



# Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans

A Systematic Analysis Summary



GLOBAL  
CENTER ON  
ADAPTATION



Uttaran

Canada



## Authors & Acknowledgements

This publication has been developed by Uttaran under the project “Women’s Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans”, implemented in collaboration with the Global Center on Adaptation (GCA) and with support from Global Affairs Canada. GCA provided financial assistance and strategic guidance to advance locally led, women-centered climate adaptation in coastal Bangladesh. Uttaran led the implementation of the project, including community engagement, participatory research, establishment of Women’s Adaptation Labs, and documentation processes, to promote inclusive and climate-resilient local governance systems.



# Summary

The Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans project, aims to empower women in coastal Bangladesh to create climate-resilient livelihoods. The project adopts a locally led adaptation (LLA) approach, focusing on participatory processes, climate risk analysis, and livelihood diversification. Targeting women in climate-vulnerable regions, particularly in Khulna's Koyra and Dacope Upazilas, the initiative addresses the dual challenge of climate change and gender inequality. Women in these areas are heavily dependent on climate-sensitive resources such as fisheries, agriculture, and small-scale businesses, all of which are increasingly threatened by environmental shocks like cyclones, salinity intrusion, and flooding.

Through community engagement, the project established Women's Adaptation Labs (WALs), where women could identify climate risks, discuss livelihood challenges, and develop climate-resilient strategies. The project also conducted detailed socio-economic and climate assessments, providing a clear understanding of local vulnerabilities. By integrating the Five Capitals framework—human, social, natural, physical, and financial assets—the initiative identified viable livelihood options for women, including aquaculture, agriculture, and small businesses. Pilots of these livelihood strategies, such as poultry farming, candle production, and small retail businesses, demonstrated positive outcomes, with modest profits and enhanced local market engagement.

Feedback from women participants, local committees, and government stakeholders underscored the importance of sustained capacity-building, market linkages, and institutional collaboration. However, challenges like limited access to markets, financial services, and technical skills were also identified. The project's success in fostering local leadership and empowerment, particularly among women, positions it as a scalable model for enhancing climate resilience and economic opportunities in coastal regions. The findings offer valuable insights into the integration of community-driven adaptation and livelihood development, providing a blueprint for future climate adaptation initiatives.



1.	INTRODUCTION	6
	1.1 Background and Project Context	6
	1.2 Purpose of the Systematic Analysis	7
	1.3 Overview of the Women's Adaptation Plan Initiative	7
	1.4 Project Objectives	8
	1.5 Project Locations	8
	1.6 Key Project Components	9
2.	CORE ANALYSIS SECTIONS	10
	2.1 Project Review	10
	2.2 Project Activities Implemented	10
	2.3 Key Outputs	11
	2.4 Key Achievements	11
3.	PROCESS ASSESSMENT	12
	3.1 Community Engagement Process	12
	3.2 Climate and Socio-economic Assessment	13
	3.3 Livelihood Identification	14
	3.4 Livelihood Screening	16
	3.5 Institutional Consultation	17
	3.6 Adaptation Planning Process	19
4.	FEEDBACK (COMMUNITY AND COMMITTEES)	19
	4.1 Community Feedback	20
	4.2 Feedback from Women Adaptation Labs	21
	4.3 LPAC and Committee Feedback	22
	4.4 Government Stakeholder Feedback	24
	4.5 Critical Assessment of Community and Institutional Feedback	24
5.	OUTCOMES	27
	5.1 Pilot Activities Implemented	27
	5.2 Profile of Women Pilot Entrepreneurs	27
	5.3 Pilot Success Factors	34
	5.4 Pilot Challenges	35
	5.5 Piloting Materials and Their Real Impact	38
	5.6 Critical Findings from the Piloting Phase	39
6.	GAPS AND WAY FORWARD	40
	6.1 Key Gaps Identified	41
	6.2 Strategic Way Forward	43
	6.3 Limitations of Critical Analysis on Piloting	45
7.	CONCLUSION	45



# 1 INTRODUCTION

## 1.1 Background and Project Context

The southwestern coastal belt of Bangladesh, particularly the areas adjacent to the Sundarbans mangrove ecosystem, is one of the most climate-exposed regions in the country. Communities living in this landscape depend heavily on climate-sensitive natural resources such as fisheries, forest products, small-scale agriculture, and livestock. However, these livelihoods are increasingly threatened by a combination of environmental and socio-economic pressures. The region regularly experiences cyclones, tidal flooding, salinity intrusion, riverbank erosion, and ecosystem degradation, which collectively undermine the stability of local livelihood systems and increase vulnerability for coastal households.

Evidence from the baseline and socio-economic assessments conducted under the project confirms that climate risk in the project areas is both frequent and systemic. Households reported extremely high exposure to hazards including erosion (94.8%), cyclones or windstorms (93.8%), flooding (85.4%), and salinity intrusion (84.2%). Major climatic events such as Cyclone Amphan and Cyclone Remal have caused widespread damage to housing, crops, fisheries, and livestock, demonstrating that climate shocks affect multiple livelihood sectors simultaneously and repeatedly.

Within this climate-exposed context, women experience disproportionate vulnerability. Gendered social norms, mobility restrictions, unequal access to assets and finance, and limited participation in markets often constrain women's ability to diversify livelihoods or respond to climate risks effectively. Many women remain concentrated in natural resource-dependent occupations such as fish



fry collection, Sundarbans fishing, and crab or oyster harvesting. These activities are highly seasonal, low-income, and sensitive to environmental shocks. As a result, women's economic opportunities remain narrow, and livelihood transitions toward more resilient and higher-return activities are often difficult to achieve.

Socio-economic evidence further shows that structural constraints intensify these vulnerabilities. Women face significant time poverty due to domestic responsibilities and unpaid care work, while education levels and access to technical skills remain limited. Housing and WASH conditions in many areas are fragile, increasing health risks and recovery costs after disasters. These factors combine to create a situation in which women begin from a position of constrained opportunity even before climate shocks occur. Consequently, climate change does not only create new risks but also amplifies existing inequalities within local livelihood systems.

Recognizing these challenges, the Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans project was initiated with support from the Global Center on Adaptation (GCA) and implemented by Uttaran with research collaboration from Khulna University and EQMS Consulting Limited. The project adopts a Locally Led Adaptation (LLA) approach that places climate-vulnerable women at the center of planning, decision-making, and livelihood innovation. Through participatory assessments, community platforms, and Women's Adaptation Labs, the initiative seeks to co-create climate-resilient livelihood pathways grounded in local knowledge, scientific analysis, and institutional collaboration.

A key analytical foundation of the project is the five-capital framework, which examines livelihood systems through human, social, natural, physical, and financial assets. By integrating climate risk diagnostics with this framework, the project aims to identify livelihood options that are not only economically viable but also environmentally sustainable and socially inclusive. This approach recognizes that resilient livelihoods cannot be built through isolated interventions; rather, they require coordinated improvements across multiple dimensions of the local livelihood system.

## 1.2 Purpose of the Systematic Analysis

Following the implementation of the project's key phases including participatory assessments, livelihood identification and screening, pilot testing, and institutional consultations a systematic analysis was undertaken to review the overall process and outcomes of the initiative.

The primary purpose of this analysis is to critically examine how the project's adaptation planning approach functioned in practice and to identify lessons that can inform future climate adaptation initiatives in coastal Bangladesh. Specifically, the analysis seeks to:

- a. Review the project approach and implementation process, including the methodologies used for community engagement, participatory assessments, and adaptation planning
- b. Assess the effectiveness of the adaptation planning methodology, particularly the integration of climate risk diagnostics, livelihood system analysis, and participatory co-creation processes.
- c. Capture community and institutional feedback, including perspectives from women participants, local committees, and government stakeholders involved in the project.
- d. Identify systemic gaps within existing livelihood systems, including constraints related to skills, markets, finance, infrastructure, and institutional support that limit women's ability to pursue climate-resilient livelihoods.
- e. Generate evidence-based insights to guide future scaling and replication of adaptation planning approaches, ensuring that locally led and gender-responsive climate resilience strategies can be integrated into broader development and governance frameworks

Through this systematic review, the report aims to provide a structured understanding of the project's achievements, challenges, and learning outcomes. The analysis not only

documents what was implemented but also examines how the approach performed in real-world conditions and how it can be strengthened for future climate adaptation programming in the Sundarbans region and similar climate-vulnerable contexts.

### 1.3 Overview of the Women's Adaptation Plan Initiative

The Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans project was designed to strengthen the climate resilience of women's livelihoods in the coastal region of southwest Bangladesh. The initiative focused on developing locally led adaptation strategies that respond to the growing climate risks faced by communities living near the Sundarbans ecosystem.

Women in these coastal areas rely heavily on natural resource-based livelihoods such as fisheries, agriculture, forest product collection, and small-scale businesses. However, increasing climate variability, salinity intrusion, cyclones, and ecosystem degradation have significantly disrupted these livelihood systems. These changes have reduced income stability and increased vulnerability among coastal households, particularly women who often have limited access to productive assets, markets, and decision-making platforms.

To address these challenges, the project adopted a participatory and system-oriented approach that integrates climate risk analysis, livelihood system assessment, and community-driven planning. Rather than introducing predetermined livelihood solutions, the project worked with women and local stakeholders to co-create adaptation plans based on local knowledge, socio-economic realities, and environmental conditions.

The project combined research, community engagement, institutional collaboration, and livelihood experimentation to identify viable pathways for climate-resilient livelihood development. Through structured assessments, participatory platforms, and pilot initiatives, the project aimed to strengthen women's capacity to make informed livelihood decisions and influence local adaptation planning processes.

### 1.4 Project Objectives

The Women's Adaptation Plans for Climate Resilient Livelihoods project aimed to achieve the following key objectives:

1. Empower women to lead adaptation efforts, involving them in every stage of the planning process, from climate risk assessments to solution development.
2. Assess climate risks and adaptation needs using both scientific data and local knowledge to create relevant, actionable plans.
3. Co-create climate-resilient livelihood solutions that are sustainable, gender-responsive and economically viable.

### 1.5 Project Locations

The project was implemented in climate-vulnerable coastal areas located near the Sundarbans mangrove ecosystem in southwestern Bangladesh. Specifically, the intervention took place in Khulna District, focusing on two highly climate-exposed sub-districts: Koyra Upazila and Dacope Upazila. These upazilas lie in the coastal belt adjacent to the Sundarbans and are among the regions most frequently affected by climate-related hazards such as cyclones, tidal flooding, salinity intrusion, and gradual ecosystem degradation.

