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GUIDE NO. 1
Participatory Coastal Resource Assessment: Developing Commune Coastal Profiles in Vietnam

Toolkit for Participatory Coastal Spatial Planning at the District Level

[1] This pilot was developed and implemented through the Tenure and Global Climate Change (TGCC) Program.

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Acronyms and Abbreviations

PCRA	Participatory Coastal Resource Assessment
TGCC	Tenure and Global Climate Change
USAID	United States Agency for International Development

Toolkit for Participatory Coastal Spatial Planning at the District Level

The Government of Vietnam is highly interested in improving coastal forest management, especially for mangrove forests. Decree 119/2016/ND-CP, approved by the Government of Vietnam in August 2016, focuses on policies for the sustainable management, protection, and development of coastal forests to support adaptation to climate change.

The *Our Coast – Our Future* pilot project[2] promotes the design of coastal spatial scenarios and a spatial implementation plan as part of a participatory coastal spatial planning process that enables the adoption of a holistic approach to coastal forest management. By working with coastal communes, the creation of a district-level spatial implementation plan enables coordination and consensus over how to manage the coastal landscape to achieve the sustainable management of coastal forests.

The development of coastal spatial scenarios explicitly considers the relationship between forest rehabilitation and management, and multiple other uses of the coastal landscape for infrastructure, livelihood support, and income generation. By identifying the complementarities and conflicts between these different current and future interests in the coastal landscape, an integrated coastal resource management approach can be set into motion.

This **Toolkit for Participatory Coastal Spatial Planning at the District Level** promotes a tenure-responsive form of coastal spatial planning by identifying ways to improve the sustainability of coastal natural resources focusing on issues of access, use, management, and exclusion rights to specific resource areas. Once a spatial implementation is developed, the stage is set for creating a collaborative approach to mangrove management with key local stakeholders. Altogether, this provides an effective way of improving the sustainable management of vital coastal resources such as mangrove forests.

The **Toolkit for Participatory Coastal Spatial Planning at the District Level** is composed of three parts:

a. *Guide No. 1: Participatory Coastal Resource Assessment: Developing Commune Coastal Profiles in Vietnam.*

b. *Guide No. 2: Participatory Mapping: Creating Knowledge for Coastal Spatial Planning in Vietnam.*

c. *Guide No. 3: Building Coastal Spatial Scenarios in Vietnam: Supporting Planning in Coastal Landscapes at the Local Level.*

These guides are available in both Vietnamese and English languages.

[2]This pilot was developed and implemented through the Tenure and Global Climate Change (TGCC) Program. See: **https://www.land-links.org/project/tenure-global-climate-change-vietnam/.**

1. Introduction

1.1 Importance of Coastal Forests in the Context of Climate Change

Vietnam has a long coastline with significant coastal forests. These forests provide significant benefits, including infrastructure protection, livelihood support, aquatic biodiversity conservation, and climate change adaptation and mitigation. Although such forests were considered wastelands in the past, there is now growing global recognition that coastal forests require unique forms of management for conservation. In Vietnam, the local government and communities in different parts of the long and densely populated coastline face diverse challenges in expanding and protecting these coastal forests depending on their ecological and developmental contexts. Mangrove ecosystems and their uses in the Red River Delta, for example, are very different from those in the Mekong Delta.

Given the multiple uses of coastal forests, protecting such forests requires careful consideration of how changes in the local economy and governance systems in sectors such as infrastructure, fisheries, farming, manufacturing, and tourism can affect incentives for sustainable forest management. Understanding the interlinkages between these sectors in the local development context as it relates to coastal forest conservation is necessary to plan for the future. The development of a coastal spatial plan and a collaborative approach to mangrove management involves understanding local contexts such as the natural resource situation, types of resource users, and governance systems (such as tenure and contracts).

An assessment of these conditions through diverse, local inputs develops a clearer picture of the likely future impacts of economic development and climate change on coastal forests. This guide for carrying out a Participatory Coastal Resource Assessment (PCRA) supports the generation of knowledge for carrying out coastal spatial planning. A PCRA presents this knowledge in the form of Commune Coastal Profiles for district-level planning of coastal landscapes.

There is strong interest within the Vietnamese government in improving coastal forest management, particularly for mangrove forests. Decree 119/2016/ND-CP (2016 Coastal Forests Decree), approved by the Government of Vietnam in August 2016, focuses on policies for the sustainable management, protection, and development of coastal forests to support adaptation to climate change.

For the Vietnamese government, managing mangroves requires understanding the multi-sectoral resource interests in the coastal landscape. Situated between land and sea, Vietnam's coastal landscapes fall under the jurisdiction of different government agencies responsible for agriculture, sea dike management, forest management, aquaculture, fisheries, and planning. For effective coastal management, it is necessary to foster coordination between these agencies and understand how their respective policies and laws affect coastal spatial planning in practice. The 2015 Law on Marine and Island Resources and Environment and the 2016 Coastal Forests Decree both play a critical role in promoting the sustainable development of coastal landscapes in Vietnam requiring an integrated coastal resource management approach.

