Aga Khan Agency for Habitat India

Annual Report 2022-2023

Index

In the dynamic growth of India's economy and its consequent urbanization challenges, the issue of climate change has taken center stage. It presents formidable hurdles for both its people and economy with a population on the rise leading to even more rapid urbanization, straining resources, and infrastructure. This leads to increasing vulnerability to extreme weather events. The pressure on natural resources and increasing vulnerability to extreme weather events creates a severe challenge. This situation demands innovative solutions and steadfast commitment, and it is in this context that the Aga Khan Agency for Habitat (AKAH) India has emerged as a stalwart tirelessly addressing climate change and fostering resilience across our nation. Established in 2017, AKAH has etched a transformative trajectory by collaborating with communities, fostering native solutions to withstand the tumultuous impacts of shifting climates and natural disasters.

At the heart of our mission lies the aspiration for safe living and a high a high quality of life for communities and individuals. Through data-driven meticulous planning, strategic preparedness, and the fortification of critical infrastructure, AKAH has facilitated access to essential services while fostering the creation of secure, climate-resilient habitats. Our commitment extends beyond immediate solutions; as we are steadfast in our pursuit of sustainable, long-term development that not only safeguards against climate vulnerabilities, but actively empowers communities.

India's intricate climate change challenges demand concerted efforts to safeguard its people, ecosystems, and economy. AKAH's approach combines participatory methodologies and technology solutions. By empowering local communities to take the lead in designing and executing action plans, we create a robust foundation for resilience. AKAH advances collaborative, community-led approaches, enabling preparedness for climate challenges. Our vision fosters climate resilience, enhancing safety and promotes sustainability.

Suhail Nathani

Chairman,
Aga Khan Agency for Habitat
India

Climate change is already impacting the lives and habitats of hundreds of millions of people across the world. Coastal areas, dense urban centres in the developing world, island nations, and the high mountains are on the frontlines of this climate emergency. Now is the time for collective action to address this urgent global challenge. The Aga Khan Agency for Habitat is committed to supporting locally-led climate action, combining knowledge, innovation, and participation to find sustainable solutions and build resilience.

AKAH's approach focuses on solutions that empower people and work with nature to protect and improve the built environment, natural ecosystems, and livelihoods. In Gujarat, working with local communities and with support from Ericsson Global India, AKAH planted over 100,000 mangroves and other coastal species, using connected sensors to improve monitoring and survival. This nature-based solution will help protect coastal communities from flood risk, restore the Porbandar coastline, and build a long-term carbon sink.

Cities across India are increasingly exposed to extreme weather, water stress, air pollution, and urban heat. We must adapt the way our urban areas are built and managed and look at how cities can be drivers of innovation for climate-proof development. AKAH is piloting cost-effective, low-carbon, and nature-based solutions to cool urban buildings and reduce hotspots in cities. In Hyderabad, AKAH collaborated with the International Institute of Information Technology Hyderabad on an action research pilot to test cool roof solutions in urban residential buildings. AKAH is also working with communities and government partners to implement green roofs, establish Miyawaki forests, promote solar power solutions, green schools, and improve water management. By demonstrating such solutions and sharing our learning, AKAH aims to show that we actually can tackle climate change when we bring people together around meaningful, specific actions.

Onno Ruhl

General Manager,
Aga Khan Agency for Habitat

Prerana Langa

Chief Executive Officer,
Aga Khan Agency for Habitat
India

As we present this year's Annual Report, I am delighted to share our progress. It has been a foundational year as we embarked on a transformative journey of AKAH 2.0 strategy; aimed at driving scaled impact for climate resilience in India over the next five years.

Climate change is happening faster than we have anticipated, and it is directly threatening how we live every day. Heat waves, floods, and unpredictable weather are affecting the well-being of individuals everywhere. In response to these urgent challenges, AKAH is committed to implementing robust climate resilience strategies, leveraging innovative technologies, partnerships and sustainable practices to enable communities to respond, adapt and thrive.

Our unwavering focus is on building resilience within communities and society at large and our impactful work spans diverse projects, including the transformation of coastal regions and urban landscapes. In the pursuit of advancing habitat risk resilience, we have successfully developed and validated pilots, notably emphasizing urban cool roof systems on a community level in Hyderabad and coastal climate resilience in Porbandar, Gujarat. After successful pilot and learnings, in the next year we look forward to scaling these on city and state levels.

A notable achievement emerged in a Vasai village in Maharashtra, where our strategic intervention in water security management not only ensured the continuity of a local school which had to shut year after year due to water shortage, but also established a secure and green educational space, achieving energy self-sufficiency and net-zero impact. Our interventions in Water Security Management ensure equitable and sustainable access to high-quality water, while the Enviroshala initiative empowers young minds as environmental stewards along with embedding the school infrastructure with energy efficiency and climate intensive initiatives. The Nature-based Solutions and Coastal Climate Resilience project, in collaboration with national and state climate action plans, strengthens community resilience in the face of climatic crises.

