#### Sreykhuoch Kim

From: Sent: To:	Samuel Hurtig <samuel.hurtig@gov.se> Thursday, June 24, 2021 11:30 AM Sony Oum; Tin Ponlok; Magnus André; Nick Beresford; Butchaiah Gadde; Borin Khieu; heng.nareth@online.com.kh; Ny Kimsan, kimsanny1973@gmail.com; victor.mime@gmail.com; somalychan.ca@gmail.com; mmonyrak@gmail.com; Lina Ngin; mengeangtaing@gmail.com; roschor@gmail.com; chhin sophea; Bunly Keo; Chhun Bunnara; Chea Vanda; smeydek@yahoo.com; Sarasy MIME; tochsovannamme@gmail.com; Chan Sethea Ma; Donal Yeang; Sreythol Meach; Battanakserey Ly; Kunka Ouk; Nimpuon LyEk; Moeko Saito Jensen; Leif Holmberg;</samuel.hurtig@gov.se>
	Rattanakserey Ly; Kunka Ouk; Nimnuon IvEk; Moeko Saito Jensen; Leif Holmberg; Vuthy Va; Rany Pen; Julien Chevillard; Sonali Dayaratne
Cc:	Sreykhuoch Kim; Bunly Keo
Subject:	Sv: Final BESD Project Board Meeting moved to e-mail approval

Dear Sony,

I confirm that I approve the proposed 3 points.

Best regards,

Samuel

#### Från: Sony Oum <sony.oum@undp.org>

Skickat: den 21 juni 2021 17:27

Till: Tin Ponlok <etap@online.com.kh>; Samuel Hurtig <samuel.hurtig@gov.se>; Magnus André <magnus.andre@gov.se>; Nick Beresford <nick.beresford@undp.org>; Butchaiah Gadde <butchaiah.gadde@undp.org>; Borin Khieu <khieu.borin808@gmail.com>; heng.nareth@online.com.kh; Ny Kimsan, kimsanny1973@gmail.com <kimsanny1973@gmail.com>; victor.mime@gmail.com; somalychan.ca@gmail.com; mmonyrak@gmail.com; Lina Ngin <lina\_ngin2015@yahoo.com>; mengeangtaing@gmail.com; roschor@gmail.com; chhin sophea <sopheachhin@gmail.com>; Bunly Keo <bunlyworld@yahoo.com>; Chhun Bunnara <cbunnara@ncdd.gov.kh>; Chea Vanda <vanda@ncdd.gov.kh>; smeydek@yahoo.com; Sarasy MIME <sarasy.mime@gmail.com>; tochsovannamme@gmail.com; Chan Sethea Ma <machansethea@yahoo.com>; Donal Yeang <donal.yeang@undp.org>; Sreythol Meach <meachsreythol@gmail.com>; Rattanakserey Ly <lyrattanakserey@yahoo.com>; Kunka Ouk <kunka.ouk@undp.org>; Nimnuon IvEk <nimnuon.ivek@undp.org>; Moeko Saito Jensen <moeko.saito-jensen@undp.org>; Leif Holmberg <leif.holmberg@undp.org>; Vuthy Va <vuthy.va@undp.org>; Rany Pen <rany.pen@undp.org>; Julien Chevillard <julien.chevillard@undp.org>; Sonali Dayaratne <sonali.dayaratne@undp.org>

**Kopia:** Sreykhuoch Kim <sreykhuoch.kim@undp.org>; Bunly Keo <bunlyworld@yahoo.com> **Ämne:** Final BESD Project Board Meeting moved to e-mail approval

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Please kindly review the documents. It would be highly appreciated for your comments and approval by **next Friday 25 June 2021**. In case of no objections, we will proceed in closing the project as per proposed above.

Lastly, we would like to express our sincere gratitude for continuous support and guidance for our BESD project. .

Please stay safe and well.

Best regards,

Sony

#### From: Sony Oum <<u>sony.oum@undp.org</u>>

Date: Wednesday, June 16, 2021 at 9:24 AM

To: Tin Ponlok <etap@online.com.kh>, Samuel Hurtig <samuel.hurtig@gov.se>, Magnus André <<u>magnus.andre@gov.se</u>>, Nick Beresford <<u>nick.beresford@undp.org</u>>, Butchaiah Gadde <butchaiah.gadde@undp.org>, Borin Khieu <khieu.borin808@gmail.com>, heng.nareth@online.com.kh <heng.nareth@online.com.kh>, Ny Kimsan, kimsanny1973@gmail.com <kimsanny1973@gmail.com>, victor.mime@gmail.com <victor.mime@gmail.com>, somalychan.ca@gmail.com <somalychan.ca@gmail.com>, mmonyrak@gmail.com <mmonyrak@gmail.com>, Lina Ngin ngin2015@yahoo.com>, mengeangtaing@gmail.com <mengeangtaing@gmail.com>, roschor@gmail.com <roschor@gmail.com>, chhin sophea <sopheachhin@gmail.com>, Bunly Keo <<u>bunlyworld@yahoo.com</u>>, Chhun Bunnara <<u>cbunnara@ncdd.gov.kh</u>>, Chea Vanda <vanda@ncdd.gov.kh>, smeydek@yahoo.com <smeydek@yahoo.com>, Sarasy MIME <<u>sarasy.mime@gmail.com</u>>, <u>tochsovannamme@gmail.com</u> <<u>tochsovannamme@gmail.com</u>>, Chan Sethea Ma <machansethea@yahoo.com>, Donal Yeang <donal.yeang@undp.org>, Sreythol Meach <<u>meachsreythol@gmail.com</u>>, Rattanakserey Ly <<u>lyrattanakserey@yahoo.com</u>>, Kunka Ouk <<u>kunka.ouk@undp.org</u>>, Nimnuon IvEk <<u>nimnuon.ivek@undp.org</u>>, Moeko Saito Jensen <<u>moeko.saito-</u> jensen@undp.org>, Leif Holmberg <leif.holmberg@undp.org>, Vuthy Va <vuthy.va@undp.org> Cc: Sonali Dayaratne <<u>sonali.dayaratne@undp.org</u>>, Sreykhuoch Kim <<u>sreykhuoch.kim@undp.org</u>>, Bunly Keo <<u>bunlyworld@yahoo.com</u>>

Subject: Re: GENTLE\_REMINDER\_Re: Final BESD Project Board Meeting on 17 June 2021 (2-5PM)

Dear Excellencies, bord members and colleagues

I am resending this e-mail to **cancel the proposed board meeting on 17 June**. Apologies for inconvenience for those who have confirmed their participation.

According to H.E. Dr. Tin Ponlok's advice, this final board meeting will be virtually short but vitally important to reflect the project results and challenges we have faced. Therefore, he is keen to accommodate all board members to join, especially our donor, Sweden/Sida. The meeting (17 June) is recommended to cancel and reschedule to a later date next week, preferably the 22<sup>nd</sup> or 23<sup>rd</sup>.

If I may, I would propose **Wednesday 23 June** but please advise me which date that all board members could make. Our project team (and hopefully the focal points) will be flexible to a new suggested date and time. We are looking forward to hearing your suggestion.

Our team highly appreciate if you could let us know as soon as possible, preferably this week.

Please stay safe and well.

Best regards

Sony

From: Sony Oum <<u>sony.oum@undp.org</u>>

Date: Monday, June 14, 2021 at 1:22 PM

To: Tin Ponlok <etap@online.com.kh>, Samuel Hurtig <samuel.hurtig@gov.se>, Magnus André <<u>magnus.andre@gov.se</u>>, Nick Beresford <<u>nick.beresford@undp.org</u>>, Butchaiah Gadde <butchaiah.gadde@undp.org>, Borin Khieu <khieu.borin808@gmail.com>, heng.nareth@online.com.kh <heng.nareth@online.com.kh>, Ny Kimsan, kimsanny1973@gmail.com <kimsanny1973@gmail.com>, victor.mime@gmail.com <victor.mime@gmail.com>, somalychan.ca@gmail.com <somalychan.ca@gmail.com>, mmonyrak@gmail.com <mmonyrak@gmail.com>, Lina Ngin <u>ngin2015@yahoo.com</u>
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Meeting URL:https://undp.zoom.us/j/82114931699?from=addonMeeting ID:821 1493 1699

Look forward to meeting you virtually on 17 June 2021 at 2 -5 PM inclusively.

Best regards,

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Date: Tuesday, June 8, 2021 at 12:36 PM

To: Tin Ponlok <etap@online.com.kh>, Samuel Hurtig <samuel.hurtig@gov.se>, Magnus André <magnus.andre@gov.se>, Nick Beresford <nick.beresford@undp.org>, Butchaiah Gadde <butchaiah.gadde@undp.org>, Borin Khieu <khieu.borin808@gmail.com>, heng.nareth@online.com.kh <<u>heng.nareth@online.com.kh</u>>, Ny Kimsan, <u>kimsanny1973@gmail.com</u> <<u>kimsanny1973@gmail.com</u>>, victor.mime@gmail.com <victor.mime@gmail.com>, somalychan.ca@gmail.com <somalychan.ca@gmail.com>, mmonyrak@gmail.com <mmonyrak@gmail.com>, Lina Ngin <lina ngin2015@yahoo.com>, mengeangtaing@gmail.com <mengeangtaing@gmail.com>, roschor@gmail.com <roschor@gmail.com>, chhin sophea <sopheachhin@gmail.com>, Bunly Keo <<u>bunlyworld@yahoo.com</u>>, Chhun Bunnara <<u>cbunnara@ncdd.gov.kh</u>>, Chea Vanda <vanda@ncdd.gov.kh>, smeydek@yahoo.com <smeydek@yahoo.com>, Sarasy MIME <<u>sarasy.mime@gmail.com</u>>, <u>tochsovannamme@gmail.com</u> <<u>tochsovannamme@gmail.com</u>>, Chan Sethea Ma <machansethea@yahoo.com>, Sreykhuoch Kim <sreykhuoch.kim@undp.org>, Donal Yeang <<u>donal.yeang@undp.org</u>>, Sreythol Meach <<u>meachsreythol@gmail.com</u>>, Rattanakserey Ly <<u>lyrattanakserey@yahoo.com</u>>, Kunka Ouk <<u>kunka.ouk@undp.org</u>>, Nimnuon IvEk <<u>nimnuon.ivek@undp.org</u>>, Moeko Saito Jensen <<u>moeko.saito-jensen@undp.org</u>>, Leif Holmberg leif.holmberg@undp.org>, Butchaiah Gadde <butchaiah.gadde@undp.org>, Vuthy Va <vuthy.va@undp.org>

Subject: Final BESD Project Board Meeting

Dear Excellencies, Board Members and Colleagues

Trust this email finds you healthy and well during this tough time!

As you may have seen a text message from Bunly in the telegram group, we are proposing to host this final board meeting on **17 June 2021 from 2 to 5 PM** prior to the BESD Project closure. The meeting is aimed to discuss the project results, acknowledge the benefit and ways forward to sustain the project benefits. I hereby attach the following documents:

- 1. Draft meeting agenda
- 2. A list of participants
- 3. A slide presentation in English (draft). If you have a problem receiving it, please get it from the telegram group. Sorry for inconvenience.
- 4. A list of project asset

The meeting will be held via the **zoom link** below:

Meeting URL:	https://undp.zoom.us/j/82114931699?from=addon
Meeting ID:	821 1493 1699

For UNDP and the PMU colleagues, the LAD Conference Room is reserved to set up this virtual meeting.

Please kindly confirm your participation in this meeting by early next week, preferably 14 June 2021. Should you have any questions, please let me or Bunly know.

Best regards

Sony

#### Sreykhuoch Kim

From:	etap@online.com.kh
Sent:	Wednesday, June 23, 2021 5:07 PM
То:	Sony Oum; 'Samuel Hurtig'; 'Magnus André'; Nick Beresford; Butchaiah Gadde; 'Borin Khieu'; heng.nareth@online.com.kh; kimsanny1973@gmail.com; victor.mime@gmail.com; somalychan.ca@gmail.com; mmonyrak@gmail.com; 'Lina Ngin'; mengeangtaing@gmail.com; roschor@gmail.com; 'chhin sophea'; 'Bunly Keo'; 'Chhun Bunnara'; 'Chea Vanda'; smeydek@yahoo.com; 'Sarasy MIME'; tochsovannamme@gmail.com; 'Chan Sethea Ma'; Donal Yeang; 'Sreythol Meach'; 'Rattanakserey Ly'; Kunka Ouk; Nimnuon IvEk; Moeko Saito Jensen; Leif Holmberg; Vuthy Va; Rany Pen; Julien Chevillard; Sonali Dayaratne
Cc:	Sreykhuoch Kim; 'Bunly Keo'
Subject:	RE: Final BESD Project Board Meeting moved to e-mail approval
Jubjeen	Ne. That DEDD Troject Doard meeting moved to e that approval

Dear Sony,

I confirm that I have no further comments on the 3 documents and I approve the proposed 3 points.

Kind regards,

Ponlok

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Sent: Monday, June 21, 2021 5:27 PM

To: Tin Ponlok <etap@online.com.kh>; Samuel Hurtig <samuel.hurtig@gov.se>; Magnus André <magnus.andre@gov.se>; Nick Beresford <nick.beresford@undp.org>; Butchaiah Gadde <butchaiah.gadde@undp.org>; Borin Khieu <khieu.borin808@gmail.com>; heng.nareth@online.com.kh; Ny Kimsan, kimsanny1973@gmail.com <kimsanny1973@gmail.com>; victor.mime@gmail.com; somalychan.ca@gmail.com; mmonyrak@gmail.com; Lina Ngin <lina\_ngin2015@yahoo.com>; mengeangtaing@gmail.com; roschor@gmail.com; chhin sophea <sopheachhin@gmail.com>; Bunly Keo <bunlyworld@yahoo.com>; Chhun Bunnara <cbunnara@ncdd.gov.kh>; Chea Vanda <vanda@ncdd.gov.kh>; smeydek@yahoo.com; Sarasy MIME <sarasy.mime@gmail.com>; tochsovannamme@gmail.com; Chan Sethea Ma <machansethea@yahoo.com>; Donal Yeang <donal.yeang@undp.org>; Sreythol Meach <meachsreythol@gmail.com>; Rattanakserey Ly <lyrattanakserey@yahoo.com>; Kunka Ouk <kunka.ouk@undp.org>; Nimnuon IvEk <nimnuon.ivek@undp.org>; Moeko Saito Jensen <moeko.saito-jensen@undp.org>; Leif Holmberg <leif.holmberg@undp.org>; Vuthy Va <vuthy.va@undp.org>; Rany Pen <rany.pen@undp.org>; Julien Chevillard <julien.chevillard@undp.org>; Sonali Dayaratne <sonali.dayaratne@undp.org>

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- 4. A list of project asset

The meeting will be held via the **zoom link** below:

Meeting URL:	https://undp.zoom.us/j/82114931699?from=addon
Meeting ID:	821 1493 1699

For UNDP and the PMU colleagues, the LAD Conference Room is reserved to set up this virtual meeting.

Please kindly confirm your participation in this meeting by early next week, preferably 14 June 2021. Should you have any questions, please let me or Bunly know.

Best regards

Sony





# FINAL BOARD MEETING: PROJECT CLOSURE

## BUILDING AN ENABLING ENVIRONMENT FOR SUSTAINABLE DEVELOPMENT IN CAMBODIA (BESD)

For E-mail Approval





### Final BESD Project Board Meeting Agenda



- 1. Remarks (UNDP, Sweden, NCSD/MOE)
- 2. Session 1: Overall progress of the project
- **3. Session 2:** Project progress and reflections and ways forward
- 4. Session 3: Project management, reflections and ways forward
- 5. Session 4: Project evaluation report
- 6. Session 5: Q&A
- 7. Session 6: Approval and concluding remarks

### Session 1:

# **Overall Progress of the Project**



#### Presenter:

**Mr. Keo Bunly,** Project Coordinator, BESD, PMU/GSSD

# About the project

The overall objective is to assist Cambodia achieve the Sustainable Development Goals related to:

- Matural Resources Management (NRM)
- Circular economy (focused on waste management)
- Solar energy

The project designs and tests *innovative* environmentally sustainable models in targeted areas.

Based on project results, workable models are identified for scaling up.







## **Our Project Partners**



Private Sector:







# **Key Fact and Figures**

Project period: 01 January 2019 to 30 June 2021

- **Budget:** US\$ 3,184,952.32
  - Sweden/Sida: US\$ 2,904,840.06 (Covid-response: US\$ 470,880 in Mid-2020)
  - UNDP: **US\$ 316,240** and NCSD (in-kind): **US\$160,800**
- Five board meetings held for progress update and revised budget approval (including this today meeting)
- Two financial sport-checks (NCSD and MME) and a project evaluation conducted





### Session 2: Project Results, Reflections and Ways forward

#### **Presenters:**

**1. Mr. ROS Chor (NRM),** Dept Director of Community Livelihoods, GDLC, MOE

2. H.E MENG Monyrak (PES), Deputy Secretary General, NCSD

3. Mr. CHHUN Bunnara, Head of PMSD, NCDDS

**4. Mr. TAING Meng Eang**, Dept Director, DGE, GSSD

**5. Mr. CHIPHONG Sarasy**, Deputy Dept Director of Renewable Energy and Other Energy, GDE, MME







# Output 1: Natural Resource Management (NRM)



Output 1.1: Sustainable NRM & Community Livelihoods Output 1.8 Tree planting as income generation for rural people

Mr. ROS Chor Department Director Department of Community Livelihood, General Directorate of Local Community, Ministry of Environment (MOE)



## Sustainable NRM & Community Livelihoods

- 1. Creation and strengthening of CPA networks
  - The capacity of a total of **130 members (64 female)** of **5 Community Protected Areas (CPA)** strengthened
  - 15 banners for CPAs and 250 signboards installed

#### 2. CBNRM for Kulen Mountain (GDLC and ADF)

- 5 CPA by-law regulations/Prakas and 4 CPA Management Plans endorsed
- **37 households and 100 school children** are benefiting from a **solar** water pump in Po Pel village (ADF)
- **13 families** participated in chicken and pig raising in Khlar Khum village (ADF)
- **70 CPA members (37 female**) participated in a training session on food, basket making, chicken raising and organic farming. After the training, 37 CPA members were given chicken to raise.







### Sustainable NRM & Community Livelihoods

#### 2. CBNRM for Kulen Mountain (GDLC and ADF)

- Ecotourism facilities for the Popel CPA crated and
- 798 Ha expanded for Khlah Khmum CPA were offically expanded and demarcated
- 800 Ha of watershed and 101 demarcated poles installed
- 157,800 trees planted on 181.31 ha by 2,264 workers (53% women), 513 women-headed households in Pursat and Siem Reap as a COVID-19 Response
- 13 banners on tree planting installed (ADF&GDLC)









### **Photos from Kulen**







### **Cash-for-Work: Tree planting as a Covid-19 response**







# **Reflections & Ways forward**

- Networking and capacity building through on the job or peer learning is effective for community
- Important to closely align project priorities while responding to COVID-19 situations and building resilience of communities
- Since the tree planting activity took place late in rainy season 2020, it required much effort and resources to maintain the survival of the planted trees during the dry season.
- Tree planting techniques required a proper management strategy involving a large number of workers. Thus, trainings of the representatives or group supervisors of workers done by RECOFTC and GDLC worked well to ensure training reach everybody while maintaining the work quality.
- Sustaining project results is a key. For this reason, RECOFTC and GDLC have prepared a plan with key stakeholders to continue the maintenance of the planted trees beyond the project period.