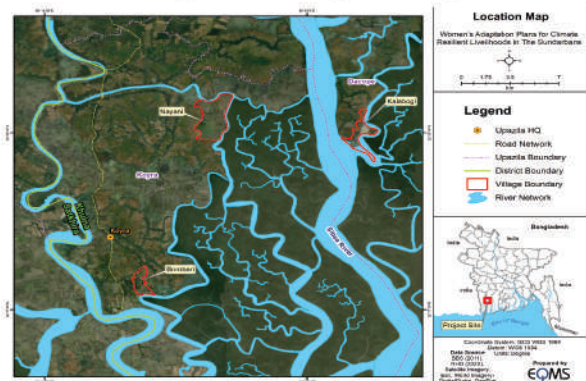


Figure 1: Project Area

Such environmental pressures have significantly disrupted traditional livelihood systems, particularly those dependent on agriculture, fisheries, forest resources, and small-scale enterprises. As a result, households especially women face growing

challenges in sustaining stable and climate-resilient sources of income. Within these two upazilas, the project concentrated its activities in three selected villages: Barobari village in Uttar Bedkashi Union under Koyra Upazila, Noyani village in Maheshwaripur Union under Koyra Upazila, and Kalabogi village in Sutarkhali Union under Dacope Upazila. These villages were carefully selected through a screening process that considered climate vulnerability, dependence on natural resource-based livelihoods, and the presence of active community groups capable of participating in adaptation planning processes. The selection also considered the potential to pilot community-driven approaches to climate-resilient livelihood development. By working in these locations, the project aimed to generate practical insights and locally relevant adaptation strategies that could inform future livelihood resilience initiatives across the wider Sundarbans coastal region.

## 1.6 Key Project Components

The project was implemented through several interlinked components that collectively supported the development of climate-resilient livelihood planning in the target communities. The process began with a comprehensive socio-economic assessment, which examined household livelihood conditions, income sources, asset ownership, gender roles, and climate vulnerabilities across the three villages. This assessment generated baseline information on how climate risks such as cyclones, salinity intrusion, and tidal flooding affect existing livelihood systems and highlighted the structural barriers women face in accessing resources, markets, and economic opportunities. Building on this evidence, the project established Women's Adaptation Labs (WAL) as the central participatory platform where women from the communities could collectively analyze climate risks and livelihood challenges. Through a series of structured sessions, discussions, and participatory exercises, women shared their experiences of climate impacts, explored livelihood diversification options, and identified potential pathways for strengthening resilience. These platforms also played an important role in enhancing women's confidence, leadership, and

participation in community-level decision-making. Based on insights generated through WAL discussions, community consultations, and field assessments, the project identified a broad range of potential livelihood options across sectors such as agriculture, aquaculture, livestock, and small-scale enterprises. In total, 45 livelihood options were initially identified, including activities such as fish cultivation, crab rearing, goat rearing, grocery shops, tailoring, candle production, and honey processing, reflecting both the existing capacities of women and emerging economic opportunities in the local context.

Following the identification stage, the project conducted a systematic livelihood screening process to determine which options were most feasible and climate-resilient. The screening considered factors such as climate sensitivity, availability of local resources, market demand, profitability, required skills, environmental sustainability, and gender accessibility. This process helped prioritize livelihood activities that could realistically support resilient income generation for women in the coastal environment. Alongside this, institutional consultations were carried out with local government bodies, community-based organizations, civil society actors, and sectoral experts to ensure alignment between the project's adaptation planning process and existing development initiatives. These consultations strengthened coordination between community groups and institutional stakeholders and helped create opportunities for long-term support to women-led livelihood initiatives. Selected livelihood options were then piloted in the target villages, allowing participants to test their practical feasibility and gain hands-on experience with new livelihood practices while identifying operational challenges and potential market linkages. Finally, insights from assessments, participatory discussions, consultations, and pilot experiences were consolidated into locally informed adaptation plans for each village. These plans integrate climate risk analysis with livelihood development strategies and provide guidance for strengthening women's livelihood resilience in the Sundarbans region through locally led and environmentally sustainable approaches.



## CORE ANALYSIS SECTIONS

### 2.1 Project Review

The project followed a structured and participatory implementation approach, combining research, community engagement, institutional collaboration, and pilot interventions. In total, the project implemented 33 major activities, covering capacity building, participatory assessments, institutional engagement, livelihood planning, and knowledge generation. These activities were designed to support the development of locally led adaptation planning for climate-resilient livelihoods in the target communities. The implementation process began with preparatory and institutional engagement activities, including orientation training for project staff on Women's Adaptation Planning, gender integration, and Locally Led Adaptation (LLA) methodology, followed by district and sub-district inception workshops involving government representatives, line departments, and key stakeholders. The project also conducted introductory village meetings to build trust with communities and explain the objectives of the initiative.

A series of analytical and participatory assessments were conducted to generate evidence for adaptation planning. These included stakeholder mapping and power analysis, scientific climate risk assessments, socio-economic assessments, baseline studies, community resource mapping, household-level enumeration, and market assessments. These studies provided a comprehensive understanding of local livelihood systems, climate vulnerabilities, and institutional dynamics. To strengthen community engagement, the project facilitated the formation and activation of several community platforms, including 40 women groups, Women's Network Groups, Multi-Stakeholder Groups, and a Local Project Advisory Committee (LPAC). These platforms played a central role in guiding the adaptation planning process and ensuring inclusive participation.

The project also implemented a series of capacity-building and participatory learning initiatives. Women's Adaptation Labs (WAL) were organized in each target village, where women collectively analyzed climate risks and explored potential livelihood options. Technical experts in agriculture, livelihoods, social protection, and financial inclusion were engaged to support these discussions and guide the development of climate-resilient livelihood ideas. Through these processes, a wide range of livelihood opportunities were identified across agriculture, aquaculture, livestock, and small business sectors. In total, 45 potential livelihood options were identified based on community interest, local resource availability, and market opportunities.

Following the identification stage, the project conducted systematic livelihood screening and technical review processes to assess the climate adaptability and feasibility of different livelihood options. Household-level risk-informed business plans were developed by women participants and reviewed with technical partners such as Khulna University and EQMS. Community validation workshops were organized to ensure that the proposed livelihood strategies were realistic, socially acceptable, and environmentally sustainable. Selected livelihood models were then piloted across the three villages, allowing participants to test new livelihood practices and assess their economic and climate resilience potential.

The project also emphasized strengthening institutional linkages and market connections. Business linkage meetings were organized between women groups and market actors, microfinance institutions, vocational training providers, and government agencies. In addition, women entrepreneurs were supported to access public service schemes such as training programs, loans, and subsidies. These activities aimed to ensure that livelihood development efforts were connected to broader institutional support systems.

## 2.2 Project Activities Implemented

The project implemented a comprehensive set of activities that collectively supported climate-resilient livelihood planning. Major interventions included socio-economic and climate risk assessments, stakeholder mapping, baseline studies, and community resource mapping to understand the existing livelihood context. Participatory platforms such as Women's Adaptation Labs (WAL) enabled women to analyze climate challenges and explore livelihood opportunities. A systematic livelihood identification and screening process was conducted, supported by technical experts and institutional consultations. The project also organized multi-stakeholder consultations, business linkage meetings, and validation workshops to align community plans with institutional frameworks and market systems. Selected livelihood options were tested through pilot initiatives, and the lessons learned from these pilots contributed to the development of village-level Women's Adaptation Plans. The project also produced several knowledge products and documentation outputs to support future scaling of the adaptation planning approach.

## 2.3 Key Outputs

The project generated a number of significant outputs across research, planning, and institutional engagement components. Several analytical reports were produced, including Policy Analysis, Stakeholder Assessment and Power Mapping, Market Assessment, Community Resource Mapping,

Socio-economic Context Analysis, Scientific Climate Risk Assessment, and Baseline Study reports. In addition, knowledge products such as the Step-by-Step Process Documentation Book, the Good Practices, Lessons Learned, and Case Stories report, and the Final Women's Adaptation Plan were developed to capture project experiences and insights. At the community level, the project established multiple participatory platforms, including 40 women groups, Women's Network Groups, Multi-Stakeholder Groups, and a Local Project Advisory Committee (LPAC). Through the participatory planning process, 45 potential livelihood options were identified across four sectors: agriculture, aquaculture, livestock, and small business enterprises. These outputs collectively contributed to building a comprehensive evidence base for locally led adaptation planning.

## 2.4 Key Achievements

hood systems, and adaptation opportunities in the Sundarbans region through a combination of scientific assessments and participatory research.

Another key achievement was the strengthening of institutional engagement and multi-stakeholder collaboration. The formation of the LPAC, Women's Network Groups, and Multi-Stakeholder Platforms created opportunities for dialogue between communities, government agencies, civil society organizations, and market actors. These platforms helped integrate community perspectives into adaptation planning and encouraged institutional support for women-led livelihood initiatives. Finally, the project successfully demonstrated the value of structured livelihood planning and pilot interventions in identifying feasible climate-resilient livelihood options. The participatory planning approach not only strengthened women's capacity to make informed livelihood decisions but also provided a practical framework for scaling locally led adaptation initiatives in other climate-vulnerable coastal areas.



## PROCESS ASSESSMENT

This section reviews the methodology and implementation process used in developing the Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans. The project followed a participatory, evidence-based, and locally led adaptation (LLA) approach, combining scientific climate analysis with community knowledge and institutional consultation. The process ensured that adaptation planning was not externally imposed but co-created with the women and communities most affected by climate risks.

The methodology unfolded through a sequence of interconnected steps including community mobilization, socio-economic and climate assessments, livelihood identification and screening, institutional consultation, and the formulation of locally grounded adaptation plans.

### 3.1 Community Engagement Process

Community engagement was the foundation of the project's methodology. The project deliberately prioritized women's participation and leadership, recognizing that women in the Sundarbans are often highly exposed to climate risks but have limited influence over development planning processes.

#### Formation of Women's Groups and Community Platforms

The project mobilized 40 women's groups across three villages – Borobari, Nayani, and Kalabogi – creating a structured platform through which women could participate in discussions, research activities, and adaptation planning.

In addition to the women's groups, several institutional platforms were formed to strengthen collective decision-making:

- Women's Network Groups
- Multi-Stakeholder Platforms
- Local Project Advisory Committee (LPAC)

These platforms ensured that women's voices were not isolated but connected to broader governance and market actors.

### **Community Consultations and Trust Building**

A series of introductory village meetings and trust-building sessions were conducted to introduce the project objectives and establish collaborative relationships with community members. These meetings created space for open dialogue about climate risks, livelihood challenges, and local development priorities.

### **Courtyard Capacity Sessions**

To strengthen women's leadership and knowledge, 15 courtyard-based capacity sessions were conducted with nearly 1,000 women participants across the three villages. These sessions covered topics such as:

- gender equality and legal rights
- climate risks and disaster resilience
- group management and leadership
- adaptation and livelihood planning

The sessions were designed to be participatory and accessible so that even marginalized women could actively engage in discussions and decision-making processes.

These engagement activities significantly strengthened women's confidence, leadership skills, and understanding of climate adaptation, enabling them to play a central role in shaping livelihood strategies and community adaptation plans.

## **3.2 Climate and Socio-economic Assessment**

The adaptation planning process was grounded in a comprehensive assessment of the socio-economic and environmental context of the project areas.

### **Socio-economic and Livelihood Analysis**

Several analytical studies were conducted to understand the livelihood conditions and vulnerabilities of households in the Sundarbans region, including:

- baseline study
- socio-economic context analysis
- household enumeration surveys
- community resource mapping
- market assessment
- stakeholder and power analysis

These assessments revealed that households in the project areas face multiple structural challenges including:

- high salinity affecting agricultural productivity
- frequent cyclones and tidal flooding
- declining natural resources
- limited access to markets and financial services
- restricted economic opportunities for women

Many women were already engaged in informal livelihood activities such as small livestock rearing, agriculture, fishing, or micro-businesses. However, these activities often remained small-scale, unplanned, and vulnerable to climate shocks.