By bolstering community and urban risk resilience, AKAH is dedicated to creating lasting impacts. The wisdom from these experiences highlights the need for collective efforts in addressing complex challenges, as no single institution can fully comprehend them in isolation. As we present our achievements, we extend an earnest invitation to partners from the realms of Corporate Social Responsibility, government, and developmental institutions to join forces with us. Our commitment to action, strategic vision, and collaborative approach positions us as a driving force in the fight against the climate crisis. By unifying our efforts, we can fortify community resilience on an unprecedented scale.

This Annual Report encapsulates the milestones we have reached together and envisions the boundless potential that lies on the horizon. With unwavering determination and a resilient vision, we stride confidently into the future, embodying the assurance of a world that is not only safer but also adaptable.

Aga Khan Agency for Habitat India

Resilient Habitats, Thriving Communitites

Aga Khan Agency for Habitat (AKAH) India envisions creating habitats that allow communities to be resilient to disasters, adapt to climate change, and thrive. Its key focus areas include Biodiversity and Climate Change, Water Security Management, EnviroShala– Building School Resilience, Urban Habitat Risk Resilience, and Disaster Risk Reduction. AKAH adopts data-driven nature-based solutions for the long-term development of vulnerable communities and has directly impacted 1.5 million individuals across India. Through innovation and technological integration, AKAH spearheads a paradigm shift in climate action. By leveraging its technical expertise in climate action, risk reduction, and habitat improvement, it empowers communities to enhance their resilience. AKAH collaborates with communities to foster their readiness for impending natural adversities and the effects of climatic shifts. It works to provide access to essential services, along with the opportunities to improve their quality of life. A three-fold commitment underscores AKAH's role towards proactive preparedness for worst-case scenarios, immediate provision of relief in the aftermath of disasters, and progressive reconstruction that incorporates ecological consciousness.

PLAN

Understanding Risk

AKAH prepares communities to respond to natural disasters and complex emergencies through strengthened community and institutional disaster management capacities.

PREPARE

Reducing Risk

AKAH enables communities to plan for a resilient future through risk assessments, habitat planning and resilient town planning initiatives

PROGRESS

Building Resilience

AKAH empowers communities to improve their quality of life by increasing their capacity to adapt to climate change and changing economic and geopolitical circumstances.

| Flagships | Geography & Scale | Climate Action "Paradigm Shift" |

Nature Based Solution : Coastal Climate Resilience

Establishment of community-based climate change committees in villages; Community led Mangrove plantation and native tree plantation; Program monitoring through high level technological integration	Coastline extending from Gujarat, Maharashtra, and Goa	Climate change mitigation, nature-based solution and ecosystem-based disaster risk reduction

Water Security Management

Setup Village Development Committees (VDCs), Water Resource Mapping and Drafting Management Plan, Providing Necessary Infrastructure	Aurangabad, Plaghar and Bhuj	Water sustenance planning, constructing water recharge structures, and providing easy access to safe drinking water

Urban Habitat Risk Resilience Initiative

Climate resilient housing in target geographies, Development of Urban Heat Island Mitigation plans for Urban Local Bodies; Demonstration of integrated Urban Risk resilience through basic infrastructure Improvement, green cover, cool roof & ULB capacity building	Schools and urban slums across Maharashtra, Gujarat, Telangana	Climate change adaption & mitigation through green construction and nature based solution and flood risk management

Enviroshala – Building School Resilience

Improving infrastructure and creating a pool of motivated Environment Champions. School based disaster-based risk reduction in schools	Schools in Maharashtra, Gujarat, Telangana	Through water conservation and environmental health improvement initiatives

Disaster Risk Reduction

Building resilient communities that can respond and adapt to risks and changes	Maharashtra, Gujarat, Telangana	Disaster Preparedness and Response, Habitat Planning and Improvement

Nature Based Solution : Coastal Climate Resilience

To address critical concerns around biodiversity loss and climate change, AKAH has emerged as a prominent driving force. Our collaborative endeavours with diverse stakeholders, bolstered by rigorous scientific research are aimed at restoring the delicate ecosystems and the steadfast mitigation of the profound repercussions brought forth by climate change. AKAH's initiatives align with the Government of India's, Prime Minister 10 Point Agenda to enhance the resilience of vulnerable coastal communities to climate change through ecosystem-based adaptation. The goal is to improve the resilience of the most vulnerable groups, particularly women using an ecosystem-centered and community-based strategy.

By fostering partnerships, engaging communities, and empowering individuals, AKAH aims to envisions a resilient and harmonious future where nature thrives, and humanity coexists in harmony with the natural world.

