

EPIC

PROLIFERATING ECOSYSTEM-BASED ADAPTATION PRACTICES IN INDIAN CITIES



WHY THIS PROJECT?

The National Institute of Urban Affairs evaluated 100 Indian Smart Cities for the 'climate resilience' which revealed that among all the categories of evaluation, '**Water Management**' was the most critical. Around 77% of the cities were in very early stage of conceptualising climate actions on this front, while several were yet to consider any climate change adaptation for water security.

It is now well established that water is the primary medium through which the impacts of climate change are manifested. Enhancing water security is, therefore, central to any climate change adaptation strategy for a city.

EPIC project is centred on this premise. It **seeks to address two core challenges** that are faced by most cities in the face of climate change

WATER SCARCITY

FLOODING

The overall vision of this project is to create an enabling environment for mainstreaming ecosystem-based adaption (EbA) in the water management strategy of a city. Additionally, it will make a case for adopting this approach in other cities.

Specific objectives of project :



Sensitizing stakeholders on the value and the role Ecosystems can play for climate change adaptation in urban water management

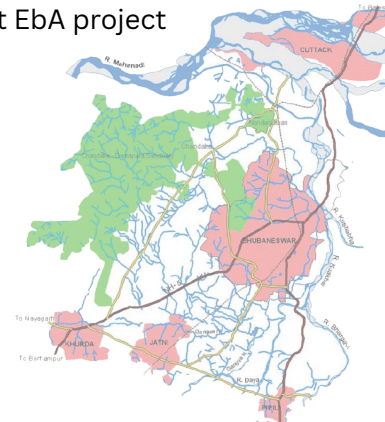


Developing an evidence-base practical EbA solutions, especially highlighting the relevant local and traditional practices



Preparing knowledge products that accentuate the role of EbA in mitigating urban flooding and reducing water scarcity for cities

Considering the rich bio-diversity, willingness to adopt innovative approaches, Bhubaneswar city is selected to implement EbA project



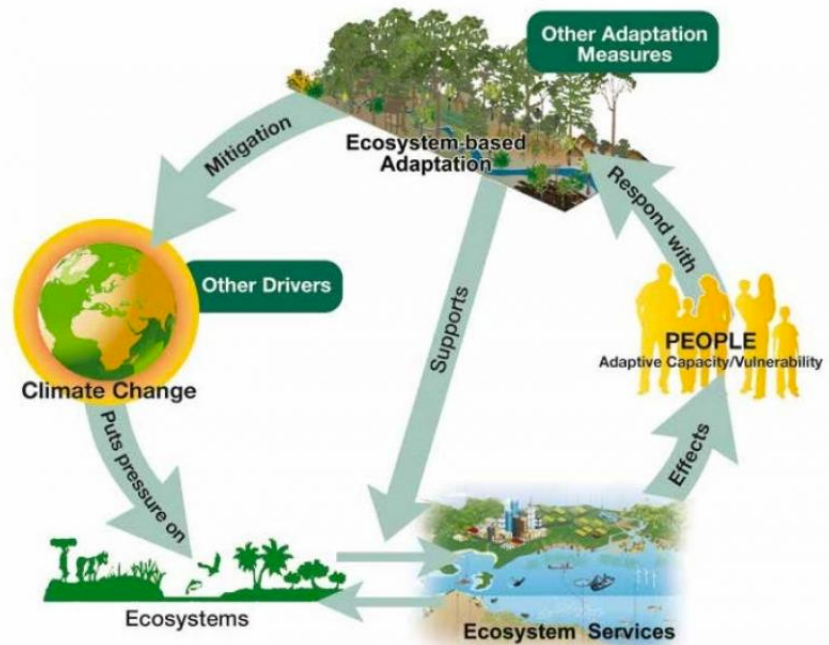
What is EbA ?

The common approach adopted by cities to mitigate the climate change impacts like urban flooding, urban heat island effects, water scarcity and so on are centred around 'Hard' or 'Grey' infrastructure options, such as constructing embankments for flood control or new reservoirs to meet water demand, energy intensive cooling mechanisms, deploying storm water drains etc. These options are cost-intensive, difficult to manage. Additionally, some of these approaches also have adverse impacts on the ecology and natural elements of cities like rivers, drains, waterbodies etc..