1.2 Importance of Integrated Coastal Resource Management

Integrated coastal resource management requires the use of coastal spatial planning tools to ensure future economic development and not only generates growth, but also protects both the ecosystem and communities by safeguarding coastal forests. This approach forms the cornerstone of a sustainable coastal economy. This guide for conducting a PCRA emphasizes the importance of understanding the different types of governance arrangements (such as tenure rights and contracts) over diverse resource uses. This provides a clearer picture of how to design interventions to improve integration between governance modes to achieve sustainable coastal forest protection alongside economic development.

Often, even within a single district, coastal communes have different governance approaches for managing their coastal resources, including mangroves. Although these approaches may have been initiated to meet immediate needs, they may not necessarily be the most effective method over the long term. Therefore, analyzing the details of local needs can help identify the best approaches for managing coastal landscapes that balance the objectives of mangrove conservation with livelihood needs and economic growth.

1.3 Purpose and Approach of Participatory Coastal Resource Assessment

This document on Participatory Coastal Resource Assessment provides guidance to local governments and communities on how to develop an integrated understanding of the varied resources, resource users, and governance modes that exist within any commune or district's coastal landscape. Carrying out a PCRA provides the information and analysis necessary to prepare a Commune Coastal Profile. Following the PCRA, the Toolkit's *Guide No. 2: Participatory Mapping: Creating Knowledge for Coastal Spatial Planning in Vietnam* supports the creation of a set of digitized maps which provide geospatial information on various dimensions of coastal landscape conditions. The geospatial data collected expands the analysis set out in the Commune Coastal Profile. In turn, the Commune Coastal Profile together with digitized maps form the basis for identifying potential future coastal visions and associated scenarios created through a participatory planning process that results in a spatial implementation plan (covered in *Guide No. 3: Building Coastal Spatial Scenarios in Vietnam: Supporting Planning in Coastal Landscapes at the Local Level*). This coastal spatial implementation plan sets out the major objectives and activities for achieving the spatial scenario within the coastal landscape. The scenario with the associated spatial implementation plan then provides the overall framework within which the local government together with the communities can design detailed plans, such as on collaborative mangrove management.

The Commune Coastal Profile assesses the drivers within a local coastal economy that negatively impact the mangrove and coastal ecosystem, the mangrove rehabilitation experience, as well as the particular ways in which local livelihoods and businesses are dependent on the wellbeing of the coastal ecosystem. It sets out the status of different coastal natural resources, resource users, socioeconomic valuations of varied resource uses, as well as governance approaches within the coastal landscape. Importantly, it examines the resource context through a gendered lens which

identifies gendered patterns of resource use and governance roles. The Commune Coastal Profile provides a detailed picture of the current conditions and puts forward for consideration specific interventions needed to improve the coastal forests in order to meet a range of ecological, social, and economic objectives.

This guide sets out the main steps in carrying out a PCRA to prepare a Commune Coastal Profile, primarily through community engagement in a workshop format. Conducting a PCRA involves collecting and analyzing information from different types of local community stakeholders, including the government, mass organizations, gleaners, aquaculture businesses, farmers, clam farmers, and fisherfolk. In this way, the Commune Coastal Profile reflects the perspectives of those who closely work with resources in the coastal landscape.

This guide introduces the different tools used for collecting the various types of data needed for carrying out a PCRA and writing up a Commune Coastal Profile. The PCRA process involves a two-day workshop where all key stakeholders work together to jointly develop their understanding of the coastal landscape's social, economic, and environmental dynamics. This involves carrying out nine exercises with workshop participants. Then, facilitation team analyzes the data to prepare a draft Commune Coastal Profile. The facilitation team then shares this draft profile with key stakeholders before holding a one-day validation workshop where the information is reviewed and the Commune Coastal Profile is finalized.

Chapter Two presents the preparatory steps needed to conduct a PCRA. Chapter Three then explains how to carry out the nine key participatory exercises that form the main part of the PCRA in a two-day workshop. Next, Chapter Four discusses data analysis and preparation of the draft Commune Coastal Profile. The concluding section in Chapter Five sets out the approach of the one-day Commune Coastal Profile validation workshop before the Coastal Commune Profile can be finalized.

This assessment guide was initially developed on the basis of a United States Agency for International Development (USAID)-supported pilot project called *Our Coast – Our Future* in the Tien Lang district of Haiphong municipality, which was carried out from October 2016 to December 2017.

2. Preparing a Participatory Coastal Resource Assessment

2.1 Steps in Preparing a Participatory Coastal Resource Assessment

Carrying out a PCRA involves the following steps:

Figure 1: PCRA steps

The information in the PCRA can be supplemented by preparing a set of digitized maps that provide geospatial information about key dimensions of resource condition, use, and management as it relates to participatory coastal spatial planning. The participatory mapping process is then covered in a separate publication, *Guide No. 2: Participatory Mapping: Creating Knowledge for Coastal Spatial Planning in Vietnam*, also part of the **Toolkit on Participatory Coastal Spatial Planning at the District Level**.

In the two-day workshop, facilitators carry out nine participatory exercises with selected members of the local government and representatives from all types of resource users (such as gleaners, aquaculture pond owners, fisherfolk, and clam farmers) in the commune to jointly assess the condition of the coastal resources. The facilitators should prepare the set of materials and tables needed to support each of these exercises.