# **Tree planting as a Covid-19 Response**

### Please click the icon to play the video











# Output 1: Natural Resource Management (NRM)



**Output 1.2: Payment for Ecosystem Services (PES)** 

H.E. Meng Monyrak,

Deputy Secretary General,

General Secretariat for Sustainable Development (GSSD),

National Council for Sustainable Development (NCSD)



# Output 1: CBNRM institutions strengthened and financial resources mobilized for sustainable NRM

#### 1.2 PES (DBD/NCSD)

PES funding options, water availability and quality, and willingness to pay biodiversity, and land-use assessment conducted





### **Key Achievements**



- 1. 1st Biodiversity Rapid Assessment at Kbal Chhay MUA
- 2. Land-use baseline mapping at Kulen and Kbal Chhay
- 3. Series consultative meetings on PES/Biodiversity TWG inputs collected for policy documents

#### 4. Five technical guidance documents:

- PES funding mechanisms
- Conceptual Design and Result Framework
- PES Management Plan for Kbal Chhay
- PES Roadmap (2021-2030)
- Water Monitoring Procedure and Framework for Kbal Chhay and Kulen
- 5. Updated Willingness to Pay and PES-like fee collection mechanism





### **PES: Key Achievements (Cont.)**



#### 6. Policy documents developed and consulted

- Prakas on National PES Committee
- Prakas on Provincial PES Working Group for Siem Reap and Preah Sihanouk
- Lesson learns and policy recommendations for national PES policy development

#### 7. PES Awareness raising:

- PES National Dialogue (17-18 Sep 2019)
- Media campaign on the piloting PES mechanism in Kulen National Park (18-20 Dec 2020), broadcasted with more than 20 media agencies in Cambodia
- Two PES Videos: Kbal Chhay and Kulen





### Some examples of results

- $\geqslant$ **Biodiversity assessment** in Kbal Chhay found 29 threatened species.
- Land-use mapping 2018-2020 assessed.  $\succ$
- **Micro-catchment and sediment findings**  $\geq$ show both Kulen and Kbal Chhay are critical for provision of water sources
  - > Kunlen provides over **70% of water** source to west reservoir and Angkor area
  - Kbal Chhay reaches the demand by 2022



Reservoir has been constructed 2020





















### **Impacts of Deforestation in Kulen**



✤ Between 2015 and 2030:

- Annual run off water will increase from 2.6%
   to 43% -> flooding and erosion
- Groundwater recharge decreases from 4.8% (929 million m<sup>3</sup>) to 9.3% (885 million m<sup>3</sup>)
- Impact on the stability of Angkor Wat









# **Possible PES Financing Sources**

Possible financing sources for PES	Proposed Collection Rate	
Earmarking fund from ESF	US\$20,000-40,000/year	Annual financial needs for
Water usage		1. Kulen NP: >\$600K -\$1M
Angkor Beer Company, and SEZ	<b>Min:</b> US\$ 0.075 (300KHR) / m <sup>3</sup>	2. Kbal Chhay: <b>\$300K-500</b> H
(Kbaly Chhay) Kulen Company (Kulen)	Max: US\$ 0.125 (500KHR) / m <sup>3</sup>	✤ PES Options 1. Kulen: >\$450-900K
Hotels (3,4, 5 stair); based on WTP in Kulen during pre-Covid	<b>Min:</b> 0.5 US\$ / night <sup>/</sup> room (Occupancy rate: 25-50% in SR and PP)	2. Kbal Chhay: <b>\$270-560K</b>
Hotels and restaurants; based on	Min: 1 US\$ /month	Behaviour changes
WTP in Kulen during pre-Covid-19	Max: 5 US\$ / month	Supply side, Seller
	Min: 10 US\$ /month	
	Max: 50 US\$ /month	Poyment Ecosystem enrice provision
Entrance fees for both Kulen ( <b>160K</b> visitors) and Kbal Chhay ( <b>20-50K</b> visitors/ year)	Min: US\$ 0.125 (500KHR)/person (local visitors) Max: US\$ 0.25 (1,000 KHR)/person (foreign visitors)	Conditionality Demand side, Buyers Services provision
Other sources from DPs	Voluntary basis	
	Earmarking fund from ESF Water usage Angkor Beer Company, and SEZ (Kbaly Chhay) Kulen Company (Kulen) Hotels (3,4, 5 stair); based on WTP in Kulen during pre-Covid Hotels and restaurants; based on WTP in Kulen during pre-Covid-19 Casino (80 in SHV) Entrance fees for both Kulen ( <b>160K</b> visitors) and Kbal Chhay ( <b>20-50K</b> visitors/ year)	Earmarking fund from ESFUS\$20,000-40,000/yearWater usageMin: US\$ 0.075 (300KHR) / m³Angkor Beer Company, and SEZ (Kbaly Chhay) Kulen Company (Kulen)Min: US\$ 0.075 (300KHR) / m³Hotels (3,4, 5 stair); based on WTP in Kulen during pre-CovidMin: 0.5 US\$ / night / room (Occupancy rate: 25-50% in SR and PP)Hotels and restaurants; based on WTP in Kulen during pre-Covid-19Min: 1 US\$ /month Max: 5 US\$ / monthCasino (80 in SHV)Min: 10 US\$ /month Max: 50 US\$ /monthEntrance fees for both Kulen (160K visitors) and Kbal Chhay (20-50K visitors/ year)Min: US\$ 0.125 (500KHR)/person (local visitors)



# Watch the PES Video (DBD) – Kbal Chhay

### Please click the icon to play the video





Building an Enabling Environment for Sustainable Development in Cambodia (BESD)

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# **Reflections and Ways Forward**

### Reflections

- PES (Watershed) is still at an early stage which requires strategic communication and awareness raising among key stakeholders;
- > Building trust and transparent fund governance is key to PES mobilization and operationalization
- During the pilot stage, donation from key private Champions and earmarked fund from the government plays a critical role for PES operationalization, especially during/post COVID time
- Challenging to reallocate state budget to protection of watershed/ecosystem services

### Ways forward

- Mainstream CBNRM activities through CPA and restoration of key watersheds with ADF and GDLC
- Operationalise PES mechanisms in Kbal Chhay and Phnom Kulen through leveraging government budget and ongoing INRM and Global Waters Project
- Seek endorsement for National PES Roadmap and Action Plan (2021-2030) and integrating key activities within BIOFIN Project, Global Sida Programme and INRM GEF funded project.





# Watch Output 1 Video [UNDP]

### Please click the icon below to play the video











# **Output 2: Circular Economy**



Output 2.1: Municipal pilot for circular economy (Kep)

#### **Mr. CHHUN Bunnara**

Head of Programme Management and Support Division, National Committee for Sub-National Democratic Development Secretariat (NCDD-S)

### Key Achievements Circular Economy: Municipal Pilot





#### 1. Circular Economy Pilot in Kep - Municipality level

- Mainstreamed municipal waste management in the sub-national investment plans
- Locations for collection point/storage containers were endorsed by KEP Municipal Administration
- Social and Environmental Screening on Building 2 depots with waste sorting bins and 3 mobile depots as waste stations conducted
- Waste sorting bins were provided and 3 mobile depots as waste stations were constructed in June 2021
- Deka on Solid Waste Management was approved by Kep Municipal Councilors in Feb 2021
- Learning and sharing forums (Implement and participate in capacity building and sharing knowledge and experience on solid waste management and circular economy) were conducted in Jan 2021





#### Activities Municipal pilot for circular economy (Kep) and Exchange Visit in BAT on Composting and Plastic Recycle






# **Reflections and Ways forward: Municipal Waste**

#### Reflections

- The project's choice to pilot CE in Kep was effective- due to the relatively small size of the city and the relative easiness of implementation of new proposed interventions.
- The project interventions to install separate waste bins and to build a transfer center for waste segregation and treatments were a crucial step towards creating a CE waste management system in Kep and beyond.
- An exchange visit helped peer learning and replication of good lessons for municipal waste management and built partnership.
- Awareness raising is a continuous process for relevant stakeholders and the public to understand about sorting waste and a good model for circular economy
- Incorporating key interests of relevant stakeholders in designing a regulation for solid waste management with relevant ministries is condusive for the effective implementation and results.

#### Ways forward

- Strengthening and raising an awareness in sorting waste through training to municipal administration, stakeholder and people on Solid Waste Management.
- > Implementing the three-year rolling municipal plan by mainstreaming circular economy pilot in Kep





## Key Achievements Circular Economy: Industrial Pilot

- Emissions measurement of air pollutants from new waste-to-energy solution in garment industry in collaboration with private sector completed
- A draft guideline for on-site industrial WTE incinerator developed (SW Department, MOE)







# **Reflections and Ways forward: Industrial pilot**

## Reflections

- Made visible some of environmental risks for one of waste-to-energy options for garment sector industrial waste.
- Such findings were instrumental to develop safety measures as well as to recommend a better alternative for waste to energy option
- Identified the critical need to institutionalize measures to control safety and need for guidelines for onsite incinerator installation and maintenance

## Ways forward

> Endorse the draft policy and scale up the circular projects where possible





# Watch the Recycling Practice

## Please click the icon to play the video









# **Output 2: Circular Economy**



Output 2.3-2.4: Development of enabling policies and measures for circular economy

Mr. TAING Meng Eang

Director, Department of Green Economy, General Secretariat of the National Council for Sustainable Development (NCSD)



## **CE and Plastic Interventions**

- Research & policy development
- Awareness raising
- Stakeholder engagement





# **Research and Policy Development**

#### Research

- Rapid assessments of challenges and solutions for single-use plastic, recycling of plastic and organic waste in 2019
- Four CE learning seminars on plastic recycling, organic waste recycling, waste to energy, and circular economy in 2020
- Rapid assessment on COVID-19 impact on informal waste pickers and potential engagement strategies in 2021
- Scoping research to identify hotspots and accumulation points for plastic waste in 2021

#### **Policy and regulations**

- > **5R strategy** and green procurement implemented
- > Launch of a national CE strategy and action plan
- > Draft **sub-decree on plastic management** including single-use plastic
- Draft new technical guidelines for on-site incineration management for garment factories









## Strategic communication for awareness raising

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Kou Sopheap

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259 Comments 1K Shares 🛷 🖛



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Ministry of Environment







O Write a comment...

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## **Stakeholder Engagement**



# **Stakeholder Engagement: Youth**



- DMC/RUPP and NUM youth-led plastic campaigns, reached 250K
- Three zero-plastic Buildings at NUM endorsed
- High school training for plastic reduction









# **Stakeholder Engagement: Private Sector**







IN HOTELS AND RESTAURANTS

- Launch of CE private sector platform. The platform provides the information of easy-to-implement CE actions for different target sectors (e.g. hospitality, delivery, garment sectors)
- Development of a handbook for implementing CE practices in hotels and restaurants.
- Four eco-friendly hospitality in Kep selected and awarded by MoE



# **Reflections and Ways forward**

#### Reflections

- > The project created **an enabling framework for CE** through the CE strategy and action plan.
  - Creating CE models requires effective participation of government, society and businesses
  - The CE private sector platform will lay a foundation to mobilize private sector engagement for CE interventions at scale. Featuring good circular practice by private companies is key to influencing business practices to follow more environmentally conscious practices
- The project effectively deployed a variety of communication channels to outreach different stakeholders for raising awareness about CE as well as plastic crises
- A draft sub-decree on plastic management will serve as a legal foundation for future management of plastic waste including single-use plastic (SUPs)
  - Yet introducing new regulations requires a phase-approach and implementation tailored to the local context
  - Promotion of alternatives to plastic is key for creating a single-use plastic free environment

#### Ways forward

- Many of priority plastic management activities will be taken up by a new project "combating marine plastic litter". Organic waste may be dealt with the Clean proposal under development.
- Lessons learned from pilot activities will be also incorporated into the implementation of the above project which includes target provinces of Kep, Sihanoukville, Phnom Penh, and Siem Reap





# Output 2: Circular Economy (CE)



5 municipal waste separation stations in Kep installed
Key CE policies: on-site incinerator guidelines and subdegree on plastic management and National CE Strategy and Action Plan endorsed
3 Teacher's Greener Thursday Manuals adopted (MoEYS)
Private sector engagement to CE business innovation
Green procurement and guidelines adopted
Zero-plastic buildings endorsed by NUM
Awareness raising for behavioral change to reduce plastic

consumption has reached 10M viewers (1/3 female)





# Watch the Video on Output 2

## Please click the icon below to play the video











# **Output 3: Solar Energy**



Mr. Chiphong Sarasy, Deputy Director Department of Renewable Energy and Other Energy, General Department of Energy (GDE), Ministry of Mines and Energy (MME)



# **Output 3: Solar Energy**

- Provided energy access to 225 households (including 85 HHs of Jarai indigenous community under progress) in 4 villages with solar mini-grids
  - Established a Community Committee in Steung Chrow to manage the micro-grids.
  - Local maintenance agents have received trainings to fix the technical issues and finance collection/management.
- Strengthened technical capacity for installation and maintenance of Solar home system (SHS) and awareness raising on solar energy (168 participants, of which 55 were female) and distributed SHS leaflet and videos.
- Solar home system (SHS) guidelines finalized and under printing.
- > 3 solar energy startups trained under Clean Energy Incubation Program
- Technical study and policy advocacy through economic appraisal of the potential of PV Solar in Cambodia







# **Output 3: Solar Energy**

- Evaluated solar DC MICRO-GRID system and came up with Business
   Models for Off-Grid Electrification in Cambodia (under-progress).
- Promotional video on living with electricity from DC Solar Mini grid finalized.
- Installed 32 kW Solar AC off-grid system with Solar PV from MOE at Sre Ampil Community, Teuk Phos District, Kampong Chhnang Province

#### Energy Efficiency

- Energy Efficiency Design Guideline for Residential and Commercial Buildings is under development. The guideline will be integrated into Building Technical Regulation (BTR).
- Promotional video on Energy Efficiency Practice finalized.
- Implemented energy efficiency measures at the Building of General Department of Energy (under-progress)





## Strategic communication for awareness raising







## **Clean Energy Incubation Programme**

- The incubation programme gave birth to 3 teams (Cricket House, Sunla, and GFC), and supported 63 jobs (both direct and indirect), including 47 women impacted by the project.
- Cricket House used solar powered technology to raise micro-livestock to create alternative livelihoods for marginalised farmers whilst connecting them to local and global markets.
- Sunla (Bong Snacks) used solar dryer technology to combat post-harvest income loss for rural farmers.
- Green Farmer Community (GFC) used solar powered incubators for hatching eggs and environmentally friendly production techniques



Cricket House

Sustainable, alternative protein for the world







# **Research and Policy Development**

#### Research

- The publication of "Economic Appraisal of the Potentials of Solar Energy in Cambodia" has been finalized and awaiting the approval and launching
- Business models for off-grid electrification using micro-grids in Cambodia is finalizing.

#### Policy

- Working closely with EAC to finalize a pricing structure for off-grid energy systems specifically, solar based micro-grids
- Energy Efficiency Design Guideline for Residential and Commercial Buildings is underdevelopment. The guideline will be integrated into Building Technical Regulation (BTR).







# Reflections

- Theory of Change from traditional solutions such as SHS to an interconnected model of **mini-grids**, that are also known as swarm grids.
- There are numerous regulatory challenges to implement swarm grids in Cambodia. Setting a uniform tariff structure for off-grid electricity will promote investments.
- Creating a community committee and training local youths to operate the mini-grids is a key to sustainability and O&M of the system.
- Developed business models for mini-grids to suit the energy demands of vulnerable communities.
- Mini-grids provides reliable and affordable electricity to improve community living standard, create new employment, and open livelihood opportunities.







# Reflections

- Despite challenges, clean energy incubation program gave life to three start-ups and created new jobs
  - It takes time to realize the intended impact of incubation programme
  - Providing support for both personal and professional capacity is essential for start-up teams
- Integrating the energy efficiency design guideline to Building Technical Regulation requires a strong inter-ministerial coordination.

#### **Project implementation**

- Well coordination within GDE and with UNDP-energy team supports the successful implementation of BESD-GDE activities. However, GDE requires additional capacity support to expand scope of work building on the results achieved under BESD project.
- COVID-19 restriction caused delays in implementation of activities.









# **Ways forward**

- Continue to support the community at Stueng Chrow village on Operation and Maintenance of the system.
- Continue work with Electricity Authority of Cambodia (EAC) on the tariff structure for off-grid system
- Coordinate with MLMUPC and other stakeholders to integrate the EE design guideline into the Building Technical Regulation (BTR)
- Support the implementation of NDC through resource mobilization, e.g. GCF and other sources to continue off-grid electrification and promote energy efficiency.







## **Benefits of Solar Micro Grid**







# Watch the Solar Video (UNDP)

#### Please click the icon below to play the video







Session 3: Project Management, Reflections and Ways forward



**Presenter:** 

**Mr. Sony Oum,** Policy Specialist BESD Project Manager, UNDP

## Actual (Accumulated) Expenditure Report as of 18 June 2021

	Total Budget [2019-	Cumulative Expenditure				Delivery
Activities - Description 2021] G05		Gov't [Disbursed]	UNDP [Disbursed]	Total	Balance	[%]
Output 1: CBNRM institutions strengthened and financial resources mobilized for sustainable NRM	1,104,878.68	480,932.59	594,256.31	1,075,188.90	29,689.78	97%
Output 2: Waste reduced, recycled and reused through the application of circular economy model.	852,540.47	230,042.57	515,659.30	745,701.87	106,838.60	87%
Output 3: Improved access to clean, affordable, and sustainable energy for the rural poor	832,961.30	178,802.24	417,386.85	596,189.09	236,772.21	72%
Project management (PMC)	430,698.38	131,479.80	241,541.69	373,021.49	57,676.89	87%
Total	3,221,078.84	1,021,257.20	1,768,844.15	2,790,101.35	430,977.49	87%

**Note:** The total expenditure excludes PO Commitment (USD186,659.71) and the IP's outstanding advance in Q2 (USD 160,493.89), equivalent to a total of **USD 347,153.60.** Then, the projected balance by 30 June will be much smaller when all advances/commitment are fully booked (see next slide).





# **Projected Balance as of 30 June 2021**

Description	Amount	Remarks
Outstanding Advances (under IP's)	160,493.89	To be cleared in last week of June
UNDP (PO Commitment)	186,659.71	As above
Activity under UNDP (fixed cost, operation)	28,045.33	To be booked
GMS	27,116.71	
Total	402,315.65	
Projected Balance as of 30 June 2021	28,661.85	





# **Steps for Project Closure**

- ✓ Close all LOAs and LVGs
- ✓ No outstanding advances (with IP's, and RPs)
- ✓ No outstanding project delivery reports
- ✓ All pre-financing activities recovered/reimbursed
- ✓ Final LPAC / Steering committee minutes
- ✓ Final CDR is signed by UNDP and the Implementing Partner.
- Consultations with Donors on the disposition of unexpended costsharing balances and documented



# **Steps for Project Closure**

- ✓ Hand-over of assets, all fixed assets transferred/disposed
- Ensure project accounts are closed, if applicable
- ✓ No other pending liabilities in USD ledger
- Ensuring previous quarter's CDR showing zero commitments





# List of Project Assets (To be handed over)

Type of asset	Quantity	IP
Camera	1	NCSD
Car	1	NCSD
Desktop	2	NCSD (1), MME (1)
Drone	2	ADF (1), MME (1)
GPS	1	NCSD
HANA HI9829		
<b>Multiparmeter Meters</b>	2	NCSD
		ADF (2), Energylab (1), NCDD
Laptop	21	(2), NCSD (14), MME (2)
LCD	1	NCSD
Motobike	2	ADF
Server	1	NCDD-S
Tablet	2	NCSD
Thermometer	1	NCSD
TV	2	NCSD
VDO conferencing	1	NCSD





# **Project Reflections and Ways Forward**

#### Reflections

- Adoptive management and Covid-19 impact assessments with regular follow ups have enabled all RPs to deliver their repurposed plans effectively and in a timely manner
- Open communications with the PMU, the donor and Board Members are key to successful board approvals
- Teamwork and collaboration across departments and ministries through help accelerate the implementation of the project activities and reduce mis-understandings/overlapping tasks, etc.

