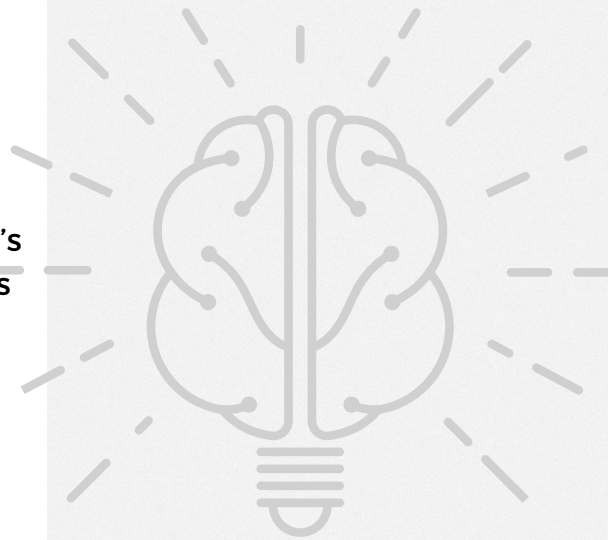
**When considering the data used to inform decisions, think critically to address exposures and risks**

- Note the risk of an agency opting out of being included in implementation and eCDT management.
- Assess data sources and their association with risks (i.e., IUU fishing, data privacy, leakages, labor abuses).
- Be aware of the difference between theory and actuality. Build a traceability program to fit actuality. Recognize and mitigate known issues.

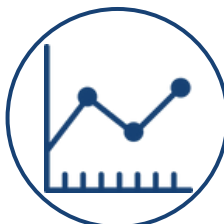
Month 12

Publish a registry of all licensed vessels approved for octopus harvest. See the [Fisheries Transparency Initiative's](#) standard as a resource when thinking about expectations for **governmental transparency**

Build in designated time periods for **monitoring and adaptation**. Design the program with a forward-thinking mindset by enabling possible use of modern and emerging technology in data analytics



**Initiate**





# Maximizing Ecological, Social, and Economic Benefits



Month 1

Consult regulatory authorities tasked with workplace safety and labor rights during the design and implementation phases of the eCDT program to (1) **identify how worker welfare will be monitored and supported** and (2) **implement safeguards to mitigate negative impacts of data collection on worker rights and privacy**. Interagency cooperation is critical, to create a comprehensive program able to address the challenges and reap the benefits identified during the co-design event.

Month 3-6

Identify stakeholders and/or personnel dedicated to **fundraising and finding necessary funds**, from government or with philanthropic partners, to implement the program.

Month 12

Conduct an **economic impact assessment** of the eCDT program to better understand the costs and benefits of different scenarios and **minimize costs** where possible.

**To be truly comprehensive and maximize benefits, consider engaging stakeholders beyond the value chain.**

**Ecological**

Federal and regional fisheries officers, by-catch monitoring, stock assessment scientists, co-management entities (e.g., Beach Management Units)

**Social**

Trade Unions, Women, Youth, Community leaders, Government agencies (e.g., Tanzania's Labour, Youth Employment and Persons with Disability office)

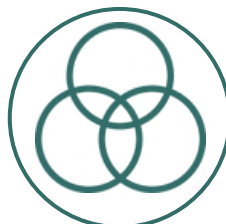
**Economic**

Economists, Agents, Operation Officers, Government agencies (e.g., Fisheries Marketing and Quality Control and Tanzania Revenue Authority)

**Across all categories, there may be researchers, non-governmental organizations, and technology solutions that should be consulted.**



**Initiate**



**Design**





# Create a program that is electronic, interoperable, and data secure



Month 1

Month 3-6

Month 12

**Characterize the supply chain** reaching Tanzanian markets (including ferry markets) and surrounding regional markets with more information. A complete national octopus traceability program should encompass local, regional, and international markets.

Review international (e.g., World Trade Organization) and African regional **trade agreements to avoid creating trade barriers**.

Distribute an expression of interest or request for proposals (RFP) to **identify technology partners**.

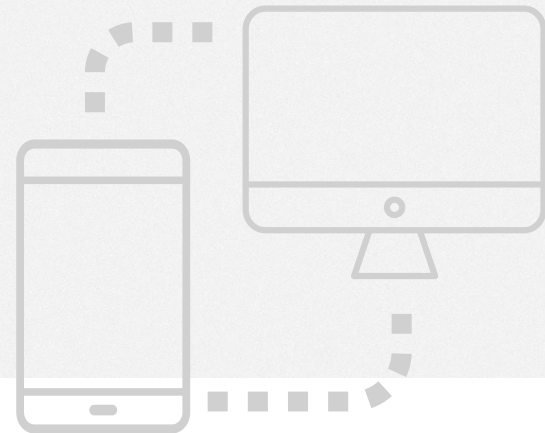
Select technology for a traceability program that aligns with comprehensive goals and objectives with stakeholder input. **Identify the first implementers** and include them in the review process. Formalize partnerships with those who will be the first implementers of the technology and **implement a mechanism to receive feedback from them**.



**Standardization improves interoperability, or the ability for data systems to share information, by encouraging data to be read automatically and consistently throughout the supply chain.**

- Standardize data collection and data sharing protocols. Data sharing protocols address data security; how and what is information shared and to whom.
- Standardize data format and semantics to allow for efficient data sharing.

