Roundtable Proceedings

Water and Justice: Indore's Path to a Sustainable Future

Environmental Roundtable Series

BCSD
Bahá'í Chair For Studies In Development
Devi Ahilya Vishwavidyalaya

Roundtable Proceedings

Water and Justice: Indore's Path to a Sustainable Future

Roundtable organized by the Bahá'í Chair for Studies in Development, DAVV

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Since late 2025, the Chair has been convening a series of roundtable discussions on themes related to the environment and sustainable development, with a particular focus on Indore and the Malwa region. These gatherings bring together academicians, policymakers, development practitioners, activists, and social entrepreneurs to reflect collectively and share insights relevant to addressing environmental challenges in the region.

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Profile of the Speakers

Dr. Sandeep Narulkar
Professor of Civil Engineering at Shri Govindram Seksaria Institute of Technology and Science (SGSITS), Indore; Dean of Students' Welfare; Teachers' Nominee in the Governing Body.

Dr. Niharika Shivhare
Assistant Professor at Prestige Institute of Management and Research; Ph.D. in Chemistry with 17 years of teaching and research experience.

Mr. Priyanshu Kumath
Founder and CEO, Clean-Water (Sustainable Water Technologies Pvt. Ltd.).

Mr. Ambrish Kela
Co-Founder, Jaivik Setu; Managing Director, Scientech Technologies.

Mr. Suresh M.G.
Project Coordinator, Integrated Water Management Program, Nagrath Charitable Trust; Project In-charge, Rainwater Harvesting Project, Indore Municipal Corporation.

Background Note

Overview: Water is one of the most basic necessities of life—and we are running out of it. Billions of people across the world face acute water scarcity at some point each year. With limited water sources and rapidly escalating demands, freshwater systems that societies once relied upon—rivers, lakes, ponds, wetlands, and watersheds—are drying up or becoming so polluted that they are no longer fit for human use. Water-intensive agriculture, industrialization, and unplanned urbanization have accelerated this decline.

To meet rising needs, cities have increasingly turned to groundwater extraction. Yet in most Indian cities, aquifers have now fallen to alarmingly low levels. Over-extraction is especially dangerous: aquifers take thousands of years to naturally recharge, and their depletion can create geological instability, including the formation of sinkholes.

The crisis, however, is not merely one of availability. Rapid urbanization, industrial growth, and chemical-intensive agriculture have contaminated most surface and groundwater sources with pesticides, fertilizers, industrial effluents, and sewage. For poor urban neighbourhoods and villages, lack of access to water for drinking and sanitation remains a major public health crisis.

Water Justice: The worst impact of water scarcity and contamination is faced by the socially and economically underprivileged. As clean water becomes more scarce, access is increasingly captured by those with financial resources, deepening existing inequalities. Research suggests that as global warming intensifies, the poorest—who already face the greatest obstacles—will become even more dependent on increasingly unreliable water sources.

For communities subject to social discrimination, such as women or Dalits, the crisis amplifies pre-existing inequities. When water is scarce, women often bear the responsibility of standing in long lines or travelling long distances to collect it, reducing opportunities for education and income-generating work. Because they manage most household needs—including caring for children, the elderly, and the sick—the stress of coping with inadequate potable water falls disproportionately on them.

The Indore Scenario: Indore reflects this global pattern with striking clarity. The city's main traditional water sources—the Kanh and Saraswati rivers—have today degraded and depleted. Indore therefore relies heavily on the Narmada River, 70 km away, for its basic needs through one of the most expensive water-supply projects in India. Even so, the municipal corporation can supply water to only about half the population. Nearly 38% of the population lives in informal settlements who depend on tanker deliveries and often wait for hours for insufficient quantities. Meanwhile, borewell extraction across neighbourhoods continues to deplete groundwater at unsustainable rates.

Attempts to artificially link river systems, such as the Narmada–Kshipra project, raise concerns about long-term ecological disruption—flooding, altered ecosystems, and new vulnerabilities created by engineered solutions.

Taken together, these conditions reveal the limits of policies that treat nature primarily as a resource to be extracted. A sustainable future requires a different conception—one that treats rivers, groundwater, wetlands, and ecosystems as a shared inheritance that must be stewarded with justice, equity, and environmental responsibility. This roundtable seeks to explore the contours of such a vision, drawing on governance, ecology, ethics, community participation, and technological insight.

Some questions for discussion:

- What would it take for Indore to regenerate its local water bodies and reduce long-term dependency on the Narmada?
- How can governance models shift from extraction to stewardship?
- How can water governance place justice—and not merely crisis management—at its centre?
- What policies could ensure that the poorest and most vulnerable communities experience water as a right, not a privilege?
- How can communities become genuine partners in decision-making rather than passive recipients of services?

Roundtable Proceedings

As part of its ongoing series of environmental roundtables, the Bahá'í Chair for Studies in Development at Devi Ahilya Vishwavidyalaya organized a discussion on the theme *"Water and Justice: Indore's Path to a Sustainable Future."*

The speakers included Mr. Priyanshu Kumath (Clean-Water), Mr. Ambrish Kela (Jaivik Setu and Scientech Technologies), Mr. Suresh M.G. (Nagrath Charitable Trust), Dr. Sandeep Narulkar (SGSITS), and Dr. Niharika Shivhare (Prestige Institute of Management and Research).