#### Ways forward

- E-banking and alternative financial approvers during Covid recovery should be the option
- Ensure the benefits of the post-BESD to be mainstreamed in the existing projects or programming







# 4. Proposals for the Board's Approval

- Close all project activities by 30 June 2021
- Only costs related to reporting, evaluation and audit could be paid after the project closure
- The PMU, IPs and UNDP should ensure the closure of the project aligning with UNDP procedures

# Session 4: Project Evaluation

Presenter:

**Mr. Sony Oum,** Policy Specialist, BESD Project Manager, UNDP



# **Project Evaluation**



Table 1. Rating Project Performance	
1. Monitoring & Evaluation (M&E)	Rating
M&E design at entry	Satisfactory
M&E Plan Implementation	Satisfactory
Overall Quality of M&E	Satisfactory
2. Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	Rating
Quality of UNDP Implementation/Oversight	Highly Satisfactory
Quality of Implementing Partner Execution	Highly Satisfactory
Overall quality of Implementation/Execution	Highly Satisfactory
3. Assessment of Outcomes	Rating
Relevance	Highly Satisfactory
Relevance Effectiveness	Highly Satisfactory Satisfactory
	<u> </u>
 Effectiveness	Satisfactory
Effectiveness Efficiency	Satisfactory Highly Satisfactory
Effectiveness Efficiency Overall Project Outcome Rating	Satisfactory Highly Satisfactory Satisfactory
Effectiveness Efficiency Overall Project Outcome Rating 4. Sustainability	Satisfactory Highly Satisfactory Satisfactory Rating
Effectiveness Efficiency Overall Project Outcome Rating 4. Sustainability Financial sustainability	Satisfactory Highly Satisfactory Satisfactory Rating Likely
Effectiveness Efficiency Overall Project Outcome Rating 4. Sustainability Financial sustainability Socio-political sustainability Institutional framework and governance	Satisfactory Highly Satisfactory Satisfactory Rating Likely Moderately Likely





# **Areas for improvements**

- 1. Limited impacts on ecosystem services at the landscape-level
- 2. Limited integration of project activities, and linkages with other relevant projects and initiatives
- 3. Inability to leverage adequate resources to scale up interventions in sustainable management
- 4. Unclear coordinating roles (UNDP and NCSD) for promoting inter-project collaboration and integration






# **Recommendations for future**

- A sustainability plan or exit strategy should be prepared prior to project closure
- Future project design may need to consider greater integration between project activities, targeted areas and communities
- Explore the benefits and challenges of COVID-19 pandemic
- Enact draft policies and instruments developed under the project
- Monitor and evaluate the medium and long-term benefits of the project





# Session 5: Questions and Answers



# Session 6: Approval and Key Notes



# BUILDING AN ENABLING ENVIRONMENT FOR SUSTAINABLE DEVELOPMENT



BUSINESS	OPERATI NG UNIT	ASSET ID	ASSET TYPE	PROFIL E ID CATEGORY	(Year)	TAG NUMBER	SERIAL Number	DESCRIPTION	Туре	LOCATION	CUSTODIAN	ACQUISITION	Quantity (should	Acquisition Cost	Currency (USD)	FUND	Implementing	Donor	PROJECT ID	Activity	Notes
KHM10	KHM	BESD - 0001	Communication and IT	Non CAP	(Teal)	NUMBER	S/N: R90V9QJ2	Laptop: ThinkPad L390 Yoga	Laptop	(physical) DAPF Room	Mr. Ma Chansethea	2-Oct-19	always be 1)	\$880.00	USD	30000	Agent NCSD	Sweden	00093203	РМС	Good
KHM10	КНМ	BESD - 0002	Communication and IT	Non CAP			S/N: R90V90.13			DAPF Room	Ms. Ly	2-Oct-19	1				NCSD	Sweden	00093203	PMC	Good
-					3			Laptop: ThinkPad L390 Yoga	Laptop		Rattanakserey			\$880.00	USD	30000	-				-
KHM10	KHM	BESD - 0003	Communication and IT	Non CAP	3		SR: R90V9QJ4	Laptop: ThinkPad L390 Yoga LCD:Sony VPL-EX430 3,200 Lumens	Laptop	DAPF Room	Ms. Meach Sreythol	2-Oct-19	1	\$880.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD - 0004	Communication and IT	Non CAP	3		S/N:7000585 919 S/N: R9-OWF214	XGA compact projector	LCD	DAPF Room	Project Team	6-Oct-19	1	\$588.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0005	Communication and IT	CAP	3		19/10	Laptop: HP IDS VMA i7-8665U	Laptop	NCSD	H.E Tin Ponlok	2-Dec-19	1	\$2,239.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD - 0006	Communication and IT	Non CAP	3		SR: R90WF214	Laptop: ThinkPad L390 Yoga	Laptop	NCSD	Mr. Keo Bunly	2-Dec-19	1	\$880.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0007	Communication and IT	Non CAP	3		S/N: VNCV205829	HP Laser Jet Pro M12A Printer	Printer	DAPF Room	Project Team	3-Dec-19	1	\$155.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0008	Communication and IT	Non CAP	3		S/N: CNBKM7D1Q2	HP Printer Laserjet Pro MFP M428fdw	Printer	DAPF Room	Project Team	17-Jun-20	1	\$495.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD - 0009	Communication and IT	CAP	3		S/N: 95RMF92	All In One (AIO) Dell Inspiron 5400	Desktop	DAPF Room	Mr. Ma Chansethea	10-Feb-21	1	\$1,375.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0010	Communication and IT	Non CAP	3		N/A	Television LG 55NU 7200 4K UHD 55" Inch	TV	DAPF Room	Project Team	10-Feb-21	1	\$627.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0011	Communication and IT	Non CAP	3		N/A	Leg Television LG 55NU 7200 4K UHD 55" Inch	TV	DAPF Room	Project Team	26-Feb-21	1	\$198.00	USD	30000	NCSD	Sweden	00093204	PMC	Good
KHM10	КНМ	BESD - 0012	Communication and IT	CAP	2		N/A	Logitech Group Affordable Video Conferencing for Mid to Large-Sized Meeting Rooms (886-000062) CPU	VDO conferencing	DAPF Room	Project Team	3-Mar-21	1	\$2,247.30	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0013	Communication and IT	CAP	2		N/A	Logitech Group Expansion Microphones for Video and Audio Conferencing (889- 000109)	Microphones	DAPF Room	Project Team	3-Mar-21	1	\$385.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD - 0014	Furniture & Fittings	Non CAP	1		N/A	Disifection Cabinate	Cabinate	DAPF Room	Project Team	31-Mar-21	1	\$341.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0015	Furniture & Fittings	Non CAP	1		N/A	Disifection Cabinate	Cabinate	DAPF Room	Project Team	31-Mar-21	1	\$341.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0016	Communication and IT	CAP	2		DS126591	Canon 80D 18-135USM	Camera	DAPF Room	Project Team	6-May-21	1	\$1,380.50	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0001	Communication and IT	Non CAP	3		S/N: 7LWFFW2	Laptop: Dell Inspiron 5450	Laptop	SWM Room	Mr. Dy Kiden	26-Feb-20	1	\$945.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD - 0002	Communication and IT	CAP	3		S/N: 19QDCL2	Laptop: Dell Inspiron 13 7000	Laptop	SWM Room	Mr. Dek Vimeanreaksmey	26-Feb-20	1	\$1,010.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0003	Communication and IT	Non CAP	3		SN VNC3R27181	Printer: HP Laser Jet Pro MFP M28	Printer	SWM Room	Mr. Dek Vimeanreaksmey	26-Feb-20	1	\$180.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD - 0004	Communication and IT	Non CAP	3		SN: X4GR9900092	LCD Projector:	Projector	SWM Room	Project Team	26-Feb-20	1	\$440.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD - 0005	Communication and IT	Non CAP	3		SN: HZ/TL1382- 1907016	Projector Screen:	Screen LCD Projector	SWM Room	Project Team	26-Feb-20	1	\$155.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0006	Communication and IT	Non CAP	3		S/N: GX42DT2	Laptop: Dell Vostro 5481	Laptop	SWM Room	Mrs. Thay Sireiratana	17-Feb-21	1	\$836.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0007	Communication and IT	Non CAP	3		SC865	External HDD Adata SC685	Hard disk	SWM Room	Mr. Dy Kiden	17-Feb-21	1	\$143.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0008	Communication and IT	CAP	3		S/N: 264519012744	Industrial Infrared Thermometer	Thermometer	SWM Room	Project Team	28-May-21	1	\$1,950.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0009	Communication and IT	CAP	3		S/N: 5R0047178	GPSMAP Gamin	GPS	SWM Room	Project Team	28-May-21	1	\$1,180.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD/DGE - 0001	Communication and IT	Non CAP	3		S/N: ASUSX407UA	Laptop: ASUSX407UA-BV282-ICICE	Laptop	DGE Room	Mr.Keo Vanthoeun	19-Dec-19	1	\$529.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD/DGE - 0002	Communication and IT	Non CAP	3		S/N:8Y40708CH	GOLD-VIVO-15-8250U LCD:NEC.NP-VE303XG	LCD	DGE Room	Project team	19-Dec-19	1	\$420.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD/DGE - 0003	Communication and IT	Non CAP	3		S/N: TRI-1818	Tripod Screen Projector APOLLOW TRI- 1818 -70x70 (1.8M)	Screen LCD Projector	DGE Room	Project team	19-Dec-19	1	\$85.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD/DGE - 0004	Communication and IT	CAP	3		S/N: 1796 256 GB	Microsoft Surface Pro 6+Key Baord +Pen	Tablet	NCSD	H.E Ngin Lina	13-Jul-20	1	\$1,080.20	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD/DGE - 0005	Communication and IT	CAP	3		S/N: 1796 257 GB	Microsoft Surface Pro 6 +Key Board+Pen	Tablet	DGE Room	Mr.Taing Meng Eang	13-Jul-20	1	\$1,080.20	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD/DGE - 0006	Communication and IT	Non CAP	3		S/N: 4594 DT2	Dell Vostro	Laptop	DGE Room	Ms.Chhuon	13-Jul-20	1	\$726.00	USD	30000	NCSD	Sweden	00093203	РМС	Good
KHM10	КНМ	BESD/DGE - 0007	Communication and IT	Non CAP	3		S/N:	SAMSUNG: UA55TU7000	TV	DGE Room	Socheata Mr.Taing Meng	9-Mar-21	1	\$614.90	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD - 0001	Communication and IT	Non CAP	3		0A1H3NHR101781	Laptop: ASUS S531FL-BQ534T Gun Metal	Laptop	DCL Room	Eang Project Team	12-Feb-20	1	\$755.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0002	Communication and IT	Non CAP	3		S/N: KBNOCX01M890456	Laptop: ASUS S531FL-BQ534T Gun Metal	Laptop	DCL Room	Mr. Meas Sothunvathanak	12-Feb-20	1	\$755.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD - 0003	Communication and IT	Non CAP	3		S/N: S21377309.2_CT	Laptop: Dell Latitude 5310 Core i5-1021U 8GB	Laptop	DCL Room	Ms. Chhea Linna	3-Feb-21	1	\$1,023.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	DBD-001-01	Communication and IT	CAP	5		ST. 42YC9Y2	Notebook Dell XPS 13	Laptop	DBD Room	Mr. CHHIN Sophea	31-Dec-19	1	\$2,000.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	DBD-002-01	Communication and IT	Non CAP	5		PHBLLDWC90	Printer HP LaserJet Pro M426	Printer	DBD Room	Project	31-Dec-19	1	\$495.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	DBD-003-01	Communication and IT	CAP	5		06070001101	Multiparameter pH/ISE/EC/DO/Turbidity Waterproof Meter with optional GPS- Turbidity-cable probe 4m Unit	HANA HI9829 Multiparmeter Meters	DBD Room	Project	12-May-21	1	\$9,155.49	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	DBD-003-02	Communication and IT	CAP	5		06020018101	Multiparameter pH/ISE/EC/DO/Turbidity Waterproof Meter with optional GPS- Turbidity-cable probe 4m, Unit	HANA HI9829 Multiparmeter Meters	DBD Room	Project	12-May-21	1	\$9,155.49	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD-0002-1	Furniture & Fittings	Non CAP	3		F9178	F9178-BLACK EXECLUTIVE ITALIAN	Chair	DAPF Room	Project Team	18-Oct-19	1	\$350.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-2	Furniture & Fittings	Non CAP	3		DEG13	DEG13-BLUE KOREAN CHAIR SWIVEL	. Chair	DAPF Room	Project Team	18-Oct-19	1	\$105.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-3	Furniture & Fittings	Non CAP	3		DEG13	DEG13-BLUE KOREAN CHAIR SWIVEL	Chair	DAPF Room	Project Team	18-Oct-19	1	\$105.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-4	Furniture & Fittings	Non CAP	3		DEG13	DEG13-BLUE KOREAN CHAIR SWIVEL	Chair	DAPF Room	Project Team	18-Oct-19	1	\$105.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-5	Furniture & Fittings	Non CAP	3		DEG13	DEG13-BLUE KOREAN CHAIR SWIVEL	Chair	CCCA Room	Ms. Sreykhuoch Kim	18-Oct-19	1	\$105.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-6	Furniture & Fittings	Non CAP	3		DEG13	DEG13-BLUE KOREAN CHAIR SWIVEL	Chair	CCCA Room	Mr. Sony Oum	18-Oct-19	1	\$105.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-7	Furniture & Fittings	Non CAP	4		BST530W	BST530 KOREAN SAFE	Lock Safe	DAPF Room	Project Team	18-Oct-19	1	\$172.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	кнм	BESD-0002-8	Furniture & Fittings	Non CAP	5		SLS305	67KG(w440xH520mm) SL305 LEECO BRAND METAL CUPBOARD	Cupboard	DAPF Room	Project Team	22-Nov-19	1	\$189.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-9	Furniture & Fittings	Non CAP	5		SLS305	SL305 LEECO BRAND METAL CUPBOARD	Cupboard	DAPF Room	Project Team	22-Nov-19	1	\$189.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-10	Furniture & Fittings	Non CAP	5		SLG305	SL305 LEECO BRAND GLASS CUPBOARD	Cupboard	DAPF Room	Project Team	22-Nov-19	1	\$189.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0002-11	Furniture & Fittings	Non CAP	5		SLG305	SL305 LEECO BRAND GLASS	Cupboard	DAPF Room	Project Team	22-Nov-19	1	\$189.00	USD	30000	NCSD	Sweden	00093203	РМС	Good
KHM10	КНМ	BESD-0002-12	Furniture & Fittings	Non CAP	2		N/A	CUPBOARD	Shelf	DAPF Room	Project Team	3-Jan-20	1	\$90.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD-0002-12	Furniture & Fittings	Non CAP	3		HS1830-1.8M	HS1830-1.8M Executive	Table	NCSD	Project Team	31-Jan-20	1	\$406.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
					-			Table(1800xD900xH760)Taiwan F9106-BLACK Executive Italian Leather		NCSD											-
KHM10	KHM	BESD-0002-14	Furniture & Fittings	Non CAP	3		F9106-BLACK	Chair China	Chair	NCSD	Project Team	5-Feb-20	1	\$395.00	USD	30000	NCSD	Sweden	00093203	PMC	Good

KHM10	KHM	BESD-0002-15	Furniture & Fittings		Non CAP	3		SLG305	SLG305 SL305 LEECO BRAND METAL CUPBOARD		DAPF Room	Project Team	18-Feb-20	1	\$189.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	KHM	BESD-0002-16	Furniture & Fittings		Non CAP	3		SLG305	SL305 LEECO BRAND GLASS CUPBOARD	Cupboard	DAPF Room	Project Team	18-Feb-20	1	\$189.00	USD	30000	NCSD	Sweden	00093203	PMC	Good
KHM10	КНМ	BESD-0003-1	Vehicle		CAP	5		No:MS6BXXMMWBK T42065	Car: FORD EVEREST ZARJ9GD0005 Model: ZARJ9GD0005 Color: Arctic White,- Year: 2019	Car	MOE	Project Team	28-Jan-20	1	\$34,218.00	USD	30000	NCSD	Sweden	00093204	PMC	Good
KHM10	КНМ	EnergyLab1	Communication and IT			3		SN: 47GSM42	Laptop: Dell Vostro 5370	Laptop	Energy Lab	Finance team	22-Jun-19	1	\$768.90	USD	30000	Energy Lab	Sweden	00093203	3.1	Good
KHM10	кнм	EnergyLab2	Communication and IT			3		SN: 4PTGLC2	Laptop: Dell Latitude E7470	Laptop	Energy Lab	Finance team	29-Aug-19	1	\$450.00	USD	30000	Energy Lab	Sweden	00093203	3.1	Good
KHM10	KHM	BESD - 0001	Communication and IT		Non CAP	3		S/N: DYMV1W2	Laptop Dell Vostro 3000(3480)	Laptop	ADF Office	Mr. David Sandeland	18-Jun-19	1	\$779.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	КНМ	BESD - 0002	Communication and IT		Non CAP	3		S/N: *x5el155912*	Epson Ink Jet L3150	Printer	ADF Office	Mr. Sakada	21-May-20	1	\$180.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0003	Communication and IT		Non CAP	3		S/N: E94845-0611	External HardDisk Transcend 2TB	Hard Disk	ADF Office	Ms. Rapich	22-Jul-19	1	\$88.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	кнм	BESD - 0004	Communication and IT		Non CAP	3		S/N: 3BP460423	I: 3BP460423 Garmin GPS IPH-02401		ADF Office	Mr. Sakada	17-Jun-19	1	\$335.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0005	Communication and IT		Non CAP	3		N/A	Garmin GPS IPH-02401		PDoE	PDoE Officer	17-Jun-19	1	\$335.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0006	Communication and IT		CAP	3		3/11.	Drone Mavic Pro Platinum +BAG		PDoE	PDoE Officer	17-Jun-19	1	\$1.290.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	КНМ	BESD - 0007	Motobike		Non CAP	3		S/N: 8175377	Handa Dream C12E		ADF/Phnom Kulen	ADF Officer	2-Jul-19	1	\$870.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0008	Motobike		Non CAP	3		S/N: 8015625	Honda Dream C110	Motobike	PDoE	PDoE Officer	6-Jul-19	1	\$780.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0009	Furniture & Fittings		Non CAP	4		N/A	Safe LEECOCBLC002	Lock Safe	ADF Office	Ms. Rapich	17-Jul-19	1	\$138.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	KHM	BESD - 0010	Communication and IT		Non CAP	3		S/N: G0VLHT2	Laptop Dell Vostro 5581	Laptop	ADF Office	Mr. Seng Samry	18-May-21	1	\$662.00	USD	30000	ADF	Sweden	00093203	1.1	Good
KHM10	КНМ	NCDDS-BESD-OE-LAP-001	Communication and IT		CAP	3		PF-2PVCE3	Laptop: Lenovo ThinkPad E14 - Touchscreen	Laptop	PMSD	Mr. Chea Vanda	12-Apr-21	1	\$1,850.00	USD	30000	NCDDS	Sweden	93203	PMC	Good
KHM10	КНМ	NCDDS-BESD-OE-LAP-002	Communication and IT		CAP	3		PF-2PWDZV	Laptop: Lenovo ThinkPad E14 - Touchscreen	Laptop	PMSD	Mr. Chhun Bunnara	12-Apr-21	1	\$1,850.00	USD	30000	NCDDS	Sweden	93203	PMC	Good
KHM10	КНМ	NCDDS-BESD-OE-SER-003	Communication and IT		CAP	3		N/A	Dell Server Power Edge PE R740	Server	Library Building	N/A	12-Apr-21	1	\$4,980.00	USD	30000	NCDDS	Sweden	93203	PMC	Good
KHM10	KHM	UNDP-BESD - 0002	Communication and IT		No-CAP	3		SN: UU801JJB	ThinkPad USB 3.0 Ultra Dock-ID/VN (40A80045EU)	Docking	UNDP office	Ms. Sreykhuoch Kim	19/04/2019	1	\$170.00	USD	30000	UNDP	Sweden	00093203	PMC	Good
KHM10	KHM	UNDP-BESD - 0003	Communication and IT		No-CAP	3		SN: 5D41ZR2	Monitor Dell 23.8 " P2419H monitor"	Monitor	UNDP office	Ms. Sreykhuoch Kim	19/04/2019	1	\$175.00	USD	30000	UNDP	Sweden	00093203	PMC	Good
KHM10	KHM	BESD-202004001	Comunication and IT	N/A	CAP	3	N/A	S/N: 85314795053	Laptop: Microsoft Pro 7	Laptop	DNRE room	Mr. Chiphong Sarasy	20-Apr-20	1	\$1,078.00	USD	30000	MME	Sweden	93203	3.3	Good
KHM10	КНМ	BESD-202010001	Comunication and IT	N/A	Non CAP	3	N/A	(CPU) S/N: 2CJT933 (Monitor)CN-09J8MT- FCC00-057-CD9L-A01	Desktop Dell optiplex 5070 MT	Desktop	DNRE room	Mr. Chun Vutha	26-Oct-20	1	\$726.00	USD	30000	MME	Sweden	93203	3.1	Good
KHM10	KHM	BESD-202105001	Comunication and IT	N/A	CAP	3	N/A	S/N: 163CHCER0A6LA7	Dji Mavic 2 pro combo	Drone	DNRE room	Project team	26-May-21	1	\$2,007.50	USD	30000	MME	Sweden	93203	3.3	Good
	KHM	BESD-202105002	Comunication and IT	N/A	Non CAP	3	N/A	S/N: VNBKN6247W	HP Laser jet pro M283 printer	Printer	DNRE room	H.E Victor Jona	27-May-21	1	\$495.00	USD	30000	MME	Sweden	93203	3.3	Good
KHM10																						