After the two-day workshop, facilitators analyze the information collected from workshop participants to prepare a draft Commune Coastal Profile. The Commune Coastal Profile includes chapters as follows (see Appendix One for a detailed breakdown):

1. Introduction,
2. Status of Mangrove Ecosystem and Coastal Environment,
3. Resource Use of Coastal Environment,
4. Resource Tenure and Management Systems for Different Coastal Resources,
5. Socioeconomic Valuation of Resource Uses and Forests,
6. Community-Based Paper Mapping of Coastal Landscape, and
7. Key Challenges and Needs.

After the completion of the two-day workshop, facilitators should organize a one-day workshop on validating the Commune Coastal Profile. Prior to the one-day workshop, facilitators should analyze the data from the two-day workshop to prepare a draft Commune Coastal Profile. Facilitators should share this document in advance with commune participants so that they can provide appropriate feedback. After facilitators receive the feedback from the one-day workshop, the Commune Coastal Profile can be finalized.

2.2 Engaging Local Stakeholders

To develop a comprehensive understanding of the coastal conditions through the PCRA process, it is important for the facilitation team to first meet with local government leaders and organizations (such as Red Cross, Fatherland Front, women's groups, youth organizations, and aquaculture unions) to ensure there is sufficient support for the workshop. These meetings ensure that the local government and organizations understand the objectives, expected outcomes, and time commitment needed to engage in the PCRA process. In addition, the meetings should encourage significant female participation to a level that reflects their involvement in each resource use type. When feasible, it would be beneficial to invite a local government leader to open and close the workshop to set the scene and explain the purpose of the workshop.

In addition, local organizations can identify appropriate days and locations where the workshop should take place depending on the local context. It is important to take into consideration the time to carry out these meetings to ensure stakeholders are engaged and committed to supporting the PCRA process. Meeting with leaders of each coastal village in the commune helps with the collection of preliminary information on the village economy and household production systems. The "Basic Village Data Form" provided in Appendix Three can be distributed to local village leaders to fill out during the preparatory meetings.

During these meetings in the communes, it is worthwhile to take photographs of different parts of the coastal landscape and the varied productive uses within it, such as of aquaculture farms, mangrove forest areas, fishing and gleaning areas, fishing boat landing sites, and clam farms. These photographs are useful for PowerPoint presentations and can catalyze discussions during the two-day workshop.

2.3 Facilitation of Workshop

For a successful PCRA process, it is important to identify workshop facilitators who have a background in coastal resource issues and can support such an assessment. Moreover, involving

both female and male facilitators creates a gender-balanced group capable of recognizing gendered aspects of resource use and coastal forest management.

It is recommended that facilitators aim to develop a positive and engaged atmosphere during the workshop to make the environment productive for everyone. Preparing interesting and fun exercises for each component encourages participants to actively contribute and support the overall assessment by sharing their own insights. Participants working together in the spirit of forging their own sustainable future is the centerpiece of this workshop.

It is also helpful for facilitators to set clear expectations and commitments from the beginning. This establishes awareness among all participants of how to meet the workshop's objectives. Each day in the morning, facilitators can organize opening exercises to activate involvement by each participant and provide clear guidance for the day.

Importantly, the facilitation team should appoint some note-takers to keep careful notes of the key findings and results from each of the PCRA exercises.

Figure 2: Plenary meeting of the PCRA workshop in Tien Hung commune, Haiphong municipality

2.4 Materials for the Workshop

Identifying an appropriate time and location for the two-day workshop in consultation with key stakeholders is critical for an effective assessment. In addition, each exercise requires preparation of related maps, tables, and materials to support engaged discussion.

Google Earth is an essential resource for the workshops. Google Earth base maps of each commune, and of the whole district's coastal area, should be printed out to support the workshop discussions.

In addition, using a mix of approaches such as games, multiple-choice quizzes, and group exercises (using the support of such media as posters, idea cards, and colored sticky notes) can provide variety and interest for the range of assessment participants. Finally, PowerPoint presentations need to be prepared in advance for specific exercises, using photos of the local coastal context to help activate the discussions.

3. Two-day Workshop for Participatory Coastal Resource Assessment

Facilitators should hold the two-day workshop in a location accessible to both female and male participants. The location must be able to support both plenary and small-group discussion around tables. A projector and screen are required for PowerPoint presentations. In addition, facilitators should have access to a whiteboard or flip chart to facilitate discussion, in addition to other materials for small-group discussion (such as colored post-its, pens, and paper).

The schedule for the two-day workshop is organized as follows:

SCHEDULE	ACTIVITIES
DAY 1	• Identify the condition and trends of the coastal ecosystem. • Set out the main resource users, levels of resource use, and management approaches.
DAY 2	• Carry out a socioeconomic valuation of resource uses. • Create a paper map of coastal landscape, zones, and uses.

Day 1, Morning – Understanding the Local Mangrove Ecosystem and Coastal Environment

In this morning section of the workshop on day 1, the main objectives are:

a. To collate information about the present condition of the coastal ecosystem from different types of resource users;

b. To understand the primary reasons behind the present ecosystem condition; and

c. To identify what needs to be done to address the present mangrove condition issues.

Opening Activity: Daily Registration and Warm-up Exercises (30 mins)

Facilitators should develop an opening activity to welcome the group and introduce participants to each other. This can also help set the context for the workshop, which is organized as follows.

