1. Objective:
Capacity building, awareness and knowledge enhancing for local authorities’ staff, businesses and mangrove-shrimp farming households in Tra Vinh towards sustainable shrimp farming with certification.

2. Training format

   - **Format**: The training course module is designed as a combination of theory - practice and field experience.
   - **Theory**: Overview of mangrove-shrimps, causes of mangrove decline associated with shrimp farming, trends and world market for organic shrimp products, sustainability certification systems associated with mangrove-shrimps, ASIC standards for shrimp farming and sustainable shrimp farming techniques. All the content was carefully prepared by the consultant for the participants.
   - **Practice**: After learning about mangrove-shrimps theories, participants were divided into groups to practice deficiency assessment and develop a plan in shrimp farming to meet the requirements of certifications.
   - **Field trip**: CECAD and the consultants organized a field trip to Bac Lieu with 02 models: 1) a model of sustainable mangrove-shrimps farming toward green economy; and 2) Ecotourism model associated with mangrove-shrimps.

3. Beneficiaries:
   - Tra Vinh Sub-department of Fisheries staff;
   - Tra Vinh Sub-Department of Forest Protection staff;
- Cuu Long Seaproducts Company staff – Expected company to cooperate with mangrove-shrimps farming households in applying sustainable forest shrimp certification;
- Mangrove-shrimps farming households in Duyên Hải district, Trà Vinh province.

4. **Training content:**

- Overview of mangrove-shrimps: Overview of mangrove-shrimps, causes of mangrove decline associated with shrimp farming, trends and world market for organic shrimp products, sustainability certification systems associated with mangrove-shrimps;
- ASIC Standard;
- Sustainable shrimp farming techniques;
- Group discussion on developing a forest shrimp farming plan towards certification;
- Visiting a model of sustainable forest shrimp farming towards green economy;
- Visiting a model of sustainable forest shrimp farming associated with eco-tourism.

5. **Overall assessment:**

Tra Vinh is a province in the Mekong Delta (Mekong Delta). Recently, due to the effects of climate change and deforestation for shrimp farming, the area of forest shrimp has decreased much compared to the 1990s and earlier. Local governments and the Department of Agriculture and Rural Development have attempted many measures to restore or increase mangrove tree cover. However, the implementation process faces many difficulties due to: i) climate change in the Mekong Delta; ii) people's awareness is limited; iii) state budget support for planting and protecting forests is low, so it has not encouraged many people to participate in forest planting and protection efforts; iv) The polluted environment hinders the growth of newly planted forest trees.

Through the training course, staff of Sub-Department of Fisheries, Sub-Department of Forest Protection and the local community have a better understanding of: i) the importance and significance of mangrove protection; ii) find a sustainable direction associated with planting - protecting and developing mangrove forests towards sustainable certification, thereby ensuring 03 elements of sustainability: Environment - Economy/Livelihood - Community; iii) Shrimp farming techniques summarized and compiled by consultant also help the farmers and the Sub-Department of Forest Protection
to have a more suitable orientation for their locality and shrimp farming. Techniques can be mentioned such as: choosing trees with higher trunks to reduce the impact of crabs, fiddler crabs, and mosses; zoning for appropriate planting measures to ensure forest coverage and water surface area for shrimp farming; application measures of shrimp breeding at growth stage, and stage dividing to reduce mortality and increase resistance of shrimp to the environment and weather. In addition, the training course also helped staff of seafood company to have better understand of the certification system associated with mangrove-shrimps as well as effective approaches in connecting with local farmers. For example, selecting certified/tested ecological seed, providing financial support for people to buy seeds, build a roadmap towards and achieve ecological certification for the international market.

