



THE TURMOIL UNDERNEATH:

An Analysis of Bangalore Groundwater Crisis

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FINAL REPORT

My project topic is related to the problem of groundwater crisis from which Bangaloreans are suffering, its impact on different sections of society, environment and the possible solutions that can be implemented on individual and institutional level. I have looked at this issue on the ground level and even conducted surveys to assess general public opinion on the issue. Through this topic, I have attempted to analyse the groundwater problem that has significantly impacted Bangalore. Examining the dual connection with climate change, in which groundwater crises contributes to the climate crisis and vice versa.

The underlying interest from the project stemmed from my time as a student in NLS Bangalore for 5 years. I have often observed the groundwater crisis playing out in reality during my stay in a flat in Nagarabhavi, where significant groundwater crises were faced, and also as a hostelite in NLS.

Blog: You can access this blogpost [here](#).

Note: You can also visit the Instagram handle that I and Ankit Singh (2451) made to generate social media outreach to the causes under-focussed.

You can visit this Instagram handle here- [@footprintrrrr](#)

This blog comprehensively examines the groundwater crisis in Bangalore, focusing on its causes, impacts on human life and marginalized communities, and the relationship between climate change and groundwater depletion. The blog highlights the overreliance on groundwater as the primary water source for residential, industrial, and agricultural sectors in Bangalore, leading to excessive pumping and a decline in water levels. It explores the role of population growth,

urbanization, industrialization, and changes in land use in exacerbating the crisis.

Impact: The impacts of the groundwater crisis on human life and marginalized communities are thoroughly analysed, emphasizing the disparities in access to clean water, health risks, economic burdens, and social inequalities faced by marginalized groups. Additionally, the blog discusses the broader environmental consequences, such as habitat loss, reduced vegetation cover, and altered ecosystems.

Government-led solutions: The blog concludes by highlighting the importance of government policies in addressing the groundwater crisis, such as land revival and restoration mechanisms, revival of traditional groundwater conservation systems, stricter implementation of regulations, and raising awareness among the public. It underscores the significance of empowering marginalized communities through equitable access to resources, participatory decision-making, and support for sustainable livelihoods.

Grassroots-led Solutions: To address the groundwater crisis, the blog proposes various climate justice solutions, including equitable access to water resources, sustainable land use planning, water conservation measures, integration of renewable energy sources, and inclusive governance structures. It emphasizes the need for collective action, policy reforms, and prioritizing the rights of communities affected by water scarcity. By adopting a climate justice perspective, Bangalore can move towards sustainable groundwater management, ensuring a more equitable distribution of resources and fostering resilience in the face of climate change.

EMPIRICAL SURVEYS:

In order to critically evaluate the awareness of the readers regarding the groundwater crisis in Bangalore, a place where they have lived a long part

of their life, I undertook empirical surveys through Google forms. By the time I prepared the report, the survey received a total of 71 responses from diverse sets of people, asking questions ranging from the awareness of people about the groundwater situation in Bangalore, to gauging interests about the stakeholders and the parties affected most by the crisis. It also gauged opinions regarding the sector the survey participants considered as contributing the most to the crisis. Finally, it sought the readers' honest opinions regarding the impact my blog submission had on their understanding of the groundwater crisis, and whether they think individual contributions would be of any use in combating this issue.

Based on this, I obtained 53 responses, based on circulating the form across law schools and engineering colleges in Bangalore through my contacts. As will be reflected in the annexures, a majority percentage (61%) of the respondents knew about the groundwater crisis pervading Bangalore. A significant percentage of them (62%) were also surprised upon realising, through my blog, that around 85% of Bangalore was heavily dependent on groundwater. This surprise may be indicative of the lack of awareness of the environmental issues among the citizens of Bangalore. This emerges as a concerning issue, because as I argue in my blog, citizen mobilisation is crucial if we have to ever combat any environmental/climate crisis, let alone the groundwater issue.

However, the respondents exhibited relatively lesser awareness on the question of whether they felt everyone was equally affected by the crisis. It is here that I felt my blogpost could have made the most informative impact, because it particularly highlighted the increased impact of the groundwater crises on the marginalised sections of the society, in the form of perpetuating greater health disparities, creating greater economic burdens by straining household budgets, creating massive livelihood shifts for the poor, especially the majority that are dependent on agriculture, and increased migration and displacement in search of better life conditions.

