Enhancing Adaptive Capacity to Climate Change through Conservation of Traditional Water Supply Sources (Wells and Bawdies) of Indore city

A Project Sanctioned by MoEFCC, Govt of India under Climate Change Action Program

Government of Madhya Pradesh
Department of Environment
Environmental Planning and Coordination Organisation (EPCO)
State Knowledge Management Centre on Climate Change, Bhopal

BACKGROUND

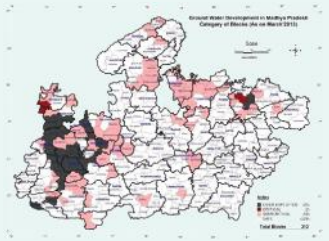
Adequate availability of water is a pre-requisite for survival and decent quality of human life. As cities face water scarcity, there is a need for paradigm shift in water management calling for an urgent need to conserve the local resources and improve water use efficiency.

Cities are faced with water crisis. Indore is no exception. Central Groundwater Board, in its latest assessment classifies Indore as an Over-Exploited block as far as groundwater resources are concerned. Vulnerability Assessment Report for MP 2018 also classifies Indore under Very High Vulnerability with regard to water sector.

A Climate Resilience Strategy (CRS) for Indore City has been developed for the city of Indore as a part of Asian Cities Climate Change Resilience Network (ACCCRN). The strategy suggested conjunctive management of water resources.

India's National Water Mission recognizes the need to enhance recharge of the sources and recharge zones of deeper groundwater aquifers. This has also been given high priority in the MP State Action Plan on Climate Change .

Ground Water Classification of blocks of MP 2013



District Water Vulnerbillty Madhya Pradesh Vulnearability : Current (1981-2010)

To address these concerns and to move from knowledge to field actions stakeholder consultations were organised to design a project. A detailed atlas of all the traditional water supply sources falling within IMC limits was developed with the financial support of Department of Environment GoMP. The State Steering Committee chaired by Chief Secretary, GoMP, approved the DPR and MoEFCC, GoI sanctioned the project under Climate Change Action Programme.

OBJECTIVES

Enhance resilience of Indore against climate change effects on water supply system, by conserving potential traditional water supply sources (Well, Bawdies etc.) of the city.

Promoting the concept of conjunctive water use through restoration/rejuvenation/conservation of 330 traditional water storing bodies viz. dug well and bawdies in Indore.

Enhancing recharge potential of the sources and recharge zones of deeper groundwater aquifers.

Community engagements for effective management of water sources through developing sense of ownership and responsibility.

PROCESS

The project has been developed through a highly consultative and participatory approach involving all the stakeholders from policymakers to civil society organizations and communities. The process was based on the decision to translate the knowledge emerging out of the climate resilience strategy into ground actions. The flowchart explains the various steps taken to conceive, design, approve and implement the project.

City Advisory Committee

Assessing city vulnerability & risks; including CC impacts, sectoral studies

Indore City Resilience Strategy under ACCCRN

Consultations with Hon' Mayor IMC and Officials and public

Data Collection and Analysis and Identification of potential sources

Cost Estimates and Ward wise Atlas preparation

Formulation of TWSS Detail project to Conserve Local water resources with community participation

Project Approvals and Setting of Institutional Mechanism

Project Implementation

COMPONENTS

Feasibility Study:

Preparing GIS maps, Ward wise layout maps and current status for the conservation of potential traditional water supply sources.

Community engagements:

Developing sense of community ownership to ensure sustainability through stakeholders consultation, ward wise meetings, etc.

Restoration/Rejuvenation/ Conservation of Traditional Water Sources:

Physical Restoration: Repair or construction of parapet wall, platform surrounding the source and lining in the source for protection from falling soft strata.

Reclaim: original depth by de-silting or deepening, dewatering of the source to remove stagnant contaminated water and recoup fresh water from the aquifer.

De-Silting : Removal of silt deposited during the past years and also removal of the solid waste dumped in a defunct source.

Dewatering : For open well which has a water column but is not in use, water would be contaminated by bio waste like dead animals, litter, fruits and human activities. It helps to improve the water quality and yield.

Deepening : Deepening is being done in favourable geological conditions to improve the yield.

Recharging : Recharging of Traditional Water Sources: Harvesting rainwater for Recharging of the water source is one of the significant activities which can support in revival of source.

Safety Precaution: Covering water sources using steel mesh & fencing to avoid the accidents and contamination.

