



Building Resilience in Coastal Cambodia

Photobook of the Project “Climate Change Adaptation through Small-scale and Protective Infrastructure Interventions in Coastal Settlements of Cambodia (CCA4CS)”

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ADAPTATION FUND

Climate Change Adaptation through Small-scale and Protective Infrastructure Interventions in Coastal Settlements of Cambodia

BACKGROUND

Cambodia's coastal communities are on the frontlines of climate change. Droughts, floods, and sea-level rise are already reshaping the coastline and threatening people's livelihoods, while strong winds and thunderstorms make life even more challenging. Along the coast, seawater intrusion, beach erosion, high tides, and storm surges threaten homes, fields, and communities. The flat coastal plains, dominated by rice paddies and small settlements, leave residents especially vulnerable. These environmental challenges continue to impact the ability of people to maintain their livelihoods. The CCA4CS project focuses its actions in Kep Province and Prey Nob District of Preah Sihanouk Province, targeting communities that are highly vulnerable to the impact of climate change. In Kep Province, the project targeted four Sangkats/Communes, with a total of 28,021 direct beneficiaries of the project interventions. In Prey Nob District, the project targeted seven communes, with a total of 34,500 beneficiaries.

OBJECTIVE

The main objective of the project is to enhance climate change adaptation and resilience of the most vulnerable coastal human settlements of Cambodia through concrete climate change adaptation actions, particularly in areas where ecotourism has the potential to sustain such interventions.

Component 1:

Community-scale knowledge and capacity enhanced to sustain the adaptation benefits of the project's investments;

Component 2:

Government planning and technical capacity enhanced and knowledge captured and disseminated to sustain and enhance the project's adaptation benefits; and

Component 3:

Resilience built through investment in small-scale protective and basic service infrastructure and natural assets.

This photobook documents key achievements and impacts of the project. Through its photographs, it captures meaningful moments, activities, and outcomes that reflect the project's contribution to strengthening community resilience and advancing sustainable development.



**134ha of Mangroves Plantation
/Restoration in Kep Province**



■ Seedlings Ready for Planting

Mangrove Planting Activities





Various Stakeholders Engaging in Mangrove Planting Activities at Kep





Impact of 134ha of Mangroves Plantation/Restoration



More than
17,000 people



50%
Women

At Kep, more than 17,000 people, at least 50% of whom are women benefited from the restored mangrove. They have greater protection from coastal flooding, erosion, and saltwater incursion.



Water Gate and Canal Rehabilitation

Pong Teuk Commune, Damnak Chang'aeur
District, Kep Province



■ **Before and During**
rehabilitation of Water Gate

Local Construction Workers Engaging in the Rehabilitation Water Gate



Rehabilitated Water Gate



In Pong Teuk Commune, the rehabilitation work was carried out on the water gate, complemented by the rehabilitation of canal section to improve water flow.



1,706 m Canal Rehabilitation

Sangkat Ou Krasar, Krong Kep, Kep Province



■ **Before and During**
rehabilitation of Canal

Handover Ceremony of Water Gate



Handover Ceremony of Canal





“

Residents now have access to usable water. This area used to be at risk of flooding, with overflow into the village during heavy rains. After the canal was rehabilitated, water flows smoothly and drains quickly.

Mr. Pen Ngirithy

First Deputy Chief of Sangkat Ou Krasar,
Kep Province



Impact of Water Gate and Canal Improvement



Nearly
30,000 people



51%
Women



Increased
Crop Yield

The repaired water gate and rehabilitated canal have enhanced agricultural productivity, improved water management, and reduced the risks of flood and droughts and benefited nearly 30,000 people, including 51% women, by enhancing agricultural productivity and community resilience.

An aerial photograph showing a large-scale construction project in a coastal region. A wide, muddy river flows from the top left towards the center. To the right of the river, a long, winding dirt road or path runs parallel to the water. Along this path, there are several rectangular construction sites, some with concrete foundations and others with wooden structures. In the foreground, a small concrete structure, likely a water gate, is visible. The surrounding landscape is a mix of dense green mangroves and open fields. In the background, a large hill or mountain is visible under a cloudy sky.