Further, public opinion on who the which sector was the most culpable sector contributing to the crisis was varied. The responses attributed greater responsibility to households than is the reality as shown in the blog, while a substantial portion of the responses did not provide a conclusive answer. A majority of the answers attributed the culpability to industries, which perhaps is quite intuitive given the narrative and news we all have read or been privy to, regarding industrial effluents and corporate interests bulldozing environmental concerns.

Lastly, on the question of who the respondents thought were the most important stakeholders, the responses felt that the marginalized community was the most important stakeholder – perhaps this was a response influenced by the arguments made in the blogpost. However, it also is reflective of the need to support these marginalised communities, wherein NGOs like Mission Paani are proving to be crucial contributors. The general public was seen as the second-largest stakeholder, surprisingly larger than the government. This perhaps reflects the frustration the people have regarding the inability or the unwillingness of the government to tackle this longstanding crisis, and the determination of the people to take matters into their own hands through small contributions. This is also reflected in the last question on whether the respondent would do whatever it takes to control this crisis, wherein the majority [78] stated that they would. However, around 26% betrayed their inability to make any substantial individual contributions. This reflects the need for a multi-faceted solution to combat the groundwater crisis, which is not only dependent on individual willingness and responsibility, but also government-backed institutional, legal and non-legal measures to remedy the situation.

OVERALL LEARNING FROM THE PROJECT AND THE COURSE

Through the course of Climate Justice Practice and working on the project focused on the Bangalore Groundwater Crisis, I have gained valuable

insights into the complex issues surrounding climate change, social justice, and environmental sustainability. Here are some key learnings from the course and project:

Understanding Climate Justice: The course provided a comprehensive understanding of climate justice, emphasizing the importance of addressing climate change impacts while considering social equity and the rights of marginalized communities. It highlighted the need to tackle the root causes of climate change and ensure fair distribution of resources.

Interconnectedness of Climate Change and Water Resources: The project on Bangalore's Groundwater Crisis revealed the significant impacts of climate change on water resources, particularly groundwater. I learned about the influence of changing precipitation patterns, increased evaporation rates, and rising temperatures on groundwater availability and quality.

Disproportionate Impacts on Marginalized Communities: The project shed light on how the groundwater crisis in Bangalore disproportionately affects marginalized communities. I learned about the limited access to clean water, health disparities, economic burdens, and social inequalities faced by these communities, exacerbating the challenges they already face.

Importance of Community Engagement: The project highlighted the significance of community engagement in addressing the groundwater crisis. I learned that involving affected communities in decision-making processes, empowering them with knowledge and resources, and considering their perspectives is crucial for effective and sustainable solutions.

Policy and Governance Solutions: Through the project, I gained insights into the policy and governance solutions necessary to address the