Exercise 1: Developing a Coastal Transect (30 mins–45 mins)

Objective: This exercise aims to provide all participants with an opportunity to share their general understanding of their coastal area's natural resources and uses by brainstorming their deep knowledge of the coastal geography.

Process: First, the facilitators provide a PowerPoint presentation which outlines the local geography. This can include a Google Earth map as well as key photos of the local coastal landscape. Then, facilitators divide participants into small mixed coastal resource user groups of 6 to 8 members by counting numbers or by colors to work together. These groups should include women, the poor, elderly, and youth when possible. Facilitators appoint one person per group as the group leader. These same groups continue to work together in Exercise 2.

Facilitators instruct groups to work together to prepare a transect drawing of the coastal zone from the area immediately behind the sea dike reaching out to the near-shore fishing areas (see Figure 3 as an example). This includes the aquaculture farms and mudflats. It is necessary to explain the boundaries of district- and commune-level governance in the coastal environment.

The facilitators then carefully explain the purpose of the exercise and how to prepare the transect drawings with A0 paper and color pen markers. After completion, all groups post their Coastal Transect on the room's walls to have a group presentation and discuss the visual representations from all participants.

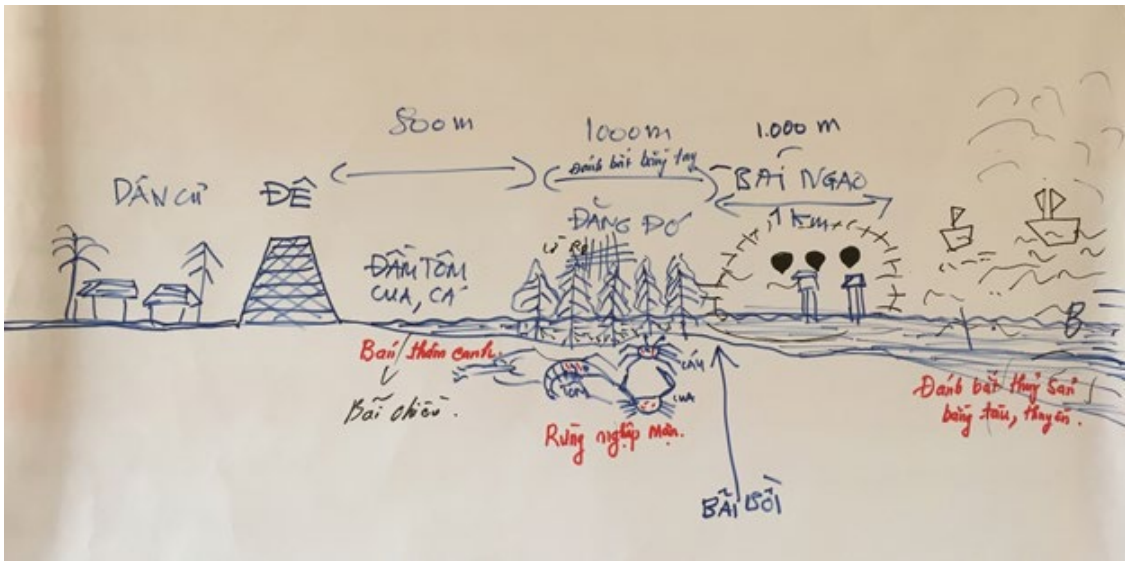

Figure 3: Transect drawing including (from left to right) houses/dike, ponds, mangroves, young mangroves, mudflats, and clam farming (with some dates on key activities) in Vinh Quang commune

Exercise 2: Condition of Coastal Ecosystem (60 mins)

Objective: This exercise aims to identify the condition of specific parts of the coastal ecosystem and landscape.

Process: The same small groups from Exercise 1 continue to work together in Exercise 2. One facilitator explains the purpose of this exercise while introducing a large printed table (on A0

paper) that sets out each habitat or infrastructure type found in the local coastal landscape with columns regarding the condition and cause of the condition. Appendix Two provides a sample table, which facilitators should amend to suit the local context. Facilitators ask each group to consider the present condition of each part of the coastal ecosystem. Then, the facilitators instruct each participant in the group to put a check mark next to the condition that best describes the current situation. Once participants have placed their answers on the board, the group leader draws out a conversation to provide an explanation of the current conditions of each area. The various answers are added to the final column, under "Describe How and Why." Participants are encouraged by the group leader to clarify why things have become better or worse. Group leaders should draw out causes such as access to shrimp markets, growing population, increasing poverty, road construction, greater sedimentation, rising income from seasonal migration, pollution, and climate change. Facilitators make note of a variety of opinions to achieve balance when drawing conclusions on what are the key issues and causes for the changing conditions of the coastal ecosystem.

Finally, facilitators should ask participants in small groups to consider whether experts have carried out any specific studies on any particular part of the coastal ecosystem. If yes, why were these studies carried out? If not, what are the knowledge gaps in understanding the condition of the local ecosystem? The group leader then presents the smaller group and their findings to the larger group to facilitate a broader discussion.

Exercise 3: History of Mangrove Rehabilitation (30–50 mins)

Objective: The aim of this exercise is to identify how mangrove planting and protection has been carried out over the last 20 years to highlight the lessons learned.

