BUILDING LOW-CARBON AND CLIMATE RESILIENT COMMUNITIES: KEY LEARNINGS ON IMPLEMENTATION OF CLIMATE RESILIENT CITY ACTION PLAN (CRCAP) METHODOLOGY IN SRI LANKA AND BHUTAN

October 3, 2019
# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter/Participant</th>
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<tbody>
<tr>
<td>10 minutes</td>
<td>Welcome and introduction of ALP</td>
<td>Anandhan, Asia LEDS Partnership (ALP)</td>
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<tr>
<td>20 minutes</td>
<td>The CRCAP framework, outcomes and key learning from Kurunegala city, Sri Lanka and Sarpang district, Bhutan</td>
<td>Keshav, ALP</td>
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<tr>
<td>10 minutes</td>
<td>Insights from Bhutan and Sri Lanka Government officials</td>
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<tr>
<td>20 minutes</td>
<td>Q &amp; A</td>
<td>All</td>
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About Asia LEDS Partnership (ALP)

- The ALP launched in **Sep 2012** is a voluntary regional network promoting **LEDS** in Asia.

- **LEDS GP launched in 2011** operates through **four regional platforms**:
  - **Africa LEDS Partnership**
  - **Asia LEDS Partnership**
  - **LEDS LAC (Latin America and the Caribbean)**
  - **LEDS Europe and Eurasia Platform**

- **LEDS GP Global Secretariat** is hosted currently by the GIZ within the Support Paris Agreement project, funded by BMU.
About Asia LEDS Partnership (ALP)

- ALP is supported by global working groups namely
  - Governance
  - Finance - Investment instruments, Public funds allocation, Donor financing
  - Sectors – AFOLU, Energy, Transport
  - Transparency

- Geographical scope: SA, SEA, EA, Central Asia and Pacific (including Australia and New Zealand)
Objectives

- Facilitate enhanced coordination, collaboration, and partnerships
- Identify and disseminate tools, models, approaches, and best practices in priority LEDS topics to enable peer-to-peer learning and application
- Foster capacity building of practitioners to make Asia a leader in designing and implementing LEDS and green growth
- Strengthen support for LEDS by catalyzing leaders of change and raising awareness about the benefits of LEDS

ALP membership: 1125 (Organizations and Individuals)

- **371 Organizations** (Bangladesh, Cambodia, China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam, Taiwan (Republic of China) and few non Asian Countries)
- **45 Government Agencies** from 14 Asian countries (Nepal, Malaysia, Vietnam, Thailand, Indonesia, Cambodia, Marshal Islands, Myanmar, Pakistan, Philippines, Taiwan/Republic of China, Bangladesh, Bhutan and Sri Lanka)
- **754 Individual Members**

[Join ALP membership](#)
Four Communities of Practice on Energy, Transport, SNI/MLCG and Finance were launched in 2018

- Grid Scale Renewable Energy
- Clean Mobility
- Multi-level Climate Governance – to achieve NDCs
- NDC Finance: Accelerating investment in clean energy across Asia

Around 200 participants representing 16 Asian countries are members of the ALP Communities of Practice.

CoP activities:
- Online learning sessions with subject-matter experts
- Compilation of good practices, lessons learned, success stories
- Sharing of tools, resource materials and new concepts
- No cost technical assistance to early mover countries
- In-person workshops with peer learning and networking opportunities
MLCG CoP

**Priority area:**
- Issues and opportunities in effectively integrating multi-level governance for achieving NDC targets

**Upcoming activities:**
- Online sessions on a priority sub-topic – based on members’ feedback
- In-person workshop (fostering capacity building and peer learning)
- Technical assistances for country governments
Deep-dive and remote technical assistance

- **National level support:**
  - Framework for National electric mobility policy – Sri Lanka
  - Road map for specific emission factor calculation for transport sector – Vietnam
  - Design and pilot issuance of Vietnam’s first green bond - Hanoi Stock Exchange
  - Distributed PV and storage - Mongolia

- **Sub-National level support:**
  - Training on electric mobility - Sri Lanka, Vietnam
  - Modernization of public transport – pre BRT study– Thimphu city, Bhutan
  - Preparation of a ClimateResilientCITIES Action Plan (CRCAP) - Kurunegala City and Gelephu
Climate helpdesk: Remote Expert Assistance on LEDS

- **Mongolia: Energy Regulatory Commission**: Distributed PV and storage

- **Philippines**: Support on development of benchmark of energy consumption in 141 federal buildings by type of building considering air conditioning and lighting efficiency measures.