# FINAL PROJECT PROGRESS REPORT Reporting Period: 01 January 2019 – 30 June 2021 (Pre-project Closure – DRAFT ONLY)

ProDoc Project name: Towards Environmental Sustainability in Cambodia

Project Name: **Building an Enabling Environment for Sustainable Development (BESD)** Project ID: 00093203 Award ID: 0085640

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# **ACRONYMS AND ABBREVIATIONS**

ADF	Archaeology & Development Foundation
APA	Archeological Protected Areas
BESD	Building an Enabling Environment for Sustainable Development
CBNRM	Community-Based Natural Resources Management
CPA	Community Protected Areas
DBD	Department of Biodiversity
DLC	Department of Local Community
GDE	General Department of Energy
GDLC	General Directorate of Local Community
GDEP	General Directorate of Environmental Protection
MME	Ministry of Mines and Energy
MoE	Ministry of Environment
NCDD-S	National Committee for Democratic Development Secretariat
NCSD	National Council for Sustainable Development
NIM	National Implementation Modality
NRM	Natural Resources Management
NTFP	Non-Timber Forest Products
PES	Payment for Ecosystem Services
PDoE	Provincial Department of Environment
RECOFTC	Regional Community Forestry Training Center
RUPP	Royal University of Phnom Penh
SEAC	Solar Energy Association of Cambodia
SHS	Solar Home System
TCO	Trailblazer Cambodia Organization
UNDP	United Nations Development Programme
UNDP TRAC	Target for Resource Assignment from the Core Fund

# **BASIC PROJECT INFORMATION**

Project ID:	0085640	Reporting	<mark>01 January 2019 – 30 June 2021 (pre-</mark>
		Date/Quarter:	project closure)
Full Title:		nvironment for Sustainab	le Development (BESD) in Cambodia
Start Date:	1/1/2019	Completion Date:	30/6/2021
Total Project	US\$ <b>3,184,952.32</b>	Annual Project	US\$ <b>1,686,776.19</b>
Budget:	(With budget	Budget:	(US\$ 470,880 for tree planting as a Covid-
	extension)	-	19 response was injected in August 2020)
Implementing	The National Council fo	or Sustainable Developme	
Partner(s):		· · · · · · · · · · · · · · · · · · ·	
Donor/s:			oment, Embassy of Sweden in Phnom Penh
	(Sweden) – US\$2,904,8	40.06	
	Co-financed by:		
	-	-	nt from the Core Fund – US\$316,240
	<ul> <li>NCSD (in-kind) – U</li> </ul>	S\$160,800	
Responsible	Government Agencie	s:	
Parties:	The National Comr	nittee for Democratic Dev	velopment Secretariat (NCDD-S)
	The General Depar	tment of Energy, Ministry	of Mines and Energy (MME)
	The General Direct	orate of Local Community	y (GDLC), Ministry of Environment (MoE)
	The General Direct	orate of Environmental P	rotection (GDEP), MOE
	NGOs & Academia:		
	<ul> <li>Archaeology &amp; Dev</li> </ul>	velopment Foundation (A	DF)
	Energy Lab	•	,
		ity Forestry Training Cent	er (RECOFTC)
	-	dia Organization (TCO)	
		iation of Cambodia (SEAC	
		Phnom Penh (RUPP)	-,
			ded in last quarter of 2020)
	Private Company:		
		ny for Solar DC microgrid	
Project			osition Cambodia's path towards achieving
		• • •	) natural resources management (NRM); 2)
Description:			
			tainable energy. The project designs and
			odels in the targeted areas through public
			enues for scaling-up workable models. The
	project will attain the f	ollowing three outputs:	
	· ·	institutions strengthened	l and financial resources mobilised for
	sustainable NRM		
		educed, recycled and reus	sed through application of circular
	economy models		
	Output 3: Improve	ed access to clean, afforda	able, and sustainable energy for the rural
	poor		
Target Areas:	This project targets thr	ee provinces: Siem Reap (	(for PES), Kep (for circular economy), Preah
			ny and solar energy challenge funds will
			these sectors and promote innovation
	incubation.	5 1	

Target Group:	Civil society organizations, the private sector, academic institutions, local communities,
	indigenous peoples and women, with particular attention to the rights of socially
	marginalized groups.

#### SUMMARY OF KEY RESULTS

This report covers key project results during the project period between January 2019 - 30 June 2021.

# Area 1: Community Based Natural Resources Management (CBNRM) and Payment for Ecosystem Services (PES)

#### 1.1 CBNRM

A gender assessment of CBNRM was completed and incorporated into the implementation design of the output. The following results are jointly implemented by the Department of Community Livelihoods (DCL) and NGO partners.

- <u>Strengthening of community institutions and networks</u>
  - In 2019 and 2020, CPA communication management committee and rangers improved their understanding of roles and responsibilities and collaboration through participating in six annual community network meetings and annual learning forums. At least 373 participants, including 178 women, participated in these events and gained knowledge on resource management, and problem solving with key actors.
  - At least **155 community members (19 women)** have improved their forest planning and management skills by participating in the development of **CPA five-year management plan**.
  - **120 participants including 17 women** participated in reviewing the amendment of 4 CPAs by-law regulations, Commune Deka (circular), demarcation and monitoring of the amendment by-law. The amended regulations were endorsed officially by MoE.
  - **CPA expansion was proposed** in areas with high potential for community-based ecotourism covering hiking trails and 4 waterfalls. This will be run by a committee, comprising of CPA and ADF. As a result, a **800 ha area was officially expanded** for Popel CPA.
- <u>Resource assessments and boundary demarcation</u>
  - From 18-31 May 2020, assessments of 130 forest inventory plots were conducted in Kulen Mountain's CPAs (Preythom, Along Thom, Prey Thom Popel and Prey Phnom Mos) to understand the availability of community timber and non-timber forest products within the CPA, to prepare for the CPA Management Plan. At least 91 participants (31 women), including park rangers were actively engaged in the process.
  - From 4-13 May 2020, CPA Management Plan Zoning was conducted to draft a resource map in four communities including commune councilors, villagers, village chiefs, community members and elderly people, attended by 93 participants (27 women).
  - A total of **101 posts were marked** from the 16 to 19 October 2019. All posts are georeferenced and marked with legend "Prasat Krohom and O Srae source protected area" in Klah Khum village.
  - Four key watershed areas were identified to build a water distribution system for Popel village. One was selected and a solar water pump installed to supply fresh water to 37 households including 88 females and 3 widows (women-headed households) and 100 students and teachers in Popel village. The established water supply committee is in place to govern the water system and expand its service to other households. Pricing and internal regulations were set up to sustain the system after the project ends.

- Improving the livelihoods of communities
  - In 2019, before the implementation of the set of activities under this sub-output, ADF and provincial DoE initiated three stakeholder meetings to launch activities to support CBNRM. A total of 113 villagers and local authority representatives, of which 54 were women, participated in these meetings. Stakeholders welcomed and supported the project.
  - Three skills trainings were provided to 100 members (3 women) on chicken raising, basket making, and food preparation to support a growing community-based ecotourism. The project supported alternative livelihood activities of chicken and pig raising benefiting 13 families, 8 widows/women-headed households. Among them, eight are women and widows.
  - A community-based ecotourism center was established and equipped with fundamental tourist information of the areas in English and Khmer. The opening ceremony has been delayed to due to Covid restrictions in 2021.

## 1.2 Payment of Ecosystem Service (PES)

The Department of Biodiversity (DBD) of the NCSD was the lead responsible partner for this sub-output and has achieved the following results as follows:

- Designing of two PES pilots
  - **Policy briefs and options for financial mechanism were developed** and discussed with the senior management of MoE/NCSD for PES pilots in Phnom Kulen National Park and Kbal Chhay Multiple Use Area (KCMUA).
    - For Phnom Kulen National Park, proposed options include 1) voluntary contribution from large volume water users (Commercial), 2) tax on commercial water usage (Producers and retailers) and 3) integrate a fee in the Angkor Wat visitor ticket or put a fee as a value added tax at the airport.
    - For Kbal Chhay, proposed options include 1) voluntary contribution from large volume water users (Commercial) and 2) tax on commercial water usage (Producers and retailers). Policy brief from MoE sent to ANCO company in Sihanoukville.
  - The **study on conceptual design and result framework** was established and endorsed by MoE/NCSD in both sites including estimated costs for implementing PES for both sites. The documents are printed and available in both Khmer and English.
  - **Three draft** *Prakas* on the establishment of PES fund governance structure are under review by the project director and awaiting the minister's approval.
- National PES policy
  - The national PES Roadmap and Action Plan (2021-2030) in English and Khmer was drafted and waiting an approval from the Minister of Environment.

#### 1.3 Tree Planting (added in mid-2020 – a response to COVID-

This activity was added in mid-2020 as a response to Covid-19 pandemic crisis in Cambodia. It helps to support the affected households in Pursat and Siem where most of them returned to their rural hometowns after losing their jobs. This is a cash-for-work intervention where people get paid for joining

Final version

the tree planting activities.

- 147,800 seedlings which include 97,800 seedlings of 14 local species and 50,000 seedlings species were planted on 181.93 hectares (ha).
- The **survival rate** was monitored and it varies depending on the implementing partner sites, ranging **from 65% to 90%.** During the maintenance period in 2020, 8,862 seedlings were planted to replace dead trees to ensure that the survival rate to reach 90%.
- A nursery was established and equipped with a solar water pump to water the seedlings. This is aimed to expand a flooded reforestation programme in the conservation area of the Tonle Sap Lake. This facility was handed over to the fishery community for future reforestation programmes.
- 2,810 people from 1,915 vulnerable families affected by Covid-19 pandemic crisis benefited from the tree planting as a cash for work programme. At least US\$ 196,084 has been paid as cash for work to the affected communities during the hard time.

#### 1.4 Programming and resource mobilization

- A joint proposal with UN Habitat on fresh water and wastewater management in southern Cambodia to the UNDP-SIWI Water Governance Facility (WGF) Goal Water was successful, which have leveraged some additional fund to support the watershed assessment of Kbal Chhay and restoring its ecosystem. This is part of the PES related priority actions.
- A concept idea on PES, good governance and technology was submitted to the UNDP Anticorruption Innovation Initiative. The selection process could be beyond the BESD closure period.

#### Area 2: Circular Economy

#### 2.1 Piloting new business approaches for municipal waste management in Kep

- Enabling regulatory and policy work for CE in Kep
  - The NCDD-S **incorporated the circular economy** and solid waste management in urban areas into a-**five-year development plan** and 3 year rolling plan of Kep province for 2020.
  - The 10-year national program on sub-national democratic development was translated in Khmer and printed. The document is the highest guiding policy to empower the local administrations to improve their decentralized functions including waste management, economy and social affairs, and local development projects.
  - Two municipal Dekas were drafted:
    - One was a **Deka on waste collection pricing** by the waste management unit.
    - The second was a municipal Deka on the establishment of a municipal solid waste management unit at the Kep municipality and supported the design of the legal framework for the implementation of sub-decree 113 on Solid Waste Management in Kep province.
- Development of CE business models in Kep
  - Research on the financial situation of Solid Waste Management in Kep was completed to propose a viable CE business model in Kep. After consultation with local government, two waste separation stations and three mobile stations were installed and are managed by Kep municipality and provincial Department of Environment.

#### 2.2 Design new business approaches to industrial waste with private sector

- <u>Air pollution assessment</u>
  - An emissions test for air pollution was completed at three garment factories on Waste to Energy boilers that generate steam by burning textile waste.
    - The testing was done by an international technical firm and the project cooperated with H&M to approach factories to participate in the emissions testing.
    - The results indicated that the technology was sound but that there were significant possibilities to improve the operations of the WTE boilers. This would require stronger management, training of operation personnel and a stricter protocol on mixing waste and loading to ensure acceptable levels of emissions.
    - Several actions were taken at the three factories to improve operations. However, H&M later globally decided to not further promote the on-site small-scale waste-to-energy solutions at their factories.
  - The overall challenge is that public control of environmental performance of garment factories in Cambodia needs significant strengthening. Led by the Ministry of Environment, the project therefore started to develop a draft technical guideline for on-site small-scale waste-toenergy incinerators for the industrial sector. The guideline was still pending by the end of the project.
- <u>Capacity building on industry boiler operation</u>
  - The project also focused on strengthening environmentally sound boiler operations in the garment industry through awareness raising and training. To do this, the BESD project approach the Switch Asia project focused on sustainable development in industry and improving energy efficiency.
    - Through the NGO GERES, the results and the focus on environmentally safe boiler operations will be taken further. Recommendations for how to safely use waste as fuel, and best operate WTE boilers was included in their future training material.
    - A training was organized together with GMAC (Garment Manufacturers Association in Cambodia) to provide awareness raising and training to factories on the topic of WTE boilers and environmental risks.
- <u>On-site incineration guidelines:</u>
  - The Department of Solid Waste Management has drafted an incinerator guideline. Two surveys to map on-site waste-to-energy boilers for garment factories in Cambodia is being conducted so the preliminary findings to inform the development of technical guideline.

#### 2.3 Strategic communication and awareness raising

- MoE Taskforce on Plastics:
  - The following set of awareness raising/communication materials were developed including:
    - Poster for MoE/NCSD to promote plastic actions
    - Action points including green procurement policies to lead by example
    - Plastic page on MoE Website was endorsed and published
    - Booklet and brochure of plastic pollution in English and Khmer

- Animated infographic video concept for bidding
- Mascot design for the plastic campaign competition
- In 2019, a Water Festival single use plastic reduction campaign and awareness raising material included two animated videos, three days of a plastic conscious concert, one theme song, and one music video. As a result, the campaign reached over 10 million social media views, of which 3.45 million were female. In addition, a commercial on 4Rs (Refuse, Reduce, Reuse, and Recycle) was shown on TV during the water festival and reached 1.3 million viewers.
- Youth-led plastic campaign at universities
- **Department of Media and Communication, Royal University of Phnom Penh (RUPP):** The Clean and Green kicked off its first youth-led plastic free campaign through the following results:
  - Over 300 students (206 females) actively participated in the information session, quiz and panelist discussion on impacts of plastic waste.
  - Over 10 groups of students teamed up and submitted their video competition concept notes on plastic. The five best video proposals (23 youth producers, 5 females) were selected for video production training. As a result, three winning videos on plastic campaigns received over 4,500 likes on Facebook
  - Under the plastic free campaigns, the followers of the Clean and Green Facebook page has increased its number from 1,000+ to over 6,790 in the last eight months.
  - In 2020-21, a second round of youth-led campaign was organised by 10 RE-FIVE team, (5 females) including a series of educational videos, poem to reduce plastic, photo competition, and digital posters. Their social media (RE-FIVE Facebook, YouTube, and Instagram) has reached over 250,000 viewers, mainly youth.

#### • National University of Management (NUM)

- NUM with support from UNDP adopted a single use plastic free campus.
- Student-led plastic videos were produced and guest speakers offered a dialogue platform to engage with students to change their lifestyle.
- Four waster dispensers were installed at the campus. The installation of water dispensers helped the NUM to save \$20,000 per year and the elimination of over 30,000 water bottles in the campus.

#### • UNDP led circular economy campaign

- The link for plastic related research findings and advocacy for policy change is listed on the UNDP Cambodia's page (http://www.kh.undp.org/content/cambodia/en/home/projects/ouraction-for-plastic-pollution-in-cambodia.html)
- Plastic related campaigns data, the video requesting public to share their photos of plastic reached 138,332 audiences and more than 3,800 reactions, comments and shares. This shows significant result from the Facebook campaign to widely spread the educational messages and engage the public with the campaign.
- UNDP website contains all awareness raising material including 4R posters and commercial
- Awareness raising materials were jointly developed with the Marine Plastic Project to increase awareness on plastic's impacts to human health, marine ecosystems and the

economy. A music video and animation will be launch in late June.

- Awareness raising let by GSSD
  - On 30 January 2020, the Department of Green Economy (DGE) conducted an awareness raising event on plastic in Kep province to share the impact of plastic uses to the target audience and to strengthen the cooperation between the sub-national and national level. There were 136 participants (60 women) from line ministries including the Department of Solid Waste Management, the Department of Administration, Planning and Finance, representatives from the GDLC, the General Directorate of Environment Protection (GDEP) and the representatives from sub-national government, city hall and the Provincial Department of Environment.
  - 35 signboards with 5Rs were installed in several highly visible areas in seven touristed provinces, including Kep, Kampot, Battambang, and Preah Sihanouk.

#### 2.4 Development of Enabling Policy and measures for Circular Economy (CE)

- National CE strategy development
  - The Circular Economy Strategy and Action Plan (CESAP) in English and Khmer has been endorsed and printed. The CESAP will be officially launched in 28 June.
  - Four Cambodian delegates and a project staff participated in the World Circular Economy in Helsinki, Finland (3-5 June 2019). Global lessons on circular projects and national strategies were shared.
- <u>Regulations on plastic</u>
  - The department of Solid Waste Management has drafted a **sub-decree on plastic management**. MoE suggests narrowing down this regulatory scope to ensure this sub-decree is implementable. Doing so, guided measures applied for different types of plastic in Cambodia need to be further developed and will be ready in the next reporting period.
  - The DGE team has worked with the circular economy consultant and produced a draft of zero plastic guidelines for hotels and guesthouses.

#### 2.5 Design and implement private sector engagement (added in 2021)

- Design of Circular Economy Platform
  - A database was developed to document **circular economy best practices** by the private sector in Cambodia
  - Contents for a **website** including **10 awareness raising posters, and 6 blog posts** were developed to increase awareness on actions private sector business can take in promoting circular economy options along with the information of organizations and businesses that can provide support to interested businesses for the transition.
  - Launch of the platform will be done in late June 2021 together with the CESAP.
- <u>Rewards and Incentives</u>
  - A handbook for implementing CE practices in hospitality businesses was developed based on a model resort in Kep province.

#### 2.6 Programming and resource mobilization

A number of project proposals submitted and were successful to scale the successful ideas of the project as follows:

- The US\$ 3,028,851 million Japan-funded Marine Plastics project (2021-2023) is considered one of the success stories to carry the legacy of BESD results under this output for the next two years. It is funded by Embassy of Japan.
- Medical waste proposal with a total budget of US\$834,000 was also approved.
- A CLEAN proposal to focus on organic waste management with UNICEF was submitted.
- A proposal was submitted to Co-Impact which is sponsored by New Venture fund. The proposal focused on systems change within the circular economy and the informal sector.

#### Area 3: Energy

#### 3.1. Solar energy for improving energy access and increase resilience of rural communities

- Installation of solar Micro Grids
  - Overall, solar home **DC-Micro Grids at Kampong Chhnang electrified 140 households** covering three villages.
  - The average daily consumption has increased to almost 500Wh/day per household from around 250 Wh/day in December 2020. The households have started using more electric appliances for productive uses. For example, 48 households now use electric cookers, electric powered sewing machines, drills and power tools.
  - Fifty five (55) households in Ta Daok Village have upgraded their energy package from Entry A/B to General A/B because of increases in their electricity consumption. This also included installation of streetlighting.
  - The establishment of a community committee for the management of solar micro-grids system for Steung Chrow and Ta Doak Villages has been completed, but formal signing of the documents is pending due to COVID-19 travel restrictions. However, Okra has been working closely with the committee members through local maintenance agents.
  - Based on the success from Stung Chrow, another solar mini-grid was replicated to provide electricity to an indigenous community (85 households) in Ratanakiri Province.
- Business model assessment
  - Assessment of the right business model for solar microgrids as an off-grid solution has been completed. The assessment has been technology neutral as preference for AC or DC mini-grids comes with different challenges including renewable energy resources availability, its interconnection with national grid etc.
  - As far as business model is concerned, community ownership appears to be the simplest to implement and finance. The ease with which the community can obtain grants, as well as the lack of private investment in the mix, makes it a particularly attractive solution. In case if the project cannot be completed without making use of private capital, REE ownership model is recommended.
  - Installed AC off-grid system in Sre Ampil Community, Kampong Chhnang Province with 32 kW capacity including a battery storage of 86.4 kWh. The panels were provided by MOE.