The Ecosystem-based Adaptation (EbA), is centred around leveraging nature based solutions for the restoration of degraded ecosystem, their conservation for the sustainable management that can help cities to adapt to mitigate the climate change .

“Ecosystem-based adaptation is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change.”

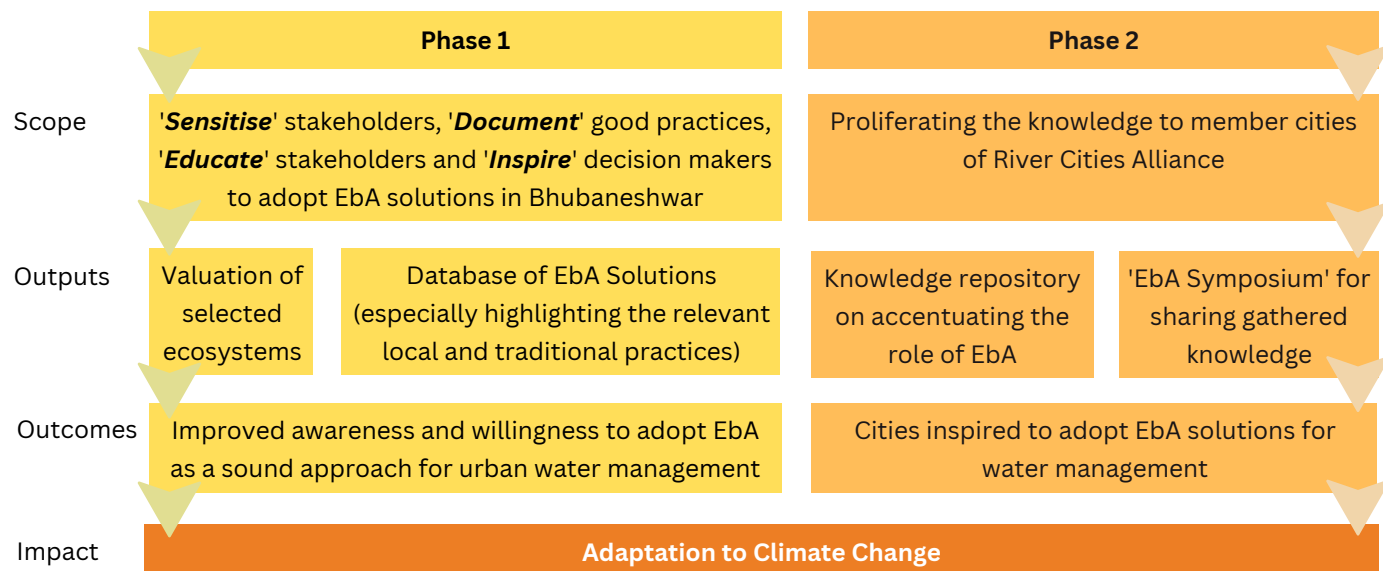
CBD (United Nations Convention on Biological Diversity) (2009)



Ecosystem-based Adaptation conceptualised in the Driving Forces-Pressures-State-Impacts-Responses (DPSIR) framework.
Source: UNEP-UNDP-IUCN (2010) Making the Case for Ecosystem Based Adaptation: Building Resilience to Climate Change.

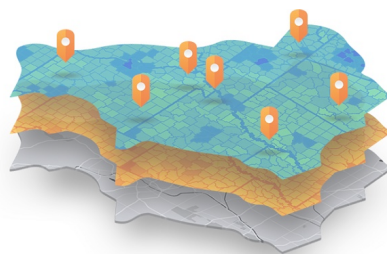
PROJECT DETAILS

The project will be carried out in two phases.



Benefits for the City

- GIS based location map of Climate Risks (water scarcity / urban flooding)
- GIS based map of Ecosystems of city
- Database of tangible EbA Solutions
- Potential livelihood options



Ecosystem and biodiversity mapping



Database of EbA solutions



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