- **Pakistan: Energy Efficiency Conservation Agency (PEECA)**: LED Street lighting standards analysis by Centre for Climate Strategies (CCS)

- **Bangladesh: Sustainable and Renewable Energy Development Authority of Bangladesh** – support on development of net metering policy to promote rooftop solar energy and assist Bangladesh
Upcoming events

- Upcoming webinar: Roadmap for Sustainable Green Freight 10th October 2019. Registration; For more information

- APUF 7: Innovative financial instruments for strengthening urban finance, 17 October 2019, Penang, Malaysia

- Building SE Asia’s Low Carbon, Climate Resilient Future through Green Bonds, 12-13 November, Hanoi, Vietnam

- Energy Storage: What, when, why, where and how?, 28-30 October 2019, Bangkok, Thailand

- ALP forum (Q1 2020)
Thank you!

Contact us at:
alasecretariat@iclei.org

ICLEI – LOCAL GOVERNMENTS FOR SUSTAINABILITY
SOUTH ASIA
C-3, LOWER GROUND FLOOR, GREEN PARK EXTENSION
NEW DELHI - 110016, INDIA
Webinar on ‘Building Low-carbon and Climate Resilient Communities: Key learnings on Implementation of Climate Resilient City Action Plan (CRCAP) methodology in Sri Lanka and Bhutan

3rd October 2019
Keshav Jha
ICLEI - Local Governments for Sustainability, South Asia
Project Introduction

- **Project title 'Asia LEDS Partnership: Scaling Up Lessons from CapaCITIES' in Kurunegala, Sri Lanka and Sarpang Bhutan with support from the Swiss Agency for Development and Cooperation (SDC)**

- **Objective is to strengthen** the capacities of Sri Lanka and Bhutan cities to **identify**, **plan and implement measures** for achieving **lower greenhouse gas emissions growth path** and **enhancing resilience to climate change** in an **integrated manner**

- **Preparation of the comprehensive and robust Climate Resilient Development Action Plans**

- **Preparation of the Greenhouse Gas Emissions Inventory and Vulnerability Assessment**
Climate Resilience

• Climate resilience is defined as the capacity for a socio-ecological system to:
  • absorb stresses and maintain function in the face of external stresses imposed upon it by climate change
  • adapt, reorganize, and evolve into more desirable configurations that improve sustainability of the system prepared for future climate change impacts (Folke, 2006)

• Urban Climate Change Resilience (UCCR) is defined by Rockefeller Foundation as the capacity of cities (individuals, communities, institutions, businesses and systems) to survive, adapt, thrive in the face of stress and shocks, and even transform when conditions require it
Builds on more than 20 years cumulative expertise

A pathway to urban low-carbon development
Climate Resilient CITIES

Methodology – An innovative combined adaptation and mitigation planning methodology for Cities based on GCC and IAP

I. Analyze
II. Act
III. Accelerate
Phase 1: Analyze

Key Activities

1. Commit and mobilize:
   - Sign the Mexico City Pact, Durban Adaptation Charter & other relevant regional commitments
   - Mayoral Announcement
   - Climate Core Team
   - Stakeholder Consultation

2. Research & Assess
   - City, Country Profile
   - Climate Change Impacts & Responses
   - Climate Readiness Review

3. Analyze and set baseline
   - GHG Emissions Inventory
   - Identify fragile urban systems, climate vulnerabilities & risks
   - Compile baseline synthesis report
Phase 1: Analyse Key Outputs