Three Pillars to address Biodiversity & Climate Change

• Ecosystem Based Climate Change Adaptation (EbA)
• Biodiversity Conservation
• Capacity Building & Advocacy

Key Projects

• Coastal Climate Resilience in Porbandar
• Community Driven Climate Change and Ecosystem Based Adaptation in Drought Prone Areas of Aurangabad, Maharashtra
• Trees for Tomorrow
• De-carbonization Project, Mumbai Maharashtra

Key interventions

100000 Mangroves Planted

20000 Fruiting Tree Planted

2 Miyawaki Forest Created

55000 Trees Planted through Miyawaki Forests

Building Climate Resilience

Extereme Weather

Loss of Biodiversity

Salinity Ingress

Business As Usual | Inverventions on Building Climate Resilience

Impact on livelihood & well being		Inclusive & Community led intervention to build local capacity & resilience
Loss of Production in agriculture		Strategies alligned with state plan for climate change
Degrading Ecosystem & biodiversity loss		Science based data driven approach
Vulnerable local community		Conserving biodiversities + Strenghtening local systems

Key Partnership

Ericsson India Global Services (NASDAQ: ERIC)

AKAH launched the 'Biodiversity and Ecosystem-Based Climate Change Adaptation' project in Gandhinagar on April 19, 2023, with Ericsson India Global Services. The project focuses on enhancing the resilience of coastal communities vulnerable to climate change and natural hazards through an ecosystem-based, community-centred, and technology-based approach to adaptation.

Ericsson's technology enables integration of Internet of Things with sensors and peripheral devices to monitor the growth conditions for the mangroves and enable data-based decisions. The project will support alternate, climate-resilient livelihood opportunities in this coastal belt.

Shri, Mukesh Patel, Hon'ble Minister of State for Forest and Environment, Climate Change, Water Resources and Water Supply, Shri R. K. Sugoor, IFS Director, GEER Foundation, Shri, Abhay Kumar Vaish, Director, Ericsson India Global Services, Shri, Suhail Nathani, Chairman, Aga Khan Agency for Habitat India and Shri, Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat form the panel of experts for the occasion.

❝ *At Ericsson, we're committed to improving lives and pioneering a sustainable future with the use of technology. Our Connected Mangroves project in the Saurashtra coast of Gujarat is an example of this commitment* ❞

Mr. Abhay Kumar Vaish
Ericsson India Global Services

Biodiversity & Ecosystem Based Climate Change Adaptation

Supported by Prince Sadruddin Aga Khan Fund for the Environment and Ericsson Global India Services

Gujarat's coastline stands highly vulnerable to climate change, necessitating a comprehensive implementation of adaptive measures that encompass the entirety of its vulnerabilities.In collaboration with local communities and stakeholders, AKAH isimplementing ecosystem-based adaptation strategies. These strategies focus on harnessing the rich biodiversity of Gujarat's coastal areas to enhance their resilience against climate-induced changes. By strategically restoring and conserving diverse ecosystems like mangroves, wetlands, and coastal forests, the project aims to mitigate storm surges, erosion, and sea-level rise. Introducing native plant species strengthens natural buffers and sustains local fauna. Community engagement empowers coastal residents to actively participate in safeguarding their environment. This holistic approach not only fortifies coastal areas but also preserves the intricate web of life within, showcasing the potential of biodiversity to combat the challenges of a changing climate.

Focus Areas

- Understand the local response to climate change pressure
- Create awareness and build capacity to address climate vulnerability
- Conserve and restore sensitive ecosystems
- Provide ecosystem based alternative sustainable livelihood for communities

Process of Resilience Building

AKAH conducted an in-depth hazard risk vulnerability assessment of the communities to understand their vulnerability to climate change. Based on the assessment, the project was designed to focus on biodiversity and ecosystem-based adaptation measures.

Outcomes and Benefits:

- Planting mangroves and fruit-bearing plants will enhance biodiversity and provide a source of income for the community.
- The IoT sensors will help monitor the effectiveness of the project and allow for adaptive management.
- Training and capacity building of the community will enhance their knowledge and skills to adapt to climate change and reduce the risk of disasters.

An Ecosystem Based Approach for Resilience Building

Local Vulnerability

- Erratic rainfall
- Extreme heat
- Increasing salinity in soil and water
- Strong winds

Major Impact

- Decreasing sources of conventional sources of livelihood
- Reduced household income
- Damage to life and infrastructure during disasters

ADDRESSING CONCERNS

Research Based Solutions

- Mangrove Plantation for addressing extreme events
- Restoration of Local Ecosystems
- Training & Workshops for resilience building
- Tree plantation for sustaianble alternative livelihood

Key interventions

100000 Plantation of **mangrove trees**

20,000 Fruiting Trees

Groundwork for IoT network and MIS

Training & Capacity Building

> *The training and capacity building provided by AKAH has enhanced our knowledge and skills to adapt to climate change and reduce the risk of disasters. The planting of mangroves and fruit-bearing plants will provide a source of income for our community and the use of technology will assure the effectiveness of the project.*

Reshma Vaghela,
Self-help Group leader, Miyani Village, Porbandar

Community Driven Climate Change & Ecosystem- Based Adaptation in Drought Prone Areas

Supported by Prince Sadruddin Aga Khan Fund for the Environment

The project aims to empowers local communities to effectively counter the repercussions of climate change-induced water scarcity. Through active community participation, the project aims to identify and address challenges specific to each region, thereby cultivating collaborative solutions.

