



Climate Innovation Centre for Sri Lanka

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Outline

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- Climate Innovation Centers (CIC):
Concept
- CIC for Sri Lanka: Some Facts and
Thoughts



Climate Change in Sri Lanka: Overview



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Climate Change in Sri Lanka: Signs

- **Several studies based on historical weather data:**
 - Chandrapala (1996); Costa (2008); Eriyagama et al.(2010)
- **Air temperature has been rising all over the country during the last century**
- **Warming trend has accelerated during the recent decades**
 - Global warming could be one reason
 - Other local effects also: Urbanization, deforestation, other land use changes etc.
- **Negative deviation in average annual RF since 1970s**
 - Change is mainly in NEM and FIM. Negligible in SWM & SIM
- **Increased occurrence of droughts, floods etc.**



Projections

Climate parameter	2030			2050			2080		
	A2	A1B	B1	A2	A1B	B1	A2	A1B	B1
Precipitation (%)		11.0	3.6	15.8	25.0	16.5	39.6	35.5	31.3
Temperature (C)	1.0	1.1	1.0	1.8	1.5	1.3	3.6	4.4	2.3

Sri Lanka: Climate Vulnerability

- **High relative losses due to**
 - **Location near tropical areas: Already hot weather condition**
 - **High reliance on weather dependent agriculture and natural resources**
 - **Poor capability to reduce the vulnerability**

- **Potential impacts**
 - **Reduction of agricultural productivity**
 - **Increased water scarcity**
 - **Health impacts: Heat stress, spread of vector borne diseases**
 - **Increased damage due to extreme weather events: Floods, droughts, cyclones**
 - **Involuntary migration: Sea level rise, desertification, habitat destruction**

Impacts on Economy of Sri Lanka

- Major impacts can be expected in following areas:
 - Agriculture
 - Irrigation & water supply
 - Fisheries
 - Other Coastal zone activities: e.g. Tourism
 - Forests & natural eco-systems
 - Human settlements & infrastructure
 - Public Health
 - Energy & industry
- Impacts are:
 - Complex
 - Multi sector
 - Multi regional
 - Involving multiple communities



Potential Impacts

- Paddy based domestic agriculture

Climate effect	Physical Impact	Economic Impact	Nature of Impact
Increase in CO ₂ concentration	<ul style="list-style-type: none"> • Increase in yield due to photosynthesis 	<ul style="list-style-type: none"> • Increase in productivity, yield and income 	+ ?
Rise in atmospheric T ⁰	<ul style="list-style-type: none"> • Heat stress on crops • Increased evapotranspiration 	<ul style="list-style-type: none"> • Decline in productivity, yield and income 	-
Change in rainfall pattern	<ul style="list-style-type: none"> • Deficit areas: Water scarcity • Excess areas: Drainage problems 	<ul style="list-style-type: none"> • Decline in productivity, yield and income • Loss of cultivable area for agriculture 	-
Extreme events	<ul style="list-style-type: none"> • Drought hazard • Flood hazard 	<ul style="list-style-type: none"> • Crop damage and loss of income 	-
Sea level rise	<ul style="list-style-type: none"> • Salt intrusion & salinity development 	<ul style="list-style-type: none"> • Loss of cultivable area for agriculture 	-

Challenges for Mitigation and Adaptation

- **Voluntary efforts alone may not be adequate**
- **Policy and institutional support is necessary to enhance adaptive capacity of stakeholders involved**
- **Five major gaps act as constraints**
 - Information gap
 - Policy gap
 - Institutional Gap
 - Technological Gap
 - Resource mobilization gap
- **All gaps are innovation gaps**



Climate Innovation Centre : Concept



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Concept of Climate Innovation Centre (CIC)

- **Developed by Carbon Trust, UNFCCC's Expert Group on Technology Transfer**
- **CICs are intended to transfer, develop and deploy advanced climate technologies and innovations in mitigation and adaptation:**
 - Aim at addressing all 5 major gaps
- **Functions**
 - Technology needs assessments and analysis
 - Facilitation and coordination of R&D Programs
 - Market/barrier analysis
 - Development and facilitation of innovative policy frameworks/programs and models
 - Business support, entrepreneurship development and resource mobilization
 - Capacity building and training
 - Standards development and certification



Concept of Climate Innovation Centre (CIC)

- **Not a conventional research center**
- **Travels 5 combined journeys simultaneously**
 - **Technology journey**
 - **Company journey**
 - **Finance journey**
 - **Market journey**
 - **Policy journey**
- **Assess climate innovation potential and cater climate innovation needs**



Climate Innovation Centre for Sri Lanka: Some acts and thoughts



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CIC for Sri Lanka: Some Facts

- Sri Lanka currently does not have dedicated center for climate innovations
- However, there are few institutions specialized in selected areas of climate change
 - Climate Change Secretariat: Climate policy and planning
 - Department of Meteorology: Climate and weather information
- Institutions with climate change programs/Units
 - Department of Agriculture
 - Institute of Policy Studies
 - Research Institutes: TRI/RRI/CRI
 - Sustainable Energy Authority
- CSOs/NGOs/International Organizations
 - IUCN
 - Janathakshan
 - IWMI
- Universities



CIC for Sri Lanka: Some Thoughts

- **Should be an independent, self-sustained organization**
- **Connected with but not owned by existing agencies**
- **Consisted of 5 key programs associated with existing organizations facilitated by a Core Center**
 - **Technology journey: research institutes, private sector , universities**
 - **Policy journey: CCS and IPS**
 - **Market and enterprise journey: Private sector**
 - **Social resilience journey : CSOs, INGOs**
 - **Training and communications journey: Universities, research institutes**



CIC for Sri Lanka: Some Thoughts

- Objectives

- Facilitate establishing a ‘Climate Technology Industry’ in Sri Lanka
- Deploy appropriate climate technologies for successful adaptation and mitigation
- Serve as a window for transferring appropriate climate technologies from around the world
- Assist realizing the potential for ‘green jobs’ in the country
- Help sustainable growth of Sri Lanka through mainstreaming climate adaptation and mitigation
- Promote climate-smart value chains



Core Centre (CC)

- **Independent self-sustained organization**
 - **Should function as a think tank on climate change knowledge and COE of climate technology**
 - **Run by a dedicated professional staff**
 - **CC itself should be a model of innovation in institutional development, organizational management as well as physical assets management**
 - **A Resilient, Carbon Negative Organization !**
 - **Should coordinate and facilitate with existing organizations to achieve objectives through innovative mechanisms of cooperation**
 - **Lean staff organization with competitive remuneration based on objective driven incentives**
 - **All activities undertaken as time-bound projects with decentralized management**



Core Centre (CC)

- **A window to access global knowledge and resource mobilization**
 - Networking with all regional and global COEs of climate technology (e.g. TERI, CTCN, CSIRO)
 - Enhance the connectivity with global climate funds through innovative projects
- **Guided by the Climate Innovation Council**
 - Equity-based association of Government, Private Sector, CSOs, Universities
 - Set the broad agenda functioning of the CIC
 - Agenda to take cue from the existing plans/programs and move forward from there
 - National Adaptation Plan (NAP)
 - Technology Needs Assessment (TNA)
 - INDCs





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