• Against each of the identified climate fragility statements, specifics of the location and people impacted are identified
• A summary of the carbon intensity of city activities is prepared
• Overlaps in critical sectors, from a mitigation and adaptation perspective, are noted
Phase 2: Act

Key Activities

4. Develop Climate Resilient Cities Action Plan
   - Identify Resilience Interventions
   - Screen and prioritize potential resilience interventions
   - Set targets and approve CRCAP

5. Detail & Finance Projects
   - Detail climate action programs and projects
   - Test & demonstrate pilot projects
   - Identify financing models and secure financing

6. Implement and Monitor Locally
   - Develop institutional arrangements and capacity
   - Implement programs and projects
   - Reporting – MRV and M&E
Phase 2: Act
Key Outputs

- Preparation & ratification of CRCAP, along with targets
- Information flow to stakeholders
- Demonstration projects undertaken and climate resilience measures initiated (adaptation and mitigation)
- Large-scale programs and projects initiated & monitored
Phase 3: Accelerate

**Key Activities**

7. Integrate and Collaborate
   - **Horizontal Collaboration** – scope for regional programs and achieving scale
   - **Vertical collaboration and integration** – long term sustainability of programs & scale-up potential
   - **International networking** – access to knowledge & finance

8. Review and Upscale
   - **Systematic review of systems, processes, capacities, partners and actions** and an assessment of targets vs. results
   - **Revise CRCAP:** Identify new sector areas, priorities and actions – enhanced ambition

9. Report, Inspire, Advocate
   - **Report achievements globally**
   - **Showcase, inspire others and gain recognition**
   - **Advocate for local/regional/global action**
Phase 3: Accelerate Key Outputs

- Completing on-going programs and increasing GHG emissions reductions and increased climate adaptive capacities
- Increasing ambition of the CRCAP - Revising the CRCAP
- New policy and projects identified to accelerate action, reflecting increased city ambitions
- Reporting locally/regionally & globally
- Advocating for local/ regional/ global climate action
## Area Profile

### (1) Sri Lanka: Kurunegala

<table>
<thead>
<tr>
<th>Population:</th>
<th>40338</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>11 Sq Kms</td>
</tr>
</tbody>
</table>
| Climate Impacts | • Rising average mean temperature  
                   • Increasing high intensity rainfall first inter and northeast monsoons |
| Fragile Urban System | Urban Planning (2) Sewerage (3) Storm Water Drainage (4) Solid Waste Management (5) Transport (6) Education and training |
                           Per Capital Emission: 2.35 TCO₂e |

### (2) Bhutan: Sarpang and Gelephu

<table>
<thead>
<tr>
<th>Population</th>
<th>46004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>1655 Sq Kms</td>
</tr>
<tr>
<td>Climate Impacts</td>
<td>Rising High Intensity Rainfalls resulting to landslides and flooding</td>
</tr>
<tr>
<td>Fragile Urban System</td>
<td>(1) Drainage (2) Solid Waste Management (3) Health (4) Education and training (5) Finance (6) Urban Planning</td>
</tr>
<tr>
<td>Greenhouse Gas Emission</td>
<td>Being estimated</td>
</tr>
</tbody>
</table>
Kurunegala Workshop Lays Groundwork for CRCAP

The Workshop, held on 11th of July 2019, was attended by the Kurunegala Municipal Council, stakeholders from the Ministry of Housing and Construction, and technical experts from ICLEI South Asia. The workshop aimed to lay the groundwork for the preparation of the Kurunegala Climate Resilient City Action Plan (CRCAP) which is being developed in collaboration with ICLEI South Asia.

The workshop was chaired by the Mayor of Kurunegala, with technical inputs from the ICLEI South Asia team. The discussions focused on identifying key urban systems and infrastructure that are vulnerable to climate change impacts. The workshop also aimed to assess the existing capacity and resources available in the city and how these can be leveraged to prepare for future climate-related threats.