- <u>Support for innovative business for solar energy</u>
  - Out of 10 business ideas, three were supported under the Clean Energy and Agriculture Incubator programme and associated LVG contract with EnergyLab. The incubation programme gave birth to 3 teams (Cricket House, Sunla, and GFC), and supported 63 jobs (both direct and indirect), including 47 women impacted by the project.
    - **Cricket House** used solar powered technology to raise micro-livestock to create alternative livelihoods for marginalised farmers whilst connecting them to local and global markets.
    - **Sunla (Bong Snacks)** used solar dryer technology to combat post-harvest income loss for rural farmers.
    - **Green Farmer Community (GFC)** used solar powered incubators for hatching eggs and environmentally friendly production techniques

# 3.2. Building technical capacity for installation of solar, and their maintenance including energy efficiency

- Training for technicians
  - 6-7 February 2020, one training was provided to 20 participants (2 women). MME has prepared technical training for technicians with the main focus on women technicians. The training focused on system design, installation, and maintenance of Solar Home System (SHS).
  - Four GDE officials received hands-on training on pico-hydro assessment from UNDP energy advisor during the field assessment in February 2021 in Ratanakiri province. This also included assessing site potential for hybrid systems development, including solar as part of the solution in addressing energy access gap.
  - Strengthened technical capacity for installation and maintenance of Solar home system (SHS) and awareness raising on solar energy (168 participants, of which 55 were female) and distributed SHS leaflet and videos.
- Development of technical guideline
  - The Solar Home System (SHS) guideline was developed and SHS leaflet was published in both Khmer and English.
  - Energy Efficiency Design Guideline for Residential and Commercial Buildings is being finalised. The guideline will be integrated into Building Technical Regulation (BTR), which is commonly known as building code.

## 3.3. Strategic communication and awareness raising

- An awareness raising workshop was conducted on 22 February 2020 in Svay Rieng Province to raise awareness among rural communities, with special attention to women and other vulnerable groups. This focused on addressing misconceptions about solar energy, benefits of solar energy, importance of using high and long-lasting quality solar equipment and good practices for its maintenance.
- A leaflet on SHS (drawn from the SHS guideline) in both English and Khmer was published.
- Produced 1 Video documentary on SHS and published on MME Facebook page.
- Two promotional video clips on off-grid solar energy and efficient energy building and educational materials were developed and are being finalized.

#### 3.4. Development of enabling policies and measures for solar and energy efficiency

The following results are key achievement under this sub-output:

- Establishment and operationalization of an inter-ministerial Technical Working Group on "Economic Appraisal of the Potentials of Photovoltaic Solar Energy";
  - The group was set up and convened 4 meetings, relating to enabling policies and measures for solar including:
    - a. Economic appraisal of the potentials of photovoltaic solar energy;
    - b. Study relating to economic implications due to interruption of power supply by national grid and proposed measures;
    - c. Study on available options in taking excess power generated from existing solar PV rooftop systems installed by commercial and industrial actors to the national grid;
    - d. Policy documentation to provide recommendations for targeting and planning of sustainable or renewable energy and also proposed measures that promote the use of sustainable or renewable energy and address the challenges in power supply for coming years (including proposed revisions to the current solar regulations);
    - e. Key recommendation of the study on De-risking Renewable Energy Investment (DREI). The report has been finalized.
- A pilot demonstration of energy efficiency solutions in a public building is under process.
- The project provided an opportunity in the area of energy efficiency in buildings by developing Energy Efficiency Guideline for Residential and Commercial Buildings.
- Cambodia's Law on Construction entered into force in January 2020 and aims to ensure quality and safety in the construction sector. The law defines the general principles, with the requirement of a **building technical regulation (BTR)**, the rules, and procedures for the construction sector. One of the considerations is **energy efficiency**.
- By closely working with the General Department of Construction (GDC), Ministry of Land Management, Urban Planning and Construction (MLMUPC) there is a need to integrate this Energy Efficiency Guideline into the Building Technical Regulation (BTR).

#### 3.5. Programming and resource mobilization

- Based on the success of investments from BESD on off-grid electrification, DFAT through its 3i programme has initiated Project "Off-grid electrification with solar mini-grids for Cambodia" with MME, EAC and EDC by investing about US\$ 1.5 million in two phases during 2021 and 2022 to electrify off-grid villages in Cambodia where the grid extension will not be reached in the next 4 years or more.
- Resources were made available from Rapid Financing Facility for electrification of at least four offgrid communities in Ratanakiri Province.

#### **Overall project management:**

Overall, the project held five project board meetings. The purpose of the meetings were to endorse the planned actions and budget as well as reviewing risks and risk measures during the pandemic outbreak.

The proposals and meeting minutes were well documenting the board decisions. All decisions were fully implemented

# PROGRESS ON PLANNED ACTIVITIES AND RESULTS FOR THE PERIOD FROM 01 JANUARY 2019 – 30 JUNE 2021 AGAINST INDICATORS

	t: 1.4.1 Sol	utions scaled up	p for sustainable management of natural resources, including sustainable commodities						
and green and inclusive value chains									
CPD Outcome Alignment:									
			lid waste management plans to reduce environmental pollution impact from solid waste.						
2.3: Rules and regulations formulated an	2.3: Rules and regulations formulated and adopted for forest/natural resource management and market solutions developed for conservation and renewable								
energy.									
CPD Output Alignment:									
3.2.3: The extent to which natural resources are protected, conserved and sustainably managed as measured in: (i) Percentage of forest cover; (ii) Percentage of									
protected area									
(i) Baseline (2016): 48.14% Target	t (2023): TB[	D; (ii) Baseline (20	018): 41% Target (2023): TBD						
3.3.1: Number of multi-sectoral policies,	legislation,	plans and strate	gies relevant to sustainable production and living, which are developed/updated						
Baseline (2018): 7 Target (2023):	15								
CPD Output Indicator(s) Alignment:									
Output 1.4.1: Solutions scaled up for sus	tainable ma	anagement of na	tural resources including sustainable commodities and green and inclusive value chain						
<ul> <li>Indicator: Natural resources that</li> </ul>	are manage	ed under a sustai	nable use, conservation, access and benefit sharing regime: a) Area under sustainable forest						
management (hectares)									
• Baseline (2017): 776.046 ha (und		-							
Output 1.5.1: Solutions adopted to achie									
		-	g from clean, affordable and sustainable energy access disaggregated by a) women-headed, b)						
in rural areas, c) in urban and per									
• Baseline (2017): 0; Target (2020):									
Output Indicators	Baselin	Target	Status (Achievements and Challenges)						
	e (2018)	(2021)							
Output 1: CBNRM institutions strength	ened and f	inancial resour	ces mobilized for sustainable NRM						
1.1.Extent to which CBNRM									
institutions are strengthened			a) <u>DCL:</u>						
			The Department of Community Livelihood (DCL) conducted a series of activities such as						
Measured on a three-point scale:		Target: 1	Community Network Meeting, a consultative meeting with CPA committee, CPA by-law,						
1= Some extent:			CPA Management Plan zoning. These include:						
2= Moderate extent:	0	Result: 2	25-26 February 2020: Community network Meetings with 53 participants						
3=Great extent:		(Achieved)	• 17-21 March 2020: 5 <sup>th</sup> annual meeting with 5 CPAMCs with 373 participants including						
			178 women						
			22-28 April 2020: Consultation meeting with CPA committee with 120 participants						
			including <b>17 women</b>						

			• • • • • • •	<ul> <li>4-13 May 2020: CPA Management Plan Zoning was conducted with four communities which included 93 participants 27 of whom were women</li> <li>18-31 May 2020: Community based natural resource assessment was conducted and 130 plots were assessed with 91 participants including 31 women.</li> <li>From 15-17 January 2021, the DCL conducted meetings with CPA members in Kulen National Park, Siem Reap Province. The activity aimed to review a five-year management plan and proposed an annual action plan. There were 155 participants including 19 women.</li> <li>From 26-29 January 2021, DCL/DGLC team facilitated and invited key members in CPA to attend the meeting on Community Protected Area Network and Annual Learning Forum. There were 80 participants including 6 women. They were from the North Tonle Sap Community Protected Area Community Network Committee.</li> <li>On 23 January 2021, the DCL team met with CPA management to be provided the training on chicken raising.</li> <li>798 Ha expanded for Khlah Khmum CPA were officially expanded and demarcated and 800 Ha of watershed of Prasat Krahorm were endorsed and 101 demarcated poles installed.</li> <li>Four CPA management plans and five CPA by-law regulations were endorsed by MoE.</li> </ul>
				fundamental tourist information of the areas in English and Khmer. The center is aimed to be opened by March, but it is now delayed because of the Covid-19 community transmission event on 20 February. Tourist tracks connecting 4 unvisited waterfalls were updated.
1.2. Number of total and female headed households benefit from		Target: 30	a)	The DCL has achieved the following results:
CBNRM	N/A	Results: 513 women- headed households	•	<ul> <li>Skills trainings: chicken raising and basket making skills were provided to at least 100 participants, of which 30 were women.</li> <li>From 24 February 2021, the DGLC provided the training on Chicken Raising to CPA members in Kulen National Park. The overall objectives of the leaning forum are to: to provide additional knowledge, experiences and interaction among facilitators and participants on above topics to additional income and improve</li> </ul>

			<ul> <li>nutrition of family members. There are 20 participants includes 2 women.</li> <li>From 05-06 March 2021, field work for meeting with CPA members to select member for vocation training in Kulen National Park. The objective of this activity are: Select member for vocational training on Basket, food and organic farm and Build knowledge to CPA member and Improve local livelihood. There were 80 participants included 28 women</li> <li>At least 513 women-headed households in Pursat and Siem Reap were part of the COVID-19 Response under cash-for-work tree planting activities.</li> <li>b) ADF</li> <li>Some other alternative activities were carried out by ADF, a grantee of the project, as below:</li> <li>The extended CPA areas are proposed to include 4 non-visited waterfalls. This requires the setting up of tracks, rest huts and home stays, managed by a newly created community-based tourism committee, comprising of the CPA committee and ADF representative. These activities started in April 2020 toward June 2020, with the surveys of the waterfalls and the different track options. The linking tracks, rest huts and waterfalls were linked and built upon the successes of the existing "Nature trails", established in 2015 by the PDoE and the Popel CPA.</li> <li>37 households and 100 primary school children are benefiting from a solar water pump in Po Pel village.</li> </ul>
<ul> <li>1.3. Extent to which pilot PES approaches are operationalised for Kulen Mountain</li> <li>Measured on a three-point scale as below:</li> <li>1= Some extent: Initial fund collection and distribution mechanism agreed</li> <li>2= Moderate extent: PES operational mechanisms (including fund collection &amp; management, implementation strategies and arrangements, and monitoring system) designed</li> <li>3= Great extent: PES operational mechanisms implemented</li> </ul>	N/A	Target: 2 <b>Result: 2</b> (Achieved)	<ul> <li>Private Champion Companies to fund PES is under negotiation in Kulen.</li> <li>Three Prakas for establishing PES governance structures are under development and waiting an approval from the Minister.</li> <li>Covid-19 has caused some financing options to be re-assessed and willingness-to-pay study also requires an update.</li> <li>The team is reviewing the need to monitor the quality of ecosystem service. Tools for assessing the water quality of Kulen and Kbal Chhay will be purchased in the next reporting period.</li> <li>PES implementation framework developed.</li> </ul>

1.4 Extent to which pilot PES approaches are operationalized for Kbal Chay Measured on a three-point scale as above.	0	Target: 2 <b>Result: 1</b>	Based on the results from the conceptual design and result framework, PES could be implemented as above.
<ul> <li>1.5 Extent to which a national PES policy is developed</li> <li>Measured on a three-point scale:</li> <li>0= None: No initial drafts</li> <li>1= Moderate extent: Initial assessment and analysis</li> <li>2= Great extent: final draft of policy ready for endorsement</li> </ul>	0	Target: 1 <b>Result: 2</b> (Achieved)	<ul> <li>A PES Mechanism for PES in PKNP and KCMUA is listed as below:</li> <li>Three Prakas on PES governance structure were drafted and awaiting an approval from the Minister of Environment. Those include the governing board and its secretariate and at the national level and two PES Provincial Technical Working Groups are aimed to be established by the local governments of Siem Reap and Preah Sihanoukville provinces</li> <li>Online surveys for wiliness to pay completed. Most of the respondents show their willingness to pay or contribute if a well function governance system is in place.</li> <li>PES Roadmap (2021-2030) drafted in English and Khmer translation are being reviewed by the focal points.</li> </ul>
<ul> <li>1.6 Extent to which gender concerns are integrated into the proposed policy measures</li> <li>Measured on a three-point scale:</li> <li>1= Some extent: relevant policy documents refer to their possible impacts on men and women</li> <li>2= Moderate extent: relevant policy documents refer to their possible impacts on men and women and include some measures to ensure positive impacts</li> <li>3=Great extent: relevant policy documents include full measures and budget to ensure positive impacts</li> </ul>	0	Target: 2 <b>Result: N/A</b>	<ul> <li>Gender is centrally considered in most of the project activities, for example we mainstream this capacity building in tree planting activities. During the tree maintenance in 2021, 80 women-headed households out of 498 household participated in this work. At the skills training session, over 40% were female participants.</li> </ul>
1.7 Volume of financial resources mobilized to support proposed measures, measured in USD	0	Target: 0 <b>Result: 1</b>	<ul> <li>No additional PES funds generated to support the two targeted protected areas have been mobilized this period.</li> <li>PES has been prioritized as one of the finance solutions in the Phase II Biodiversity Finance Initiative (BioFin). The goal is to be a strategic resource mobilization for the protected areas in the future.</li> <li>Additional US\$68,000 was mobilized from GoAL-waters a sub-program under the Global UNDP-SIDA environmental framework program. The resources strengthen the fresh</li> </ul>

1.8 Number of people with improved awareness on benefits of biodiversity and PES approach Measured by the number of people outreached by communication materials	0	Target: NA Results: 4,500 reaches	<ul> <li>water related work in Kbal Chhay (an important ecosystem service) and the management of the area.</li> <li>During the last quarter of 2021, a concept on "strengthening governance system for PES was selected, but the full proposal could be reviewed in July.</li> <li>The number of social media reaches is only generated from the UNDP Facebook page when a post on conserving biodiversity to prevent future pandemic.</li> <li><b>13 banners</b> on tree planting installed (ADF &amp; GDLC) to raise public on the site about the ecosystem restoration areas.</li> </ul>
1.9.1 Number of families being enrolled in income generating activities such as tree-planting, maintenance of forest plantation and nursery development (activity 1.8)	0	Target: 1600 Result: 1,915- Over target	• 2,810 people of 1,915 families ( <b>513 women-headed households)</b> in Pursat and Siem Reap as a COVID-19 Response have been enrolled in income generating activities which include tree planting, planted tree maintenance and flooded tree nursery development and maintenance.
1.9.2 Number of Hectares new tree- plantation and number of Ha maintained	0	Target: 140 ha Result: 181.93 ha - Over target	<ul> <li>This sub-output was jointly carried out by a number of responsible partners, including DLC, ADF/Provincial DoE, TCO and Fishery Administration (FiA) and RECOFTC. The following are the combined results:</li> <li>147,800 seedlings which include 97,800 seedlings of 14 local species and 50,000 seedlings species were planted on 181.93 ha in 1) Phnom Kulen National Plark and Chankran Roy Forestry Community (54.43 ha); 2) The border of the Orchid center (22.5 ha); 3) Stueng Thmei Community Protected Area (55 ha); and 4) Flooded area of Tonle Sap Lake (50 ha).</li> <li>97,800 seedlings of 9 local species were planted on 131.93 ha. They are listed in Khmer and scientific name as: 1) Beng (<i>Afzelia xylocarpa</i>) (Kruz.), 2) Koki (<i>Hopea helferi</i>), 3) Yeng (<i>Dipterocarpus alatus</i>), 4) Kroghoung (<i>Dalbergia cochinchinensis</i> Pierre), 5) Thnong (<i>Pterocarpus Macrocarpus Kurz</i>), 6) Kokosh(<i>Sidora cochinchinenensis</i>), 7) Ang kanh (<i>Cassia siamensis Lam</i>), 8) Phdiek (<i>Anisoptera costata Kort</i>), and 9) Chheuteal (<i>Dipterocarpus alatus Roxb</i>).</li> <li>60,000 seedlings of 5 local flooded trees species were produced and 50,000 of them were planted on 50 ha in the Tonle Sap lake area. The rest 10,000 seedlings are managed by provincial Fishery Administration to distribute to local communities to plant. The 5 species are: 1) Raing- (<i>Barringtonia asiatica</i>), 2) Ptoul (<i>Diospyros</i></li> </ul>

			<i>bejaudii</i> ), 3) Ta Uo ( <i>Terminalia cambodiana</i> ), 4) Sandan ( <i>Garcinia loureirin</i> ), and 5)
			Rumdeng ( <i>Planchonella obovate</i> ).
			• The survival rate was monitored, and it varies depending on the implementing partner sites, ranging from 65% to 90%. To ensure the survival rate reaching 90%, <b>8,862 seedlings</b> were also planted to replace dead trees under the maintenance stage in early rainy season of 2021.
1.9.3 Dollars paid out as cash compensation for work under activity 1.8		Target: USD 210,000 Result: USD 196,084	<ul> <li>To date, USD 196,084 has been paid to vulnerable people/tree planting workers to restore ecosystem in the target side.</li> </ul>
Output 2: Waste reduced, recycled and	reused th	rough applicati	on of circular economy models
2.1. Extent to which a pilot is designed and implemented (municipality) Measured on a three-point scale: 0= None extent: Pilot is not designed 1= Moderate extent: Business model for pilot is designed, proposed, and consulted on with stakeholders 2=Great extent: Pilot is designed and implemented, with a business model tested and resulting data collected.	0	Target: 1 <b>Result: 1</b>	<ul> <li>Under the NCDDS section, there are a number of results achieved. These results help lay the foundation which needs to be in place for a circular economy model.</li> <li>An exchange visit from Battambang waste management staff to learn how the municipal authority has played an important role in waste management</li> <li>Establishment of a Deka on waste pricing still remains a challenge, but it could be endorsed by late June.</li> <li>Five municipal waste separation depots in Kep were endorsed, including two permanent stations and three mobile waste stations in la.</li> </ul>
2.2. Extent to which a circular economy pilot is designed and implemented (industry) Measured scale as in 2.1 indicators & targets	0	Target: 1 <b>Result: 1</b>	<ul> <li>Guidelines for on-site incinerators have been drafted under a consultation process to reflect the recommendations from the assessment of garment's on-site incinerators.</li> <li>Conclusions and recommendations from emissions testing of air pollutants from small scale waste-to-energy boilers in garment sectors has been feed into the Switch Asia project run by GERES, GGGI and GIZ working on sustainable development in the garment industry. Adding the knowledge about environmentally safe WTE operations into their training curriculum.</li> <li>Training on air pollution control was conducted in collaboration Geres a to130 participants and over 70% of them from government factories.</li> </ul>
2.3.Number of people outreached for raising awareness on appropriate waste management	0	Target: 400	Outreach campaigns have been carried out with various responsible partners as below:

Measured by number Resu DM 9,00 Over ta	<ul> <li>Two videos CE actions in Battambang and 5 Rs developed</li> <li>Development of signboards, bins at the public roads and public gardens are under the design phase and will be installed in the next reporting period.</li> </ul>
	<ul> <li>MoE Taskforce on Plastics:         <ul> <li>The following set of awareness raising/communication materials include:                 <ul> <li>Poster for MoE/NCSD to promote plastic actions</li> <li>Action points including green procurement policies to lead by example</li></ul></li></ul></li></ul>

			<ul> <li>theme song, and one music video. As a result, the campaign reached over 10 million social media.</li> <li>National University of Management (NUM): <ul> <li>Under this campaign, NUM is committed to increase two more buildings to become plastic bottle free.</li> </ul> </li> <li>Together with Combatting Marine Plastic Project, a music video and animation on plastic waste were developed. This will be launched on 28 June 2021.</li> <li>UNDP led circular economy campaign <ul> <li>The link for plastic related research findings and advocacy for policy change is listed on the UNDP Cambodia's page (http://www.kh.undp.org/content/cambodia/en/home/projects/our-action-for-plastic-pollution-in-cambodia.html)</li> <li>Plastic related campaigns data, the video requesting public to share their photos of plastic reached 138,332 audiences and more than 3,800 reactions, comments and shares. This shows significant result from the Facebook campaign.</li> <li>UNDP website contains all awareness raising material including 4R posters and commercial</li> <li>Awareness raising materials were jointly developed with the Marine Plastic Project to increase awareness on plastics impacts to human health, marine ecosystems and the economy. A music video and animation will be launch in late June.</li> </ul> </li> </ul>
<ul> <li>2.4. Extent to which enabling policy measures are developed for the support of circular economy</li> <li>Measured on a three-point scale:</li> <li>0= None:</li> <li>1= Moderate extent: an initial set of policy measures are proposed</li> </ul>	0	Target: 1 <b>Result: 1 –</b> (Achieved)	<ul> <li>The Circular Economy Strategy and Action Plan (CESAP) in English and Khmer was finalized.</li> <li>The department of solid waste management (DoSWM) has drafted a sub decree on plastic management.</li> </ul>

<ul> <li>2= Great extent: agreed set of measures receive government endorsement</li> <li>2.5 Extent to which a private sector engagement strategy is designed and implemented Measured on a three-point scale:</li> <li>0= none</li> <li>1= Moderate extent: Strategy is designed but not implemented</li> <li>2= Great extent: Strategy is operationalized including an online platform and pilot initiative</li> </ul>		Target: 1 <b>Result: 1-</b> Achieved	<ul> <li>Private sector platform is almost finalized and will be publicly launched in by the end of June.</li> </ul>
2.6 Volume of financial resources mobilised to support proposed waste management measures, measured in USD Output 3: Improved access to clean, aff	0 ordable, a	Target: US\$500K <b>Result:</b> Over 3 millions Over target nd sustainable	<ul> <li>The US\$ 3,028,851 million Japan-funded Marine Plastics project (2021-2023) is considered one of the success stories to reflect carry the legacy of BESD results under this output to the next two year. It was provided by Embassy of Japan.</li> <li>Medical waste proposal with a total budget of US\$834,000 was also approved.</li> <li>A CLEAN proposal to focus on organic waste management with UNICEF was submitted</li> </ul>
3.1 Solar PV energy business models       Target         or new technologies developed to       Target         provide electricity, incl. for       Result         productive use       Result         Measured by number of business       for sol         models/technologies       access         0       busine         ideas       selecte		Target: 2 Result: 1 technology for solar access; 1 business model and 4 business ideas selected – <b>Over target</b>	<ul> <li>Solar based DC microgrid equipped with Okra smart mesh-grid technology provides 24/7 clean energy to communities for productive appliances from refrigeration to electric cooking. This business model will demonstrate the power of renewable off-grid energy solutions</li> <li>DC microgrid is a sustainable business model to electrify the remote off-grid communities.</li> <li>BESD has recruited a consultant to analyze and develop a business model for off-grid electrification using microgrids in Cambodia.</li> <li>The incubation programme gave birth to 3 teams (Cricket House, Sunla, and GFC), and supported 63 jobs (both direct and indirect), including 47 women impacted by the project.</li> <li>Cricket House used solar powered technology to raise micro-livestock to create alternative livelihoods for marginalised farmers whilst connecting them to local and global markets.</li> </ul>

			<ul> <li>Sunla (Bong Snacks) used solar dryer technology to combat post-harvest income loss for rural farmers.</li> <li>Green Farmer Community (GFC) used solar powered incubators for hatching eggs and environmentally friendly production techniques.</li> </ul>
3.2 Number of rural households benefit from solar PV system installed for access to energy incl. for productive use Measured by number households (male and female headed)	0	Target: 100 Result: Household: 225 (Men: 1270/ Women: 344, 697) – <b>over</b> target	<ul> <li>The DC microgrid electrified 140 households (18 women headed households) with a total population of 12,45 (Male:707, female: 344) across three villages. Fifty five (55) households in Ta Daok Village have been upgraded their energy package from Entry A/B to General A/B because of increase in their electricity consumption by providing them with 600 W inverters including streetlighting. The system is under the management of an elected community committee. However, Okra, a company supporting the smart grid, has been working closely with the committee members through local maintenance agents.</li> <li>The average daily consumption has increased to almost 500Wh/day per household from around 250 Wh/day in December 2020. The households have started using more electric appliances for productive uses. For example, 48 households now use electric cookers, electric powered sewing machines, drills and power tools.</li> <li>Based on the success from Stung Chrow, another solar-based AC mini-grid was replicated to provide electricity to a Jarai indigenous community (85 households with 341 people (168 females)) in Pa Tang Village, Ratanakiri</li> <li>Completed the installation of 32.64 kW solar off-grid system at Sre Ampil community, Teuk Pous District, Kampong Chhnang Province with newly procured off-grid inverters and battery storage (86.4kWh). When the transmission line is constructed, it will connect at least 60 households of this village.</li> <li>Installation of solar PV at Heng Samrin Chok High School benefiting 913 students (520</li> </ul>
3.3 Number of female headed			females) and 37 teachers (9 women).
households benefit from solar PV system installed for access to energy, water and productive use Measured by number of households (female headed only)	0	Target: 25 <b>Result: 19 –</b> <b>Under target</b>	<ul> <li>This is the accumulated figure form the past: 19 female headed households to benefit from DC based micro-grid in Kampong Chhnang province.</li> <li>In addition, a total of 362 women benefited from the Solar DC micro-grid in Stueng Chrow, out 707 total adults.</li> </ul>

3.4 Number of technicians with enhanced capacities to design, install and maintain solar PV as per installation standards/guidelines (to be prepared) Measured by number of male and female technicians	0	Target: 20 Result: 73 (21 females) - Achieved	<ul> <li>Two 2-day technical training workshops on System Design, Installation, and Maintenance of Solar Home System (SHS) were delivered in February and November to solar technology suppliers, MME's technical staff, provincial departments of energy, and communities. Total participants of both the trainings were <b>73 including 21 females.</b></li> <li>At the community, Okra as supplier and installer of microgrid trained one local youth community member on the maintenance and operation of the microgrid.</li> </ul>
3.5 Number of community members with improved awareness on benefits of solar and appropriate use of solar technologies Measured by number of community members	0	Target: 20 Result: 95 (34 females) – Over target	• In 2020, two awareness workshops were provided to local communities in with a total participation of <b>95 persons</b> including <b>34 females</b> from the target communities for piloting solar energy access. Topics in workshop were solar home system, application of clean energy technologies in agriculture, solar technologies and demonstration of SHS.
3.6 Number of National quality standards/guidelines for solar PV technologies developed Measured by national quality standards/guidelines	0	Target: 1 Result: 1 - Achieved	<ul> <li>SHS guideline was finalized and approved by MME. The guideline was endorsed by waiting to be published due to the Covid February 20 event.</li> <li>Energy efficiency design guideline is under development, led by GDE. The EE code is the design guideline for improving energy efficiency in building, that will be integrated in the building technical regulation being led by MLMUPC.</li> </ul>
3.7 Studies and papers prepared to support RGC in evidence-based policy making towards a balanced, low-carbon intensive energy mix with a secure supply of power	0	Target: 4 Result: achieved; four policy briefs	<ul> <li>As per the 2<sup>nd</sup> board meeting on 20<sup>th</sup> September 2019 indicator 3.7 was approved.</li> <li>Four policy briefs were completed and submitted to NCSD-MOE for internal circulation within the energy sector government bodies, i.e. MEF, MME, EAC, EDC. The topics are         <ul> <li>Responding to Cambodia's power sector challenges and role of sustainable energy</li> <li>Analysis and proposed adjustment of solar regulation</li> <li>Evaluation of the potential excess supply of power from existing solar rooftop system in Cambodia</li> </ul> </li> </ul>

Cross-cutting activity: Project Management Over this reporting period, the following results include:

The project board meeting was not conducted, instead the e-mail approval was carried out for budget revision version (G05).

- 1) 11 March 2019: The first project board meeting was conducted chaired by H.E. Dr. Tin Ponlok, the General Secretariat of the NCSD and the Project Director. The decision of the Board made as follows:
  - The Project Board and implementing partners agreed to approve the fund flow and workplan in principle, with the budget approval to be made via email.
  - Project Board meeting and Inception Workshop was proposed for mid-June. The project team followed up on this proposal and this workshop was moved to be combined with the next board to be more efficient including reviewing budget, workplan, and project progress.

- 2) 20 September 2019: A second board meeting of 2019 was held. The Project Board and implementing partners agreed to approve the budget revisions as well as proposed changes to the Project Document
  - Changes include:
  - Support piloting grass straws as an alternative to plastic straws this year
  - Business challenges for organic composting and plastic recycling will be facilitated in 2020 rather than 2019
  - Reduce the number of targeted households to be reached with solar system(s) under output 3.1, reduction from **200 to 100 households.** Also proposed changing the number of targeted female-headed households from 50 to 25.
  - On request of MME, it was proposed to include: "Preparation of a guideline on solar home systems" in output 3.4. Part of budget from output 3.5 will be allocated to this activity.
  - Unexpected power shortages during dry season 2019, increased interest in ways to mitigate shortages. More interest in "Economic Appraisal of the Potentials of Photovoltaic Solar Energy in Cambodia"-study and related policy work. The meeting was proposed to add an indicator 3.7 "Studies and papers prepared to support RGC in evidence-based policy making towards a balanced, low carbon intensive energy mix with a secure power supply.

**Revision of Project Document and Budget.** Several meetings were conducted between UNDP Project Team and Sweden to clarify the changes and rationality. All changes of target and budget reallocation written and agreed by Sweden and the Board. Final agreed budget is now used to track its progress as seen in the financial report Section below.

**Regular update and communication with Sweden agreed.** To increase the transparency and efficiency, all Sweden funded projects are suggested to provide a regular donor update monthly. The joint project meeting with Sweden on 23 May 2019 at the Embassy of Sweden, agreed on the following points:

- Annual meeting (or twice a year depending on the project)
- Documents to be shared 10 working days in advance
- Quarterly report or meetings to update the progress at technical level
- Technical level meeting prior to the board meeting
- Changes in the budget should be documented with a summary of explanations
- Budget revision with 10 % of tolerance can be done by manager. Beyond 10%, a board approval is needed via email or in person
- 3) 13 March 2020, chaired by H.E. Dr. Tin Ponlok, the General Secretariat of the NCSD and the Project Director. The decision of the Board made as follows:
  - The Board and implementing partners agreed to approve the fund flow and workplan in principle, with the budget approval to be made via email. This followed by the e-mail approval in August, the board agreed the injection of additional fund for tree planting as a COVID response.
  - The project team followed up on this proposal and this workshop was moved to be combined with the next board to be more efficient including reviewing budget, workplan, and project progress.

The board approved the following:

- The annual progress report and the reporting of expenditure for 2019
- The revised budget and annual work plan for 2020
- Risk and strategy of the project

## 4) **18 December 2020:** A virtual board meeting conducted, and the board approved the following:

# Final version: 24 April 2021

- The annual progress report and the reporting of expected expenditure for 2020
- The budget extension and annual work plan for 2021
- Risk and strategy of the project

#### On budget reallocation

- Recognizing that the project needs to achieve tangible results as a final year and considering the situation with Covid-19 that larger meetings may be less frequent, the board suggested that the implementing departments of these activities review their budgets for possible re-allocation from meetings, workshops, and study tours to on the ground activities piloting PES, circular economy in Kep as models to be replicated (for example investment in waste collection and sorting facilities), and second village for solar PV based micro-grid.
- Larger re-allocations of budget should be submitted to the board in accordance with modalities in the project document agreement
- 5) The final board meeting was conducted via online approval. The board review a package of documents and decided:
  - Closed the project by 30 June 2021
  - Endorsed the final evaluation report with management response.
  - Only cost associated with reporting, auditing, and evaluation can be spend after the project closure
  - Endorsed the asset transfer to responsible partners.

# **Project Monitoring and Evaluation**

- At least two donor field missions were conducted to visit the progress of the project and discussed with challenges with beneficiary and key local actors. Tree planting, as a Covid socio-economic response was also featured for the last trip in February 2021.
- The project evolution report shows that the project delivered satisfactory development results and the likelihood for sustaining the solutions are relatively acceptable. Some good example of replication all output were also apparent and plastic waste programming was successfully carried forward under project funded by the Government of Japan. The PES framework for Kulen and Kbaly Chhay continues is winning model for biodiversity financing.

# **QUALITY OF RESULTS**

QUALITY OF RESULTS	
<b>Sustainability:</b> Do the benefits of the achieved results have potential to last past this quarter?	The overall project management and arrangements of task division were working well as per agreed steps and actions. In addition, strategic communication for Component 2 has been conducive to create behavioral changes in the long run among target stakeholders. Plastic management has been incorporated well with a new 2.5year Project "Combatting Marine Plastic (2021-2023)". For the final six months, several joint CE related products were developed between BESD and the Marine Plastic Project. Microgrid was setup with a community management on operation and maintenance with technical support from supplier, to ensure the microgrid will run smoothly and sustainably.
<b>National Capacity:</b> How do the project results help strengthen national institutions and service delivery?	As this project is implemented under NIM, most activities are planned and implemented by key government partners. On-the job training 'learning by doing' has helped them improve their knowledge and skills. Additional technical assistance and quality assurance have been provided by UNDP CO to enhance the national capacity for effective service delivery, partnership and regulation development or amendment where applicable.
	DGE took a leading role in facilitating consultations for the CE strategy and action plan. While GDE/MME has been providing technical inputs on the preparation of the solar home system guideline, bidding for microgrid, community setup, awareness raisings and training workshops.
Gender Equality and Women's Empowerment: How does the project contribute to promoting gender equality and women's empowerment?	Gender equality has been a key goal in every planned activity. This ranks from staff recruitment to local participants in the project activities. Gender assessment was conducted in the first quarter of 2019 and continue to be monitored over the implementation period. The project has reached gender targets for Component 2. While the other two components have contributed more as well. For example, women and children have access to a water system in Popel village. The social and environment was rapidly assessed for COVID-response activities when recruiting the workers for planting trees and building a tree nursery. At least 47% of recipients are women in these field and local partners and authorities realize the importance of women's empowerment in the implementing and monitoring the project activities.
<b>Youth Engagement:</b> How do the project results support youth in contributing to sustainable human development and peace? *optional*	A good example of youth engagement has been done through RUPP student led plastic free campaigns. Video competition will result in products of youth-led solutions to plastic waste management. During the water festival, over 9 million viewers, mainly youth have followed plastic campaigns.
	The Youth has played a central role in the clean energy incubator programme and act as local technical agent for the solar DC microgrid (received training from Okra).
<b>Climate Change:</b> How do the project results help increase resiliency and reduce vulnerability to climate change? *optional*	The project has contributed to the outcome of climate change. This is done through reducing pressure to natural carbon stock in the projected areas through restoration of degraded ecosystems, building resilience for the rural communities and waste generation and emissions from fuel-based energy.

	Delivering the microgrid helps off-grid communities to use electronic cooker, water boiler, lighting and even refrigerator as well as productive use for home gardening. This helps reducing indoor air pollution and need of firewood.
<b>No One Left Behind:</b> In what way do the project results help left behind communities and individuals? *optional*	The project's target groups include women-headed, vulnerable households and rural households who lack access to rural electrification.

## INNOVATION

What innovation initiatives have been implemented in the project?

What innovative methods	☑ Alternative Financing	Mobile-Based Feedback Mechanism
were applied or tested this	🗵 Behavioral Insight	🗆 New and Emerging Data (e.g. Big Data)
quarter?	🗆 Blockchain	Positive Deviance
	🛛 Challenge Prizes	Private Sector Partnership
	□ Crowdsourcing	Randomized Control Trial/Parallel Testing
	Crowdfunding	Real-Time Monitoring
	🗆 Foresight	Remote Sensing/Unmanned Aerial Vehicles
	□ Games for Social Good	(UAVs)
	🗆 Hackathon	□ Other (specify below)
	⊠ Human-Centered Design	
	🖾 Innovation Lab	
	Micronarratives	
If 'Other' was selected, please speci	fy what innovative initiative was	implemented and what the result of the initiative
was:		

# SOUTH-SOUTH AND TRIANGULAR COOPERATION

Describe how South-South and Triangular Cooperation has contributed to your project?

Was South-South and	⊠ Yes
Triangular Cooperation	□ No
promoted and utilized	
through the project?	

If yes, briefly explain how.	For circular economy model, the project has explored the applicable solutions with				
List countries engaged.	Asian nations as well as from western world.				
	For PES, MOE is pursuing its collaboration with Costa Rica and exploring some practical lessons in the region, including China.				