Restoration of ecosystems is central to AKAH's approach towards resilience building. Pivotal measures such as rainwater harvesting, afforestation, and soil conservation, enhances water retention capacities and conserving water sources. This ground-up strategy fosters resilience, preserves ecosystems, and ensures sustainable water access, mitigating the impacts of drought..

The synergy between communities and the environment emerges as a beacon of resilience, embodying AKAH's commitment to a sustainable and resilient future.

- Information tools for decision making and local institutional capacity development

- Pilots on adaptation measures integrated into sustainable water management practices in drought prone areas

- Platform for scaling up climate change adaptation measures suitable for drought prone areas

Key Interventions

- Capacity Building Trainings sessions on CCA, tools and techniques for drought mitigation and Livelihood & Organic or alternate farming practices at **10 Project Villages** and participated in these **trainings 471** (240 Youth and 231 women).
- Conducted Exposure visit for WMC members. Two members from each village participated in the exposure visit.
- Capacity building of the **Village level Watershed Management Committee** (WMC) was one of the key motives of the project with the focus on basic sensitization on water usage as well.

Rural Health Development Program

Supported by Prince Sadruddin Aga Khan Fund for the Environment

Addressing human-animal conflicts is crucial for biodiversity conservation and human safety. As human populations continue to expand and encroach upon natural habitats, the interactions between humans and wildlife become increasingly pronounced, resulting in conflicts that pose significant threats to both ecosystems and human well-being. These conflicts jeopardize both ecosystems and human livelihoods, resulting in property damage, injuries, and loss of wildlife. Implementing effective mitigation measures such as habitat restoration, better waste management, and education about coexistence is essential.

Balancing the needs of local communities and preserving biodiversity requires sustainable solutions that protect both humans and animals, promoting harmony and reducing negative impacts on ecosystems and societies.

Rural Health Development Program is a comprehensive initiative that strategically integrates various environmental and biodiversity conservation measures. These measures encompass raising awareness among local communities, conducting vital research, implementing essential land and water conservation practices, and intervening with effective mitigation strategies to reduce conflict situations.

The primary objective is to ensure that the communities residing in this area can peacefully coexist with the rich wildlife and forest ecosystem that surrounds their settlements.

Key interventions

80 Machans

57 Well covering

17 Fencing

34 Community Awareness Programmes

Introducing Nature-Based Solutions for Building Climate Resilience in Coastal Gujarat

Porbandar district in Gujarat, India, faces heightened vulnerability due to climate change. Its coastal location exposes it to sea-level rise, intensified cyclones, and erosion. Urgent adaptation measures are essential to safeguard communities, ecosystems, and the local economy. AKAH is works to enhance the resilience of vulnerable communities in Porbandar through ecosystem-based climate change adaptation measures. AKAH has planted a hundred thousand mangroves and twenty thousand fruit-bearing trees. In partnership with the Ericsson India Global Services, AKAH is using Internet of Things (IoT) sensors to measure soil salinity, pH, NPK values, moisture, and temperature for data-driven and real time monitoring of plant growth The project also includes training and capacity building of the community for climate change adaptation and disaster risk reduction.

AKAH India conducted a detailed hazard risk vulnerability assessment of the communities to understand their vulnerability to climate change. Based on the assessment, the project was designed to focus on biodiversity and ecosystem-based adaptation measures. AKAH has extensive technical experience in implementing ecosystem-based adaptation projects and is utilizing scientific knowledge to enhance the effectiveness of the project. The use of IoT sensors for monitoring mangrove growth is an innovative approach that allows for precise monitoring of the project's impact.

Planting mangroves and fruit-bearing plants will enhance biodiversity and provide a source of income for the community. The IoT sensors will help monitor the effectiveness of the project and allow for adaptive management. Training and capacity building of the community will enhance their knowledge and skills to adapt to climate change and reduce the risk of disasters. The project will also provide an opportunity to enhance awareness and knowledge of ecosystem-based adaptation measures.

The project demonstrates that ecosystem-based adaptation measures can effectively enhance the resilience of vulnerable communities to climate change. The use of innovative technologies such as IoT sensors for monitoring and adaptive management can improve the effectiveness and efficacy of such environmental projects prone to risks. The project also highlights the importance of community participation and capacity building in implementing ecosystem-based adaptation measures

The training and capacity building provided by AKAH has enhanced our knowledge and skills to adapt to climate change and reduce the risk of disasters. The planting of mangroves and fruit-bearing plants will provide a source of income for our community and the use of technology will assure the effectiveness of the project.

