

SHIMLA, INDIA + BOULDER, COLORADO



THE CITY OF SHIMLA was settled by the British and was declared the Summer Capital of the British India in 1864. It is a rapidly urbanizing town located in the tectonically alive and high seismic risk zone in the Lesser Himalayan ranges of the State of Himachal Pradesh in India. Shimla evolved from a small hill settlement to one of the largest towns situated in the Himalayan mountains of India. In recent years, Shimla experienced rapid but mostly unplanned urban growth which is increasing the susceptibility of the community to climate change impacts.

Climate projections for Shimla show the potential for further rainfall variability and increase in temperature which may affect the ecosystem services, particularly the availability, supply and quality of freshwater; and increase the vulnerability of urban systems to climate change induced natural risks, specifically high intensity rainfall, flash-floods, slope failures landslides, droughts causing loss of life, and devastation of property, urban services, infrastructure, livelihood and health of people, particularly that of marginalized and poor households.

Recognizing these risks, the Shimla Municipal Corporation is actively working to protect its infrastructure and natural resources to adapt to and minimize the impacts climate change will have on fresh water supplies.

PARTNERING ON SHARED CLIMATE CHALLENGES

As two mountain cities with similar climate vulnerabilities, Boulder, Colorado and Shimla, India were paired to address climate impacts on fresh water resources. Climate change impacts have big implications for both Boulder and Shimla. Working with Urban Climate Change Research Network scientist, Dr. Prakesh Tiwari, staff from Boulder assisted Shimla create a region-specific understandings of how water resources will be impacted by changes in temperature and precipitation.

RESULTS

- 1 **Adoption of standard operating procedures** that reflect industry standards and best practices in water distribution and management centers in Shimla.
- 2 **Design and launch of a water conservation campaign** that included a logo, message and marketing strategy to increase awareness and induce behavior change to reduce water usage and loss.
- 3 **Development of a climate scenario planning tool** that encourages community participation and engagement in creating short-term no/low-regrets strategies that recognize an uncertain future.
- 4 **Finalized recommendations to create more climate resilient water supply** through a source to tap assessment that will address the reduction in water loss currently estimated at 25–40%.

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DIAGNOSTIC ASSESSMENT: IDENTIFYING CHALLENGES

- Shimla faces 25–40% non-revenue water loss
- Water quality concerns manifested in public health crises
- Inability to store and capture water in light of more intense and erratic rain events resulting from climate change
- Need for structured planning approach in light of future climate scenarios

TECHNICAL EXCHANGE: SHARING BEST PRACTICES

- Recommended standard operating procedures for water resource management facilities
- Site visits to areas that support no/low-regrets design strategies for flood events and storm water retention
- Pipe repair technology shared that allows for an alternative to replacement to fixing repairs

WORK PLANNING: CREATING ACTIONABLE PROGRESS TOWARD LOCALIZED ADAPTATION MEASURES

OBJECTIVE

Support the development of local climate-risk assessments and provide technical guidance to prioritize actions that protect fresh water resources from climate impacts.

ACTIVITY 1

Assess Shimla's water schemes to identify low cost opportunities for savings. Outline and prioritize recommendations for the municipal corporation that will ensure more climate resilient water resource infrastructure.

ACTIVITY 2

Engage municipal staff and community stakeholders in a capacity building workshop around climate resilient water resources, and scenario planning for Shimla's climate future.

CROSS-CUTTING RECOMMENDATIONS AND LESSONS LEARNED

1

Mitigating water loss can be as important as considering new water supplies that will be needed in light of climate change.

2

Community engagement is critical to creating a culture that values water quality equally with water quantity to ensure more climate resilient water resources.

3

Local governments don't need perfectly downscaled climate models to begin scenario planning and developing low/no-regrets strategies.

4

Cities must recognize that climate change also means water change and begin to plan and adapt accordingly.