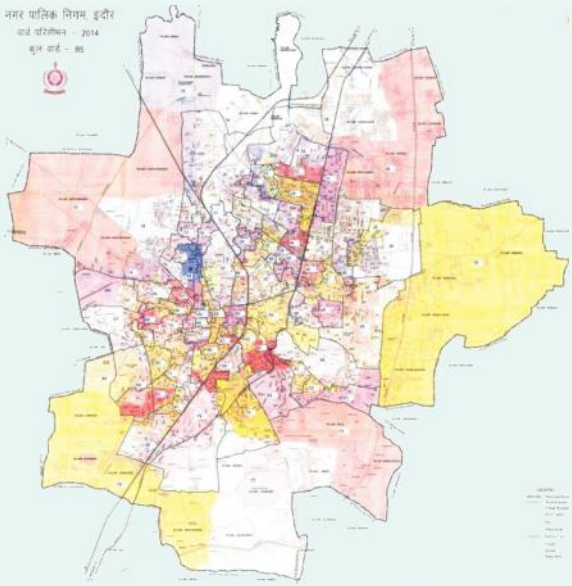
EXPECTED BENEFITS

Components/ Activities	Key Benefits (Direct)		
	Social	Economical	Environmental
Conservation of Traditional Water Sources	• Improved water availability. • Strengthen capacity of women and marginalized groups to adapt to climate change and variability.	• Increase in water availability. • Cost reduction associated with procurement of water. • More saving for household and IMC.	• Improvement of water quality in the city. • Conservation of water. • Improved greenery. • Increase in ground water recharge potential
Community Engagements	Local community will own the water source , maintain and manage the water bodies.	Will avail benefit associated with reduce water scarcity.	Improved environment and water bodies

Approximate 16500 households are likely to get direct benefit & IMC may save revenue and reduce the load on existing water supply system.

PROJECT AREA

Indore one of the cleanest cities in India, is the most populous city of MP and the largest metropolitan city. As per 2011 census, population of Indore is twenty lakh. The average annual growth rate of Indore is around 2.85%.



Indore city is the headquarter of both Indore District and Indore Division. The city is distributed over a land area of about 530 square kilometers making it the most densely populated major city. Indore has been selected as one of the 100 Indian cities to be developed as a smart city under the Smart Cities Mission.

There are 85 Municipal Wards and 19 Municipal Zones. The present water demand is about 290 MLD. With a projected population of 30 lakhs by 2021, the water demand is projected to be around 421 MLD

Indore has transformed itself tremendously in past few years and the credit goes to political leadership, committed district administraion, officials and staff of IMC and the people of Indore who have shown unparalleled dedication and hard work in making Indore one of the best cities to live in.

Indore lies on a borderline between a humid subtropical climate and a tropical climate. Because of its high elevation and inland location, even during the hottest months the nights are relatively cool, which is known as Shab-e-Malwa. Indore gets moderate rainfall of 700 to 800 millimetres (28 to 31 in) during July–September due to the southwest monsoon.

Project Funding Support :

Ministry of Environment Forest and Climate Change (MoEFCC)

The project worth INR 5.00 crore has been sanctioned under the Climate Change Action Programme (CCAP) of Ministry of Environment, Forests and Climate Change (MoEFCC), Govt. of India.

Project Implementation Agency :

Indore Municipal Corporation (IMC)

Indore Municipal Corporation, Indore is the biggest Municipal body of the state of MP. Besides efficiently discharging various constitutional and regulatory duties including basic services to citizens, Implementation and Monitoring of various Development Projects (Social and Physical Infrastructure), Generate Innovative ways to Increase the Municipal Revenue. Indore Municipal Corporations unstinted efforts has made Indore the cleanest city of India

Project Execution & Coordination :

Environmental Planning and Coordination Organisation (EPCO)

Environmental Planning and Coordination Organisation (EPCO) is a think-tank on environmental and sustainable development issues under the Environment Department, Government of Madhya Pradesh. The Government of MP has declared EPCO as the state designated agency to address climate change issues. To cater to the climate change information needs at the state level, the State Knowledge Management Centre on Climate Change (SKMCCC) has been established within EPCO.

Contact :
Environmental Planning and Coordination Organization (EPCO)
State Knowledge Management Centre on Climate Change
Department of Environment, Government of MP
Paryavaran Parisar, E-5, Arera Colony, Bhopal
☎ 0755-2970499 | Website : www.climatechange.mp.gov.in | @ E-mail : epcoccc@gmail.com

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