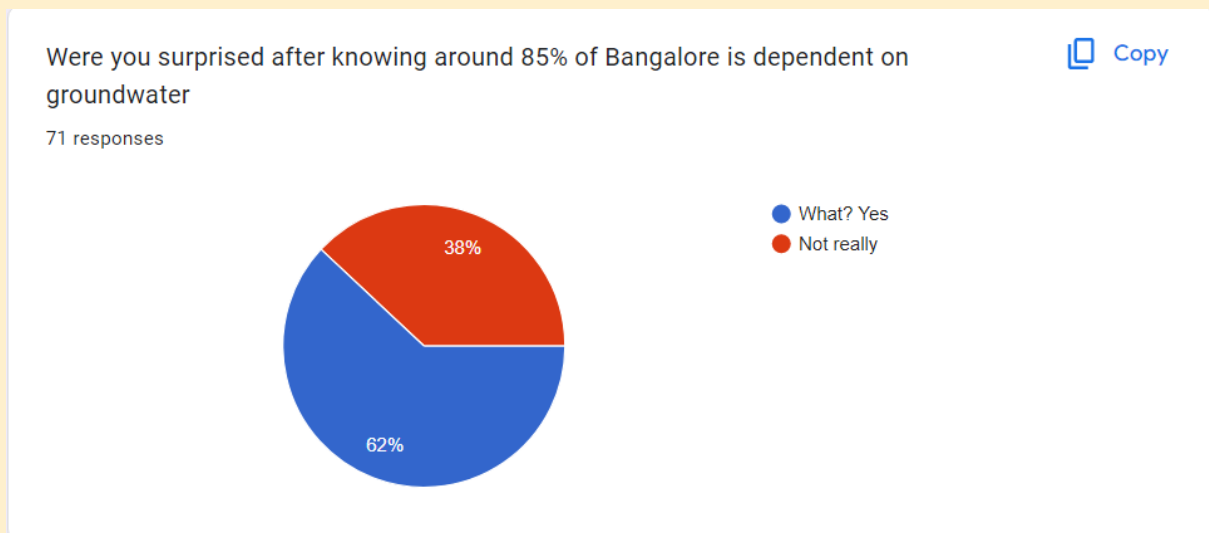
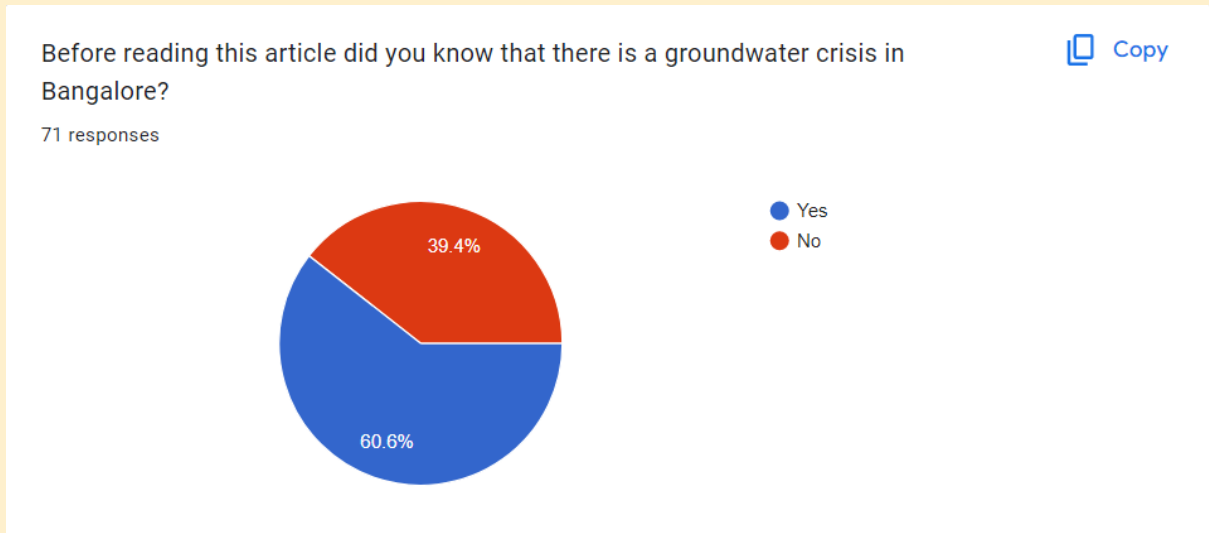
groundwater crisis. I learned about the need for stricter implementation of regulations, incentivizing sustainable practices, promoting equitable access to resources, and integrating climate justice principles into government policies.

Call for Collective Action: The course and project emphasized the need for collective action to address climate change and the groundwater crisis. I learned that achieving climate justice requires collaboration among various stakeholders, including governments, NGOs, communities, and individuals, to work towards sustainable solutions and create positive change.

Overall, the course and project on Bangalore's Groundwater Crisis provided a deeper understanding of climate justice principles, the interplay between climate change and water resources, the impacts on marginalized communities, and the importance of community engagement and policy solutions. It has inspired me to advocate for equitable and sustainable practices and contribute to climate justice initiatives in the future.

ANNEXURE

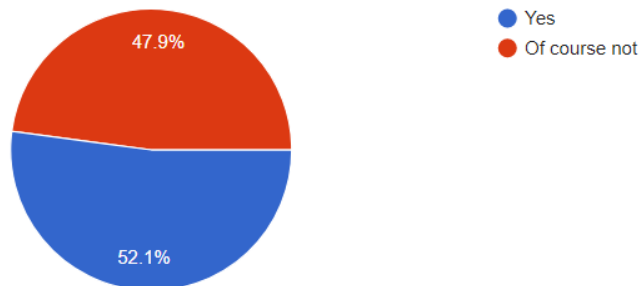
Annexure 1-7: The responses I received from the form at the end of the blogpost



Did you think that everyone is equally affected by this crisis?