### **Scientific Climate Risk Assessment**

The project also conducted a scientific climate risk and vulnerability assessment in collaboration with Khulna University and EQMS. The analysis examined environmental risks such as:

- cyclone exposure
- salinity intrusion
- waterlogging
- ecosystem degradation

This scientific analysis helped ensure that the livelihood strategies considered under the adaptation plans were aligned with the environmental realities of the Sundarbans.

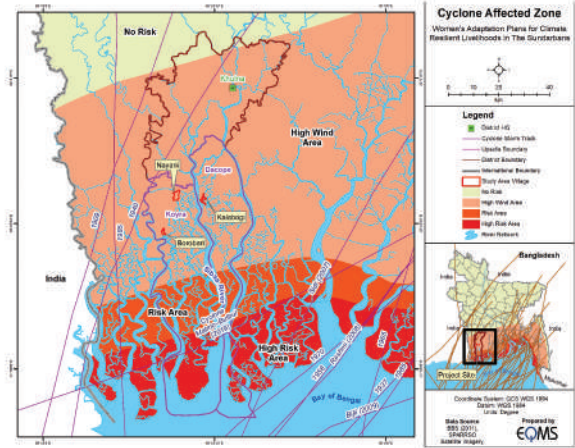
### 3.3 Livelihood Identification

Following the socio-economic and climate assessments, the project facilitated a participatory process to identify potential livelihood options suitable for the local context.

#### Women's Adaptation Labs

Three Women's Adaptation Labs (WALs) were established, one in each village. These labs functioned as participatory spaces where women could discuss livelihood challenges and collectively explore potential solutions. Through discussions, group exercises, and expert facilitation, participants analyzed:

- existing livelihood practices
- resource availability
- climate risks affecting different sectors
- market demand and profitability



Cyclone Affected Zones Assessment



Women Adaptation Lab

## Livelihood Sectors Identified

SL No	Livelihood	Total People Interested
<b>i</b>	<b>Agriculture</b>	
1	Vegetable Cultivation	23
2	Rice Production	28
3	Potato Business	3
4	Cultivation in Sacks	7
5	Homestead Gardening	11
6	Small-scale Agriculture-Based Business Activities	5
7	Vermi Compost Production	10
<b>ii</b>	<b>Aquaculture (Capture &amp; Cultivate)</b>	
8	Fish Cultivation	123
9	Freshwater Shrimp Farming	52
10	Fish and Crab Cultivation	54
11	Crab Rearing	73
<b>iii</b>	<b>Livestock</b>	
12	Goat Rearing	121
13	Sheep Rearing	14
14	Cow Rearing	60
15	Duck Rearing	7
16	Native/Village Chicken Rearing	3
17	Mix Chicken and Duck Rearing	5
18	Broiler Poultry Farming	12
19	Layer Chicken Farming	5
20	Egg Incubation and Chick Production	7
<b>iv</b>	<b>Small and Micro Business</b>	
21	Pharmacy	4
22	Honey Business	19
23	Hotel Business	3
24	Pickle Production (Achar)	11
25	Bakery Factory (Bekari)	6
26	Ironing and Cloth Pressing Shop	5
27	Candle Business	15
28	Clothing and Tailoring	44
29	Multipurpose Shop	13
30	Grocery Store	37
31	Shoe Business	2
32	Tea Stall	10
33	Fertilizer Business	7
34	Hand Craft Business	12
35	Variety Store	8
36	Threshing Machine Operation	2
37	Furniture Business	2
38	Betel Nut Business	5
39	Cosmetics Business	14
40	Jaggery Business	1
41	Online Business	7
42	Bag Making and Sales	9

The interest of women participants varied across sectors, with strong interest observed in aquaculture, livestock, and small business enterprises.

### 3.4 Livelihood Screening

After identifying a wide range of potential livelihood options through Women's Adaptation Labs, community consultations, and market assessments, the project conducted a structured livelihood screening process to determine which options would be most appropriate for climate-resilient livelihood development in the Sundarbans context. The screening process aimed to ensure that the selected livelihood strategies were not only economically viable but also environmentally sustainable and socially appropriate for women living in climate-vulnerable coastal communities.

Unlike conventional livelihood selection approaches that focus primarily on income generation, this project adopted a risk-informed and system-based screening process. The screening was grounded in the findings of the Scientific Climate Risk Assessment, conducted in collaboration with Khulna University and EQMS. This assessment identified major climate threats in the project areas, including salinity intrusion, tidal flooding, cyclones, waterlogging, and ecosystem degradation. These findings were used as the primary reference to evaluate whether proposed livelihood options could withstand or adapt to existing and future climate risks. To ensure a comprehensive analysis, the screening process integrated three analytical lenses:

#### Climate Risk Lens

The scientific climate risk assessment provided detailed insights into environmental hazards affecting the Sundarbans region. Livelihood options were assessed based on their vulnerability to climate hazards such as salinity, flooding, and cyclone impacts. Activities that could withstand or adapt to these risks such as aquaculture, climate-resilient agriculture, and diversified small businesses were prioritized.

#### Policy and Social Lens

The screening process also examined whether livelihood options aligned with existing government policies, institutional support mechanisms, and social realities. This lens considered factors such as access to public services, training opportunities, extension services, and market regulations. It also assessed whether women could realistically

engage in the selected livelihoods within prevailing social norms, household responsibilities, and mobility constraints.

#### Five Capitals Framework Lens

The project applied the Five Capitals Framework to evaluate the resources and capacities required for each livelihood option. The framework examined whether communities possessed or could access the necessary:

- Human capital (skills, knowledge, training)
- Social capital (networks, groups, community support)
- Physical capital (tools, infrastructure, equipment)
- Financial capital (investment capacity, access to credit or savings)
- Natural capital (land, water bodies, natural resources)

This approach ensured that livelihood options were not evaluated in isolation but rather as part of a broader livelihood system that depends on multiple interconnected resources.

#### Role of Technical Experts and Community Participation

The screening process was facilitated by project technical experts in collaboration with community members and Women's Adaptation Lab participants. Experts from relevant sectors including agriculture, fisheries, livestock, natural resource management, and financial inclusion provided technical guidance during the screening process.

At the same time, community knowledge played a central role in evaluating livelihood feasibility. Women participants shared their experiences regarding local resource availability, seasonal risks, market opportunities, and operational challenges. This combination of scientific analysis, technical expertise, and local knowledge ensured that the screening process remained grounded in real community conditions.

#### Locally Led Adaptation Approach

Because the project followed the principles of Locally Led Adaptation (LLA), the screening process was not imposed externally. Instead, it was conducted through iterative consultations with women's groups, community leaders, and stakeholders. Women participants actively engaged in reviewing livelihood options,



*Empowering Community Voice*

discussing risks and opportunities, and identifying practical constraints.

The integration of climate risk analysis, policy and social considerations, and the Five Capitals Framework allowed the project to narrow down livelihood options into a set of feasible and climate-resilient solutions. The results of these analyses formed the basis for selecting livelihood pilots and developing the final Women's Adaptation Plans, ensuring that the proposed livelihood pathways were environmentally sustainable, socially acceptable, and economically viable for the Sundarbans communities.

### 3.5 Institutional Consultation

Institutional consultation was central to ensuring sustainable and inclusive adaptation planning. A 16-member Local Project Advisory Committee (LPAC), comprising representatives from local government, civil society, market actors, and technical experts, provided guidance, validated outputs, and aligned strategies with institutional priorities. Women's Network Groups (15 members in each village) strengthened women's leadership, facilitated communication, and promoted collective action and peer learning. Multi-Stakeholder Groups, also formed in each village, brought together diverse community actors to support collaborative decision-making and validate livelihood options. Additionally, engagement with government departments—including agriculture, fisheries, livestock, youth development, and social services—enabled women to access training, extension services, and financial schemes. Overall, these platforms enhanced coordination, strengthened institutional linkages, and

improved the scalability and sustainability of adaptation initiatives.

### 3.6 Adaptation Planning Process

The final stage of the methodology involved synthesizing all collected information into comprehensive Women's Adaptation Plans.

#### Development of Risk-Informed Business Plans

Women participants were supported to develop household-level business plans that incorporated:

- climate risks and adaptation measures
- financial planning and cost analysis
- market opportunities
- resource requirements

Technical experts and research partners reviewed these plans to assess climate adaptability and identify potential shared infrastructure needs.

#### Community Validation

Draft adaptation plans were then presented in community validation workshops involving:

- women's groups
- community leaders
- government representatives
- technical experts

These consultations ensured that the plans reflected local priorities and were technically and socially feasible.

#### Final Adaptation Plans

Based on the validation process, the project finalized Women's Adaptation Plans. The adaptation plans provide a practical roadmap for strengthening climate-resilient livelihoods while promoting women's leadership and locally led adaptation in the Sundarbans.



## 4 FEEDBACK (COMMUNITY AND COMMITTEES)

Capturing feedback from community members and institutional stakeholders was a fundamental component of the project's participatory and locally led adaptation (LLA) approach. Rather than treating consultation as a one-time validation exercise, the project embedded continuous feedback loops throughout the implementation process. This approach ensured that women's experiences, local knowledge, and institutional perspectives shaped the design, refinement, and finalization of the Women's Adaptation Plans and livelihood strategies.

To validate the project findings and ensure that the adaptation plans reflected real community priorities, a structured consultation process was conducted across the project areas. This process included 40 Focus Group Discussions (FGDs) with community members and women participants, as well as eight structured consultation workshops with community committees and institutional stakeholders.

**The consultation process included the following stages:**

- 40 Focus Group Discussions (FGDs) conducted across the three project villages to understand community perceptions of climate risks, livelihood constraints, and adaptation opportunities.
- Three village-level consultation workshops with Women's Network Groups and Multi-Stakeholder Committees, where community members reviewed the findings emerging from FGDs and discussed the feasibility of proposed livelihood options.
- Three validation workshops involving local leaders, CSOs, journalists, and like-minded NGOs, which examined the relevance of the selected livelihood plans in relation to local development priorities and institutional frameworks.
- Two institutional consultation workshops with LPAC members and government representatives at the Upazila level in Koyra and Dacope, where project outcomes and recommendations were reviewed in relation to policy frameworks, service delivery systems, and long-term sustainability pathways.

This layered consultation structure ensured that the project's findings were validated across multiple levels—community, institutional, and governance—creating strong local ownership of the adaptation planning process. The feedback collected through these engagements provides valuable insights into how the project influenced women's confidence, leadership, livelihood planning, and institutional collaboration.

## 4.1 Community Feedback

Community feedback provides important insights into the ways in which the project influenced women's perceptions, aspirations, and participation in livelihood development. Participants consistently emphasized that the project created an enabling environment where women could learn, share experiences, and participate actively in discussions related to climate risks and livelihood opportunities.

One of the most frequently mentioned changes was the growth in women's confidence and leadership capacity. Many women reported that before joining the project they rarely spoke during community meetings or participated in discussions about economic activities. Social norms and household responsibilities often limited their ability to express their opinions or engage in community decision-making processes.

However, through repeated engagement in training sessions, group discussions, and participatory exercises, women gradually developed the confidence to share their views and contribute to collective decision-making.

"In the past, I hesitated to speak in community meetings. Through the trust-building process, I gained the confidence to express my ideas and take part in decisions. Today, I speak with assurance because I know women's voices are essential for shaping our community's future."