Process: In this exercise, facilitators first introduce the purpose of this exercise, and then utilize the Google Earth map of the local coastal landscape to ask the workshop participants, as a plenary, to describe the history of mangrove rehabilitation in the district's coastal area over the last 20 years. Facilitators can use the following example questions to generate discussion about mangrove rehabilitation, drawing out the different roles of women and men where relevant:

- When did mangrove rehabilitation begin?
- Why did it begin at this time?
- Who provided funds for mangrove rehabilitation?
- Which organizations or projects led the work?
- Who carried out nursery development, planting, and protection?
- Which areas were planted with mangrove seedlings?
- How were these areas selected?
- Which species were planted in which areas?
- Where did seedlings come from?

- What methods were used for protection?
- What was the success rate for these seedlings?
- Over time, how has mangrove rehabilitation continued?
- Has there been any change in how sites are selected for planting?
- Have there been improvements in how nurseries are developed?
- Which factors explain the best success rate for mangrove planting?
- Which factors explain the poorest success rate for mangrove planting?
- What are the key lessons the community has gained over the years regarding mangrove rehabilitation?
- Have the costs of planting and protection increased or decreased over time? Why? How much?

Day 1, Afternoon – Identifying the Local Economy and Annual Cycles of Resource Use

In the afternoon section of the workshop on day 1, the main objectives are:

a. To identify the household economy of the full range of users of various types of coastal resources; and

b. To understand the calendar cycle for each type of coastal resource use.

Exercise 4: Rapid Village Socioeconomic Profile (30 mins)

Objective: The aim of this exercise is to develop a brief village socioeconomic profile for each village within the district's coastal landscape, providing a synoptic sense of the local economy and household production portfolios which can help identify the different types of natural resource dependencies on the coastal landscape.

Process: After explaining the purpose of this exercise, facilitators divide the participants into small groups with members from the same coastal village. Facilitators provide each small group with a filled-out copy of the "Basic Village Data Form" (provided in Appendix Three) prepared by village leaders during preparatory meetings. Each small group discusses and validates the content of the form. The facilitation team then collects the forms with corrections.

Exercise 5: Calendar Diagrams (60 mins)

Objective: The aim of this exercise is to examine how households utilize the coastal natural resources over an annual cycle.

Process: In this exercise, participants produce a calendar diagram that visually organizes information to enhance understanding and support the analysis of how different types of production in the coastal landscape relate to mangrove condition and cover. The calendar diagram illustrates the annual cycle of productive activities on a month-by-month basis, including information on levels of production such as best, medium, few, and non-harvest. Facilitators

provide definitions of these categories for participants to work with. By simplifying information in this way, participants obtain a quick sense of how households organize their activities in an area with coastal forests.

Facilitators organize the participants into resource-specific small groups, such as mangrove planters, gleaners, fixed net fisherfolk, extensive and semi-extensive aquaculture, intensive aquaculture, clam farmers, and boat fisheries, enabling each group to develop a separate annual diagram for their specific productive activities. Facilitators appoint a group leader for each group. A facilitator provides a calendar diagram template (see Figure 4) to each group so that group leader can work with his group members to fill out the annual picture. This information represents the current pattern of activities within the communities.

One facilitator supports the whole process by first providing an example of how to produce the calendar diagram for one production type. The facilitator instructs participants to identify how households mix-and-match different types of activities so that a more complete understanding of the production activities of any given type of household (rich, medium, poor) can be obtained. Facilitators print the Calendar Diagram on A0 paper so community members can start their discussion and fill in the form easily.

Once discussion is completed in small groups, each group leader reports back to the entire group. The facilitators support a final open discussion to ensure that any questions from members of other groups are addressed.

Figure 4: Calendar diagram for boat fisheries. Different species such as shrimp, crab, baby crab, fish, squid, snail, and jellyfish are represented with different colors for levels of abundance (e.g., orange: abundant, green: fair, blue: few, empty is nothing) over the annual cycle)

Day 2, Morning – Socioeconomic Valuation of Mangrove Forests

In this morning section of the workshop on day 2, the aim is:

a. To identify in what way mangroves provide both direct and indirect socioeconomic benefits to the local communities; and

b. To prioritize which resource uses are valued by the commune members.

Opening Activity: Daily Registration and Warm-up Exercises (30 mins)

Facilitators carry out a welcoming activity to introduce the group to the second day. An informal quiz on the previous day's findings can help revisit the assessment work to date.

Exercise 6: Income Benefits of Mangrove Forests for Livelihoods (60 mins)

Objective: This exercise focuses on examining the particular types of direct income benefits that mangroves provide in a socioeconomic sense to the local residents.

Process: Local communities typically have a good understanding of the ecological and socioeconomic value of mangrove forests. These include both direct income benefits and non-income benefits to the households and communities of the area. This exercise focuses on the direct income benefits from improvements in mangroves to the various types of resource users in

Figure 5: Selected community members work in a group to define mangrove benefits in a PCRA workshop in Dong Hung commune

the coastal landscape. The exercise involves using the table in Appendix Four (amended to suit local circumstances) to engage in small-group discussions about the multiple income benefits of mangrove forest increases. The facilitators, after introducing the objective and method of the exercise, divide the participants into small groups of mixed resource user types (such as gleaners, aquaculture pond farmers, mangrove planters, and clam farmers). The same groups continue working together in Exercise 7. The facilitators appoint a group leader for each group. Each group discusses the economic value from productivity increases (based on present market value) and the key beneficiaries. The groups consider these increases over a five-year period.