The workshop concluded with an agreement on the next steps for the development of the CRCAP, including the identification of key stakeholders and the establishment of a working group for the project.

The CRCAP will be developed in line with the vision of the Ministry of Housing and Construction to create more resilient cities that can withstand the impacts of climate change. The workshop was an important step in this process, bringing together key stakeholders to ensure the development of a comprehensive and effective CRCAP for Kurunegala.
## Climate-Resilient Priority Actions: Kurunegala (Draft)

<table>
<thead>
<tr>
<th>Resilience Interventions</th>
<th>Scale of Intervention</th>
<th>Mitigation Potential (2020-2030)</th>
<th>Cost of Interventions (Million USD)</th>
<th>Implementation Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rooftop Solar Photovoltaic (PV) Installations in Residential, Commercial and Institutional and Government Buildings</td>
<td>10 MW (Residential Buildings- 2 MW; Commercial and Institutional Buildings- 5 MW; Government Buildings/Facilities- 3 MW)</td>
<td><img src="#" alt="Table" /></td>
<td>11.7</td>
<td>RESCo Model</td>
</tr>
<tr>
<td>Implementation of Energy Efficient Measures in Buildings in order to reduce energy consumption per square square meter of the floor area of the buildings.</td>
<td>100 Buildings</td>
<td><img src="#" alt="Table" /></td>
<td></td>
<td>RESCo model</td>
</tr>
<tr>
<td>Replacement of existing Streetlights with LEDs.</td>
<td>2,099 Streetlights</td>
<td><img src="#" alt="Table" /></td>
<td>0.1</td>
<td>ESCo Model</td>
</tr>
<tr>
<td>Electric Mobility – Replacement of existing fleet of public buses with electric buses with charge charging facility electrified by Solar PV</td>
<td>15 Buses</td>
<td><img src="#" alt="Table" /></td>
<td>6.6</td>
<td>Kurunegala Municipal Corporation with cooperation from Ministry of Transport, Govt. of Sri Lanka</td>
</tr>
<tr>
<td>Solid Waste Management Initiative - Biomethanation</td>
<td>20 TPD Biomethanation Plant</td>
<td><img src="#" alt="Table" /></td>
<td>1.0</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>Installation of Aerobic Treatment Technology based Sewage Treatment Plant</td>
<td>1.7 MLD – Activated Sludge Process Technology- based STP</td>
<td><img src="#" alt="Table" /></td>
<td>0.2</td>
<td>Kurunegala Municipal Corporation</td>
</tr>
<tr>
<td>Grand Total</td>
<td><img src="#" alt="Table" /></td>
<td><img src="#" alt="Table" /></td>
<td>20</td>
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Support – from process to projects
Thank You!

Keshav Jha
Assistant Manager
E-mail: Keshav.jha@iclei.org, iclei-southasia@iclei.org
What is the Size of Sarpang?

- Villages: 172
- Population: 46,004 (M: 24,018, F: 21,986)
- Households: 10,369 (PHCB 2017)
- Gewogs: 12
- Area: 1655 sq.km (Stats 2018)
- Forest: 88%
- 11 Female GT members
Vision:

“A dynamic commercial hub with sustainable rural economy & green environment with undying culture & tradition”
Mission:

I. Ensure sustainable rural livelihood of the people with access to all basic amenities and prompt service delivery.

II. Ensure balanced economic advancement with sustainable green environment.

III. Focus on developing Dzongkhag into commercial hub.

IV. Preserve and promote cultural heritage and strengthen social harmony.
Mandates

- Be responsible for the implementation of social and economic development policies, plans and programs of the Dzongkhag;
- Execute national policies, plans and programs as directed by the government;
- Prepare Human Resource Development plan of the Dzongkhag;
- Provide technical backstopping to Gewog administrations;
- Be responsible for personnel administration of all civil servants of the Dzongkhag administration;
12\textsuperscript{th} FYP Objective