### **Anita Mondal, Borobari**

Participants also highlighted the importance of participatory analytical tools used during the project. These tools helped women better understand their social, economic, and environmental context and identify opportunities for improving their livelihoods. For example, stakeholder mapping exercises helped women understand how decisions related to resources, markets, and development programs are influenced by different actors.

"Stakeholder mapping helped me clearly understand who influences decisions and how I can engage with them. With this knowledge, I feel prepared to advocate for opportunities that support women's livelihoods."

### **Rina Munda, Borobari**

Similarly, community resource mapping

encouraged women to examine the assets available within their villages and reflect on how these resources could support sustainable livelihood strategies.

"Participating in the resource mapping helped me recognize the true value of our village resources. Now I feel responsible for protecting these assets and ensuring they are used wisely for sustainable livelihoods."

### **Sefali, Moheshwaripur**

Participants also expressed strong appreciation for the project's climate-related analytical tools. Exercises such as seasonal mapping and crop calendars helped women understand how climate variability affects their livelihoods and income patterns.

"The seasonal mapping gave me a deeper understanding of how climate patterns affect our work and income. With this knowledge, I can plan my livelihood activities more strategically throughout the year."

### **Onima Mondal, Moheshwaripur**

"Through the crop calendar sessions, I learned how to adapt farming practices to changing weather and salinity. This knowledge has strengthened my ability to make informed decisions about crop production."

### **Ratna Mondal, Moheshwaripur**

Another important dimension of community feedback relates to the shift in how women perceive livelihood opportunities. Market assessment exercises encouraged women to think beyond traditional subsistence activities and explore income-generating opportunities with real market demand.

"The market assessment helped me identify livelihood opportunities that have real demand. It encouraged me to think like an entrepreneur and pursue income activities that can bring lasting change to my family."

### **Shulota Rani, Moheshwaripur**

Women also reflected on the importance of scientific climate risk assessments conducted during the project. These assessments helped participants understand the long-term environmental changes affecting their communities and the need for proactive adaptation strategies.

"Understanding the scientific assessment of climate risks strengthened my awareness of the challenges ahead. It also inspired me to take proactive steps to protect my livelihood

and support adaptation in my community.”

**Romana Khatun, Kalabogi**

Overall, community feedback indicates that the project facilitated a transformative learning process. Women participants not only gained knowledge about climate risks and livelihood opportunities but also developed the confidence and motivation to actively engage in economic and community development activities.



## 4.2 Feedback from Women Adaptation Labs

The Women's Adaptation Labs (WAL) emerged as one of the most significant institutional platforms created under the project. Participants consistently described the lab as a safe and collaborative space where women could gather, exchange knowledge, and develop practical solutions for climate-resilient livelihoods.

Regular meetings, training sessions, and discussions were organized at the lab, allowing women to share experiences, discuss challenges, and learn from both technical experts and fellow participants. The lab created a learning environment where knowledge was generated collectively through dialogue, experimentation, and peer support.

Participants emphasized that the WAL played an important role in strengthening collective learning and problem-solving. Through group discussions, women were able to reflect on livelihood challenges such as market barriers, climate variability, and financial constraints, and identify potential solutions collaboratively.

“The Adaptation Lab provides a valuable platform where I can exchange ideas with

other women, receive practical training, and access different project facilities. It has strengthened my knowledge and confidence to take initiative and contribute to building climate-resilient livelihoods in my community.”

**Nasima Khatun, Borobari**

Another key feature of the WAL platform was the opportunity for women to interact directly with technical experts and practitioners who provided guidance on climate-resilient livelihood options.

“Learning directly from technical experts expanded my understanding of climate-resilient livelihoods and nature-based solutions. Their guidance inspired me to apply new knowledge to improve my livelihood strategies.” Bilkis Khatun, Kalabogi

The WAL also served as an important platform for entrepreneurship development. Through business planning sessions and training activities, women learned how to transform livelihood ideas into structured economic activities.

“Preparing my business plan helped me transform my ideas into a structured pathway for income generation. It strengthened my confidence to move forward as a woman entrepreneur.”

**Shanaj Parvin, Borobari**

Evaluation findings further confirmed the effectiveness of the WAL model. Participants reported that the platform significantly improved their knowledge of climate adaptation strategies, strengthened their livelihood planning skills, and created opportunities for collaborative learning and problem solving.



### 4.3 LPAC and Committee Feedback

Feedback from Local Project Advisory Committee (LPAC) members, Women's Network Groups, and Multi-Stakeholder Committees indicates strong institutional support for the project's outcomes and future sustainability.

Committee members highlighted that the project successfully demonstrated how locally led adaptation approaches can empower women and strengthen community resilience. According to committee representatives, women participants have become more proactive in discussing livelihood opportunities and exploring business options.

Community leaders also observed noticeable changes in women's participation and leadership within community platforms.

Committee members emphasized that strengthening market linkages and institutional partnerships will be essential for sustaining the project outcomes. They noted that while women have developed livelihood plans and gained knowledge, long-term success will depend on connecting them with markets, training institutions, and financial services.

LPAC members also discussed the need to maintain the Women's Adaptation Lab and ensure continued monitoring of pilot livelihood activities. They recommended establishing local committees responsible for maintaining lab equipment and supporting women entrepreneurs after the project ends.



Overall, committee feedback suggests that strong local leadership structures now exist to support the continuation of women-led adaptation initiatives.

### 4.4 Government Stakeholder Feedback

Consultations with government stakeholders provided important insights into the institutional feasibility of the project's livelihood strategies and adaptation recommendations.

Government officials from the Agriculture Department, Youth Development Department, Veterinary Services, Cooperative Department, and Upazila administration participated in institutional consultation workshops where project findings were reviewed and discussed.

Government representatives confirmed that many of the proposed livelihood activities are feasible within existing government programs and service frameworks. For example, the Agriculture Department indicated that technical training and extension services can be provided to support climate-resilient agricultural practices.

The Youth Development Department also highlighted opportunities for women and youth to access entrepreneurship training and financial assistance programs. Through these programs, women entrepreneurs can receive skills training and startup support for establishing small businesses.

Similarly, veterinary officials explained that livestock farmers can access vaccination services and veterinary support through

government programs, which can help improve livestock productivity and reduce economic risks.

Government stakeholders also emphasized the potential role of cooperative structures in strengthening institutional sustainability. By forming registered cooperatives, women entrepreneurs can access government support programs, financial assistance, and training opportunities.

Despite these opportunities, government representatives also identified several structural challenges, including limited market infrastructure, administrative procedures for accessing government programs, and financial constraints faced by rural women entrepreneurs.

Nevertheless, government stakeholders expressed strong willingness to collaborate with community organizations and development partners to support women-led livelihood initiatives and climate adaptation strategies.



## 4.5 Critical Assessment of Community and Institutional Feedback

The feedback collected through 40 Focus Group Discussions (FGDs) and eight validation workshops provides important insights into the effectiveness of the Women's Adaptation Plans for Climate Resilient Livelihoods initiative. The consultations engaged diverse stakeholders, including community women, Women's Network Groups,

committees, civil society, journalists, and government representatives from Koyra and Dacope Upazilas, ensuring a comprehensive assessment.

A key finding is the noticeable improvement in women's confidence and participation in community decision-making. Many participants highlighted that the project created safe spaces for women to express opinions and engage in discussions traditionally dominated by men. However, this progress remains limited by persistent social norms and household-level restrictions, indicating the need for broader community engagement to sustain women's empowerment.

Participatory tools such as resource mapping, seasonal calendars, and stakeholder analysis significantly enhanced women's understanding of climate risks and livelihood systems. These tools enabled participants to view livelihoods more strategically. Despite this, challenges remain in translating knowledge into practice due to limited access to finance, markets, and technical services.

The Women's Adaptation Lab (WAL) emerged as an innovative platform for learning and collaboration. It facilitated peer learning and interaction with technical experts, strengthening collective problem-solving. However, concerns about sustainability were raised, particularly regarding long-term management and resource support. Without institutional integration, these labs risk becoming inactive.

Feedback from committees and government stakeholders emphasized the importance of stronger institutional linkages. While government departments acknowledged alignment with existing programs, barriers such as bureaucratic processes and limited outreach persist. This highlights a critical gap between community planning and formal service delivery. The project has successfully strengthened women's knowledge, confidence, and agency. However, future efforts should prioritize institutionalization, improved market access, financial inclusion, and stronger partnerships to ensure long-term sustainability and scalable impact in climate-vulnerable communities.



## 5.1 Pilot Activities Implemented

A total of fourteen categories of livelihood pilots were implemented across the three project villages, covering a diverse range of sectors including livestock, small business, food production, and service-based enterprises. These pilot activities were selected through earlier stages of participatory assessment, including market analysis, climate risk assessment, and livelihood screening exercises conducted with community members.

The pilot initiatives included activities such as duck and native chicken rearing, fishing equipment businesses, vermicompost production, online retail business, candle production, incubator-based poultry businesses, home-based gardening, hotel or food stalls, cosmetics shops, varieties shops, small agricultural product businesses, and clothing enterprises. These livelihood options were intentionally designed to rely on locally available resources and manageable investment levels, enabling women participants to initiate businesses with limited capital while minimizing exposure to climate-related risks.

The implementation process followed a systematic approach. First, participants were selected through community consultations and local group networks, ensuring that beneficiaries were both interested in and capable of managing the pilot activities. To ensure fairness and accuracy, project staff conducted door-to-door verification visits to confirm participant eligibility and validate household information before the final selection.

Once participants were confirmed, the project provided essential production inputs and business tools, including livestock, feed, equipment, small infrastructure materials, and basic business management tools such as calculators, record registers, and signboards. In some cases, administrative support was also provided to help participants obtain trade licenses and formalize their enterprises.

After receiving the inputs, participants began the production phase of their pilot enterprises. For livestock-based activities, improved management practices were introduced, including vaccination schedules, feeding practices, and health monitoring systems. For small businesses such as shops or candle production, participants received guidance on production techniques, record keeping, and basic financial management.

Throughout the piloting period, field facilitators and technical experts provided continuous monitoring and technical support. Regular visits allowed project staff to track progress, identify operational challenges, and provide practical advice to participants. The final stage involved marketing and sales, where participants sold their products within local markets and community networks.

The pilot results demonstrated that even small-scale enterprises could generate measurable income for participating households. For example, poultry and native chicken enterprises in Bedkashi generated an average profit of approximately BDT 8,000, while candle production in Moheshwaripur generated an average profit of around BDT 12,000, indicating strong market demand for locally produced products. Other enterprises such as cosmetics shops, hotel businesses, and clothing enterprises also generated promising returns.

## 5.2 Profile of Women Pilot Entrepreneurs

The project developed detailed profiles of 29 women entrepreneurs across Uttar Bedkashi, Moheshwaripur, and Sutarkhali to capture the real-world impact of climate-resilient livelihood interventions. Each profile documents socio-economic background, livelihood type, project support, business progress, challenges, and strategies adopted. Findings show that while participants initially faced limited income, restricted mobility, and climate-sensitive livelihoods, targeted support enabled them to develop structured, income-generating enterprises. Livestock and small business support quickly helped many start earning, while training, tools, and peer learning improved business practices and confidence.