Reshma Vaghela,
Miyani Village, Porbandar

Water Security Management

Building dignity, health and wellbeing through effective water management

In the ongoing pursuit of improving water security, Aga Khan Agency for Habitat has undertaken a multifaceted approach that requires a concerted effort of diverse stakeholders. To ensure water availability, accessibility, and reliability for all, AKAH works on community-led models. These models address issues related to equitable water distribution, enhancing groundwater conservation, and improving water quality, focusing on enhancing local-level governance, rejuvenating existing water bodies, and establishing resilient water infrastructures.

Key partnerships on water projects

1. Community Led Sustainable Development Initiative (CSDI)
2. Rural Health Improvement Program
3. Environment Health Improvement Program
4. Community-Led Water Stewardship
5. City Partner for National Institute for Urban Affairs - Water Stewardship Program

Shallow Aquifer Management must become a significant aspect of India's Urban Water Security. The significance of the Shallow Aquifer Management delves into a critical facet of urban hydrology. Despite formal civic water supplies, often from surface water sources like reservoirs and rivers, groundwater remains an important but invisible source of water supplies in Urban India, contributing to domestic water security, the maintenance of livelihoods and an important aspect of many commercial activities, including in the crucial sectors of housing and urban development. Managing urban groundwater and designing a robust system of groundwater governance are crucial to India's Urban Growth and Development, especially from the perspective of sustainability.

Dr. Himanshu Kulkarni
Executive Director ACWADAM

Key Interventions - Water Security Management

To Building Resilience

From Addressing Water Scarcity

25 Rainwater Harvesting Structures

52 Handpumps

Ground Water Recharge

Wells

521 Taps

Solar Pumps 74

12 Ponds

10 Cattle Trough

Integrated area water improvement products incl. water harvesting

1 Bund

2

6 Gabion Structures

Training Demonstration

Promoting Water Security

10 Water Quality Assessment

Developing Mitigation

10 Community Awareness Program

Groundwater Scarcity

Community Led Sustainable Development Parivartan

Supported by HDFC Bank

Pioneering Solutions for a Water-Challenged District

Wardha district is confronted with a scarcity of water, posing significant obstacles for its inhabitants. Communities living in the rural areas of Wardha face significant challenges in accessing and managing water resources, leading to severe shortages for drinking, agriculture, and industrial purposes. Farmers struggle to sustain their crops, leading to reduced agricultural productivity and economic hardships. The scarcity also impacts the daily lives of the local population, who often have to travel long distances to fetch water. Addressing water scarcity in Wardha district requires implementing effective water management strategies, such as rainwater harvesting, watershed management, and promoting water conservation practices to ensure sustainable access to this vital resource.

Recognizing the urgency of the water crisis, AKAH collaborated with the local to devise a comprehensive action plan to address the root causes of water scarcity and aim to enhance the district's overall water sustainability. Securing Water Needs While Addressing Local Challenges

Beyond Managing Water Crisis

Besides climate change induced water stress local communities have very weak socioeconomic conditions. Hence as a part of the project team AKAH also carried out interventions related to awareness & capacity building.

- **40** Community members received training on water efficient farming practices
- **160** Solar street lights were installed in the villages
- **1100 +** Locals engaged in health and hygiene awareness

Key interventions

1 Check Dam Constructed

7 Water Conservation Structure Constructed

15 Health Camps on Eye Care and General Hygiene

50 Solar Streetlights Installed

Ensuring Water Sustainability

- Improving Ground Water Recharge
- Ensuring Sustainable Water Consumption
- Creating Surface Water Catchment Areas

Securing Water Needs While Addressing Local Challenges

Improving Socioeconomic Condition

- Alternative Livelihood Options
- Awareness & Health Camps

Providing Solutions to Water Woes

Confronting the Water Crisis remains the major focus of Parivartan through a multi-faceted approach, the project provides sustainable water solutions to the community. Since the inception of the project, AKAH has supported **9365 community members** through various interventions to foster a sense of ownership and responsibility for water resources.

Nurturing Change through Inclusive Pathways: By involving the local community in the project's planning and implementation, the team ensures that the solutions align with the actual needs and aspirations of the people. This approach has resulted in the formation of **15 Village Development Committees** which overlook the development initiatives, and 15 Parivartak (village representative) nodal points for effective communication between the project team and the communities they serve.

Supporting Livelihoods for overall wellbeing: Climate change and lack of infrastructure along with very few employment opportunities made Wardha a very vulnerable district. According to the survey conducted by AKAH team, **78%** of the respondents were directly dependent upon agriculture for their livelihood. Agriculture and allied activities played the most crucial part as a source of livelihood.

> ❝ *Now we can cultivate more land after the construction of pond* ❞

Abhisekh Jadav one of the farmers who collaborated with AKAH to construct Pond

There is significant improvement in the productivity and cultivation area after the construction of pond on his land. The pond not only provides increased water availability for irrigation but also recharges the water of nearby wells.

Under normal rainfed farming, Abhisekh produces 3 to 5 quintal of cotton per acre, with increased availability of water through pond the production has increased to 7-8 quintal.