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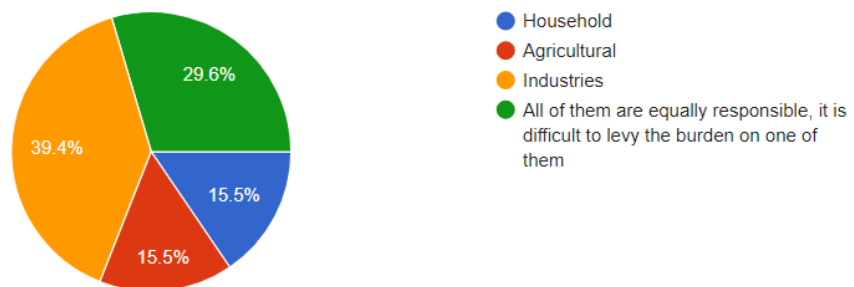
71 responses



Which sector, according to you, is more responsible for all this?

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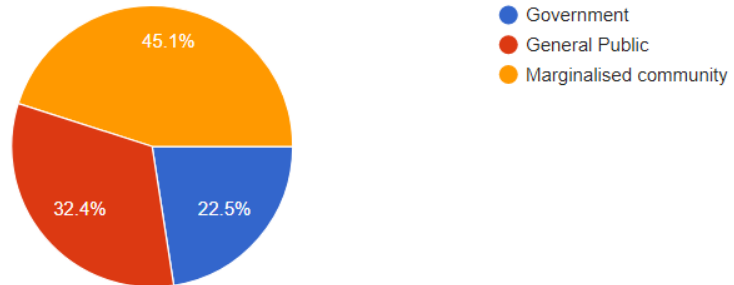
71 responses



After reading this article, who according to you is the most important stakeholder?

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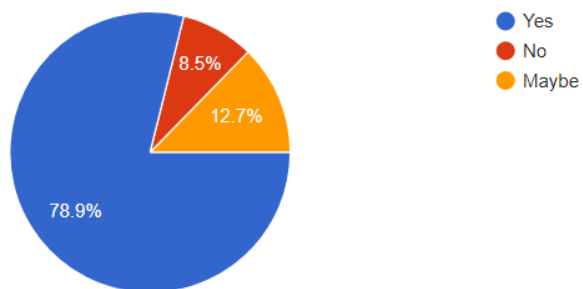
71 responses



Lastly, did this article impact your understanding on this issue?

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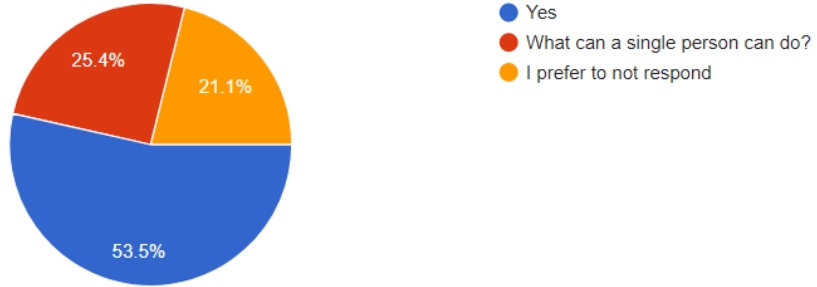
71 responses