### Major Highlights of Borobari, Uttar Bedkashi Pilot Participants (Profiles 01–10)

#### Profile-01: Sima Rani, Type of Business: Duck Rearing

Sima Rani was previously engaged only in household activities with irregular income in a climate-vulnerable area. She established a household-level duck rearing enterprise to meet the growing local demand for meat and eggs. Through project support, she received 100 ducklings, feed, nets, lights, a weighing machine, a calculator, and a trade license. Initially, she faced challenges due to limited experience in semi-commercial livestock management and lack of knowledge on market pricing. However, her business is now fully operational, with improved productivity and a steady contribution to her household income.



#### Profile-02: Reena Munda, Type of Business: (Poultry Farming - Broilers)

Reena Munda had limited experience in commercial poultry farming and relied on small-scale seasonal work for her livelihood. She now operates a well-managed broiler poultry farm focusing on growth performance and market demand. With project support, she received 150 chickens, feed, feeding pans, fans, lights, and business formalization tools. She initially faced challenges in managing operational costs and coping with seasonal climate risks such as extreme heat. Despite this, she successfully earned a net profit of BDT 34,917 from her first production cycle and has reinvested in a second cycle, demonstrating strong business sustainability.



#### Profile-03: Anita Mondal, Type of Business: Poultry Farming (Native Chicken)

Anita Mondal faced financial instability due to the absence of reliable income sources in the coastal Sundarbans region. She established a native chicken farming business using a staggered production cycle to ensure continuous income flow. She received chickens of different ages, specialized feed, housing equipment, and a trade license as support. Her main challenge was monitoring the health of birds across different age groups and limited access to veterinary services. Currently, her enterprise is stable and operational, and she effectively uses staggered production to plan strategic sales and maintain income continuity.



**Profile-04: Krishna Biswas, Type of Business: Poultry Farming (Layer Chickens)**

Krishna Biswas previously depended on irregular seasonal work and had limited experience in commercial farming. She now manages a layer poultry farm that provides income from both egg production and meat sales. The project supported her with 115 layer chickens, feed, fans, and record-keeping tools. She faced challenges in maintaining biosecurity and consistent egg production under changing environmental conditions. Despite these challenges, her farm is fully operational and provides a steady and reliable source of income through regular egg production.



**Profile-05: Ullasini Biswas, Type of Business: Vermicompost Production**

Ullasini Biswas, a resident of Borobari village, sought an eco-friendly income-generating opportunity. She established a vermicompost production business to supply organic fertilizer to local farmers. She received concrete pits, earthworms, tools, and a trade license from the project. Her main challenge was maintaining appropriate moisture levels during dry seasons and managing the physical effort required to move compost. Currently, she is recognized as a certified supplier of organic fertilizer and contributes to sustainable agricultural practices in her community.



**Profile-06: Basanti Rani, Type of Business: Small Business (Agricultural Products)**

Basanti Rani was previously dependent on subsistence farming and seasonal labor without structured trading experience. She now operates a small business supplying agricultural inputs such as seeds, organic fertilizers, and eco-friendly pest control products. With project support, she received seeds, vermicompost, pest traps, a weighing machine, and a trade license. She faced challenges in protecting goods from coastal moisture and building trust among farmers for eco-friendly products. Her business is steadily growing, and she is becoming a reliable service provider in the local agricultural supply chain.



**Profile-07: Salma Akter, Type of Business: Online Business**

Salma Akter was motivated to achieve financial independence but lacked digital skills and equipment. She established a home-based online business specializing in sarees for nationwide customers. She received a laptop, stand light, mannequin, calculator, and formal business support. Her initial challenges included developing digital marketing skills and managing logistics for deliveries. Currently, her business is growing rapidly, with strong online visibility and efficient order management systems.



**Profile-08: Fahima Khatun, Type of Business: Candle Making Business**

Fahima Khatun previously relied on irregular income sources for her livelihood. She started a candle-making business to generate stable income and explore market opportunities. The project provided machines, molds, raw materials, workspace equipment, and formal business support. She initially faced challenges in maintaining product quality, managing production processes, and accessing consistent markets. Over time, her business has progressed well and now ensures regular income and improved economic stability.



**Profile-09: Johura Khatun, Type of Business: Tailoring & Cloth Business**

Johura Khatun was a skilled seamstress who wanted to expand her small-scale work into a professional business. She established a tailoring and cloth business offering custom dressmaking and fabric sales. With project support, she received sewing machines, fabric stock, tools, and formal business setup support. Her challenges included managing large inventory and dealing with power outages. Currently, her shop is well-established as a local business hub, and her diversified setup allows continuous production and steady income generation.



**Profile-10: Shirina Akter, Type of Business: Bag Packaging**

Shirina Akter lacked access to specialized machinery and stable energy sources in a power-constrained area. She established a bag packaging business using a solar-powered system, converting raw materials into retail products. The project provided her with an industrial sewing machine, solar panel system, battery, and packaging materials. She faced challenges in sourcing raw materials and protecting equipment from saline coastal conditions. Now, she has successfully transitioned into a profitable and energy-independent entrepreneur.



**Major Highlights of Nayani, Moheswaripur Pilot Participants (Profiles 11–19)**

**Profile-11: Ruma Khatun, Type of Business: Duck Rearing**

Ruma Khatun had limited experience in livestock rearing and faced financial barriers in a climate-vulnerable coastal area. She established a structured duck rearing enterprise to utilize the steady local demand for duck meat and eggs. Through project support, she received 100 ducklings, feed, a thermometer, a weighing machine, and a business signboard. Initially, she struggled to balance feeding schedules with household responsibilities and manage seasonal health risks. Over time, she developed strong practical skills in disease prevention and housing management, and her business is now progressing steadily with promising growth potential.



**Profile-12: Miss Asia Khatun, Type of Business: Poultry Farming (Desi/Native Chicken)**

Miss Asia Khatun previously depended on irregular subsistence farming and seasonal labor in a climate-vulnerable region. She established a home-based poultry enterprise focusing on native chickens, which are in high demand for both meat and eggs. With project support, she received chicks, feed, housing equipment, and business tools including a weighing machine and trade license. She faced challenges in maintaining hygiene during seasonal weather changes and balancing her farm work with household duties. Currently, her business is fully operational, providing a stable income and positioning her as an independent entrepreneur in her community.



**Profile-13: Mukti Mistree, Type of Business: Vermicompost Production**

Mukti Mistree was previously dependent on irregular agricultural labor and had no prior business experience. She started a vermicompost production enterprise to meet the increasing demand for organic fertilizer among local farmers. The project supported her with compost rings, earthworms, tools, and a trade license. Her main challenge was maintaining optimal moisture and temperature conditions for worm survival under harsh coastal weather. Despite this, her business is now fully operational, providing a steady income and contributing to environmentally sustainable farming practices in her community.



**Profile-14: Onima Bachar, Type of Business: Vermicompost Production**

Onima Bachar, a resident of a climate-vulnerable area, previously relied on irregular seasonal labor. She established a vermicompost production business to create a sustainable source of income. With project support, she received composting materials, tools, and formal business registration. Her key challenge was maintaining proper environmental conditions for composting during extreme heat and monsoon rains. Currently, she operates as a professional green entrepreneur, producing high-quality organic fertilizer and ensuring a stable and dignified income for her family.



**Profile-15: Anjana Mondol, Type of Business: Variety Store (Grocery/Retail)**

Anjana Mondol faced financial hardship due to irregular income and lack of business resources. She established a variety store to supply daily essential goods within her community and generate a steady income. Through project support, she received a fully stocked inventory, equipment, and formal business setup including a trade license and signboard. Initially, she faced challenges in managing diverse inventory and maintaining proper records. Her shop is now fully operational, generating regular income and significantly improving her household's financial stability.



**Profile-16: Priyanka Mondol, Type of Business: Atol (Traditional Fishing Trap) Making**

Priyanka Mondol had traditional skills in making fishing traps but lacked the resources to turn this into a business. She established an Atol (traditional fishing trap) production enterprise to meet local demand. The project provided her with raw materials, tools, and formal business support. She faced challenges in sourcing quality materials and managing labor-intensive production processes. Currently, her business is running steadily, providing regular income and enhancing her household's economic resilience.



**Profile-17: Khuku Moni Mondol, Type of Business: Variety Store (Grocery/Retail)**

Khuku Moni Mondol previously struggled with financial instability due to irregular income and limited business opportunities. She established a variety store to provide essential goods in her community. The project supported her with inventory, business tools, and formalization support. Her challenges included managing stock, handling credit sales, and protecting goods from moisture. Today, her shop is fully operational, generating steady income and strengthening her household's financial security.



**Profile-18: Urmila Mondol, Type of Business: Candle Making**

Urmila Mondol, an MSc graduate in Chemistry, utilized her technical knowledge to establish a candle-making enterprise in a climate-vulnerable region. With project support, she received advanced equipment including wax melting machines, molds, and raw materials. Her primary challenge was mastering the chemical processes required to produce high-quality, bubble-free candles. Currently, she operates as a skilled manufacturer, producing high-end candles and earning significant profits, ensuring a stable and resilient income for her family.



**Profile-19: Shova Ghorami, Type of Business: Vermicompost Production**

Shova Ghorami lacked the technical tools and resources needed to produce organic fertilizer commercially. She established a vermicompost production business to generate income and support sustainable agriculture. The project provided her with compost pits, earthworms, tools, and formal business support. She faced challenges in maintaining optimal composting conditions and building a market for her product. Her business is now fully operational, producing high-quality fertilizer and contributing both to her income and environmentally friendly farming practices.



**Major Highlights of Kalabogi, Sutarkhali Pilot Participants (Profiles 20–29)**

Profile-20: Naima Khatun, Type of Business: Duck Rearing

Naima Khatun transitioned from irregular seasonal labor to a structured duck rearing enterprise. She now manages a 100-duck unit producing meat and eggs for the local market. With project support, she received ducklings, feed, and essential equipment. She initially faced challenges in maintaining health and hygiene standards during seasonal weather changes. Currently, she maintains proper feeding, vaccination, and record-keeping practices, ensuring steady growth and productivity in her business.



**Profile-21: Shoshti Mondol, Type of Business: Desi Chicken Rearing**

Shoshti Mondol previously faced irregular income and lacked resources to expand her poultry activities. She now operates a desi chicken rearing enterprise with professional management practices. The project supported her with chicks, feed, housing equipment, and business tools. Her challenges included disease prevention and balancing feed costs with market prices. Today, her poultry business is thriving, ensuring a stable income and improved financial security for her household.



**Profile-22: Lila Mondol, Type of Business: Hotel Business**

Lila Mondol faced financial difficulties and lacked the resources to establish a business. She started a hotel (eatery) business to serve daily meals in her community. With project support, she received kitchen equipment, furniture, food inventory, and business tools. She faced challenges in maintaining food hygiene, managing costs, and attracting customers. Her hotel is now fully operational, generating steady income and strengthening her skills in business and customer service.



**Profile-23: Chompa Mondol, Type of Business: Incubator Business**

Chompa Mondol overcame financial and technical barriers to establish a modern incubator business. She now operates a hatchery that supplies chicks to local poultry farmers, filling a critical gap in the value chain. The project supported her with an automated incubator, solar backup, and other tools. Her challenges included maintaining technical equipment and ensuring proper incubation conditions. Currently, her business is thriving as a specialized enterprise, supporting both her income and the broader community.