# COMMUNICATIONS, KNOWLEDGE MANAGEMENT AND VISBILITY

The following communications results are listed below:

# In 2021, social and communication products publicized and reached over 70,406 people as following:

Knowledge Product Produced this year	Туре	Date Published /Produced	Target audience (# people reached)	Link (if available)
The Cash for Work initiative	Awareness	22/05/21	Public	https://www.facebook.com/UNDPCambodia/photos/4210
Why Should we switch to Solar Energy?	Awareness	20/05/21	(Reach:1.5K, likes: 37) Public (Reach:2.9K, likes: 77)	<u>654609001628/</u> <u>https://www.facebook.com/UNDPCambodia/photos/4206</u> 525039414585/
Celebrate the National Arbor Day	Awareness	30/04/21	Public (Reach:2.4K, likes: 70)	https://www.facebook.com/UNDPCambodia/photos/4146 596015407488/
Zero plastic lover (MDC student-led campaigns)	Awareness	3/01/21	Youth and the public ( <b>Reach: 4K, likes: 51</b> )	https://www.facebook.com/watch/?v=696206357924403
Model primary school gardening	Awareness	11/01/21	Primary school children ( <b>Reach: 27.5K, likes: 346</b> )	https://www.facebook.com/141301635936966/posts/3840 579326009160/
A two-day consultative workshop on sub- decree for plastic management	Workshop	18/0121	Public ( <b>Reach: 2.8K, likes: 75</b> )	https://www.facebook.com/141301635936966/posts/3859 370840796675/
Featuring MOE Under Secretary of State's quote for shifting toward circular economy	Awareness	18/01/21	Public ( <b>Reach: 3.2K, likes: 109</b> )	https://www.facebook.com/141301635936966/posts/3859 782977422128/
Featuring UNDP Policy Specialist, Climate Change and Environment's quote for shifting toward circular economy	Awareness	20/01/21	Public ( <b>Reach: 5.1K, likes: 165</b> )	https://www.facebook.com/141301635936966/posts/3862 594807140945/
Exchange visit to Battambang with NCDDS team to learn from municipal waste management and plastic recycling	Awareness	21/01/21	Public ( <b>Reach: 13.2K, likes: 233</b> )	https://www.facebook.com/141301635936966/posts/3864 944826905943/
Annual learning forum BESD Project 2020	Workshop	28/01/21	Project partners and public ( <b>Reach: 3.5K, likes: 114</b> )	https://www.facebook.com/141301635936966/posts/3885 023308231428/
Featuring lesson on Circular economy by UNDP DRR	Awareness	28/01/21	Project partners and public ( <b>Reach: 2.5K, likes: 89</b> )	https://www.facebook.com/141301635936966/posts/3885 025424897883/
Guest speaking session by featuring H.E. Dr. Hor Peng, Rector of the <u>National University of</u> <u>Management</u> on commitment for zero-plastic bottle building	Awareness	15/02/21	Project partners and public ( <b>Reach: 17.3K, likes: 152</b> )	https://www.facebook.com/141301635936966/posts/3933 473530053072/

Tried out session at Kampong Chhnang on	Awareness	16/02/21	Youth, teachers and the	https://www.facebook.com/141301635936966/posts/3935
Greener Thursday Programme with Ministry of			public	<u>906776476414/</u>
Education, Youth and Spots			(Reach: 4.2K, Likes: 153)	
Access to clear and productive power at	Awareness	14/02/21	The public	https://www.facebook.com/UNDPCambodia/posts/393112
Kampong Chhnang			(Reach: 4.2K, Likes: 130)	<u>5823621176</u>
Featuring access solar energy at Kampong	Awareness	11/02/21	The public	https://www.facebook.com/UNDPCambodia/posts/392323
Chhang			(Reach: 3.3K, Likes: 94)	<u>1527743939</u>
Conserving biodiversity reduce risk to future	Awareness	02/03/21	The public	https://www.facebook.com/UNDPCambodia/posts/397874
pandemic			(Reach: 4.5K, Likes: 130)	<u>9138858844</u>
Plastic learning session	Awareness	05/03/21	The public	https://www.facebook.com/UNDPCambodia/posts/398435
			(Reach: 2.6K, Likes: 80)	<u>5288298229</u>
Featuring plastic waste recycling in Battambang	Awareness	16/03/21	The public	https://www.facebook.com/UNDPCambodia/posts/401505
			(Reach: 6.9K, Likes: 126)	<u>3041895120</u>
Plastic recycling	Awareness	18/03/21	The public	https://www.facebook.com/UNDPCambodia/posts/401893
			(Reach: 2.6K, Likes: 50)	<u>5024840255</u>
Featuring business model on solar panel	Awareness	24/03/21	The public	https://www.facebook.com/UNDPCambodia/posts/403838
			(Reach: 2.4K, Likes: 62)	<u>3859562038</u>
Refive Logo with fabric mask (led by DMC	Awareness	27/3/21	Youth and the public	https://www.facebook.com/ReFiveCambodia/posts/20843
students)			(Reach: 1054)	<u>950773 9239:0</u>
Poster: About Covid19	Awareness	28/3/21	Youth and the public	https://www.facebook.com/ReFiveCambodia/posts/20915
			(Reach: 964)	<u>284433 4572</u>
We are back poster	Awareness	29/3/21	Youth and the public	https://www.facebook.com/ReFiveCambodia/posts/20992
			(Reach: 7541)	<u>248759 0941</u>
Featuring productive use and solar	Awareness	30/3/21	Youth and the public	https://www.facebook.com/UNDPCambodia/posts/405659
			(Reach:2.5K, Likes: 62)	<u>4777740946</u>

In 2020, social and communication products produced in 2020k, reaching over 352,000 people.

Knowledge Product Produced this year	Туре	Date Published/ Produced	Target audience (# people reached)	Link (if available)
Plastic campaign page in Khmer as a sub- page under the MoE website	Awareness	January 2020	Public audience	https://www.moe.gov.kh/togetherreduceplastic
Site monitoring video	Awareness	January 2020	Donor and board	Soft copy is available
5 ways to reduce plastic	Awareness	2 Jan 2020	Public audience	https://www.facebook.com/UNDPCambodia/photos/a.144 313525635777/2861740583893044/
Sweden visit Kulen National Park	Awareness	27 Feb 2020	As above ( <b>7.5K</b> )	https://www.facebook.com/UNDPCambodia/photos/pcb.2 981880235212411/2981877691879332/
Knowledge Product Produced this year	Туре	Date Published/ Produced	Target audience (# people reached)	Link (if available)
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Solar water pump in Kulen as a livelihood	Awareness	26 Feb 2020	As above	https://www.facebook.com/UNDPCambodia/photos/a.144
option			(3.1K)	313525635777/2979025518831216/
The importance of Kulen ecosystem for	Awareness	24 Feb 2020	As above	https://www.facebook.com/UNDPCambodia/photos/a.144
fresh water in Siem Reap			(7.3K)	<u>313525635777/2975678055832629/</u>
BESD project pager	Awareness	March 2020	Public audience/ partners	http://ncsd.moe.gov.kh/besd
3 <sup>rd</sup> Project Board Meeting	Other	13 Mar 2020	As above	https://ncsd.moe.gov.kh/dapf/news/3rd-board-meeting-
				building-enabling-environment-sustainable
Draft Circular Economy Strategy and Action Plan	Other		As above	A soft copy is available
The management of Kulen National Park	Awareness	04 June 2020	As above	https://www.facebook.com/UNDPCambodia/videos/26720
video			( <b>54.5K</b> of Reach)	<u>20926411931/</u>
				https://www.facebook.com/UNDPCambodia/videos/25992
				<u>98003684224</u>
Financing biodiversity conservation	Awareness	21 May 2020	As above	https://www.facebook.com/UNDPCambodia/photos/a.144
options linking to PES			(3K)	<u>313525635777/3179431568790609/</u>
SHS leaflet	Awareness	August 2020	Public audience/equipment suppliers	Soft and hardcopies are available
Knai Bang Chatt Featuring CE in practice	Awareness	August 2020	Public audience	Soft copy is available
Video documentary on Solar Home System (SHS)	Awareness	September 2020	Public audience / equipment suppliers	Soft and hardcopies are available
<b>Series Video 1:</b> A DMC led video related to reducing the plastic at home and school was produced and published on	Plastic campaign	24-Nov- 20	Youth audience (17.9K visitors and	https://fb.watch/26Udmzu7Iq/
RE-five Facebook page with sharing on DMC Facebook page on			<b>43.9K reach</b> )	
<b>Guest Speaking Video:</b> We invited Miss Sotheavy At, Founder of "Think Plastic" to	Plastic campaign	29-Nov-20	Public audience	Instagram: <u>https://www.instagram.com/ReFiveCambodia/</u> YouTube: <u>https://www.youtube.com/channel/UC-</u>
share her experience about changing to plastic free lifestyle.			(11.7K viewers and 23.7K reach)	X z16vTcfyejqwYwWykqg/ Facebook: <u>https://web.facebook.com/ReFiveCambodia</u>
<b>Series videos 2:</b> A video for reducing the plastic at work and public	Plastic campaign	6-Dec-20	Public audience (11.4K viewers and 23K reach)	https://fb.watch/2ohgcicQgj/

Knowledge Product Produced this year	Туре	Date Published/ Produced	Target audience (# people reached)	Link (if available)
Urgent action is required to tackle marine plastic litter	Awareness	09-Dec-20	Public audience ( <b>1.3K)</b>	https://www.facebook.com/141301635936966/posts/3753 112431422517/?d=n
Environment ministry sounds alarm over rising air pollution	FB Content	15-Dec-20	(3.1K)	https://www.facebook.com/141301635936966/posts/3767 745756625851/?d=n
<b>25 articles</b> have been received from the candidates	Essay	15-Dec-20		https://www.facebook.com/ReFiveCambodia/posts/12504 1226079068
How to make cloth face marks by DMC/RUPP students	Plastic campaign	15-Dec-20	Public audience (8.4K viewers and 21.9K reach)	https://fb.watch/2HQVX9TCfA/
Opportunity for Cambodia to set example of environmental sustainability	Awareness	17 Dec 2020	(2.4K)	https://www.facebook.com/141301635936966/posts/3772 971339436626/?d=n
NUM to go plastic free from January	Plastic campaign	13-14 Dec 20	Public audience (54.3K)	https://bit.ly/2JV3WmS   Khmer Times https://www.facebook.com/141301635936966/posts/3765 795766820850/?d=n https://www.facebook.com/141301635936966/posts/3767 745756625851/?d=n
Cambodia faces plastic woes	Awareness	17 Dec 20	Public audience (6.7K)	https://bit.ly/3gUObrR   The Phnom Penh Post
Providing supplies to informal waste pickers in Phnom Penh	Awareness	17 Dec 2020	Public audience ( <b>5.9K</b> )	https://www.facebook.com/141301635936966/posts/3773 435679390192/?d=n
BESD summary result video	Awareness/kn owledge sharing	17 December 2020	BoD and project partners	Soft copy is available
Informal waste pickers play a vital role in the recycling and circular economy in Cambodia	Awareness	21 Dec 2020	Public audience (4.2K)	https://www.facebook.com/141301635936966/posts/3784 027301664363/?d=n
Big water companies have been urged to make voluntary contributions or pay for commercial water use for sustainable ecosystem services (PES)	Awareness	20 Dec 20	Public audience ( <b>2.4K</b> )	https://www.facebook.com/141301635936966/posts/3784 027301664363/?d=n
Inauguration of DC Micro Grid in Steung Chrow Village, Kampong Chhnang Province	Awareness	21-22 Dec 20	Public audience ( <b>12.9K)</b>	https://www.facebook.com/141301635936966/posts/3784 322071634886/?d=n https://www.facebook.com/141301635936966/posts/3784 509974949429/?d=n https://www.facebook.com/141301635936966/posts/3788 786451188448/?d=n

Knowledge Product Produced this year	Туре	Date Published/ Produced	Target audience (# people reached)	Link (if available)
Kampong Chhnang villages powered by solar published in the Phnom Penh Post	Awareness	22 December 2020	Public audience	https://www.phnompenhpost.com/national/kampong- chhnang-villages-powered-solar
Village first to get 'smart-grid' in Kampong Chhnang province	Awareness	23 December 2020	Public audience	https://www.khmertimeskh.com/50796286/village-first-to- get-smart-grid-in-kampong-chhnang-province/
A series of three videos on RUPP youth- led plastic social media campaigns posted on	Campaign	Dec 2020	Youth ad public audience	Soft copies are available
Series videos 4: A video related Before and After plastic-free lifestyle	Plastic campaign	27-Dec-20	Public audience (8.4K viewer and 21.9K reach)	https://fb.watch/2HR0xWmpFC/
Total views and reach				

# Social media posted and communication products produced in 2019:

Knowledge Product Produced this Quarter	Туре	Date Published/Prod uced	Target audience	Link (if available)
The project page is available in the UNDP website	Other	05/22/2019	Public audience/partners	http://www.kh.undp.org/content/cambodia/en/home/project s/creating-sustainable-cambodiahtml
BESD 2-pager has drafted and being designed for reaching a wider range of audience.	Other	6/28/2019	Potential partners/stakeholders	A soft copy is available.
Plastic pager is drafted and being reviewed for final infographic design.	Other	6/30/2019	Potential stakeholders/partners	A soft copy is available.
The 5 Rs poster on Plastic reduction for MoE/NCSD drafted and being finalized	Other	6/30/2019	MoE and NCSD staff and the public	A soft copy is available.
Webpage content on plastic waste and its impacts for MoE was drafted	Website	6/28/2019	MoE and NCSD staff and the public	A soft copy is available.
Video production guidelines for youth-led plastic campaigns was developed	Training module/man ual	6/30/2019	RUPP Students	A soft copy is available.

Facebook content and messaging on plastic campaign drafted	Other	6/14/2019	RUPP Clean and Green Team	A soft copy is available.
Final posters content to stick at cashier counters of Aeon and Lucky. The posters aim to raise public's awareness about negative impacts of plastic and ways to reduce plastic.	Poster	7/5/2019	Customers at supermarkets	A soft copy is available.
Booklet and brochure contents for plastic were drafted	Booklet and brochure	6/14/2019	Booklet for Pedagogy teachers and brochure for general public	A soft copy is available.
BESD board and cost sharing ceremony Press Release				A soft copy is available.
Mascot concept guideline was drafted.	Branding image	6/28/2019	General public	A soft copy is available.
Awareness Raising Material from Baramey Production (Music Video, Animation, Theme Song, Pledge)	Video	Between 11/6/2019 and 12/5/2019	General Public	https://www.facebook.com/barameyofficial/videos/2760874500623931/?tn =kCH-R&eid=ARBPHc2y2qZtGolMDw8UXO-adJtyGLBsqg0gb-https://www.facebook.com/barameyofficial/videos/571280400316768/?so =permalink& rv =related videos
4R Posters for general events and they are now used by Ministry of Education, Youth and Sport for public awareness raising.	Poster	11/20/2019	General Public	https://www.kh.undp.org/content/cambodia/en/home/projec ts/our-action-for-plastic-pollution-in-cambodia/what-we-re- doing-to-combat-plastic-0.html
TV Commercial on the impact of plastic and its alternatives,	TV Commercial	11/12/2019	General Public	https://www.youtube.com/watch?v=FAerIdp7v9c&feature=yo utu.be
Policy Regulation Reports	Report	12/13/2019	MoE and NCSD Staff	https://www.kh.undp.org/content/cambodia/en/home/projec ts/our-action-for-plastic-pollution-in-cambodia/what-we-re- doing-to-combat-plastic-0.html
You-led plastic competition	Videos	11/30/2019	RUPP Clean and Green Team	Soft copies are available.
BESD annual result was projected at the learning event in December.	Video	12/26/2019	NCSD/UNDP	A soft copy is available.
Post-event Vox pop video was produced about their participation perspectives to act after the annual learning forum.	Video	12/31/2019	UNDP	A soft copy is available.

Was the project	Some articles published in 2021by news agents:
cited/quoted/featured in media	Some articles published in 202 rby news agents.
reports/articles?	Plastic recycling in Battambong, published in ThmeyThmey
If yes, please provide link to	<ul> <li>Battambang city as a role model for municipal waste management, published at Phnom Penh Post and Khmer</li> </ul>
article/video.	newspaper, Reaksmey Kampuchea
	<ul> <li><u>POWER TO THE PEOPLE</u>: How Cambodia's remote villages are leapfrogging up the energy ladder. Published by</li> </ul>
	• <u>POWER TO THE PEOPLE</u> , how cambodia's terrible villages are leapinogging up the energy ladder. Published by UNDP on February 11, 2021.
	<ul> <li>Battery Power Sharing: <u>The Pod now enables transmission of underutilized battery power to wherever it's most</u> needed at night. Published by Okra on May 17, 2021.</li> </ul>
	<ul> <li>Using Mesh-Grids to energize rural Cambodia. <u>A case study: The Cambodian Government is piloting innovative</u></li> </ul>
	<ul> <li>Osing Mesh-Grids to energize rural cambodia. <u>A case study: The Cambodian Government is plicting innovative</u> approaches to sustainably electrify last-mile areas. Published by Okra on 14 May 2021</li> </ul>
	<u>approaches to sustainably electrity last-fille areas</u> . Published by Okra off 14 May 2021
	Some articles published in 2020:
	some articles published in 2020.
	1. <u>Cambodia: A man's journey to reduce plastic waste by turning it into diesel</u> . Published in Asia News on February
	19, 2020.
	2. Waste remains a challenge for Phnom Penh City (03/02/2020)
	https://www.rfi.fr/km/cambodia/chrono-03-02-2020
	3. Solving Cambodia's Plastic Problem Seen as Key to Minimizing Waste. Published on VOA on 28 May 2020.
	https://khmer.voanews.com/a/solving-cambodias-plastic-problem-seen-as-key-to-minimizing-
	waste/5395699.html
	4. Cambodia accelerates fight against single-use plastics. Published in Cambodian news on 05 April 2020.
	https://cambodianess.com/article/cambodia-accelerates-fight-against-single-use-plastics
	5. Cambodia Starbucks Ends Plastic Straw Use. Published in https://cne.wtf/2020/01/31/cambodia-starbucks-ends-
	plastic-straw-use on 31 Jan 2020.
	6. Lessons from 2020: time for a circular economy. Published in Asian Times.
	https://asiatimes.com/2020/11/lessons-from-2020-time-for-a-circular-economy/
	7. Lessons from 2020: time for a circular economy in Khmer. Published in ThmeyThmey
	https://www.thmeythmey.com/?page=detail&id=97451
	8. The following articles were published various media agencies to raise public awareness on PES at Kulen National
	Park between 19 and 21 December 2020.
	<ul> <li><u>https://firstnews.asia/190-2/</u></li> </ul>

<ul> <li>https://wayofm.com/news/detail/106419-343357031.html</li> <li>https://m.facebook.com/story.php?story_fbid=1728125060695644&amp;id=350615918446572</li> <li>https://www.information.gov.kh/detail/536369</li> <li>https://www.khmertimeskh.com/50795454/big-water-companies-urged-to-contribute-to-ecosystem- services/</li> <li>https://www.phnompenhpost.com/national/pilot-ecosystem-initiative-draw-funds-kulen-water-use</li> <li>https://www.khmertimeskh.com/50795454/big-water-companies-urged-to-contribute-to-ecosystem- services/</li> <li>https://www.formational/pilot-ecosystem-initiative-draw-funds-kulen-water-use</li> <li>https://www.formacom.kh/central/detail/214267?fbclid=lwAR0NQg1h_CtEO1LHXxaFrlNYt6Pgg94LQk1Bi9P4diM9 GWi0JAvOSxlZvUw</li> <li>https://www.khi-news/detail/106450-597391933.html</li> <li>https://www.khi-newsdaily.com/detail/409854.html</li> <li>https://www.facebook.com/freshnewsasia/videos/395076371917996</li> <li>Village first to get 'smart-grid' in Kampong Chhnang province</li> <li>https://www.khmertimeskh.com/50796286/village-first-to-get-smart-grid-in-kampong-chhnang-province/</li> <li>Kampong Chhnang village powered by solar</li> <li>https://www.phnompenhpost.com/national/kampong-chhnang-villages-powered-solar</li> <li>In 2019, Three news articles published our work relating to Cambodia's commitment to the circular economy as the following:</li> <li>Business Time "Cambodia Is Taking Big Steps in Adopting A Circular Economy"</li> <li>Bangkok Post, "Cambodia puts circular economy in motion"</li> <li>Khmer Time, "Youth urged to curb plastic use"</li> </ul>
<ul> <li>https://www.information.gov.kh/detail/536369</li> <li>https://www.khmertimeskh.com/50795454/big-water-companies-urged-to-contribute-to-ecosystem-services/</li> <li>https://www.phnompenhpost.com/national/pilot-ecosystem-initiative-draw-funds-kulen-water-use</li> <li>https://ams.com.kh/central/detail/2142677fbclid=lwAR0NQg1h_CtEO1LHXxaFrlNYt6Pgg94LQk1Bi9P4diM9</li> <li>GWiOJAvOSxlZvUw</li> <li>https://www.khi-newsdaily.com/detail/106450-597391933.html</li> <li>https://www.khi-newsdaily.com/detail/409854.html</li> <li>https://www.freshnewsasia.com/index.php/en/localnews/180966-2020-12-21-06-15-57.html</li> <li>https://www.facebook.com/freshnewsasia/videos/395076371917996</li> <li>Village first to get 'smart-grid' in Kampong Chhnang province         <ul> <li>https://www.khmertimeskh.com/50796286/village-first-to-get-smart-grid-in-kampong-chhnang-province/</li> <li>Kampong Chhnang village powered by solar</li> </ul> </li> <li>https://www.phnompenhpost.com/national/kampong-chhnang-villages-powered-solar</li> <li>In 2019, Three news articles published our work relating to Cambodia's commitment to the circular economy as the following:         <ul> <li>Business Time "Cambodia Is Taking Big Steps in Adopting A Circular Economy"</li> <li>Bangkok Post, "Cambodia puts circular economy in motion"</li> </ul> </li> </ul>
<ul> <li>https://www.khmertimeskh.com/50795454/big-water-companies-urged-to-contribute-to-ecosystem-services/</li> <li>https://ams.com.kh/central/detail/2142677fbclid=lwAR0NQg1h_CtEO1LHXxaFrlNYt6Pgg94LQk1Bi9P4diM9 GWi0JAvOSxlZvUw</li> <li>https://www.khi-news/detail/106450-597391933.html</li> <li>https://www.khi-newsdaily.com/detail/409854.html</li> <li>https://www.khi-newsdaily.com/index.php/en/localnews/180966-2020-12-21-06-15-57.html</li> <li>https://www.freshnewsasia.com/index.php/en/localnews/180966-2020-12-21-06-15-57.html</li> <li>https://www.facebook.com/freshnewsasia/videos/395076371917996</li> <li>Village first to get 'smart-grid' in Kampong Chhnang province         <ul> <li>https://www.khmertimeskh.com/50796286/village-first-to-get-smart-grid-in-kampong-chhnang-province/</li> <li>Kampong Chhnang village powered by solar</li> </ul> </li> <li>https://www.phnompenhpost.com/national/kampong-chhnang-villages-powered-solar</li> <li>In 2019, Three news articles published our work relating to Cambodia's commitment to the circular economy as the following:         <ul> <li>Business Time "Cambodia Is Taking Big Steps in Adopting A Circular Economy"</li> <li>Bangkok Post, "Cambodia puts circular economy in motion"</li> </ul> </li> </ul>
<ul> <li>services/</li> <li>https://www.phnompenhpost.com/national/pilot-ecosystem-initiative-draw-funds-kulen-water-use</li> <li>https://ams.com.kh/central/detail/214267?fbclid=lwAR0NQg1h_CtEO1LHXxaFrlNYt6Pgg94LQk1Bi9P4diM9 GWiOJAvOSxlZvUw</li> <li>https://www.khi-newsdaily.com/detail/106450-597391933.html</li> <li>https://www.khi-newsdaily.com/detail/409854.html</li> <li>https://www.freshnewsasia.com/index.php/en/localnews/180966-2020-12-21-06-15-57.html</li> <li>https://www.facebook.com/freshnewsasia/videos/395076371917996</li> <li>Village first to get 'smart-grid' in Kampong Chhnang province <ul> <li>https://www.khmertimeskh.com/50796286/village-first-to-get-smart-grid-in-kampong-chhnang-province/</li> </ul> </li> <li>10. Kampong Chhnang village powered by solar</li> <li>https://www.phnompenhpost.com/national/kampong-chhnang-villages-powered-solar</li> <li>In 2019, Three news articles published our work relating to Cambodia's commitment to the circular economy as the following:</li> <li>1. Business Time "Cambodia Is Taking Big Steps in Adopting A Circular Economy"</li> <li>2. Bangkok Post, "Cambodia puts circular economy in motion"</li> </ul>
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2. <u>Bangkok Post</u> , "Cambodia puts circular economy in motion"
Four news articles published our work relating to the National Forum on Actions Against Plastic and waster festival
rubbish campaign.
1. The Khmer Times   <u>Call for more action to reduce plastic waste</u>
2. The Phnom Penh Post   Gov't set to act on plastic waste
3. Xinhua News Cambodia calls for more action to reduce plastic waste
4. The Ministry of Information   More Action Should Be Taken Against Plastic Waste
5. Khmer time   English  Water Festival rubbish collectors thanked for work
6. Khmer time   English   Water Festival concert to promote clean environment