Water Gate Construction and Embankment Rehabilitation for Saltwater Ingress Prevention

Angkaol Commune, Damnak Chang'aeur District, Kep Province



■ **Before**
construction of Water Gate and
rehabilitation of Embankment



■ **After**
construction of Water Gate and
rehabilitation of Embankment

Constructed Water Gate



Sluice Gates



Saltwater Gates

Rehabilitated 370m Embankment



The **Water Gate** was constructed with features to prevent saltwater ingress, including a metal mesh installed in front of the sluice gates to prevent debris from entering the system, and two types of water gates that work together to regulate water flow. When the sluice gates are manually opened to release water, the discharge pressure automatically pushes the saltwater gates, allowing water to flow out to the sea. In addition, a 370-meter of the **Embankment** was rehabilitated to further strengthen protection against saltwater intrusion.

Handover Ceremony of Water Gate



“

Seawater no longer floods our rice fields. We are able to farm safely, improve our livelihoods, and our children can attend school continuously from primary through university.

Mrs. Phou Mom

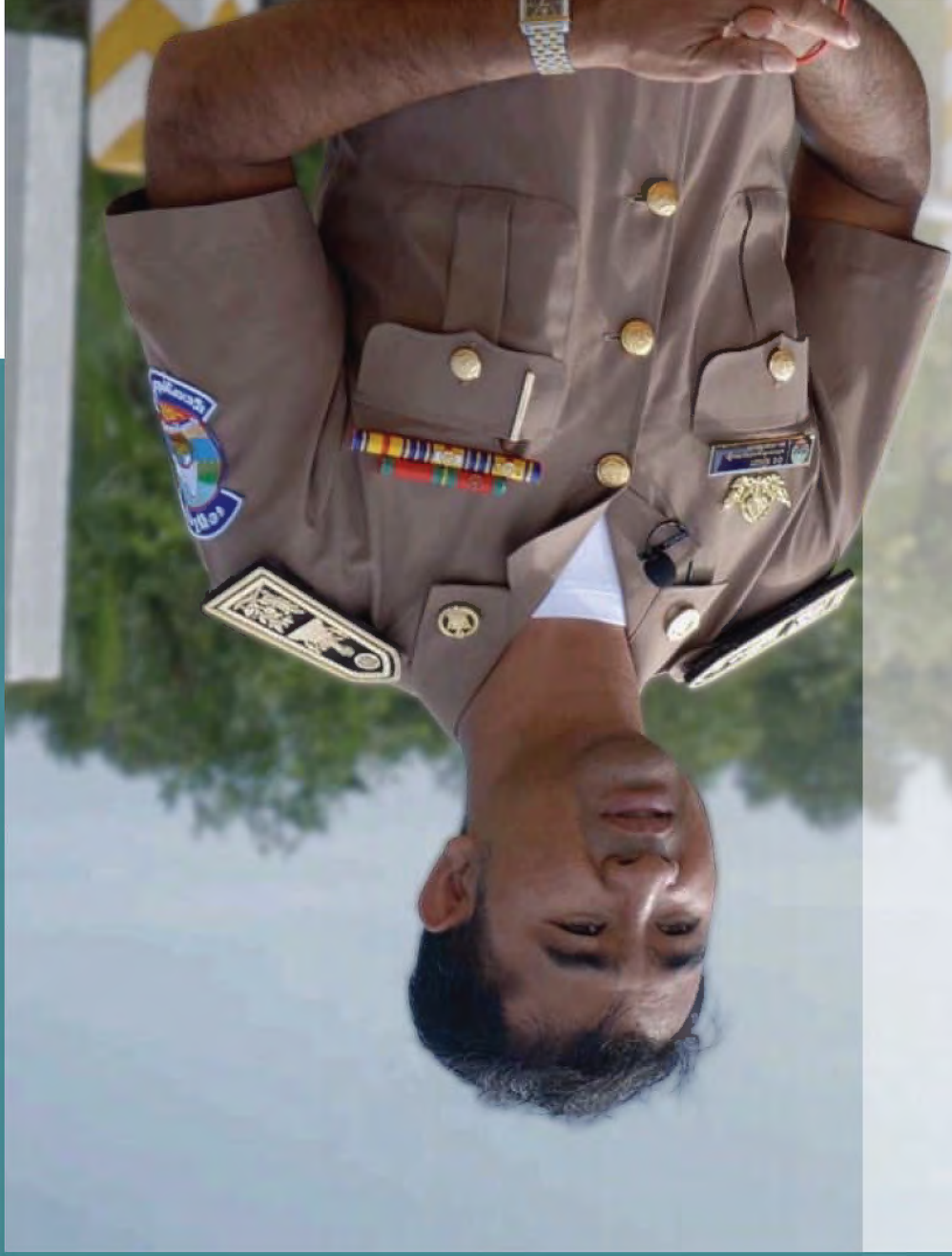
Deputy Chief of Pong Teuk Commune, Kep Province