**Profile-24: Parvin Begum, Type of Business:  
Fabric & Tailoring Business**

Parvin Begum had tailoring skills but lacked the resources to turn them into a reliable income source. She established a fabric and tailoring business combining retail and custom services. With project support, she received a sewing machine, fabric stock, and business tools. She faced challenges in managing inventory and balancing customer orders. Her shop is now fully operational, attracting regular customers and ensuring steady income.



**Profile-25: Rabeya Begum, Type of Business:  
Poultry Rearing**

Rabeya Begum faced financial and technical barriers in scaling poultry farming. She now operates a professional broiler poultry business supplying quality chicken to the local market. With project support, she received chicks, feed, equipment, and business tools. Her challenges included disease prevention, environmental control, and market fluctuations. Currently, her business is thriving, with structured management and steady income generation.



**Profile-26: Provati Chakraboti, Type of Business:  
Home-Based Gardening**

Provati Chakraboti struggled to maintain a productive garden due to lack of resources. She established a home-based gardening business using modern irrigation and organic farming practices. With project support, she received irrigation equipment, seeds, and fertilizers. Her challenges included managing soil salinity and irrigation systems. Her garden is now productive and profitable, ensuring both food security and income for her household.



**Profile-27: Rojina Begum, Type of Business:  
Grocery Shop**

Rojina Begum previously lacked capital to maintain a stable income. She established a grocery shop providing essential goods and services to her community. With project support, she received inventory, equipment, and formal business setup. Her challenges included managing stock and protecting goods from humidity. Her shop is now fully operational and attracts consistent customers, ensuring stable income.



**Profile-28: Mira Chitra, Type of Business: Ironing and Fabric Business**

Mira Chitra lacked machinery and capital to expand her garment services. She established a combined ironing and fabric business to create multiple income streams. With project support, she received machines, fabric stock, and business tools. Her challenges included managing electricity and protecting materials from humidity. Her business is now fully functional, providing reliable income and professional services to the community



**Profile-29: Chonda Ray, Type of Business: Vermicompost Production**

Chonda Ray lacked the resources to enter organic fertilizer production despite local demand. She established a vermicompost production enterprise with project support, including compost pits, earthworms, and tools. She faced challenges in maintaining compost quality and building market demand. Currently, her business is fully operational, producing high-quality fertilizer and ensuring a stable income while promoting sustainable farming practices.

### 5.3 Pilot Success Factors

The performance of the pilot activities varied across sectors and villages, but several common factors contributed to the success of certain livelihood models.

One of the most important success factors was the relatively low initial investment requirement. Many of the selected livelihood options, particularly poultry rearing, candle production, and small retail businesses, could be initiated with modest inputs. This reduced financial risk for participants and allowed them to experiment with entrepreneurial activities without requiring large capital investments.

Another key factor was environmental suitability. Livelihood activities such as duck rearing, poultry farming, and small-scale agriculture were well aligned with the ecological conditions of coastal communities. These activities are relatively adaptable to local environmental conditions and require limited infrastructure, making them suitable for areas that frequently experience climate shocks such as cyclones, salinity intrusion, and flooding.

Local market demand also played a significant role in determining the success of pilot enterprises. Businesses that responded to existing local demands such as candle production, hotel businesses, cosmetics shops, and varieties shops showed stronger economic performance compared to activities that relied on more specialized markets. Participants who were able to sell products within their own communities or nearby markets were able to generate income more consistently.

In addition to these economic factors, capacity-building support contributed significantly to the success of the pilots. Participants benefited from training on production techniques, business planning, and financial record keeping. These skills helped women participants move beyond informal income activities and adopt more structured approaches to managing their businesses.

The pilots also demonstrated the importance of community networks and peer learning. Women participants often shared experiences, production techniques, and marketing strategies with one another, creating informal support systems that strengthened the overall performance of the pilot initiatives.

**Summary of Selected Pilot Activities and Average Profit**

<b>Pilot Activity</b>	<b>Average Profit</b>	<b>Observations</b>
Poultry / Native /Layer Chicken	High	Good demand and quick production cycle
Online Business	Moderate	Limited digital exposure but promising
Clothing Business	Moderate	Local tailoring demand exists
Fishing Equipment Business	Moderate	Linked with local fishing livelihoods
Candle Production	High	High market demand and scalable
Varieties Shop	Moderate	Stable daily income
Cosmetics Shop	High	Strong demand in local markets
Hotel / Food Stall	High	Benefited from local customer flow
Vermi Compost	Moderate	Small-scale vermicomposting contributed to soil health improvements and was a low-cost, high-value activity. Profit margins were small initially, but consistent production ensured steady returns.
Agro Product Production and Selling	High	The market demand for organic, locally grown products was consistent.
Daily Grocery Shopping Bag Business	High	This product has high market demand. In piloting participant is doing high profit from this business but training on branding and sales strategies was critical for the success of this initiative.

## 5.4 Pilot Challenges

While the pilot activities provided valuable insights into the potential for climate-resilient livelihoods, several challenges emerged that affected the overall success and scalability of the initiatives. These challenges, which were identified through the piloting process and the Exposure Visit activities, provide critical lessons for future livelihood programming in coastal communities.

### Limited Knowledge of Modern Farming and Large-Scale Business Practices

A significant challenge identified during the piloting phase was the community's limited knowledge of modern farming techniques and larger-scale business management. Many women participants, although experienced in small-scale household activities, had limited exposure to advanced farming practices and enterprise management systems. While the project provided continuous support and technical guidance, the lack of prior experience in managing larger, more formal business activities created initial difficulties.

For example, women struggled with vaccination schedules, timely decision-making for farming activities, and managing daily operations of businesses. These issues were particularly evident in livestock management where farmers found it challenging to maintain animal health, monitor diseases, and implement regular vaccination routines. Similarly, agricultural pilots such as vegetable cultivation and homestead gardening faced hurdles due to inadequate

knowledge of soil management, pest control, and crop rotation.

**Project Response:** The continuous training, technical guidance, and peer learning through exposure visits helped overcome many of these barriers. During the Piloting House Visits, women from the community visited pilot households where successful entrepreneurs shared their methods of managing businesses. By learning directly from peers in a practical setting, women gained valuable insights that made the business models more realistic and easier to adopt.

"Seeing the activities in real household settings helped me understand required resources, management practices, and potential income generation. This visit gave me confidence to start a similar livelihood activity."

### Onima Monda, Moheshwaripur

#### Challenges in Business Management Skills

Another critical challenge for women engaged in small businesses was limited capacity in business management, particularly in areas such as inventory management, financial tracking, and pricing strategies. Many of the women entrepreneurs had little experience with calculating costs, managing sales, or maintaining stock inventories, which are essential skills for running a successful enterprise.

This lack of formal business training initially hindered profitability and operational efficiency. For instance, some participants faced difficulties in understanding the profit margins

or in managing inventory turnover, which led to overstocking or understocking products.

**Project Response:** Continuous training and mentoring support from facilitators played a crucial role in addressing these gaps. Through business training sessions and peer learning, participants gradually improved their skills in business calculation, record-keeping, and stock management. Over time, women reported feeling more confident in managing their businesses with greater independence and efficiency.

"Preparing my business plan helped me transform my ideas into a structured pathway for income generation. It strengthened my confidence to move forward as a woman entrepreneur."

**Shanaj Parvin, Borobari**

#### **Market Linkage and Local Value Chains**

One of the most significant challenges faced during the pilot phase was market access. Although the project's livelihood models were aligned with local resource availability and climate conditions, the lack of strong local market linkages often limited participants' ability to sustain and grow their businesses. Women entrepreneurs found it difficult to connect with local buyers, suppliers, and service providers who could support the scaling of their operations.

The issue was compounded by poor road infrastructure and limited access to larger, more profitable markets, which restricted the participants' ability to access bigger markets outside their local area.

**Project Response:** To address this challenge, the project facilitated market linkage meetings between women entrepreneurs, local traders, microfinance institutions (MFIs), and government programs. These meetings helped connect women with local market actors, improve access to financial services, and establish better pricing structures for their products. The Exposure Visit also played a crucial role in improving market knowledge, as women participants learned from each other about strategies for accessing buyers and negotiating fair prices.

"The business linkage meetings helped me connect with financial institutions, training providers, and market actors. These relationships are opening practical opportunities for women to grow their enterprises."

**Tonni Ghorami, Moheshwaripur**

#### **Technical Skill Gaps in Livelihood Practices**

Although participants received continuous support from the project, a key challenge identified was the need for technical training in certain livelihood practices. While general training was provided in areas such as poultry rearing, small retail business management, and candle production, some participants expressed the need for further specialization in advanced agricultural practices, livestock health management, and product processing techniques.

**Project Response:** Regular training and mentoring visits ensured that participants received hands-on technical support. For example, women engaged in agriculture or livestock rearing received customized advice from agricultural experts and livestock specialists. This guidance helped address technical issues such as crop disease management, soil fertility improvements, and livestock health maintenance, gradually improving the productivity and sustainability of the pilots.

#### **Common Challenges Across All Villages**

It is important to note that most of the challenges identified during the pilot phase were consistent across all three villages: Uttar Bedkashi, Moheshwaripur, and Sutarkhali. All villages face similar geographical constraints, such as poor infrastructure, limited market access, and climate vulnerability. Additionally, women in all villages struggled with accessing formal financial services and building strong market connections. These challenges suggest that a common set of strategies will be required to scale up successful livelihoods in these areas.

## Operational Challenges Observed During Piloting

Challenge Area	Observed Issues	Project Response
Livestock Management	Limited knowledge on feeding schedules, disease monitoring, vaccination	Continuous technical guidance and monitoring visits
Farming Practices	Limited exposure to improved or modern farming techniques	Practical training and demonstrations
Business Management	Weak skills in calculation, inventory tracking, and record keeping	Repeated training and mentoring
Market Linkages	Difficulty identifying buyers and negotiating prices	Market linkage facilitation and guidance
Production Decision Making	Uncertainty in planning production cycles and scaling	Coaching from facilitators and peer learning

### Critical Insights from Piloting:

The lack of advanced technical skills among community members highlighted the importance of continuous training, hands-on demonstrations, and practical, peer-to-peer learning for overcoming barriers to successful livelihood management.

Market linkages emerged as one of the most critical factors for the success of small-scale enterprises. Future interventions should prioritize stronger local partnerships, market infrastructure improvements, and value chain integration.

Sustainability of livelihood models depends not only on financial inputs but also on institutional coordination and community support structures to ensure long-term market access and entrepreneurial resilience.

By addressing these challenges through integrated solutions, future projects can scale and replicate successful livelihood models across coastal communities, enhancing economic resilience while empowering women as climate-resilient entrepreneurs.

## 5.5 Piloting Materials and Their

### Real Impact

In order to ensure the success of the pilot activities and the long-term sustainability of livelihoods, the project took a strategic and needs-based approach to material provision. These materials were not only based on individual preferences but were carefully aligned with community interests, market demands, and climate adaptation needs. This approach

ensured that the pilots were not only viable but also relevant to the unique challenges faced by the communities in the Sundarbans.

### Material Selection Process

The process began with an assessment of community interest and demand. The project team, in collaboration with local women's groups, conducted consultations to identify the types of livelihood activities that held the most potential for success. This step ensured that the selected activities resonated with the community and were not imposed externally.