Following this, the whole group can have a facilitated discussion about the variations in productivity over specific periods (for example, over the last two years) or in different places within the coastal landscape to fill out the picture of income benefits. Examples of questions that can guide this plenary discussion include: What factors have influenced productivity? Is productivity solely related to mangrove forest increase? Or is it related to changing climate? Or changing technology? Salinity changes? Pollution? Finally, to what extent are communities clearly aware of the way in which mangroves positively affect different kinds of aquatic productivity increases?

Exercise 7: Other Non-Income Benefits of Mangrove Forests (60 mins)

Objective: The aim of this exercise is to identify the non-income benefits of improvements in mangrove cover and condition.

Process: In a similar fashion to Exercise 6, working in the same small groups, each group assesses how the increase in mangrove forest cover has helped to increase other non-income benefits. The table provided in Appendix Five can be introduced to all the participants before each group considers the ways in which increased mangrove cover has benefitted the local government, community, and private.

Day 2, Afternoon – Mangrove Rehabilitation and Community Mapping of Coastal Landscape

In the afternoon section of the workshop on day 2, the aim is:

a. To identify current and historical costs of mangrove rehabilitation; and

b. To create a community-based paper map of the coastal landscape.

Exercise 8: Costs of Rehabilitating Mangroves (30–45 mins)

Objective: This exercise enables the community to explicitly identify how much expenditure is involved in rehabilitating mangrove areas.

Process: Facilitators organize this as an open discussion among all participants, particularly engaging those involved in nursery development, planting, and protection. The table in Appendix Six guides discussion about mangrove rehabilitation costs over the last ten years. Facilitators should keep in mind that some participants only remember how much they received for their planting labor wage per day and may not know all of the costs involved.

Exercise 9: Community Mapping of Coastal Landscape and Tenure Arrangements (60 mins)

Objective: The aim is to create a paper map with input from the local government and community members so that it can support the development of a set of digitized maps (see *Guide No. 2: Participatory Mapping: Creating Knowledge for Coastal Spatial Planning in Vietnam*) which form the basis for participatory coastal spatial planning (see *Guide No. 3: Building Coastal Spatial Scenarios in Vietnam: Supporting Planning in Coastal Landscapes at the Local Level*).

