

# Urban Flooding

## Potential Climate/ Disaster Impacts addressed and Justification for this Approach

Urban flooding is a challenge that cities are facing. The city of Bhubaneswar has been facing this challenge every season. When it rains the area of Nayapalli gets flooded. Thus, a drainage master plan was developed for a brownfield (Nayapalli) and a greenfield area (Ward 4).

## Process of Implementation

1. A rapid assessment of the integrated urban water management was conducted looking at the key issues pertaining to overall water management
2. A gap assessment study was conducted and based on which recommendation and way forward was shared with city for improvement of urban flooding issues
3. Urban design thinking methodology was adopted which used the gap analysis report, stakeholder consultations and online surveys and prototype was developed for a pilot area (Nayapalli) in Bhubaneswar using the sponge city concept
4. Taking into consideration the prefeasibility concept a detailed drainage plan was prepared for Nayapalli including detailed drawing and bill of quantities. This will be a brownfield development
5. Ward 4 area of Bhubaneswar is an upcoming area and a lot of development activities are happening. It is more like a greenfield area as there are no existing drainage network. First of all a toposurvey of the area was conducted and then drainage plan was developed.
6. muSAvior app: an early warning system was developed under the ICT-A project for a pilot area which was then upscaled to the whole city under the CSC project
7. The drainage plan for ward 4 was overlayed on the revenue map with each plot level details on the map. A phase wise development plan was proposed with detailed design and bill of quantities which can be implemented by the city.

## Project Title

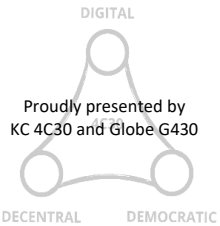
Climate Smart Cities Project

## Project Number

2019.15.9

## Results and Impacts

1. Drainage plan for Nayapalli area was developed and submitted to the city
2. Drainage master plan for ward 4 was developed and submitted to the city which is under implementation.
3. The musaviour app which was extended to the city under the CSC project is planned to be implemented by the Smart City Limited of Bhubaneswar to integrate in their command and control centre.



### TYPE OF APPROACH

Plan & Strategy Development



### COUNTRY

India



### LEVEL OF INTERVENTION

city, neighbourhood



### TYPE OF RISK MANAGEMENT

prevention, resistance, transformation



### MAIN HAZARDS ADDRESSED

flood



### URBAN FUNCTION PROTECTED

Basic existential functions (water, electricity, etc.), Public security/ civil protection



### SPHERE OF INTERVENTION

economy, environment



### RESOURCES REQUIRED

External consultants, Volunteers from college, online survey tool



### COOPERATION PARTNERS

BSCl, BMC, Residential welfare associations, institutions



### LINKS

<https://urban-industrial.in/hrdpmp/igep-uid/content/e5170/e6258/e14274/e15856/MODRAINStoSPO NGECITY.pdf>