

Strategic Plan for Climate Action

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Climate crisis is a set of interconnected issues which can no longer be solved while working in silos. A sustainable future requires addressing current challenges with a holistic view through collaboration, innovation and creativity. Sustainability can be viewed as the integration of environmental, social and economic systems. These systems are a nested hierarchy of sub systems which are an integral part of the system. Interconnectedness and integration of physical, political, organizational, cultural, social and economic elements help in exploring systems and understanding impact of a decision in the real world.

Infrastructure is one such system which has a key role to play in sustainable development. Infrastructure sector faces numerous climate related challenges. These challenges have a major impact on the physical assets and can destroy/ disrupt their functioning and thus impacting the services they provide. Disruption in infrastructure services also has subsequent impacts on other sectors which rely on infrastructure.

Infrastructure problems till date are dealt through a traditional fragmented approach. There are varied adaptation and mitigation measures which are applied in different infrastructure sectors to solve the climate related challenges. While these measures might help in risk mitigation in particular infrastructure sector; they are often planned in silos. Individual sector measures ignore the interdependencies in the infrastructure systems. For example, “transport is dealt with by transport planners, energy is dealt with by energy managers and water use is dealt with by water supply company”¹. This siloed thinking ignores the fact that problems these departments face are interconnected, for example if bus routes are changed; demand of metro will be impacted and introducing electric vehicles will have an impact on transportation infrastructure and energy demand. Thus, it is important to understand these interconnected subsystems to synergize benefits through coordinated actions across sectors.

Gaps in this fragmented thinking indicate a need for flexible and adaptive approach towards climate action which considers inter-system dependencies and diverse user needs. This proposed approach focuses on emission reduction, biodiversity and social benefits along with preparing communities for climate change.

Since, the end aim of infrastructure is to facilitate sustainable development of the society, it is essential that infrastructure issues are solved using user centred collaborative approach. Thus, community should be considered as an indispensable subsystem while identifying interdependencies.

Short-term strategy

For a successful climate action strategy, it is essential that various stakeholders understand the climate risk in their sector and associated interdependencies with other sectors. Thus,

¹ The Open University, 2017. Smart Cities

immediate emphasis needs to be on skill development and coordinated actions. In the short-term, the focus should be on the following:

- Identify key stakeholders and train them on using systems thinking and design thinking approaches which will be used throughout the climate action plan.
- Advance climate literacy for community capacity development. This can be done through awareness campaigns, workshops and regular stakeholder connects.
- Develop long-term community partnerships to enable community driven decision making.
- Understand climate risk and impact of mitigation measures across various infrastructure sectors through a holistic lens. This involves understanding extent of interdependencies across sectors through expert interviews, literature review and stakeholder interactions.
- Identify best practices and align with and elevate actions which address interdependencies.
- Invest in technical capacity development to enable researchers develop and use technical information which helps in climate preparedness work.
- Identify major emission sources and opportunities for emission reductions and carbon sequestration. Use systems thinking approach to synergize benefits through coordinated actions across sectors in this phase.
- Decide on emission reduction targets and strategies for each sector. These targets and strategies should be decided in consultation with stakeholders.

Expected outcomes:

At the end of the first year, stakeholders will have better understanding on systems thinking, design thinking, climate risk and mitigation measures. They will decide on emission reduction targets and best practices and strategies to be implemented through coordinated actions across sectors.

Long-term strategy

During the long-term, the emphasis should be on infrastructure adaptation to climate change by incorporating climate risk into infrastructure plans. A key element for this would be integrating climate risk information into decision making process. This will be aided by the design thinking and systems thinking approaches learnt in the first year of the plan.

To improvise climate risk identification, techniques need to shift from using historical climate information to using climate projections which are designed to account for climate changes that may occur over infrastructure lifecycle, and also consider other socioeconomic conditions which are relevant for climate resilience.

The adaptation approaches should be customized to the specific hazards and risks while addressing interdependencies across various infrastructure systems. Additionally, equal focus on reducing disparities across multiple social and economic groups is required for sustainable development.

For next three years, the focus should be on the following:

- Identify adaptation measures across different sectors.
- Strengthen partnerships across sectors to support green skill development and transition towards regenerative economy.
- Facilitate research and development of new technologies which assist adaptation measures.
- Develop tools to track progress on emission reduction initiatives decided in the first year.
- Develop conflict resolution plans.
- Identify alternate funding sources for advancing green development.
- Transition towards a circular economy model for the community. The model should aim towards achieving zero waste, purchasing sustainable products and developing products with low carbon impact along with other socioeconomic benefits.
- Monitor progress for all initiatives and plan accordingly.

Expected outcomes:

By the end of this plan, stakeholders will be able to decide collaborative adaptation measures and will have transitioned towards the path of sustainable communities. They will have skills to regularly monitor progress of these actions and decide on subsequent measures.

Strategies implemented through this plan will help in achieving emission reduction targets and holistic community development.

Importance of systems thinking and design thinking approach

This plan is based on systems thinking and design thinking principles. Systems thinking approach will help in developing a holistic view of risks and their interdependencies. This helps in understanding exact magnitude of the impact. Solutions identified for these risks are in turn evaluated across interdependencies to evaluate their feasibility.

Interactions across various stages of this plan are based on design thinking approach. Emphasis will be made on understanding issues faced by various stakeholders and taking their feedback on the solutions identified.

Use of these approaches will help in identifying solutions which address the interdependencies and focussing of them first, leading to maximum benefits with minimum resource utilization.

Extensive focus on skill development and training the stakeholders on systems thinking and design thinking along with climate literacy will ensure that all stakeholders understand the gravity of the climate risk, impact it has on them and how can they help in minimizing this impact. This will lead to community based decision making and ownership.

Consistent stakeholder involvement will help in keeping the plan on track; thus, facilitating sustainable development.