“

Thanks to the CCA4CS project, MoE and UN-Habitat, our two villages in Angkaol Commune, Ampeng and Tuol Srangam, have benefited from these infrastructures that improve our livelihoods.

Mr. Thin Sina
Deputy Governor of Damnak Chang'Aeur District, Kep Province





Impact of Water gate and Embankment Construction



Approximately
3,500 people



50%
Women



Increased
Crop Yield

The newly constructed water gate and rehabilitated embankment protect farmland from seawater intrusion and flooding, allowing for year-round rice cultivation, improving local livelihoods, and enhancing connectivity between communities and markets. Approximately 3,500 people (50% female) have benefited from these improvements. With protection against saltwater intrusion, farmers will achieve higher crop yields and improved soil quality.



Green Grey Infrastructure for Coastal Protection

Sangkat Ou Oknha Heng, Krong Kampong Saom,
Preah Sihanouk Province



■ Mangrove Restoration



■ Repaired Water Gate

Launching of Mangrove Planting Event





Mangrove Protection/Conservation Activities





Impact of Green Grey Infrastructure for Coastal Protection



More than
21,000
people



52%
Women



Increased
Crop Yield

More than 21,000 people (52% women) benefit from protection from seawater, increased agricultural production and more access to freshwater. More than 2,000 ha of land is protected.