Rural Health Improvement

Integrating Sanitation & Water Conservation for Community Welfare
Supported by Quantum

Rural Health Improvement Program (RuHIP) focuses on a community-led integrated system for water management, sanitation, and health and hygiene aimed at transformative approach towards sustainable development. This dynamic system empowers local communities to take ownership of their water resources and health, fostering a sense of responsibility and collective action. By involving community members in decision-making processes, it ensures that solutions are tailored to specific needs and challenges. This integrated approach promotes the efficient use of water, emphasizes safe sanitation practices, and fosters hygiene awareness, reducing waterborne diseases and improving overall health. Moreover, such systems cultivate a sense of solidarity, strengthening social bonds and laying the foundation for resilient and self-sufficient communities.

RuHIP key focus areas

- **Installing Rainwater Harvesting Systems:** RuHIP places significant emphasis on providing essential infrastructure support by implementing rainwater harvesting systems. These systems efficiently capture and store rainwater, ensuring a reliable water supply for the community's needs. Strengthening Local Governance and Capacity Building: By empowering community members and building their capacity to take charge, the program creates resilient communities better equipped to tackle water and sanitation issues.

- **Promoting Safe and Hygienic Practices:** Foster necessary change in behavior towards safe and hygienic practices through community engagement and education and encourages the adoption of healthier habits.

Key interventions

56 Solar Lanterns Distributed

56 Community awareness sessions undertaken

56 Sanitation Units

56 Water Structures

Bringing a Change for Sustainable Future

Existing Issues

Poor Sanitation

Water Scarcity

Unhygenic Conditions

↓

Local Community

Interventions

- Conducting Baseline Survey
- Organising Gramsabha
- Stakeholder Consultation
- Training & Awareness Building

Building Capacity

Infrastructure Development

- Installing Rain Water Harvesting Systems
- Building Clean Toilets and Sanitation Units
- Handpump Recharge

Cleaner Habits, Healthier Lives: Transforming Lives Through Behaviour Change

RuHIP is a transformative program targeting marginalized communities facing formidable challenges in accessing basic services, including water, sanitation, and healthcare facilities, primarily due to their geographic location.

AKAH collaborates with the local community to establish an integrated system for water management, sanitation, and health & hygiene promotion.

Individual household sanitation units have been constructed, benefitting the local residents. Additionally, two school sanitation units, along with hand wash stations enhancing hygiene practices among the young population. The implementation of Rooftop Rainwater Harvesting Structures has predominantly taken place on public buildings has been instrumental in effectively harnessing rainwater resources. As a result of these multifaceted interventions, local communities have witnessed a remarkable enhancement in sanitation infrastructure. Access to clean and safe water, once a challenge, has notably improved within the village.

This transformation exemplifies our commitment to creating healthier, more dignified lives for the individuals and families we serve.

The local gram panchayat awarded a Letter of Appreciation to acknowledge the team's commendable work in providing safe and clean water through hand pump recharge. The team's dedicated efforts in bringing necessary behavioral changes to promote safe sanitation practices were particularly highlighted and appreciated.

Environment Health Improvement

Empowering Communities for a Sustainable Future

Supported by Larsen & Turbo Energy and Hydrocarbon Ltd.

Environment Health Improvement Program (EHIP) is a transformative endeavor aimed at enhancing water security management through a holistic approach centered around sanitation and water conservation. Recognizing the critical role water plays in sustaining communities and ecosystems, the project focuses on addressing water scarcity challenges and promoting sustainable water usage practices. Through the implementation of accessible sanitation systems, the project seeks to improve water quality and minimize pollution, safeguarding the health of local populations. Concurrently, the project places strong emphasis on water conservation as a key strategy pillar. By fostering community engagement, providing essential infrastructure, and empowering through education, EHIP aims to cultivate responsible water consumption habits, leading to the sustainable use of this valuable resource.

Qualitative & Quantitative Interventions

- Water Conservation through Rainwater Harvesting
- Improving Sanitation Practices
- Better access to Clean Water
- Promoting Healthy and Sustainable Practices
- Building Capacity and creating a Knowledge Base

Key interventions

185 Sanitation Unit Constructed

2 Rainwater Harvesting Units Installed

47 Women Received Bee Keeping Training

61 Students Attended International Hand wash Day

108 Attended Waste Management Day

30 Members Attended Kitchen Gardening Workshops

- Community Led Interventions
- Science Based Solutions to the Local Problems
- Inclusive Approach

- Behaviour Change Communication (BCC)
- Information, Education and Communication (IEC)
- School Based Programs
- Creating a Research Base

- Rain Water Harvesting System in Public Building
- Restoration of Defunct Existing Well
- Construction of New Wells
- Solar Based Drinking Water Pipeline
- Installation of Sanitation Facilities

Addressing Water Scarcity

Building Capacity

Sustainable Development

Providing Infrastructure Support

Taking Action Today for a Better Tomorrow

In remote tribal regions, inadequate road connectivity and difficult access to commute often results in the absence of essential infrastructure. The Environment Health Improvement Program extended its outreach to address sanitation and water scarcity issues in selected 8 tribal villages and 22 hamlets in the state of Maharashtra.

