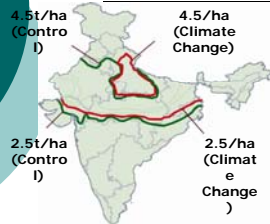


Towards Carbon neutral cities - Challenges

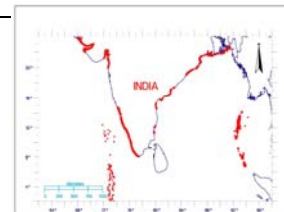
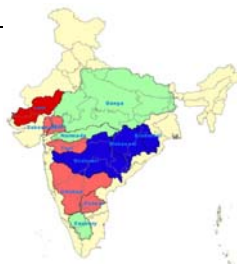
Sumana Bhattacharya
NATCOM PMC, WII

The Context

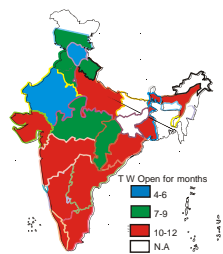
Agriculture
Coastal zones



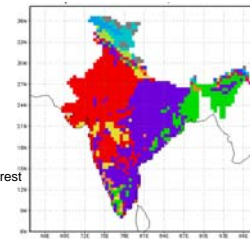
Water



Health (Malaria)



Forests



- Acute physical water scarce conditions
- Constant water scarcities and shortages
- Seasonal / regular stressed conditions
- Rare water shortages
- Dry savannah
- Xeric Shrub land
- Xeric woodland
- Tropical Seasonal Forest
- Boreal Evergreen
- Tundra

The Context

- Supply and demand of resources in cities are responsible for the majority of global carbon emissions in the world
- With projected increase in population in cities in the future, these emissions are likely to increase manifold
- The need of the hour is to build or retrofit our cities in such a way so as to make them livable in the current climate situation and builds up its resilience for sustaining our future generations without the fear of adverse impacts of climate change

Why cities

- City governments play a critical role in addressing environmental management issues such as pollution, urban planning, water supply, energy supply, transport management etc. the essentials of a city life.
- Local initiatives have placed local government on the front lines of environmental management.
- Cities in many ways are the testing grounds for emerging trends in climate solutions in some cities in the world and are emerging as one in India

Barriers towards developing Carbon neutral cities

- A variety of factors have prevented the mainstreaming of climate change planning at the local level
 - inadequate attention of the policy makers
 - lack lustre public support
 - non clarity on availability of funds to engage more actively in climate change adaptation and mitigation projects which has to take on board the long term challenges of CC
 - and then the issues of governance for managing new challanges

Green governance – the issues

- What should be the respective institutional role of national and local levels for climate change policies?
- What explains the divergence between those regional governments that have assumed leadership in environmental projects and others that have done relatively little?
- How can regional authorities become more involved in environmental monitoring and reporting? What are the risks?
- What types of cooperative arrangements between different levels of governments could be adapted to pursue climate-change mitigation and adaptation objectives?

Green governance – the issues

- What are some key areas of potential conflict between climate change response measures and policies/programs for other core urban governance needs?
- How existing regional and urban policies implemented by national governments can be adapted and reframed to foster climate friendly policies?
- What are some key examples of climate change response measures that can lead to benefits for other important realms of urban governance, for instance, related to housing and sanitation, health and security, and economic growth?

Financing CC programmes in cities

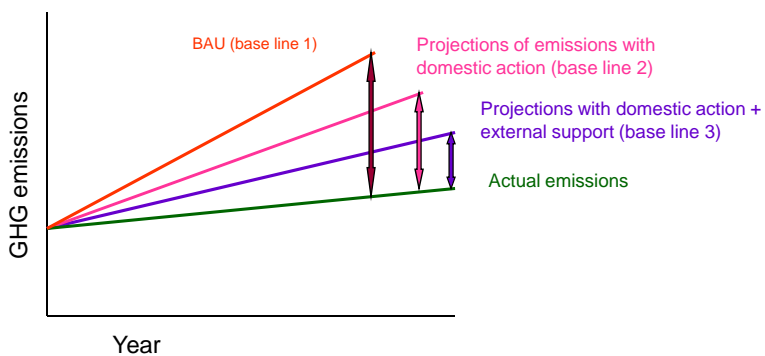
- What does climate change imply for the budgets of cities?
- To what extent the costs of retrofitting infrastructure to adapt to climate change is integrated into regular municipal finance?
- Municipalities often depend on revenue from gas, road tolls, property taxes, parking, and building applications. How does the current financial system award environmentally damaging practices and how can this be reversed to create more sustainable urban environments?

Financing

- What new instruments could be used to finance climate friendly projects?
- Can the introduction of sub-national cap-and-trade schemes be an additional instrument of finance?
- How could environmental pricing and other environmental fiscal instruments (EFIs) reform the current urban taxation system?

MRV

- How can local governments effectively track their environmental footprint?



So we need to have a system that

- Tracks emission trends comprehensively at regular intervals
- Tracks information on cities policies towards mitigating CC and quantify the impact
- Also quantify the impacts of
 - economic/ fiscal incentives
 - regulations
 - market based mechanisms
 - R&D initiatives
 - Capacity building

In conclusion – the framework

Track GHG emission trends by sectors and categories

Identify key emitting sources and key sinks for sequestration

Device city governance/ policies / seek Financial & technology support

Estimate base line projections of expected output targets

Monitor/ Report/ Verify actual input & output targets on regular intervals

Quantify GHG reduction achieved and get verification done by 3rd Party

economic/fiscal/market based /regulatory/ capacity building & R&D based incentives