“Just, Harmonious and Sustainable Society through Enhanced Decentralization”
<table>
<thead>
<tr>
<th>National Key Result Areas (17 NKRA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroeconomic Stability Enhanced</td>
</tr>
<tr>
<td>Economic Diversity and Productivity Enhanced</td>
</tr>
<tr>
<td>Poverty Eradicated and Inequality Reduced</td>
</tr>
<tr>
<td>Culture and Tradition Preserved and Promoted</td>
</tr>
<tr>
<td>Carbon neutral, Climate and Disaster Resilient Development Enhanced</td>
</tr>
<tr>
<td>Healthy Ecosystem Services maintained</td>
</tr>
<tr>
<td>Quality of Education and Skills Improved</td>
</tr>
<tr>
<td>Food and Nutrition Security Ensured</td>
</tr>
<tr>
<td>Infrastructure, Communication and Public Services Delivery Improved</td>
</tr>
<tr>
<td>Gender Equality Promoted, Women and Girls Empowered</td>
</tr>
<tr>
<td>Productive and Gainful Employment Created</td>
</tr>
<tr>
<td>Corruption Reduced</td>
</tr>
<tr>
<td>Democracy and Decentralization Strengthened</td>
</tr>
<tr>
<td>Healthy and Caring Society Enhanced</td>
</tr>
<tr>
<td>Livability, Safety and Sustainability of Human Settlements Improved</td>
</tr>
<tr>
<td>Justice Services and Institutions Strengthened</td>
</tr>
<tr>
<td>Water Security Ensured</td>
</tr>
</tbody>
</table>
Dzongkhag’s Objectives
(10 Local Government Key Result Areas - LGKRAs)

1. To create gainful employment and enhance local economy
2. To enhance food and nutrition security
3. To enhance community health and ensure water security
4. To improve quality of education and skills
5. To preserve and promote culture and traditions
Dzongkhag’s Objectives – contd..

6. To improve livability, safety and sustainability of human settlements
7. To enhance transparent, effective and efficient public service delivery
8. To strengthen democracy and decentralization
9. To enhance carbon neutral, climate and disaster resilient development
10. To promote gender equality and empower women and girls
Just, Harmonious and Sustainable Society through Enhanced Decentralisation

NKRA, LGKRA and Programs Linkage

Programme 1: Employment and economic development program
Programme 2: Food and Nutrition development program
Programme 3: Community Health development program etc.
Socio-economic status?

- Mobile Coverage – 99%
  - Better access to markets and fundamental services - Farm roads: 94 (382.27kms), GC Roads: 12 (Kms: 98.74)
- Electricity coverage – 98.98% (153 HHs will be electrified soon)
  - Health coverage - 98% (Hospital – 1, BHU I – 2, BHU II – 10, Subpost – 1, ORCs – 12)
- Rural Water Supply – 99.40%
- Enrolment Rate: 100%
  - Literacy Rate: 72.4% (PHCB 2017) (Secondary Schools –11, PS – 11, ECR – 2, NFE Centers – 59 (3 in Thromde), ECCD – 16 (2 in Thromde), Teachers: 627 (M-383; F:244, 170 under Thromde), Students: 11,643 (M:5695; F: 5048 – 3191 under Thromde) , Non-teaching staff: 166 (including 5 in DEO office)
- Poverty Rate – 12.1% (PAR 2017)
- Unemployment Rate – 2.30% (PHCB 2017)
Issues and Challenges

- Long monsoon vis-à-vis flooding – threatening lives and properties – Atleast 10 streams flowing along the villages - 101 acres of land over the last five years – we have very limited budget for flood protection wall construction eg. 63 HHs, 220 people impacted; 90 acres

- Lack of capacity: Education and Training needed

- Fallow land as result of insufficient water and animal threats

- Malaria and Dengue, Zoonotic Diseases, etc

- Solid waste

- Storm water drainage systems

- **Preparation of Climate Resilient Action Plan with support from ICLEI South Asia**
Thank You