The major concerns identified in the villages include the lack of access to clean water for daily use, improper sanitation facilities leading to waterborne diseases, lack of awareness regarding water related issues and sustainable water consumption. As a means of addressing the critical water necessities, AKAH collaborated with the local communities to map the natural flow of water and catchment areas.

With the focus to increase water level, AKAH implemented rainwater harvesting systems, restoring defunct wells, constructing new wells, and establishing solar enabled drinking water pipeline, to ensure safe water is made available to the doorsteps.

To promote healthy WASH behavior, sanitation/handwashing stations are installed in schools and public areas to provide clean and hygienic environment for sanitation. Local communities are supported in developing kitchen garden to promote sustainable use of wastewater. Solar lanterns were distributed to improving safety and enabling daily activities after dark.

In the past year, there was no water in the school and students had to walk for 200m to fetch water but this year since AKAHI has installed rainwater harvesting structure, we could manage to collect good amount of water during rains and use it during scarcity. So now, the kids don't have to walk long distances as the water is available in campus because the level of water in our bore well has increased

Ashok Lakshman Patil,
Teacher, Z.P. School, Sakhar Pada

Solar-Based Drinking Water Pipeline

The project in Koloshi Village aims to address the lack of essential water supply systems, which has led to use of contaminated sources, leading to increased waterborne diseases. With the help of a solar-powered water distribution system, water is drawn from a nearby water resource, stored in a tank, and distributed to 81 households through a filtration systems. The pipeline system follows the natural contour, minimizing joints for better connectivity. With 18 taps serving 3-4 households each, clean water access has improved, particularly benefiting the vulnerable groups. The system is continuously monitored and community engagement activities are undertaken to ensure its sustainability and positive impact on the health and well-being of the community.

Developments in Water Security Management

Recently AKAH has launched two new initiatives on water security management in Gujarat and Maharashtra. Under the flagship Water Security Management, these interventions will focus on scientific assessment of various water ecosystems and providing solutions for conservation of local water bodies and addressing local challenges affecting water security

Community-Led Water Stewardship – Kandla

Supported by: Hindustan Unilever Ltd.

The Community -Led Water Stewardship is dedicated to promoting integrated, community-led water security management in vulnerable marshy wetland regions prone to cyclones. Its primary objective is to enhance groundwater levels by implementing suitable interventions based on hydrological research and GIS mapping. The program aligns with the principles of the Alliance for Water Stewardship (AWS) and aims to benefit approximately 70,000 individuals, ensuring improved access to water resources and the adoption of sustainable water management practices.

A key focus of the program is on water conservation interventions, which involve the installation of approximately 29 water security structures such as check dams, ponds, canal deepening and widening, and culvert building. These measures will significantly contribute to improving water availability and storage in the region. The program places great importance on community awareness and capacity building, actively engaging community members in various water behaviour change practices. Additionally, the program encourages the use of solar-powered pumps, promoting the utilization of green energy sources.

City Partner for National Institute for Urban Affairs

Thane- NIUA and Thane Municipal Corporation

Aga Khan Agency for Habitat (AKAH) India organized a stakeholder consultation on Shallow Aquifer Management to create an enabling environment for mainstreaming it into the city's water management policy. The National Institute of Urban Affairs (NIUA) nominated AKAH India to conduct a pilot study in Thane city, in collaboration with the Thane Municipal Corporation (TMC). The action-oriented pilot study documents the efforts taken by the local governments on water supply and management as well as map the challenges and unique experiences of cities in restoring water bodies – frequently intertwined with local people's cultural lifestyles and livelihoods. The project is aligned with the Atal Mission for Rejuvenation and Urban Transformation (AMRUT). AKAH India is working to establish institutional capacity with a wide range of stakeholders, including academia and urban practitioners, in order to scale up this pilot to a city-level intervention and incorporate future projections.

Providing Solutions to Water Stressed Region of Maharashtra

The Vasai-Virar and Palghar region of Maharashtra, tribal communities have lived for generations but faced challenges in obtaining clean water. This challenge prompted the implementation of a crucial initiative aimed at providing these communities with safe and clean water. The tribal communities in the area have long struggled with water insecurity. Recognizing the gravity of the situation, a dedicated effort to harvest and store rainwater through bunds and well restoration was carried out to address this pressing issue.

AKAH devised a comprehensive solution to address the issue of water scarcity by constructing a dug well and a sub-surface bund. The primary objective of this project was to provide a sustainable source of water to the 33 families residing in the community and to retain water in the dug well from the nearby stream till the end of May.