Drainage System Improvement

Veal Renh Commune, Prey Nop District,
Preah Sihanouk Province

Constructed 2km Drainage System, and Reinforced Concrete & Asphalt Pavements



■ Before

Drainage System Construction and
Concrete Pavement Reinforcement



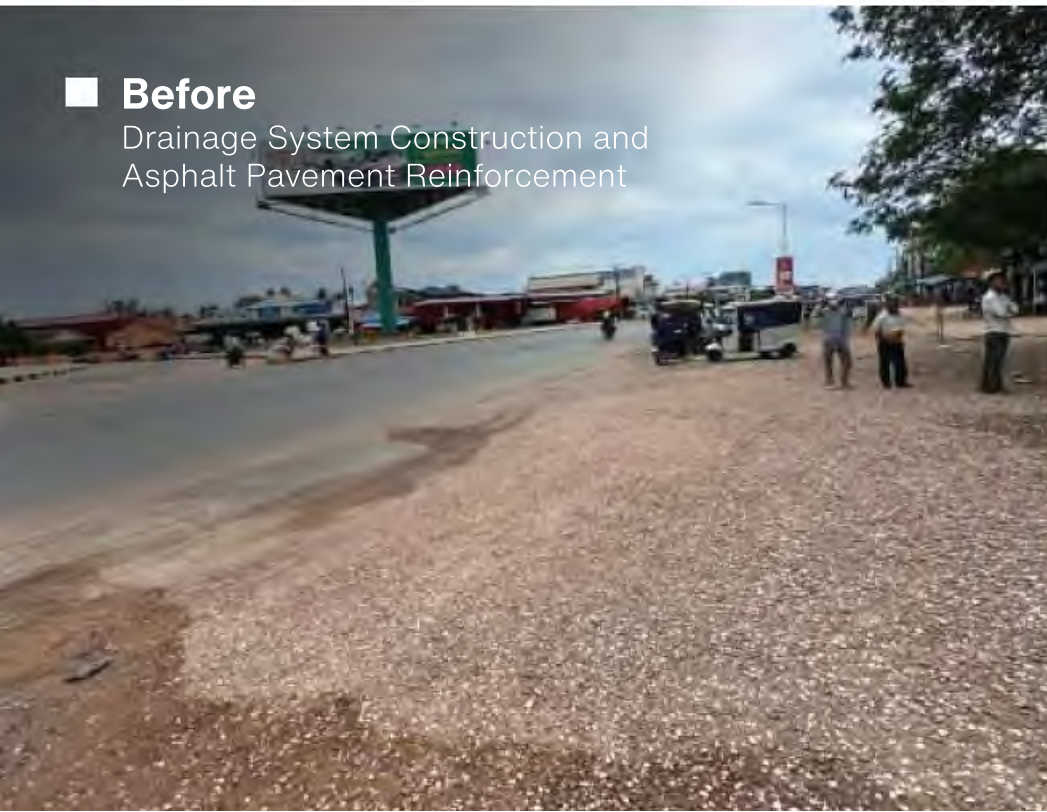
■ After

Drainage System Construction and
Concrete Pavement Reinforcement



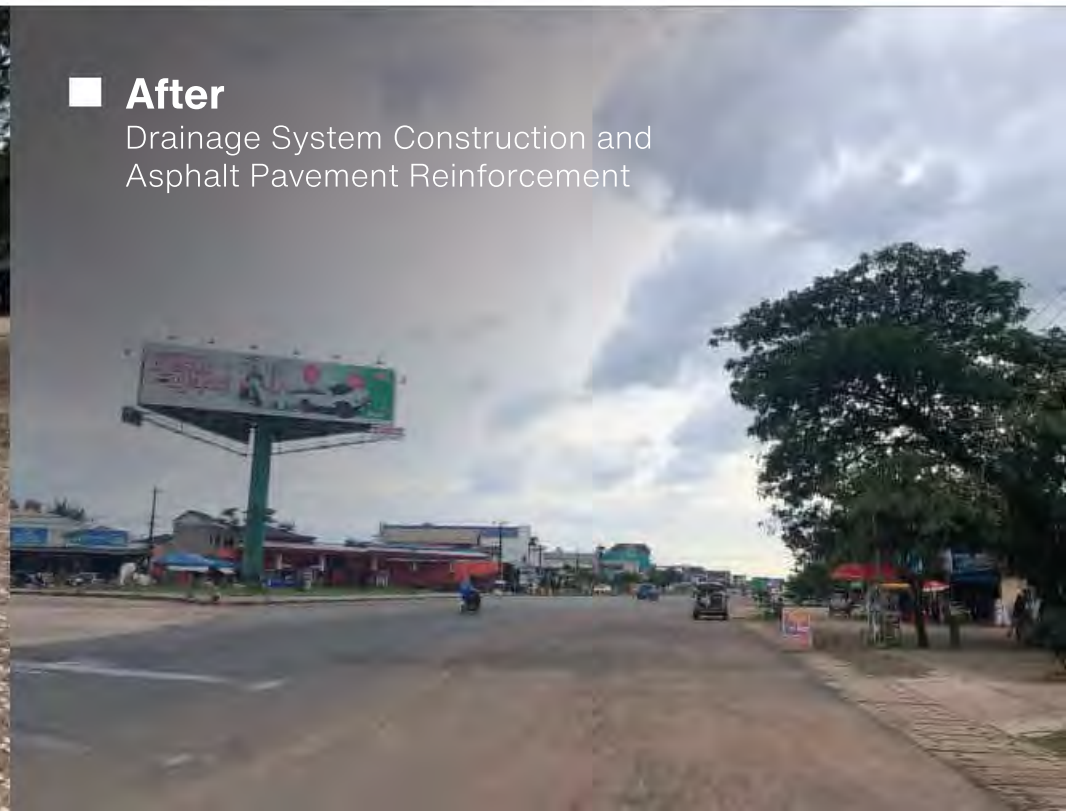
■ Before

Drainage System Construction and
Asphalt Pavement Reinforcement



■ After

Drainage System Construction and
Asphalt Pavement Reinforcement



Rehabilitated Discharging Channels with Eco-Treatment





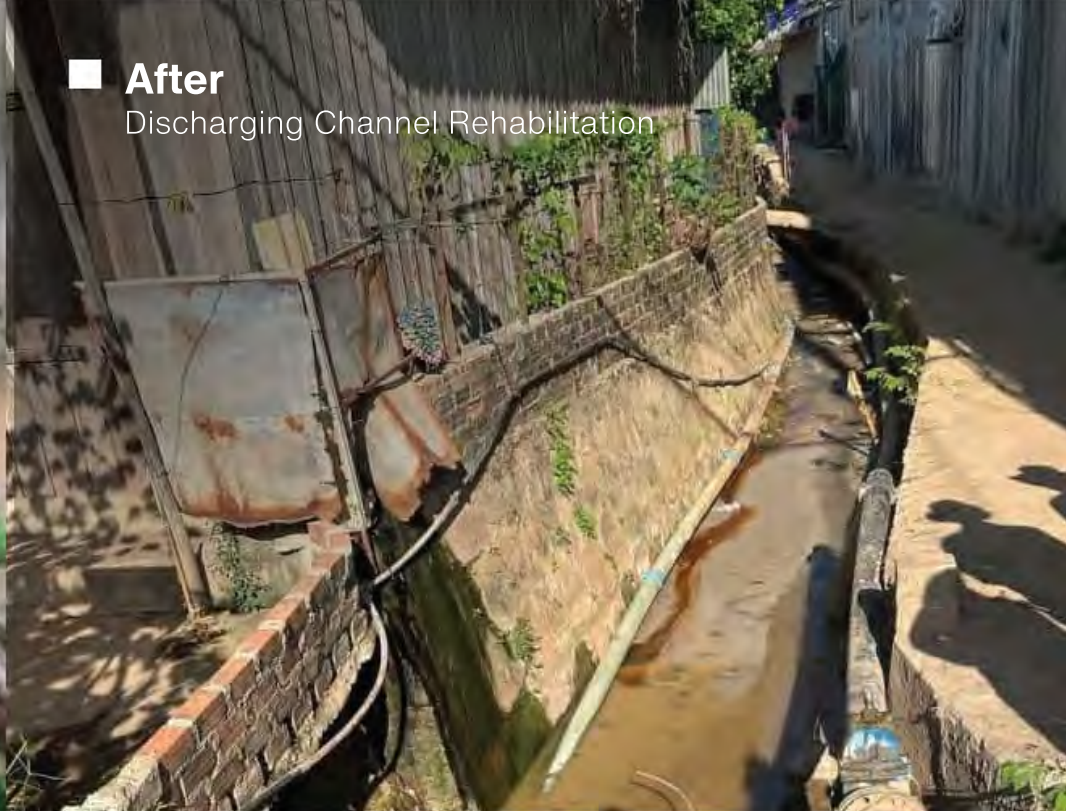
Before

Discharging Channel Rehabilitation



After

Discharging Channel Rehabilitation



Before

Discharging Channel Rehabilitation



After

Discharging Channel Rehabilitation



Planted Trees



Solid Waste Management Campaign



The Solid Waste Management Campaign under the CCA4CS project supports the Ministry of Environment's national initiative, "**National Roads Without Plastic Waste**". As part of this effort, the project handed over rubbish bins to the Ministry of Environment and organized a ceremony to distribute additional rubbish bins and trees to Prey Nob District, promoting cleaner environments and encouraging community-led tree planting.



“

Since the drainage system was constructed, market no longer experiences flooding problems as it did before.

