Ainapur: A model of Community-Led Water Conservation amidst Political and Hydrological Adversities.

Ainapur, a hamlet nestled within the Gote Mukla Mandal of Telangana's Vikarabad District, presents a compelling narrative of environmental vulnerability exacerbated by complex socio-political dynamics. Comprising approximately 50 families and a population of 150 individuals, the village has historically faced challenges related to water availability, groundwater recharge, and seasonal flooding. These environmental pressures have affected household water access, local ecosystems, and overall community resilience.

Geographical and Socio-Political Landscape: Roots of Marginalization and Water Insecurity

Vikarabad District, characterized by a diverse topography and a semi-arid climate, experiences seasonal dryness, extreme temperatures, and an average annual rainfall fluctuating between 606 mm and 853 mm, causing its water resources highly variable and prone to deficit conditions. Ainapur, though possessing a significant lake, suffers from an endemic water crisis. Existing bore wells yield water that is non-potable and detrimental to health, while piped water is often discolored, malodorous, and unfit for drinking or domestic use beyond washing cattle and basic sanitation. During critical months like April, tap water supply ceases entirely, and bore wells run dry, forcing residents to rely on a single private bore well for drinking water, if available, or face significant hardship. This chronic water scarcity is compounded by the region's hard rock geology, which impedes effective rainwater percolation and makes excavation for water structures challenging and costly.

The hamlet's water woes are linked to its socio-political marginalization. Ainapur, being a ward of Gote Mukla, often finds itself overlooked in the distribution of government schemes. Political representation primarily stems from Gote Mukla, leading to an inequitable allocation of resources and attention. This systemic neglect results in a significant disconnect between district administration and the community, which is further exacerbated by a prolonged leadership vacuum. For two years, the absence of local elections has meant no ward members to articulate the village's pressing concerns to higher authorities, leaving crucial issues unaddressed. Moreover, government programs like MNREGA are perceived as ineffectual, focusing on superficial tasks rather than genuine community-benefiting projects, thereby fueling a profound sense of discontent and eroding trust in public institutions within the community. The unreliability of external water sources, such as the Laknavaram project, which once supplied water but is now undergoing repairs with jammed gates, further entrenches the community's dependency and vulnerability. Annually, heavy monsoons cause severe flooding, leading to widespread crop damage and contamination of water sources, as runoff water fails to percolate effectively.

AKAH India’s Journey: Catalyzing Change Through Community Empowerment

Recognizing the profound need for sustainable water solutions, Aga Khan Agency for Habitat India initiated its engagement by identifying the community's critical requirements for both potable water and sustainable water use. The Aga Khan Agency for Habitat India

understood that despite the challenges, the presence of a lake offered potential for water storage if appropriately managed through desilting. This initial assessment laid the groundwork for a deeply participatory approach.

Figure 01: Community pond desilting site at Ainapur Village

Stakeholder Consultations and the Participatory Framework: AKAH's strategy prioritized community engagement and capacity building. Instead of imposing solutions, AKAH India initiated community meetings, often held informally under a tree or in the evenings to accommodate daily wage earners, where the villagers themselves articulated their needs, such as bore well repairs, community pond desilting, and check dam rehabilitation. This led to the formation of the Water User Groups (WUGs), a cornerstone of AKAH's approach.

The Water User Groups (WUGs)- Pillars of Local Governance: The WUGs in Ainapur are not mere consultative bodies but vital conduits for sustained action. Composed of local farmers, including a dedicated community mobilizer who also works with AKAH, and a women member, these groups facilitate direct communication and information exchange. Their functionality extends beyond formal meetings; discussions occur organically in the fields, ensuring that interventions are responsive to real-time needs. The WUGs play a crucial role in stakeholder consultation, identifying beneficiaries, suitable locations for water structures, and understanding local water flow dynamics. They are instrumental in gathering local insights, which inform AKAH India's project design and implementation. Through training sessions, WUG members learn water conservation methods and the importance of long-term sustainability, transforming them into advocates for community-led development. The inclusion of women actively participating in meetings and training has been particularly impactful, with female WUG member even taking charge of maintenance activities and fostering gender equality in decision-making.

Figure 02: Focused group discussion with the WUG members at Ainapur Village

AKAH India's Interventions and Challenges: AKAH India's interventions have primarily focused on nature-based solutions to enhance groundwater recharge and surface water availability. This includes the implementation of Rooftop Rainwater Harvesting (RRWH) systems and the desilting of the community ponds.

Figure 03: Wall painting explaining RRWH in a primary school at Dyacharam Village

Figure 04: Primary school visit to observe the RRWH system installed in Dyacharam village

These initial projects, though foundational, were part of a learning process to ascertain the most effective interventions for the specific hydrological context of Ainapur. The extensive desilting efforts have yielded significant results, with 4700 cubic meters of silt removed from the lake, all of which was repurposed for road construction and farming, while the lake itself has overflowed even after desilting

a lot during the recent flooding, but unlike the previous years, the damage by flooding was significantly lower.

Figure 05: Desilted pond to mitigate annual flooding and increase storage in Ainapur Village

Figure 06: Silt from desilting of the pond repurposed to construct roads in Ainapur Village

However, AKAH's journey has not been without its challenges. Engaging rural communities initially proved difficult, with villagers prioritizing daily wage work over community initiatives. Some also expected financial incentives, a practice learned from previous interactions with other NGOs. AKAH India addressed this by building trust through transparency, consistent engagement, and demonstrating a genuine commitment to community empowerment.

The hard rock geology in parts of Vikarabad presented a technical challenge, increasing excavation difficulty and costs. Furthermore, overcoming the prevailing mistrust of external organizations and the leadership vacuum caused by delayed local elections required persistent dialogue and a patient approach.

Looking ahead, AKAH India and the community have outlined a clear vision. Future plans involve continued and more extensive desilting of the main lake and connecting canals to manage runoff effectively and promote percolation. There is a collective aspiration to repair existing check dams and construct new ones over the next 2-3 years, a strategic move to prevent flooding, store more water, and enhance long-term water security. Additional initiatives include the construction of cattle troughs and the

recharge of dug wells. The anticipated local elections offer a glimmer of hope, potentially restoring direct representation and facilitating a more streamlined channel for addressing village concerns with the district administration.

Ainapur stands as an exemplary case study demonstrating the profound impact of community-led water conservation in the absence of any formal political representation, particularly focused on groundwater recharge, in addressing entrenched water insecurity. Through the strategic, empathetic, and participatory interventions of AKAH, coupled with the unwavering dedication of its Water User Groups, the hamlet is steadily transitioning from a state of chronic water scarcity and institutional distrust to one of empowered stewardship and enhanced hydrological resilience. By prioritizing local knowledge, fostering collective action, and implementing nature-based solutions, Ainapur is not merely overcoming its unique geographical and socio-political challenges but is actively forging a sustainable pathway to water security, thereby emerging as a beacon for other vulnerable communities grappling with similar adversities.