**Inter-agency coordination will streamline the program and encourage comprehensive objectives are met. Regional and international coordination avoids creating unintentional trade barriers.**





# Address data and verification needs across fisheries and supply chains

Applying  
the eCDT  
Principles  
in Tanzania

Month 1

Month 3-6

Month 12

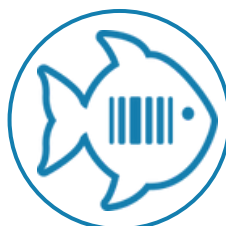
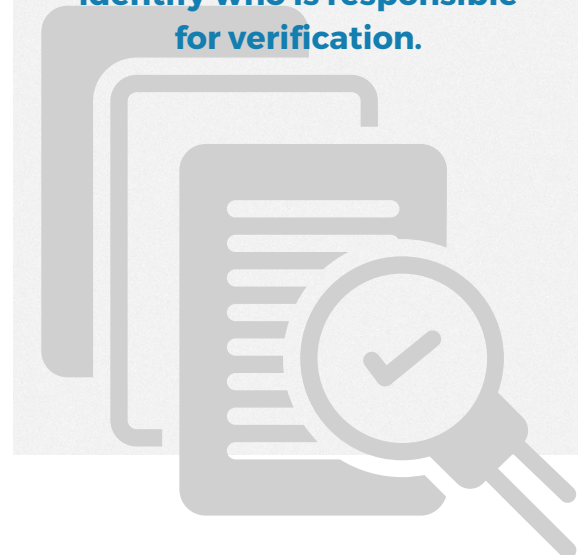
**Validate data needs and constraints** along the full supply chain, consulting with more stakeholders, including Regional Fisheries Office, Fisheries Marketing and Quality Control, Tanzania Revenue Authority, Monitoring Control and Surveillance, Occupational Safety and Health Authority, and the Labour, Youth Employment and Persons with Disability offices.

Clarify and validate the type of information to be collected and shared in the eCDT program as well as the extent of the electronic data collection (i.e., fully electronic or mixed paper and electronic traceability).

**Triangulation of data (cross-checking) helps assess legitimacy of the information and prevent fraud.**

- As traceability information for the program is refined and updated, ensure capability of cross-checking of data.
- Define who has access to the data and for what purpose, with special considerations to worker privacy.

**Continue to discuss expectations of verification and barriers (e.g., data availability, personnel capacity) as the program develops and identify who is responsible for verification.**



**Design**



# Build a lasting and scalable program



Month 1

In the short term, **identify internal funding and resources from the national government**. The national task force should identify personnel to assist in implementing the strategy.

Month 3-6

**Identify and invest in infrastructure improvements** needed during the first mile of the octopus' journey to efficiently run an electronic traceability program. Of key importance is the availability of cellular or satellite networks, a technology partner to design and implement an eCDT platform, and training for all implementers.

**Revise the Fisheries Regulation**, 2009, in order to provide for eCDT. Include eCDT in the Octopus Fishery Management Plan being revised now.

Month 12

Identify plans for **long-term sustainable funding** of the program for maintenance and monitoring, expansion, MEL, etc.

**To build a lasting and scalable program, design the program with a forward-thinking mindset.**

- Anticipate the need for future changes in regulation and trade requirements.
- Allow for ongoing monitoring and improvement, with input by users.
- Anticipate changes in government roles and turn-over. Engage with multiple representatives and beyond the political leaders who experience higher turnover rate. Find long-term champions.
- Assess objectives and resources for expansion: are the funds, staff, infrastructure, and resource commitments still present and appropriate for the scope?



**Design**



## Ready to Apply the Comprehensive eCDT Principles?







The Principles and Pathway are tools that can be referred to throughout the process of improving or implementing a comprehensive eCDT program. As more use cases are documented, the guidance will be refined and strengthened.

**If you are interested in applying the Principles and Pathway, please reach out to FishWise at [salt@fishwise.org](mailto:salt@fishwise.org)**

Our team includes technical counter-IUU fishing, social responsibility, and business expertise reflecting the comprehensive approach to traceability.



### PRINCIPLES KEY

 MAXIMIZE ECOLOGICAL, SOCIAL, AND ECONOMIC BENEFITS	 BE INCLUSIVE AND COLLABORATIVE WITH STAKEHOLDERS
 USE DATA TO INFORM DECISION-MAKING	 BUILD A LASTING AND SCALABLE PROGRAM
 CREATE A PROGRAM THAT IS ELECTRONIC, INTEROPERABLE, AND DATA SECURE	 ADDRESS DATA AND VERIFICATION NEEDS ACROSS FISHERIES AND SUPPLY CHAINS

# Thank you to our partners for your dedication to the success of electronic seafood traceability in Tanzania.

## Partners



**United Republic of Tanzania Ministry of Livestock and Fisheries**



**Yahya Mgawe, Ocecon Consulting**



**Aqua-Farms Organization**

## Project Participants

**Department of Fisheries  
Kilwa District Community Members  
Co-Design Planning Committee Members  
Co-Design Participants**



Credit: AFO



Credit: AFO



Credit: AFO

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