Mr. Sim Sam Oeun
Chief of Veal Renh Market

“

Now the market area is dry and clean, and we no longer struggle to move our goods because even during heavy rain the water drains away quickly.

Mrs. Soth Mich & Mrs. Prom Tha
Vendors at Veal Renh Market





Impact of Improved Drainage System



More than
100,000 people

More than 100,000 people, including 4,500 people/sellers who depend on the market for their livelihood, benefit from this.

Installation of Weather Station

Teuk La'ak Commune, Prey Nob District,
Preah Sihanouk Province



Installation of Weather Station, Followed by Hands-on Training

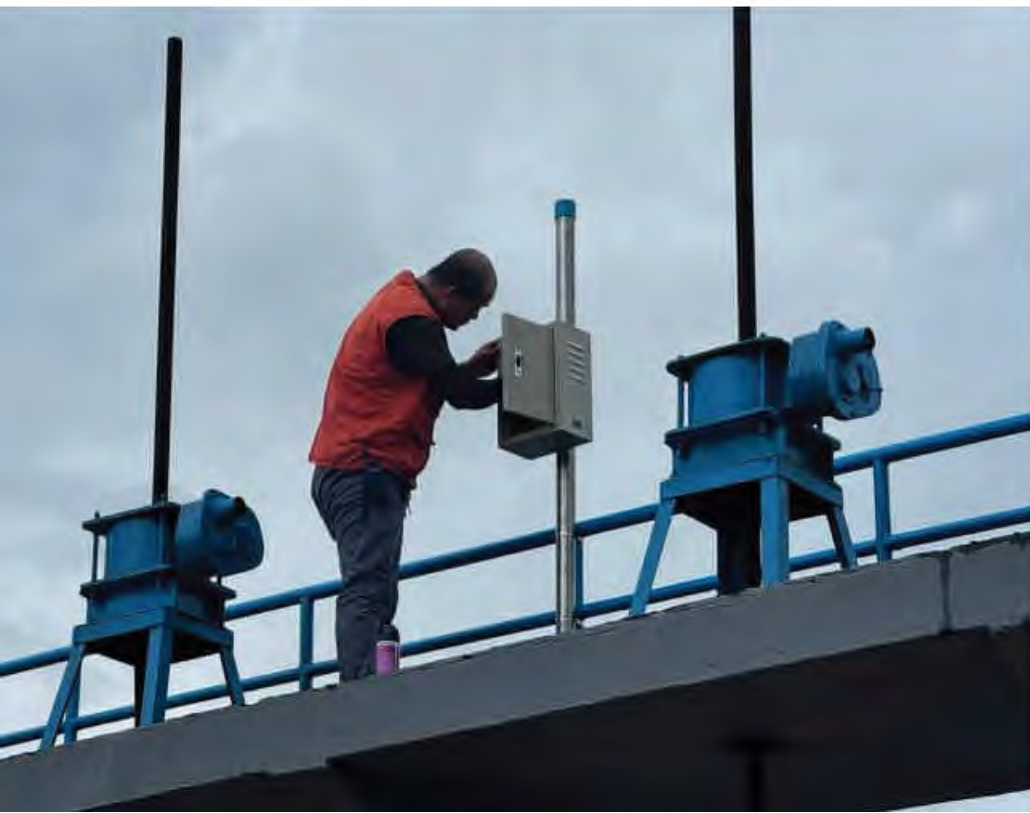


Installation of Tide Gauge

Sangkat Ou Oknha Heng, Krong Kampong Saom,
Preah Sihanouk Province



Installation of Tide Gauge, Followed by Hands-on Training







Impact of Weather Station & Tide Gauge



More than
49,000 people



55%
Women

Nearly 49,000 people (55% women) who live or work close to the sea benefit from this.