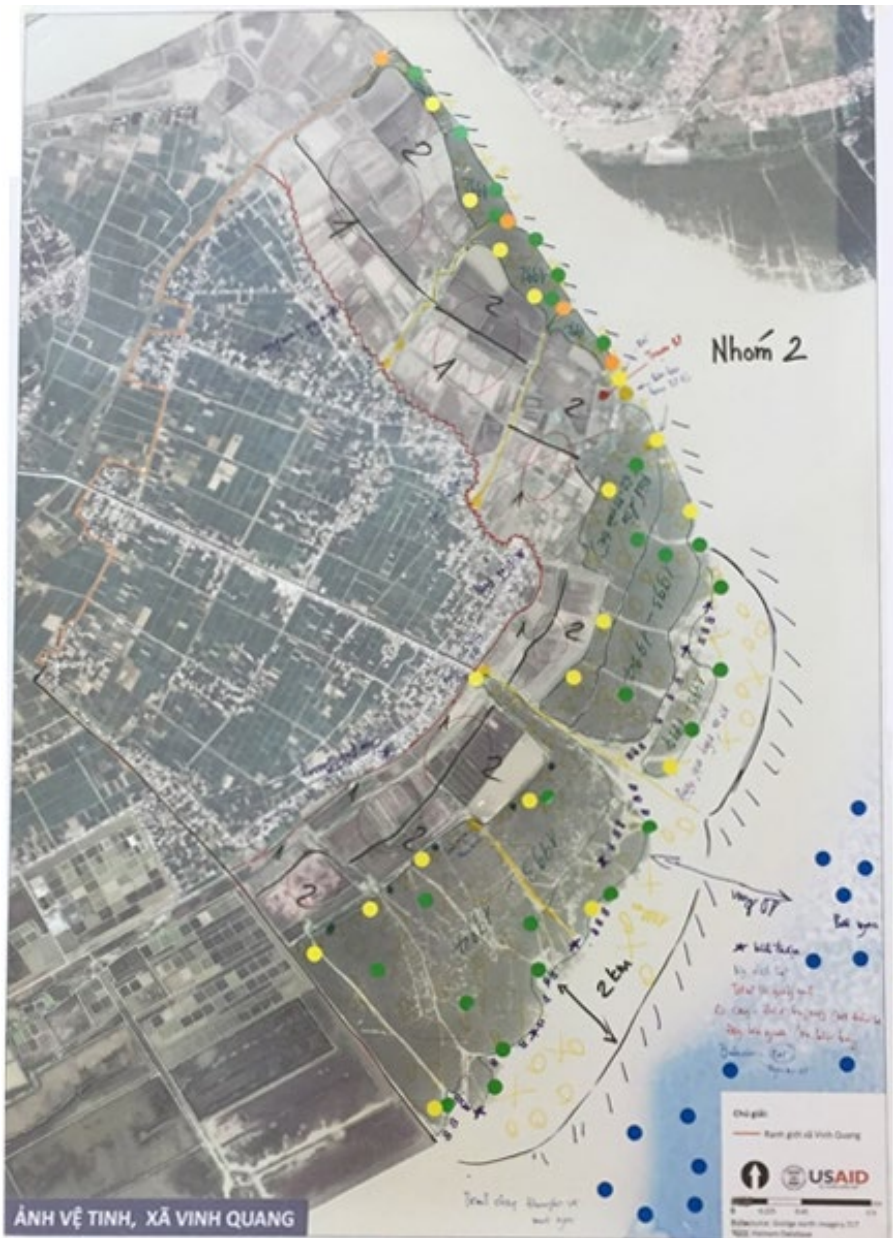

Figure 6: Community-based paper map for Vinh Quang commune showing current coastal resource uses: yellow color dots mean pollution and rubbish, green color dots mean fish traps and fixed fish nets, dark blue dots mean conflict over coastal resource use, yellow X means shrimps available, and yellow O means crabs available.

Process: Facilitators present participants with a satellite base map which sets out information about the different parts of the local coastal landscape in a clear, visual manner. Participants will add features to this map including boundaries, places of common recognition, rivers, sedimentation patterns, infrastructure (roads and sea dikes), aquaculture, fisheries (of different kinds), mangroves, agriculture, and clam farming. For a tenure-responsive planning approach, it is important to also identify the tenure arrangements governing use and management of different parts of the landscape. This includes contract terms for aquaculture, fisheries, clam farming, as well as mangrove forest protection agreements.

A community-produced map ensures that the various perspectives of men and women living in the coastal area are represented on the map. This entire set of information helps to carry out effective planning. Such visual information makes it easier to communicate across different resource users and managers within the coastal landscape for developing spatial visions and scenarios.

This activity uses the same small groups from Exercise 8, and requires a large table, a base map (from Google Earth), marker pens, crayons, pencils, and highlighter pens.

After the facilitators introduce the objective and process for this exercise, the following steps can be used to guide the development of the paper map:

a. On the base map, groups first establish the scale of the map with the help of the facilitators, using the north direction as a guide.

b. Before the participatory mapping activity begins, facilitators introduce a coding system to the mapping participants, including a key which covers various categories of information to be provided on the map. Provided coloring pencils or crayons should match the colors included in the coding system.

Categories:

i. Boundaries (in blue).

ii. General features (roads, government buildings, sea dike, schools, religious buildings, community halls) (in brown).

iii. Habitat types (in colors). Use crayons or coloring pencils to mark areas such as mangroves (older), newly planted mangrove seedlings (newer), seagrass, rocky shoreline, mudflats, estuary, marine waters, boat passages and channels, and terrestrial areas.

iv. Resource types (in numbers). These are specific resources harvested or grown in the different habitat areas. These can include aquaculture shrimp pond, open shrimp collection, crab collection, clams, fish species, and honey production.

v. Uses (letters). These are places allocated for specific uses such as gleaning areas, fishing landing or gear sites, fish drying areas, standing fish net area, protected areas, sacred areas, or mangrove rehabilitation areas.

vi. Contract types. Develop different types of patterning to identify the contract types for aquaculture ponds and clam farms (with commune, district, and province authorities) with numbers representing the duration of the contract. In addition, the location of households having one-year contracts for mangrove forest protection can be designated with specific patterns.

vii. Issues to address (in roman numerals; make sure these do not look similar to any alphabet letters). These can cover such issues as coastal erosion, cyanide fishing, blast fishing, pollution, weak survival of mangrove seedlings, poor production in aquaculture ponds, heavy storm surge damage, and conflict over resource use.

Once the coding system has been introduced, the facilitators support the participants in each small group in mapping each of the categories, moving from steps "i" to "vii" in the list above. Providing a set of questions for each step can help guide the contributions of the participants.

Once the map is prepared, facilitators request that participants present their key findings to the whole workshop group. The whole group then discusses, clarifies, and finalizes the map information to reach consensus and agreement. This map forms the basis for the creation of a set of digitized maps, which become the cornerstone for coastal spatial planning.

The map must be dated and include information about how it was created.

4. Preparing a Draft Coastal Commune Profile

Once the two-day workshop is complete, the facilitator team helps analyze and organize the data, and write the draft Commune Coastal Profile. Appendix One provides a detailed outline for the Commune Coastal Profile. This outline can be amended to suit the local context.

In preparing the draft Commune Coastal Profile, it is important for the facilitator team to review all the data collected over the two days to identify the key information and insights generated by the participants. By following the structure of the Commune Coastal Profile, the facilitator team can distill the relevant pieces of information for each section to develop a systematic and detailed analysis of the current context of the coastal landscape.

The purpose of the PCRA is to give attention to the details of the specific resource context, and as such, the Commune Coastal Profile should highlight these details. In particular, underscoring the complementarities and conflicts between different resource uses is important for facilitating the participatory coastal spatial planning process.

The development of tables, figures, and graphics can enable easy access to knowledge generated by the group. The inclusion of photos also helps to provide visual information on the key facts and issues raised by the assessment.