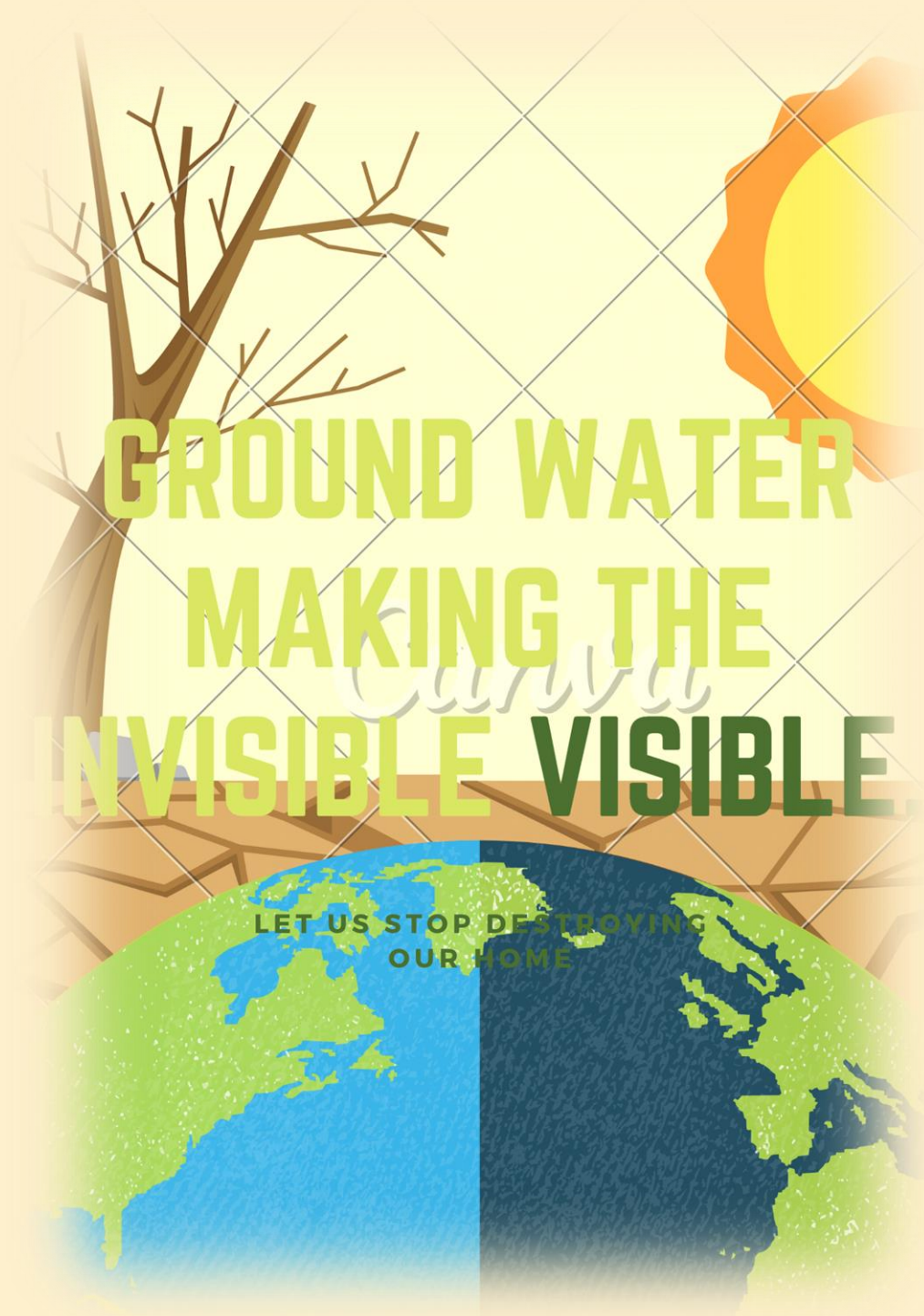
Will you take the onus to do whatever it takes to control this crisis?

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71 responses



Annexure 8-10: The posters I circulated and uploaded on the Instagram handle



An aerial photograph of a coastal wetland or estuary. The water is shallow and reflects the sky, with sandy and muddy banks. In the background, there are rolling hills under a cloudy sky. A large, light blue circular text box is centered over the image.

Revive Bangalore's Water: Let's Heal our
Groundwater!

Together, we can reclaim our city's future by taking action against the groundwater crisis. Embrace rainwater harvesting, conserve water through recycling and reuse, and support sustainable practices. By uniting for change, we can restore balance to Bangalore's water resources and ensure a thriving and resilient city for generations to come.

PROBLEM:

BANGALORE IS FACING A SEVERE GROUNDWATER CRISIS WITH A RAPID DECLINE IN THE WATER TABLE. ACCORDING TO RECENT DATA, THE GROUNDWATER LEVEL HAS DROPPED BY 4 METERS IN THE PAST FIVE YEARS, EXACERBATING WATER SCARCITY AND THREATENING THE CITY'S SUSTAINABILITY.

SOLUTION:

JOIN HANDS TO COMBAT BANGALORE'S GROUNDWATER CRISIS! IMPLEMENT RAINWATER HARVESTING SYSTEMS TO RECHARGE AQUIFERS, PROMOTE WATER CONSERVATION PRACTICES LIKE RECYCLING AND REUSE, AND ENFORCE STRICT REGULATIONS ON UNAUTHORIZED BOREWELL DRILLING FOR SUSTAINABLE WATER MANAGEMENT. TOGETHER, WE CAN SECURE A BRIGHTER FUTURE FOR BANGALORE'S WATER RESOURCES.



JOIN HANDS TO COMBAT THE PROBLEMS