Once the initial activities were identified, business meetings and multi-stakeholder consultations were held to fine-tune the quantity and type of materials to be distributed. These consultations, involving local traders, business owners, and experts, helped finalize the material list based on feasibility, community need, and resource availability. Furthermore, expert teams were brought in to add materials specifically aimed at reducing climate stress and helping to modernize livelihood practices. For instance, in agriculture, materials like solar-powered systems and climate-resilient tools were introduced to help mitigate the impacts of flooding and salinity intrusion.

### Key Materials Provided

The materials included a wide variety of livelihood tools designed to enhance the productivity and sustainability of the pilot businesses. These materials were categorized according to the type of business and livelihood:

- **Livestock-Related Materials:** For poultry farming, participants received chicks, feed, vaccination kits, calibrated weight machines, feed trays, and solar-powered equipment for maintaining the necessary temperature for the poultry houses.
- **Retail and Small Business Materials:** Women engaged in candle-making, cosmetics businesses, and small grocery shops received production equipment, packaging materials, signboards, calculation tools, and solar-powered lighting to reduce energy costs and enhance productivity
- **Agriculture and Aquaculture Tools:** For farming activities, the project provided agricultural tools, fertilizers, irrigation systems, and climate-smart practices, such as vermicompost production kits and climate-resilient seeds to mitigate the effects of unpredictable weather
- **Technology-Related Materials :** Women involved in online businesses were given laptops, internet devices, and solar energy kits to facilitate digital entrepreneurship and reduce the dependence on unreliable electricity grids.

### Real Impact of the Materials

The provision of these materials played a crucial role in the initial success of the pilot activities. Women participants were able to immediately apply the materials to launch their businesses, providing them with a sense of autonomy and agency. For example, the solar-powered systems helped reduce the dependency on costly or unreliable electricity, allowing businesses to run more efficiently.

In livestock activities, materials like vaccination kits and feed trays helped ensure better health and productivity of animals, while in small businesses, tools like calculators and business registers helped participants manage their operations more effectively. Participants in agriculture and aquaculture benefited from more efficient production techniques, which resulted in higher yields and better market access.

Moreover, the exposure visits facilitated an additional layer of impact by allowing women to visit other successful enterprises. Peer learning, through these visits, proved to be an effective way to transfer knowledge and practical skills. Learning from one another about the use of specific tools and problem-solving approaches helped women overcome common operational issues in their businesses.

“Seeing the activities in real household settings helped me understand the required resources, management practices, and potential income generation. This visit gave me confidence to start a similar livelihood activity.”

Onima Monda, Moheshwaripur

## 5.6 Critical Findings from the Piloting Phase

The piloting phase of the Women’s Adaptation Plans for Climate Resilient Livelihoods initiative provided critical insights into the viability and sustainability of small-scale, climate-resilient livelihood activities. The pilot activities demonstrated that even modest investments can lead to significant economic gains for women in coastal communities. Despite the initial success, several key challenges were identified that need to be addressed in future programming.

The first major finding was that small-scale livelihoods could generate meaningful income for women, particularly activities like poultry rearing, candle production, and small retail businesses. These activities proved to be viable with modest investments, yielding average profits ranging from BDT 4,800 to BDT 12,000. However, while these livelihoods were initially profitable, their long-term sustainability will depend on continued access to market linkages, financial resources, and technical support. Despite the economic gains, the long-term resilience of these enterprises needs to be further tested through sustained support.

A significant challenge identified during the piloting phase was the lack of business management skills among many participants. Women struggled with inventory management, pricing strategies, and financial record-keeping, which initially hindered profitability. However, through repeated training and mentoring,

participants showed gradual improvement in their business skills. Continuous support, particularly in the form of peer learning and exposure visits, helped women learn from successful businesses in their communities, boosting their confidence and improving their business acumen. Women who engaged in small retail businesses, such as cosmetics shops and grocery stores, expressed how these visits were crucial in helping them navigate challenges in running their enterprises.

Another key challenge faced was market access. While some pilot activities, such as candle production and cosmetics businesses, had strong local demand, many women struggled to connect with reliable buyers and negotiate fair prices. The lack of market infrastructure, along with poor road connectivity and dependence on intermediaries, made it difficult for many women to expand their customer base and increase profitability. To address these market access issues, the project facilitated market linkage meetings where women entrepreneurs could interact with local traders, microfinance institutions (MFIs), and service providers. These connections allowed women to improve their negotiation skills, understand market trends, and strengthen their market position.

The piloting phase also highlighted significant technical knowledge gaps in areas such as livestock rearing and agriculture. Many women lacked experience with advanced farming techniques, such as soil management, crop rotation, and livestock health monitoring. These gaps were addressed through hands-on technical training and

specialized guidance from experts in agriculture and livestock management. Over time, women participants reported improvements in their technical skills, particularly in managing livestock health and applying climate-smart agricultural practices. The common challenges identified across all three villages—Uttar Bedkashi, Moheshwaripur, and Sutarkhali—included limited market access, poor infrastructure, and climate vulnerability. These shared barriers suggest that future livelihood programs in the region must address these systemic issues holistically. Moreover, women in all three villages faced challenges in accessing formal financial services, which limited their ability to scale successful enterprises. This points to the need for programs that focus on financial inclusion, microfinance access, and financial literacy to support women entrepreneurs.

The piloting phase of this project highlighted that locally adapted livelihood models, when supported by continuous training, mentoring, and market linkages, can lead to meaningful improvements in household income and resilience. However, scaling these models will require addressing market infrastructure constraints, technical capacity limitations, and financial barriers. The lessons learned from these pilots provide valuable insights into how future initiatives can empower women and support their transition from informal, subsistence-based livelihoods to climate-resilient, sustainable businesses. Addressing the challenges identified through this phase will be crucial for ensuring that these livelihood models can be expanded and replicated across the Sundarbans and similar climate-vulnerable regions.

## 6. GAPS AND WAY FORWARD

While the Women's Adaptation Plans for Climate Resilient Livelihoods initiative generated important insights and promising livelihood outcomes, the implementation process also revealed several structural and operational gaps that influence the long-term sustainability of livelihood development in climate-vulnerable coastal communities. These gaps were identified through multiple evidence sources, including 40 Focus Group Discussions (FGDs), village-level validation workshops with Women's Networks and Multi-Stakeholder Committees, consultations with local CSOs and journalists, and Upazila-level discussions with Local Project Advisory Committees (LPAC) and government officials in Koyra and Dacope.

The findings from these consultations indicate that livelihood challenges in coastal communities are not only related to income generation but are embedded within broader livelihood systems, institutional arrangements, capacity limitations, and climate adaptation constraints. Addressing these interconnected gaps is therefore essential for strengthening long-term resilience and ensuring that locally led adaptation initiatives translate into sustainable economic opportunities. The following sections outline the major gaps identified through the project process and propose strategic directions for addressing them in future programming.

### 6.1 Key Gaps Identified

#### Livelihood System Gaps

One of the most prominent findings across the project villages was the presence of structural constraints within the local livelihood systems. While community members possess extensive experience in traditional livelihood practices, the transition toward diversified and climate-resilient income sources remains limited due to several systemic barriers.

A key constraint identified during the assessments and piloting phase was limited access to stable and diversified markets. Most rural producers rely heavily on local traders and nearby markets for selling their products. However, these markets are often small and characterized by fluctuating demand, limited price negotiation power, and high dependency on intermediaries. As a result, producers frequently

receive lower prices for their products, which reduces profitability and discourages investment in expanded production.

Another critical challenge relates to financial accessibility and investment capacity. Although households engage in various income-generating activities, many lack the financial resources necessary to scale up successful enterprises. Formal financial institutions are often difficult to access due to documentation requirements, collateral constraints, and limited banking infrastructure in rural coastal areas. Consequently, many households rely on informal borrowing arrangements that carry higher risks and costs. These systemic livelihood constraints indicate that improving income opportunities in coastal communities requires integrated approaches that go beyond livelihood training alone. Strengthening value chains, facilitating market access, and improving financial inclusion mechanisms will be critical for supporting long-term livelihood sustainability.

#### Institutional Gaps

Institutional coordination and governance structures also emerged as significant areas requiring improvement. Although various government departments, development organizations, and local institutions operate in coastal regions, their activities are often implemented independently, resulting in fragmented service delivery and limited coordination.

During consultations with local stakeholders and government representatives, participants highlighted the need for stronger coordination mechanisms among local government institutions, development actors, and community-based organizations. In many cases, livelihood support programs, climate adaptation initiatives, and agricultural extension services operate separately without sufficient integration. This reduces opportunities for knowledge sharing, resource pooling, and collective planning.

Another institutional gap relates to policy procedures and administrative processes that sometimes limit timely access to support services. For example, obtaining business licenses, accessing public livelihood support

programs, or participating in government subsidy schemes can involve complex procedures that discourage participation from marginalized community members, particularly women.

The project experience demonstrated that platforms such as Local Project Advisory Committees (LPAC), Women's Network Groups, and Multi-Stakeholder Committees can play an important role in bridging these institutional gaps. However, sustaining such coordination mechanisms beyond the project period will require continued engagement from government institutions and local development partners.

### **Capacity Gaps**

Capacity limitations at the community level were also identified as a significant barrier to livelihood development. While community members possess valuable local knowledge and practical experience in traditional occupations, many participants have limited exposure to modern livelihood management techniques and enterprise development strategies.

One of the key capacity gaps identified during the piloting phase was related to enterprise management skills. Many participants had limited experience with financial planning, record keeping, profit calculation, and inventory management. These skills are essential for running sustainable businesses but are not commonly practiced in traditional livelihood systems.

Similarly, technical skill gaps were observed in several sectors, particularly in areas such as livestock management, improved agricultural practices, product processing, and value addition. Participants often required continuous guidance in areas such as disease prevention, vaccination schedules, input management, and production planning.

However, the project experience also demonstrated that these capacity gaps can be addressed effectively through structured training, mentoring, and practical learning opportunities. Participants who received repeated training sessions and hands-on guidance gradually developed confidence and improved their ability to manage livelihood enterprises.

This highlights the importance of long-term capacity development approaches, rather than short-term training interventions, in livelihood programming.

### **Climate Adaptation Gaps**

Given the geographic location of the project villages within the Sundarbans coastal belt, climate risks remain one of the most significant factors influencing livelihood sustainability. Communities in these areas regularly experience cyclones, storm surges, salinity intrusion, waterlogging, and irregular rainfall patterns, all of which affect agricultural productivity, livestock health, and overall economic stability. One of the major adaptation gaps identified during the project was related to infrastructure limitations. Poor road connectivity, limited storage facilities, and inadequate market infrastructure create significant barriers for rural producers. During extreme weather events, damaged roads and transportation disruptions can further isolate communities and restrict market access.

Another important gap relates to climate knowledge and information access. While communities have strong experiential knowledge of local environmental conditions, many participants have limited access to updated climate information, seasonal forecasts, and climate-smart agricultural practices. Without this knowledge, it becomes difficult for households to anticipate environmental changes and adjust livelihood strategies accordingly.

The project's participatory climate risk assessments and adaptation planning exercises helped raise awareness of these issues. However, long-term resilience will require systematic integration of climate information, climate-smart technologies, and adaptive livelihood strategies into local development planning.

### **Way Forward**

Addressing the identified gaps will require a coordinated and multi-dimensional approach that integrates livelihood development, institutional strengthening, capacity building, and climate adaptation planning.