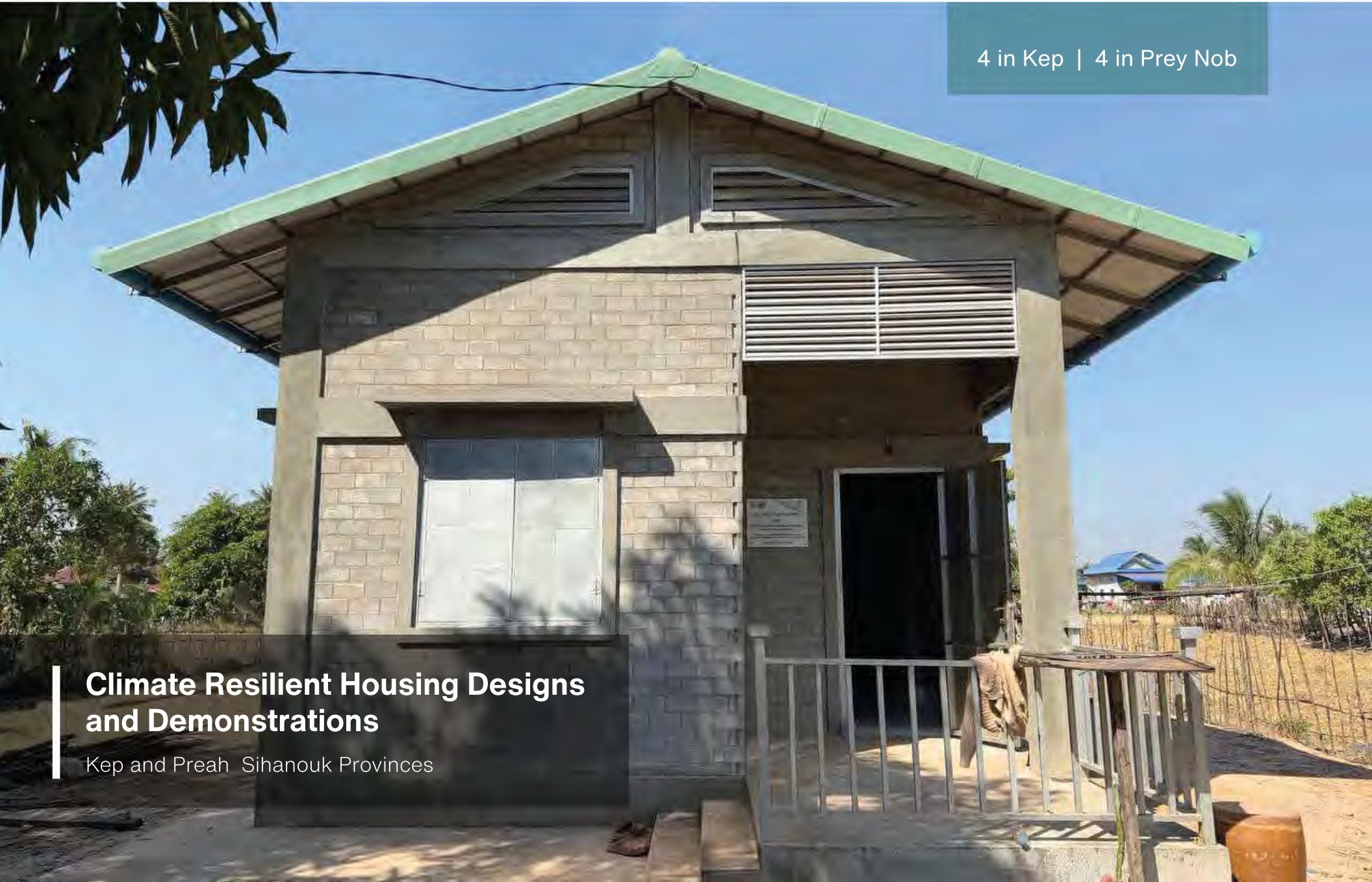
First Design

8 Climate Resilient Houses Constructed

4 in Kep | 4 in Prey Nob

Climate Resilient Housing Designs and Demonstrations

Kep and Preah Sihanouk Provinces



Second Design

19 Climate Resilient Houses Constructed

12 in Kep | 7 in Prey Nob



6 Criteria

Based on the following criteria, the most marginalized households were selected to receive resilient housing.