Radio news published on food festival regarding plastic reduction Kon Slab Phrea held on 23-24 Nov 2019
<ol> <li>Lotus Radio   Khmer   Love for the food, click <u>here</u>.</li> <li>Expression Hub   Khmer   Food, click <u>here</u>.</li> </ol>

## **PROJECT IMPLEMENTATION CHALLENGES**

#### a. Updated Project Risks and Actions

See Annex 1 below for newly identified risks and actions.

b. Updated Project Issues and Actions

See Annex 2 below for newly identified project issues and actions.

## **KEY LESSONS LEARNT AND REFLECTIONS**

The following reflections are grouped into four categories. The fist is referred to project management and partnership. The three other categories are based on Output 1 to 3.

#### 1. Project management and partnership

- Preparedness is an important consideration in the project's implementation, especially for the time constraint situation. For specific case, TCO has prepared themselves to cope with the unpredictable climate (rainfall) in order to be able to plant the flooded seedlings in June timely. The land preparation is key to cope with unpredictable rainy season.
- Aligning BESD project plans with the priorities of implementing partners will increase their ownership and buy-in. Project components which were well integrated into existing partner activities were more likely to be implemented on time. Some plans for 2019 have moved to 2020 until they are able to be incorporated within the responsible departments' rolling plans and responsible technical focal points are settled.
- Adaptive management is key to become COVID resilient and successful project implementation. To ensure some activities are moving, repurposed plans need to be rapidly developed in consultation with responsible parties to de-risk the implementation of some affected activities. It is important to work with key focal points of board members while seeking a written approval from the board.
- **Repurposed activities should be long-lasting and aligning with other projects**. Investing in community infrastructure or testing new business model like DC/AC microgrids could be a good example of the repurposed activities that will have an enduring impact.
- Open communication among board members and donor is key to ensure the project's ability to accommodate new actors and change control. BESD is a platform that brings together a diverse set of actors to fight against COVID-19 and help the most vulnerable communities. This setting enabled other new responsible partners to implement a newly funded tree planting initiative as a COVID economic response in mid-2020. With open and prior notifications to bord members, BESD was successfully incorporated that relief fund, which has benefit thousands of affected community.
- Having competent provincial partners and vendors is more important than ever to be successful and have timely implementation of the project on the ground because of COVID-19 travel curfew and any unforeseen crises.
- Sustainability of project results usually is a challenge during the project's implementation. There has been a good example that RECOFTC and GDLC have intentionally prepared a plan with key stakeholders which include CPA, Samkos Wildlife Sanctuary, PDoE, and local authority. Then, to continue maintenance of the planted trees before their project phasing out.
- The BESD project activities were instrumental, in testing new approaches and innovation in the areas of NRM, waste management and energy. For instance, the BESD enabled the

MoE to advance policy dialogues with the aim of operationalizing PES. In addition, the project also helped the MOE's newly established taskforce on plastic to implement a number of new priority activities (e.g. research, communication campaigns, public forum). The BESD further enables policy dialogues on the opportunities and benefits of solar energy in achieving the national goal of providing energy for all.

• An annual learning event is key to engage implementing partners, share common issues and challenges and identify solutions and priorities into planning. Given the BESD project involves a wide range of stakeholders from different sectors, the learning event played an important role informing all of the stakeholders BESD activities and promoting collective learning and discussion s to identify ways forward.

#### 2. Learning from Output 1: CBNRM and PES

- With regard to CBNRM, community ownership and cost contribution could help sustain the water supply system. The water committee decided that each household has to pay for the connection from the main water pipe along the road to their house. In addition (via the use of a water meter) each villager will have to pay 1,500 Riels per cubic meter. The money is collected and managed by the Popel water user committee, which includes two women, to ensure the necessary for covering the maintenance of this water system.
- Although trees were planted late raining season requires much effort and resource to maintain the planted trees, the rapid socio-economic responses to Covid-affected households were socially welcoming and highly relevant for greener recovery with co-benefits of the planet and the people.
- With the large number of workers, tree planting techniques should be properly trained. Training for community representatives or group supervisors of workers are beneficial for retains skills to be on the group for a future project.
- Tree planting requires strict scheduling and training or else mortality rate will be high. Trees were planted in late raining season, so it requires significant effort and resource to maintain the planted trees. Mortality rate may still be high. With the large number of workers, tree planting techniques (digging hole, root up grass around planted tree, removing seedling plastic container) should be properly managed. Training at least to representatives or group supervisors of workers should be done.

#### 3. Learning from Output 2: Circular Economy

• Strategic communication is key to outreach a wider segment of a society: The BESD project engaged Baramey production, for creative outreach, communication, and campaigns to raise public awareness about plastic challenges and to call for public actions. Engaging the Cambodian celebrity in a range of communication activities proved highly effective in outreaching a wider segment of Cambodia. A total of 10 million people accessed videos on the Facebook page supported under the project.

#### 4. Learning from Output 3: Solar Energy

• Solar DC micro-grid business model provides strong growth opportunities. Solar based DC micro-grid piloted by the BESD project is based on the collected revenues from the sale of electricity generated. This system could easily be managed by the community. The collected revenues provide an opportunity for the community to develop a CAPEX replacement and

scale-up fund with the remainder of total collected revenues. In the case of this pilot, operation and maintenance (O&M) contractor will cover the cost of replacement and scale up from the collected fee to ensure remaining households will get reliable, affordable and clean energy delivered. However, there are some regulatory issues that need to be addressed in the sustainable operation of DC micro-grids. A dialogue is under progress between MME, EAC, and Okra Solar. If solutions are identified to these regulatory issues including tariff structure of DC micro-grids, it will have a wider implication including attracting more private investments.

- Awareness is key to understand the complex solar business environment. Events were held aimed at creating an awareness among rural communities on the basic operation and maintenance of the solar PV system. The Cambodian market is being flooded with solar PV systems of various quality. MME thus decided to educate end beneficiaries and users, on the identification of good quality solar PV system components and on the general SHS maintenance during this awareness raising event.
- Solar home system (SHS) suppliers and distributors are committed towards improving the quality of SHS. The project finalised SHS guidelines and leaflet in close collaboration with private sector, mainly SHS suppliers and distributors. Their involvement in finalising these guidelines showcases that they are committed considering the challenges they faced with poor quality systems in the past.
- Embracing new technologies provides new opportunities. MME started thinking away from traditional solutions such as Solar Home System (SHS) to an interconnected model of microgrids and/or mini-grids because of technology advancements. Micro-grids and/or mini-grids provides an opportunity to share the available energy within the community, flexibility in scale up of the system as electricity demand increase, and enable communities to use energy for productive applications.
- Selecting a service provider with adequate staffing and work time dedicated for a project is critical. Selection of a service provider without these resulted in little implementation or cancellation of the agreement.

	Contribut	Contributions (USD)		Cumulative			
Donor Name	Committed	Received	Total Received	Expenditure	Balance	Remarks	
						Refer to AWP budget	
Sweden	2,904,840.06	2,904,840.06	2,904,840.06	2,510,102.57	394,737.49	revision G05	
UNDP [TRAC]	316,238.78	279,998.78	279,998.78	279,998.78	36,240.00		
Total	3,221,078.84	3,184,838.84	3,184,838.84	2,790,101.35	430,977.49		

## Table 2: Cumulative Expenditure Report (01 January 2019 – 18 June 2021 – <mark>to be updated until 30 June 2021)</mark>

	Total Budget [2019-	Cumul		Delivery		
Activities - Description	2021] G05	Gov't [Disbursed]	UNDP [Disbursed]	Total	Balance	[%]
<b>Output 1: C</b> BNRM institutions strengthened and financial resources mobilized for sustainable NRM	1,104,878.68	480,932.59	594,256.31	1,075,188.90	29,689.78	97%
<b>Output 2:</b> Waste reduced, recycled and reused through the application of circular economy model.	852,540.47	230,042.57	515,659.30	745,701.87	106,838.60	87%
<b>Output 3:</b> Improved access to clean, affordable, and sustainable energy for the rural poor	832,961.30	178,802.24	417,386.85	596,189.09	236,772.21	72%
Project management (PMC)	430,698.38	131,479.80	241,541.69	373,021.49	57,676.89	87%
Total	3,221,078.84	1,021,257.20	1,768,844.15	2,790,101.35	430,977.49	87%

**Note:** The total expenditure excludes PO Commitment (USD186,659.71) and the IP's outstanding advance in Q2 (USD 160,493.89), equivalent to a total of **USD 347,153.60.** 

# Table 3: NCSD in kind contribution report for period 01 January 2020-18 June 2021 <mark>(to be</mark> <mark>updated until 30 June 2021)</mark>

Item	Unit	Unit Cost (US\$)	No of Unit	Number of months	Total
Staff's Time					
Government Officer	Person-Month	400	8	3	9,600
+ DBD/GSSD					
Meng Monyrak, Deputy Secretary General	Person-Month	400	1	3	1,200
Chhin Sophea, Vice Chief Office	Person-Month	400	1	3	1,200
+DGE/GSSD					
Taing Mengeang , Director	Person-Month	400	1	3	1,200
Keo Vanthoeun, Chief Office	Person-Month	400	1	3	1,200
+DCL/GDLC					
Kung Seakly, Director	Person-Month	400	1	3	1,200
Meas Sothunvathanak , Chief Office	Person-Month	400	1	3	1,200
+DSWM/GDEP					
Dy Kiden, Director	Person-Month	400	1	3	1,200
Dek Vimeanreaksmey, Deputy Director	Person-Month	400	1	3	1,200
Government NPD, DNPD	Person-Month	1200	2	3	7,200
Tin Ponlok , Secretary General of NCSD and BESD Director	Person-Month	1200	1	3	3,600
Ma Chansethea , Director of DAPF and BESD Manager	Person-Month	1200	1	3	3,600
Coordination at ministry level	Person-Month	100	1	3	300
Office and Building/utilities					
Meeting rooms	LS-Time	400	1	3	1,200
Working space	LS-Month	1,000	1	3	3,000
Electricity and water	LS-Month	400	1	3	1,200
Grand total					22,500.00

## **ANNEX 1: RISK LOG**

#	Description	Date	Туре	Impact & Probabi lity	Countermeasures / Management response	Owner	Submitted updated by	Last Update	Status
1	Progress of activities to be implemented by SEAC is very slow. SEAC has difficulties in appointing new board members and recruiting the required staff. If no progress achieved by end of 2019.	02 Dec 2019	Organizati onal	P=3 I=4	The contract with SEAC might need to be terminated and unused fund needs to be reimbursed.	UNDP Energy Team	Visal Veng	P=2 I=2	Implemented
2	Impact of the COVID-19 Pandemic	March 2020	Others	P=1 I=5	Repurposed project activities that were impacted by the pandemic – activities such as study tours, workshops etc.	UNDP Energy Team	Butchaiah Gadde	P=1 I=3	Implemented
3	Impact of community transmission of COVID-19 in Nov 20	The 4 Nov event	Others	P=1 I=5	As above and conduct small groups (<20 pax) and virtual meetings	UNDP, NCSD, NCDDS and MME	PMU	P=1 I=3	Implemented
4	Impact of community transmission of COVID-19 in 20 February 2021	20 Feb 2021	Operational	P=2 I=5	Repurposed plans among IPs and RPs conducted and board approve the plan	UNDP, NCSD, NCDDS and MME	UNDP/PM U	P=1 I=3	Implemented
5	Unspent budget up to 80% with NCSD RPs	April 2021	Operational	P=2 I=4	Split the NEX advance in two tranches and keep monitoring NCSD's RPs to report Q1 expenditure Prepare Note To File for CO	UNDP/PM U	UNDP	P=1 I=3	Implemented
6	Rainy season is coming in Ratanakiri, which could cause difficulty to access to village to install solar	April 2021	Operational	P=3 I=3	Speed up the procurement and implementation	UNDP Energy Team	Vuthy and Butch	P=2 I=2	Implemented
7	Consultants for Energy code and piloting EE measure could not deliver result	April	Operational	P=3 I=2	More follow-ups with consultants	UNDP Energy Team	Vuthy, Butch and Sarasy	P=2 I=2	Implemented

8	During first quarter of the year 2021, it was very dry which would lead to more	Jan 2021	Operational	P=4 I= 3	IPs should apply watering to sites where is critical and replaced the dead planted trees with new seedlings	Tree planting partners	Kunka and IP's on tree plantings	P=3 I=2	Implemented
	newly planted trees die				planted trees with new seconds	partiters	plantings		
9	The planting site of 20 ha in Portrey commune, Pouk district is a place where about a hundred of cows usually feed. The tree- planting activity may result in economic displacement for local families if they have to shift grazing area.	May 2021	Operational	P=3 I= 3	Poutrey Commune Council to issue an Deka (by law) or an announcement to inform those cows' owners not to feed their cows in the new tree plantation and other areas of CPA land and the others are available for the feeding, and Issuing agreements between cows' owners and Poutrey communal chief	Tree planting partners	Kunka and IP's on tree plantings	P=3 I=3	Implemented
10	There is a risk that local citizens, especially marginalized group do not have the capacity to claim their right to complain the quality of the waste station operation and maintenance.	May 2021	Operational	P=4 I= 2	NCDDS and UNDP project team will instruct Kep municipality administration to assure that marginalized groups of citizens be informed during the SWM awareness raising on how citizen can complain to the waste collection service providers. Moreover, the role of citizen office of the municipality and all Sangkats' accountability mechanism has to take citizen concerns into consideration firmly, especially the waste collection service quality.	UNDP/NC DDS	Kunka	P=4 I=2	Implemented
11	There possibly is a risk that the waste depots would create conflicts among citizen living nearby the depots' location due to unproper maintenance of the depots' operation and potential bad smell	May 2021	Operational	P=4 I= 2	NCDDS and UNDP project team will inform to PDoE and Kep administration as below. PDoE will provide regular oversight to ensure that the depots are technically operated and maintained properly by the waste collection service providers. PDoE will provide technical advice to Kep municipality administration in its monthly meeting in order to strengthen the waste depot operation and maintenance.	UNDP/NC DDS	Kunka	P=4 I=2	Implemented

# **ANNEX 2: PROJECT IMPLEMENATION ISSUES AND ACTIONS**

Component	Issues	Action taken	By whom	By when	Status
1) NRM and PES	The revised workplan against COVID-19	<ul> <li>Followed up and take action in accordingly and repurposed budget and workplan was reflected in October and notified the board</li> </ul>	PMU/NCSD	July-Nov 2020	Implemented
	The field monitoring/ donor visit to tree planting sites was planned to conduct for 23-26	• Further monitoring to the rest of the tree plantations	BESD project team	30 March 2021	Implemented
	February 2021 to Siem Reap and Pursat provinces. Because of the Covid-19 outbreak in the community (20 February Community Event), the visiting team could not finish and decided to finish the visit after completing activities on 24 February 2021.	• Keep close follow-up on the planting schedule of the flooded tree with an eye to ensure closure by project end date in June 2021	BESD project team	30 April 2021	Implemented
	PES Piloting should have more strong support from the ministerial level	<ul> <li>DBD has submitted the proposed PES mechanism and fee collection options, and governance structure to the minister of environment</li> <li>Repurposed unimplementable fund from workshop/meetings to strategic media campaign in Kulen</li> <li>Host Technical Working Group (TWG) on biodiversity to seek inputs for PES roadmap, PES fund governance mechanism, and fee structure.</li> </ul>	Consultants and BESD project team	July-Dec 2020	Ongoing
	The additional tree activities require more institutional arrangements outside the existing BESD project	<ul> <li>Sought the BESD board members' endorsement of this virtually.</li> <li>Coordinated with newly engaged partners via other UNDP contact persons from the REDD Project.</li> <li>Transparently communicated with key implementing partner and mapping key implementation steps/solutions.</li> </ul>	PMU/NCSD Sony Oum, Sovanna Nhem, Leif Holmberg and Pinreak Sou	July-Dec 2020	Implemented

Component	Issues	Action taken	By whom	By when	Status
		• LOA and grant agreement co-signed and extended for 2021			
2) Circular Economy	There was a delay in signing LOAs between NCSD and two departments: 1) Green Economy and 2) Solid Waste Management due to difficulties in creating bank sub-accounts and focal points for implementing the projects.	<ul> <li>Conducted a series of meetings with the NCSD PMU and respective departments to speed up the process.</li> <li>Support the PMU with inter-department LOAs</li> </ul>	Sony Oum and Sreykhuoch Kim and NCSD PMU	Nov-Dec 2020	Implemented
	Delay in piloting municipal waste management in Kep by NCDD-S due to mainstream the plan into 3-rolling plan	<ul> <li>Conducted follow-up meeting with NCDDS team and revised the workplan to reflect the reality.</li> </ul>	Sony Oum and Sreykhuoch Kim and NCDDS focal points	Nov 2020	Implemented
3) Solar Energy	Delay in the issuance of purchase order (PO) for selected vendor to implement solar micro-grid	<ul> <li>Decoupled O&amp;M of DC micro-grid so that PO could be issued soon</li> </ul>	Vuthy Va, Sarasy Chiphong (MME focal point)	June 2020	Implemented
	Delay in the advertisement of ITB for second village	• Discuss with MME to finalise second village the soonest	Vuthy Va, Sarasy Chiphong (MME focal point)	June 2020	Implemented
	Delay in the field level activities for implementation of solar mini-grid in Ratanakiri because of lockdowns and travel restrictions	• MME/UNDP will issue letter(s) as required to permit travel of the contractor team to field	Vuthy Va, Sarasy Chiphong (MME focal point)	May 2021	COVID-19 related situation was rapidly changing