The field trip enhanced the participants' understanding of mangrove-shrimps farming methods, two-stage shrimp breeding techniques, and additional feeding management for mangrove-shrimps. The model of ecotourism associated with mangrove-shrimps farming is a new sustainable direction, supporting people to both raise shrimp and benefit from the ecological value of mangrove-shrimps for tourism. Fishery - agricultural products produced in the model when sold to tourists will have higher prices. In addition, the model will also help local people to have more employment opportunities. Staff of Sub-Department of Fisheries, the Sub-Department of Forest Protection and farming households shared that this model was very suitable for Duyen Hai - Tra Vinh toward green and sustainable economic development. Tra Vinh province has been promoting the green economy, many wind power projects have been built, attracting many visitors to work and visit. However, Tra Vinh has not yet adopted ecotourism model similar to the ones in Bac Lieu. After the training course, some farming households plan to develop the model to create more economic value for the locality and community.

6. Results:

- 100% of participants in the training course were enhanced their understanding of mangrove conservation and comprehended the importance of mangroves' role.
- 100% of the participants in the training course gained knowledge about sustainable mangrove-shrimps certification and market opportunities for sustainable mangrove-shrimps products.
- 100% of participants in the training course understood sustainable mangrove-shrimps farming techniques, and techniques to improve survival rate and quality of mangrove-shrimps.
- 100% staff of Tra Vinh Sub-Department of Fisheries and Tra Vinh Sub-Department of Forest Protection gained knowledge and orientation in mangrove-shrimps development.
- 02 participants that are company staff learned the techniques of forest shrimp farming towards sustainable certification and oriented in implementing mangrove-shrimps chain linkages.
- 15% of households participating in the training course gained shared knowledge and experience and were oriented to develop an eco-tourism model associated with mangrove-shrimps.

7. **Pictures:** See Annex 2


**Consultant**


M.A Đinh Xuân Lập
ANNEX 1
AGENDA
TRAINING ON SUSTAINABLE MANGROVE-SHRIMP WITH CERTIFICATION AND FIELD TRIPS TO CERTIFIED-SHRIMP MODEL IN BAC LIEU

**Time:** 8:00 - 11:00, November, 12 - 13, 2022  
**Location:** Duyen Hai District, Tra Vinh Province

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Content</th>
<th>Note</th>
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<tbody>
<tr>
<td>1</td>
<td>8:00 - 8:15</td>
<td>Registration</td>
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<tr>
<td>2</td>
<td>8:15 - 8:30</td>
<td>Introduction about the objectives and content of the training course</td>
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<tr>
<td>3</td>
<td>8:30 - 8:40</td>
<td>Overview of mangrove-shrimp farming in Vietnam</td>
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<td>4</td>
<td>8:40 - 9:00</td>
<td>Introduction of ASIC Shrimp Standard</td>
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<td>5</td>
<td>9:00 - 9:15</td>
<td>Tea break</td>
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<td>6</td>
<td>9:15 -10:15</td>
<td>Mangrove-shrimp farming techniques towards sustainable standards</td>
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<td>7</td>
<td>10:15 - 11:00</td>
<td>Group discussion on the activities to be implemented in the application of mangrove-shrimp farming according to sustainable standards</td>
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<td>8</td>
<td>11:00 - 11:30</td>
<td>Group discussion results presentation</td>
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<td>9</td>
<td>11:30 - 11:45</td>
<td>Summary</td>
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<td>11:45 - 13:00</td>
<td>Lunch</td>
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<td>11</td>
<td>13:00 - 18:00</td>
<td>Transportation: Tra Vinh - Bac Lieu</td>
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<td>12</td>
<td>13/11/2022</td>
<td>Field trip in Bac Lieu</td>
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12/11/2022

Transportation: Tra Vinh - Bac Lieu
ANNEX 2
PHOTOS OF THE TRAINING COURSE AND FIELD TRIP

Results of group discussion on development orientation of Tra Vinh mangrove-shrimp

Results of group discussion on the orientation of linking the Tra Vinh mangrove-shrimp chain

Field trip to Bac Lieu mangrove-shrimp ecotourism model
Field trip to sustainable mangrove-shrimp farming model in Bac Lieu

More photos on website of CECAD: Training course on sustainable mangrove-shrimp with certification and field trip to certified-shrimp models in Bac Lieu province