5. One-day Workshop for Validation of the Commune Coastal Profile

Once the draft Commune Coastal Profile is completed, facilitators organize a one-day workshop with the same participants to validate its contents. A draft version should be shared in advance with community representatives so that they can prepare appropriately for the one-day workshop.

During this workshop, the facilitation team presents the broad findings of the PCRA to the whole group. Then, the participants are divided into eight separate groups with an appointed group leader to review the contents of each of the eight chapters. The members of each group, when possible, should reflect the spectrum of resource users in the coastal area. Facilitators appoint a group leader for each group. After small-group discussion, the group leader can share their views on whether the information accurately reflects the community's perspectives with the whole group. The facilitation team keeps notes on this discussion, and this feedback is incorporated into the draft for submission to the District People's Committee. Once submitted and reviewed by the District People's Committee, the draft can be finalized. Copies can be circulated to key government offices, organizations, and local leaders.

Appendix One: A Suggested Outline for a Detailed Commune Coastal Profile

Title: _____ Commune Coastal Profile

Abbreviations and Acronyms

Preface and Acknowledgements

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Appendix Two: Table on Condition of Coastal Ecosystem

Habitat and Infrastructure	Very Good	Good	Fair	Poor	Describe How and Why
Mangroves					Describe the condition of mangroves and why they are in this condition
Aquaculture ponds (intensive)					Discuss past and current state of intensive aquaculture
Aquaculture ponds (semi-extensive and extensive)					
Seagrasses					
Mudflats					

Habitat and Infrastructure	Very Good	Good	Fair	Poor	Describe How and Why
Rivers					
Nearshore fisheries					
Sea dikes					

Appendix Three: Basic Village Data Form

BASIC VILLAGE DATA FORM

Name of Village _____

Name of Commune _____

Name of District _____

Land Area of Village _____

Coastal Length of Village _____

Number of Households in Village _____

Average Number of Children in Family _____

Typical Educational Attainment of Family Members:

Father _____ Mother _____ Children _____

BASIC VILLAGE DATA FORM (continued)

Activities	Number of Households Engaged	Number of Women Engaged	Number of Men Engaged
Extensive and Semi-Extensive Aquaculture			
Intensive Aquaculture			
Mangrove Protection			
Clam Farming			
Fishing by Fixed Nets			
Fishing by Boat			
Mangrove Honey Production			
Other:			

What are the typical types of production activities combined in a family household?

TYPES:

1. _____

2. _____

3. _____

4. _____

BASIC VILLAGE DATA FORM (continued)

Income Category	Number of Households	Income Category	Number of Households
High Income		Low Income	
Middle Income		Poor	

How many households have Agricultural Land Use Red Books? _____

How many households have both the husband and wife's names in their Agricultural Land Use Red Books? _____

What is the size range of agricultural land under Red Books:

Maximum Size _____ Minimum Size _____

How many households have aquaculture pond contracts? _____

How many households have both the husband and wife's names in the aquaculture pond contracts? _____

Appendix Four: Table on Socioeconomic Valuation of Income Benefits from Improvements in Mangrove Cover

Aquatic Resources Supported by Mangroves	Productivity per Unit Area	Per Household and Total Economic Valuation (in Vietnamese dong)	Key Beneficiaries
Extensive and semi-extensive aquaculture	Tons of fisheries per ha per year of aquaculture ponds	Use current average selling price at commune to estimate total economic valuation	Number of households Number of males Number of females
Intensive aquaculture	Tons of fisheries per ha per year of aquaculture ponds		Number of households Number of males Number of females
Shrimp collection inside and outside mangrove forests	Kg of shrimp collected per day per person x numbers of day per month x months per year		Number of households Number of males Number of females
Crab collection inside and outside mangrove forests	Number of pieces of crab collected per day per person		Number of households Number of males Number of females
Honey production in mangroves	Tons of honey per season per group		Number of households Number of males Number of females
Fishing in nets along mangrove edges and inside mangroves	Kg of fisher collected per day per person x number of days per month x number of months per year		Number of households Number of males Number of females

Aquatic Resources Supported by Mangroves	Productivity per Unit Area	Per Household and Total Economic Valuation (in Vietnamese dong)	Key Beneficiaries
Fishing by boat	Kg of fish collected per day per boat x number of days per month x months per year		Number of households Number of males Number of females
Clam farming	Tons of clam per ha per harvest		Number of households Number of males Number of females

Appendix Five: Table on Assessment of Non-Economic Benefits from Improvements in Mangrove Cover

Other Benefits Supported by Mangroves	Benefits to Government	Benefits to Local Community	Benefits to Private Sector
Storm Protection			
Shoreline Stabilization			
Sea Dike Protection			
Storm Surge and Sea Flow Control			
Sediment and Nutrient Retention			
Sea Water Quality			
Assimilation of Pollution			
Increased Biodiversity			
Eco-Tourism			
Carbon Stock			

Appendix Six: Table on Costs of Rehabilitating Mangroves

Mangrove Rehabilitation Costs	Costs 10 Years Ago	Costs 5 Years Ago	Present-Day Costs
Seedling			
Preparation: nursery, transportation of seedling, bamboo shelters, planting area mapping			
Planting			
Care of seedlings and replanting			
Protection			

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