- First, future interventions should

prioritize strengthening local value chains and market systems. This may include developing producer networks, facilitating direct market linkages, promoting collective marketing strategies, and supporting small-scale processing enterprises that increase product value.

- Second, improving financial inclusion mechanisms will be essential for enabling households to expand successful livelihood initiatives. This could involve strengthening linkages with microfinance institutions, promoting savings groups, and exploring innovative financing mechanisms that support climate-resilient enterprises.
- Third, strengthening institutional coordination platforms will be critical for ensuring that livelihood support, climate adaptation initiatives, and government services are aligned and mutually reinforcing. Platforms such as LPACs and community-based committees can serve as important mechanisms for collaborative planning and information exchange.
- Fourth, livelihood programming should incorporate continuous capacity development systems that combine training, mentoring, and peer learning. Building local technical expertise and business management skills will be essential for enabling community members to sustain and scale livelihood enterprises.
- Finally, climate adaptation considerations must remain central to all livelihood interventions in coastal areas. Integrating climate risk assessments, climate-smart technologies, and ecosystem-based approaches into livelihood development strategies will help ensure that income-generating activities remain viable under changing environmental conditions.

The project experience demonstrates that

sustainable livelihood development in climate-vulnerable coastal communities requires integrated solutions that simultaneously address economic, institutional, social, and environmental dimensions. By building on the lessons learned from the piloting phase and strengthening locally led adaptation processes, future initiatives can contribute significantly to enhancing resilience and improving livelihood security for vulnerable communities in the Sundarbans region.

## 6.2 Strategic Way Forward

The experiences and lessons emerging from the Women's Adaptation Plans for Climate Resilient Livelihoods initiative provide valuable guidance for designing future climate adaptation and livelihood programs in coastal Bangladesh. The project demonstrated that community-driven planning, combined with targeted livelihood support and institutional engagement, can generate meaningful progress toward building resilience. However, the sustainability and long-term impact of such initiatives will depend on how effectively the identified gaps are addressed and how the locally developed adaptation approaches are institutionalized within broader development systems.

Based on the findings from 40 Focus Group Discussions, multi-stakeholder validation workshops, LPAC consultations, and the piloting experiences across the three villages, several strategic directions have emerged for strengthening locally led adaptation and livelihood development in coastal communities.

### Strengthening Women Adaptation Labs

The Women Adaptation Labs emerged as one of the most innovative and effective institutional mechanisms within the project. These labs created a participatory platform where women could collectively analyze climate risks, discuss livelihood opportunities, experiment with new ideas, and co-create practical adaptation strategies. Through regular sessions and peer learning, women participants were able to build confidence, strengthen leadership roles, and gradually transition from passive beneficiaries to active decision-makers in livelihood planning. Moving forward, strengthening the Women Adaptation Labs will be critical for sustaining locally led adaptation processes. This requires

ensuring that the labs continue to function as community-based learning and innovation hubs, where women can regularly exchange knowledge, monitor livelihood progress, and adapt their strategies in response to changing climate conditions.

In practical terms, this may involve strengthening the operational capacity of the labs by providing continuous facilitation support, linking them with local technical experts, and equipping them with basic digital and climate information tools. Additionally, the Women Adaptation Labs can serve as important spaces for peer mentoring, where experienced participants guide newer members in developing and managing livelihood initiatives. By maintaining these collaborative learning environments, the labs can continue to nurture women's leadership in climate adaptation planning.

#### **Institutionalizing Adaptation Planning**

One of the key achievements of the project was the development of locally grounded adaptation plans through participatory processes. These plans reflect a comprehensive understanding of community vulnerabilities, livelihood opportunities, and climate risks in the Sundarbans coastal region.

However, for these plans to have long-term impact, they must move beyond project-level documentation and become integrated within local governance and development planning systems. Institutionalizing adaptation planning will therefore require closer alignment with Union Parishad development plans, Upazila-level planning processes, and relevant government sectoral programs.

Platforms such as the Local Project Advisory Committees (LPAC) have already demonstrated the potential for facilitating dialogue between communities, local government institutions, and development actors. Strengthening these platforms and linking them with existing government coordination structures can help ensure that community-driven adaptation priorities are reflected in local development agendas.

Institutionalizing adaptation planning will also require strengthening the documentation, monitoring, and updating of adaptation plans over time. Climate risks, environmental

conditions, and livelihood dynamics continue to evolve, and adaptation planning must therefore remain a dynamic and iterative process rather than a one-time planning exercise.

#### **Scaling Climate-Resilient Livelihoods**

The livelihood piloting activities conducted under the project demonstrated that several small-scale enterprises have strong potential to contribute to household income while remaining compatible with local environmental conditions. Activities such as poultry rearing, candle production, small retail enterprises, and food-based businesses showed promising economic returns and strong community interest.

However, scaling these livelihood models will require careful consideration of both economic and environmental sustainability. Expansion strategies should focus on livelihood options that are low-risk, climate-compatible, and aligned with local resource availability. At the same time, scaling efforts should ensure that enterprises do not place additional pressure on fragile ecosystems within the Sundarbans region.

To support scaling, future programs may consider establishing community-based producer groups or cooperative models, which can help participants pool resources, reduce production costs, and strengthen their bargaining power in markets. Supporting collective enterprises may also enable women entrepreneurs to access larger markets and improve the consistency of supply.

In addition, continued access to technical support will be essential for ensuring that livelihood activities remain productive and sustainable over time. Regular technical extension services, demonstration activities, and mentoring programs can help participants adopt improved production techniques and respond effectively to emerging challenges.

#### **Improving Market Linkages**

Market connectivity remains a critical determinant of livelihood sustainability in coastal communities. Even when production levels increase, the absence of reliable market channels can significantly limit income generation opportunities for rural producers.

Strengthening market linkages should therefore become a central component of future livelihood initiatives. This includes supporting participants in identifying new market opportunities, improving product quality and packaging, and strengthening negotiation skills with traders and buyers.

Developing stronger connections with local markets, regional trading centers, and digital marketplaces may help participants diversify their sales channels and reduce dependence on local intermediaries. In addition, establishing relationships with local retailers, wholesalers, and cooperatives can create more stable demand for locally produced goods.

Another potential strategy is to promote value addition and product diversification, enabling producers to capture higher value within existing supply chains. Training programs focused on product processing, branding, and packaging can help increase the competitiveness of locally produced goods.

#### **Strengthening Government Collaboration**

The long-term success of locally led adaptation initiatives depends heavily on the level of engagement and ownership demonstrated by government institutions. Throughout the project implementation, consultations with Upazila administrations, local government representatives, and relevant sectoral departments highlighted the importance of strengthening collaboration between community platforms and government systems.

Strengthening government collaboration will require building stronger institutional linkages between Women Adaptation Labs, community organizations, and relevant government agencies responsible for agriculture, fisheries, livestock, disaster management, and rural development.

By aligning community-based adaptation initiatives with government development programs, it becomes possible to mobilize additional resources, technical expertise, and policy support for scaling successful livelihood strategies. Government institutions can also play an important role in facilitating access to public services, training programs, and financial support mechanisms for rural entrepreneurs.

At the same time, increased government engagement can help ensure that community priorities are reflected in local development planning processes, creating a more inclusive and responsive governance environment.

### **6.3 Limitations of Critical Analysis on Piloting**

While this report provides valuable insights into the pilot activities, it is important to recognize the limitations inherent in the short duration of the piloting phase within the overall project timeline. The project was designed as an 8-month initiative, and a significant portion of this time was dedicated to preparatory activities, including socio-economic assessments, climate risk evaluations, community consultations, and livelihood identification. These stages took precedence, as they laid the foundation for the piloting phase.

As a result, the actual implementation of the pilot activities was limited to a relatively short period, with only 1.5 months allocated to direct piloting analysis and field-based observations. This limited time frame restricted the ability to conduct a comprehensive evaluation of profitability, long-term financial outcomes, and scalability challenges that would typically require more sustained monitoring over a longer period.

Thus, while the initial phases of livelihood development were thoroughly studied and analyzed, a detailed examination of profit and loss analysis, as well as long-term operational challenges, could not be included in this report due to the time constraints. Consequently, this report focuses primarily on the early stages of livelihood activities, providing a snapshot of initial opportunities, market entry points, and the starting conditions for the pilot enterprises.

In future evaluations, extended timelines and more in-depth post-pilot monitoring would be necessary to fully capture the economic sustainability of these livelihoods, the adaptability of the business models, and the long-term impact of climate resilience on the community's livelihoods. These factors will need further investigation in subsequent phases to ensure that the pilot activities can transition into sustained, scalable enterprises that provide ongoing income and resilience to the community.



## 7 CONCLUSION

The Women's Adaptation Plans for Climate Resilient Livelihoods in the Sundarbans initiative demonstrates the value of a locally led, participatory approach to climate adaptation and livelihood development in vulnerable coastal communities. Through a structured process involving institutional preparation, community engagement, participatory assessments, and practical livelihood piloting, the project successfully created a framework that enables communities—particularly women—to play a central role in identifying risks, analyzing opportunities, and designing locally appropriate adaptation strategies.

One of the most significant achievements of the project was the establishment of community-based platforms such as Women's Adaptation Labs, Women's Network Groups, and Multi-Stakeholder Committees, which facilitated inclusive dialogue and collaborative decision-making. These platforms allowed women participants to collectively analyze livelihood systems, identify climate risks, and explore practical solutions tailored to their local context. Through these processes, women participants strengthened their confidence, leadership roles, and engagement in livelihood planning and community decision-making.

The project also generated valuable insights through participatory assessments, validation workshops, and livelihood piloting activities conducted across the three villages. These processes enabled communities to test various livelihood options, assess their economic viability, and understand the operational challenges involved in managing small-scale enterprises. The piloting phase demonstrated that even modest livelihood interventions can contribute to improving household income and resilience when combined with continuous training, mentoring, and market linkage support.

Beyond immediate livelihood outcomes, the project produced significant learning value for climate adaptation programming in coastal regions. The experiences highlight the importance of integrating community knowledge, participatory planning processes, and practical experimentation when designing adaptation strategies. The findings also emphasize that sustainable livelihood development requires a holistic approach that addresses market systems, institutional coordination, capacity development, and climate resilience simultaneously.

Importantly, the approach developed under this initiative holds strong potential for scaling and replication in other climate-vulnerable coastal areas. The institutional platforms, participatory methodologies, and livelihood piloting framework can serve as a model for integrating locally led adaptation within broader development and governance systems. By strengthening collaboration between communities, local governments, and development partners, the approach can contribute to building more resilient and sustainable livelihood systems in the Sundarbans and beyond.

The project demonstrates that empowering communities—especially women—to lead adaptation planning and livelihood innovation can significantly enhance resilience in climate-affected regions. The lessons generated from this initiative provide a strong foundation for future programs seeking to combine climate adaptation, livelihood development, and inclusive community governance in vulnerable coastal environments.

Flat B1 (1st Floor), House 32,  
Road 10/A, Dhanmondi, Dhaka-1209, Bangladesh  
Email: [uttaran.dhaka@gmail.com](mailto:uttaran.dhaka@gmail.com)  
Mobile: +8801776454501, Tel No. +880 2-55000691  
Website: [www.uttaranbd.org](http://www.uttaranbd.org)