Recognizing the Centrality of Water in Human Advancement

Dr. Arash Fazli, Head of the Bahá'í Chair, opened the roundtable by describing water as foundational to all life, not merely a human necessity. He cautioned against viewing water solely through an anthropocentric lens, emphasizing that every form of life depends upon it. Historically, civilizations emerged around rivers, and Indian culture revered water bodies as sacred because of their life-sustaining role.

He noted that industrialization fundamentally altered this relationship. Freshwater sources began to be over-extracted beyond their regenerative capacity. Industrial agriculture, in

particular, has driven excessive use and waste, contributing to the disappearance and degradation of water bodies. Referring to classical literature, he observed that poets such as Kalidasa once described rivers like the Kanh and Saraswati; today, these rivers are barely visible, often reduced to polluted drains.

Dr. Fazli identified groundwater over-extraction as a critical concern. Groundwater, he stressed, is not an infinite resource; in Indore's geological context, recharge can take thousands of years. He challenged the assumption that land ownership implies ownership of groundwater, likening it instead to "a river running underground." Drawing on Cape Town's "Day Zero" crisis, he warned that Indian cities could face similar emergencies if current policies persist.

He framed the crisis as fundamentally ethical and civilizational. Modern society, he argued, treats nature primarily in terms of instrumental value. Recognizing intrinsic value in rivers and ecosystems would compel greater responsibility toward future generations. The challenge lies not in articulating this ethical shift, but in translating it into practical action.

Water Demand Management and Urban Equity

Prof. Sandeep Narulkar argued that Indore's crisis stems not only from scarcity but from mismanagement and inequitable distribution. Historically, the city relied on tanks, lakes, and recharge systems established during the Holkar era. Rapid population growth and unregulated tube-well extraction, however, have turned Indore into a "dark zone," where extraction far exceeds recharge.

He criticized the long-standing administrative focus on source augmentation rather than demand regulation. The result has been increasing dependence on the costly Narmada project, despite high financial, energy, and environmental costs and persistent household shortages.

Prof. Narulkar highlighted stark inequalities: affluent neighbourhoods often waste water, while informal settlements receive minimal supply. Infrastructure inefficiencies—leakages, unauthorized consumption, and poor pressure management—compound the crisis, making the system highly power-intensive.

He advocated for comprehensive water demand management, including leakage control, ICT-based monitoring, recycling and reuse, and prioritization of local sources for secondary use. Drawing lessons from South African cities that approached "Day Zero," he argued that such measures could significantly enhance sustainability and justice. He concluded that meaningful water justice requires equitable distribution, sustainable resource integration, and a decisive shift away from supply-centric planning.

Water Education and Social Awareness

Dr. Niharika Shivhare emphasized that Indore's crisis is driven less by absolute scarcity than by wastefulness, weak regulation, and ineffective technical solutions. The normalization of motor pumps and tanker dependence has fostered the illusion of abundance, undermining conservation.

She stressed the need for public education and behavioural change. Without restoring intergenerational wisdom regarding water use, technical interventions alone will fail.

Dr. Shivhare cautioned that many rainwater harvesting efforts are ineffective due to Indore's basaltic rock strata. Shallow pits do not recharge aquifers; genuine recharge requires deep shafts, monitoring, and institutional accountability. She proposed universal metering, graded pricing, stricter regulation, and public recognition for zero-discharge industries. Drawing parallels with Indore's cleanliness campaign, she suggested a similarly sustained public movement for water stewardship.

Political Will and Systemic Reform

Mr. Priyanshu Kumath argued that Indore's crisis is both quantitative and qualitative. The Narmada-based supply system is energy-intensive and costly, and local sources are either limited or contaminated.

He stressed that the core challenge is political will. Technical solutions exist, but implementation and maintenance are inconsistent. Citing the rejuvenation of Pipliyahana Lake, he noted that improvements were sustained only while grant funding was available.

Without public pressure, transparent governance, groundwater monitoring, and long-term maintenance frameworks, he warned, Indore risks severe scarcity and social instability.

Ecological Restoration and Self-Sustainability

Mr. Ambrish Kela situated Indore's crisis within a broader ecological framework. He emphasized regenerative agriculture, increased soil carbon, tree plantation, and deep-rooted grasses such as vetiver as natural methods to enhance water retention and recharge.

Arguing that Indore receives adequate annual rainfall, he proposed preventing surface run-off and reusing treated wastewater. With approximately 300 MLD generated by sewage treatment plants, treated wastewater could meet secondary demands and support groundwater recharge, thereby reducing dependence on the Narmada.

Collective Ownership and Civic Responsibility

Mr. Suresh M.G. reflected on years of ground-level engagement. He noted that while significant work has been undertaken by civil society and the Municipal Corporation, limited public awareness has reduced its impact.

Indore's per capita consumption, he suggested, ranges between 150–200 litres per day, pushing total demand to 600–700 MLD—far exceeding effective supply. Transmission losses and groundwater over-extraction further strain the system.

He highlighted successful colony-level rainwater harvesting models that reduced water bills to zero, demonstrating that technical solutions are viable when implemented collectively and honestly. He concluded that sustained civic participation and integrity in execution are indispensable.

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The discussion underscored persistent inequalities in water access. Commercial activities often consume disproportionate shares, leaving less for household use. Socioeconomic status strongly shapes access even at the domestic level.

Participants highlighted the lack of reliable monitoring infrastructure, which hampers effective planning. Behavioural change emerged as a central theme: technological solutions alone are insufficient without a shift in attitudes toward collective stewardship.

The roundtable concluded with a shared recognition that Indore's water crisis is a collective responsibility. Addressing it requires ethical commitment, informed citizenship, institutional accountability, and sustained public participation.

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