- ✓ A household that owns the land for construction at the selected target areas
- ✓ A poor household with ID Poor (level 1 or 2)
- ✓ A house that was fully destroyed or partially destroyed (up to 40%) by disaster (strong wind/rain/flood etc.)
- ✓ A household with a widow and with more than 5 household members
- ✓ A household that includes people with disability, illnesses, or elderly members
- ✓ A household that does not own a house and lives in a poor condition

27 Families were selected to receive resilient houses in both provinces based on the set criteria.



16 Families in Kep Province

Old Houses Before the Project





■ Before



■ After



Tep Tharn's Family

Prek Pros Village, Teuk Thla Commune,
Prey Nop District, Preah Sihanouk Province

Mrs. Tep Tharn, a widow, lives with her five family members in a fragile house made of rusted corrugated metal and leaf walls. The house is highly vulnerable during the rainy season and can be easily damaged by strong winds. The family lives in poor condition. This family was selected as one of 27 families to receive a resilient house.



■ Before



■ After



Chuch Phan's Family

Ta Aong Thom Village, Samakki Commune,
Prey Nop District, Preah Sihanouk Province

Mr. Chuch Phan and his wife live in an old wooden house with a corrugated metal roof damaged by strong winds. They have no income, and Mr. Chuch Phan has difficulties in speaking and mobility, while both he and his wife have partial hearing loss. This family was selected as one of 27 families to receive a resilient house.

Handover Ceremony of Resilient Houses at Kep









“

Although I have a disability, I can now move freely up and down my house without anyone's help because there are ramps that allows me to move independently. I feel very happy and grateful.

Daughter of Mrs. Luk Eng
Resilient House Recipient in Prey Nop



“

Before, we lived in a small hut, and every time strong winds came, we were afraid it might collapse. Receiving this resilient house makes us feel so safe and relieved.

Mr. San Matnot & Mrs. Sok An
Resilient House Recipient in Prey Nop





Impact of Climate Resilient Housing Designs and Demonstrations



More than
70,000 people



51%
Women



Increased
Crop Yield

More than 70,000 people, including 51% women, have indirectly benefited, while 135 people from 27 households have directly received the positive impact.



Over 1,000 People

received training in both Kep
and Preah Sihanouk Provinces.

CAPACITY BUILDING IN ACTION

Knowledge investments aim to strengthen the skills and capacity of communities, local officials, and sub-national institutions. Through training and hands-on capacity-building activities, participants are empowered to support, operate, and maintain the infrastructure developed by the project. Capacity building is carried out at two levels:



Training Community Level

- Solid waste management
- Climate resilient housing construction techniques
- How to manage, monitor, and maintain small-scale infrastructure of the project investment



Training Sub-National Level

- Operation, management, and maintenance of small-scale infrastructures
- Budgeting and planning preparation

■ Training on Solid Waste Management

Participated by local authorities, local communities, and students



■ In-Class Training for Resilient Housing Construction

Participated by local authorities, workers, recipients, beneficiaries, and local communities





■ On-Site Training for Resilient Housing Construction

Participated by local authorities, workers, beneficiaries, and local communities





Safety Practices in Resilient
Housing Building Activities





■ In-Class Training for Operation and Maintenance of Small-Scale Infrastructures

Participated by local authorities, workers, recipients, beneficiaries, and local communities



In Kep



In Prey Nop



■ On-Site Training for Water Gate Operation and Maintenance in Kep Province

Participated by local authorities, operators, and local communities



■ On-Site Training for Canal Maintenance in Kep Province

Participated by local authorities and communities



■ On-Site Training for Maintenance Discharging Channels and Drainage System

Participated by local authorities and communities



■ Training on Data Analysis and Visualization for PDOWRAM Officers



■ Training on Budget and Planning Preparation in Kep Province

Sub-National Level



■ Training on Budget and Planning Preparation in Preah Sihanouk Province

Sub-National Level



■ Training on Operation, Management, and Maintenance of Small-scale Infrastructures Sub-National Level





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November 2025

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(CCA4CS)

Project Duration: 4 Years (2021 - 2025)