A recent measurement conducted by the project team revealed the water table increase by 5 feet towards the end of May. Furthermore, the subsurface bund, which helps retain water, ensured that the soil has higher moisture levels. The tribal community is now able to cultivate three different types of agricultural produce, further improving their overall quality of life after the …(write the intervention)

The water security initiative in Vasai Virar, Palghar, Maharashtra has been a noteworthy achievement in addressing the pressing issue of access to clean drinking water for the tribal communities residing in the reserve forest area. The initiative has been successful due to the strong community involvement in the construction process. The introduction of a dug well has brought about substantial positive impacts for the beneficiaries. It has made clean drinking water readily accessible, saving them time and improving overall safety. The successful implementation of this initiative serves as a model for similar projects aimed at improving the water security of marginalized communities. It is a testament to the power of collaboration and community engagement in driving positive change and addressing pressing societal challenges

For three generations, my family and neighbours would make the treacherous journey to the river several times a for their daily needs. It was a constant struggle that took up precious time and energy.

With the construction of the dug well and the sub-surface bund. Now, the water from the river lasts until the end of May, providing us with a reliable source for drinking, washing, and household purposes. This accessibility has been a game-changer for me and my family. We no longer have to spend hours every day traveling to the river, freeing up time for more productive tasks and allowing us to better care for our families

Usha Ghatal,
Resident, Vasai-Palghar district

Urban Habitat Risk Resilience

Promoting resilient housing and climate-adaptive development

AKAH works with urban communities to protect habitats from the effects of natural hazards and man-made disasters and mitigate the impacts of climate change such as heatwaves, sea level rise and erratic weather changes. AKAH conducts research and promotes low-cost, low-carbon and nature-based built environment solutions such as cool roofs, green roofs, solarization, and Miyawaki forests to reduce hotspots in cities and empower people to be prepared for and ready to respond to the risks.

Key partnerships

1. Urban Heat Island, Hyderabad, Ahmedabad
2. De-Carbonization (De-Carb) Project, Mumbai

Key interventions

15 Cool Roofs in Residential Buildings (approximate area 10 Acres)

9000 Sq.mts of China Mosaic Roof Installation

5000 Trees Planted under De-Carbonization Project

Urban Heat Island (UHI) Mitigation

AKAH assesses the impact of UHI phenomena through geo-spatial analysis. Using these assessments, it brings together communities and planning authorities to implement nature-based solutions and adapt and revive traditional technologies to mitigate the impacts of UHI.

Creation of Mini Forests- AKAH is employing Miyawaki mini-forest techniques to restore forest cover in urban areas. Native plants are used in these afforestation processes to generate dense, multi-layered forests. Miyawaki mini forests have been shown to develop into mature ecosystems in just 20 years, while it can take 200 years for a forest to regenerate on its own. They serve as biodiversity oasis, hosting up to 20 times the number of species as non-native, managed forests.

Safe and Green Construction- AKAH is committed to developing low-carbon, energy efficient, safe, and affordable built environment solutions. AKAH believes that housing or institutional facilities must be safe, adapted to the local environment and culture, and employ green building principles to have a lower environmental footprint.

Energy and Audits- AKAH conducts energy audits in schools to identify opportunities to reduce energy usage, enhance energy efficiency, and reduce the energy costs. We are also educating communities through multiple communication media for adoption of net grid roof top solar and avail of government subsidies for the same. We have facilitated the installation of over 10,000 roof tops solar and energy efficient products within schools and housing through awareness and technical support.

Geo-spatial Analysis

Cool Roofing with China Mosiac

Managing Energy through Energy Audits

Use of Sustainable Material

Enhanced Carbon Sequestration through Miyawaki Forest

> " *I thoroughly enjoyed working with Aga Khan Agency for Habitat India on cool roof research under the Urban Heat Island Mitigation project at Hyderabad. The team was actively involved in the entire study and was technically competent on the subject of energy efficiency in buildings. Their collaborative approach ensured that the research study is taken further into action through habitat improvement projects and programs of the agency.* "

Dr Vishal Garg, *PhD*
Dean of Research, Plaksha University
Director, Indorama Ventures Center for Clean Energy (previously Professor at IIIT Hyderabad)
Area of Expertise - Energy Efficient and Smart Buildings

Urban Heat Island Mitigation

Urban heat islands (UHI) are urbanised areas with higher temperatures than rural or less built-up areas. The UHI effect is exacerbated by poor land-use planning, building density, and surface characteristics. The action-oriented pilot study tested and assessed the efficacy of a community-based cool roof solution in a housing society with over nine hundred units. Aga Khan Agency for Habitat (AKAH) India undertook a pilot project in Hyderabad, Telangana, to test cool roofs as a solution to combat urban heat. .

Adopted Methodology

• **Institutional Partnership:** AKAH partnered with the International Institute of Information Technology, Hyderabad (IIIT-H) to evaluate the outcome of the pilot project. Thermal surveys were conducted to compare the temperatures of untreated grey roofs versus roofs freshly coated with white high reflective paint using temperature sensors and electric meters. to measure the outcomes of cool roof application with beneficiary surveys, data collection using instruments and analysis through long term & short-term studies

• **Coating Roof with Highly Reflective Surface:** Certified Green Building material – Cool roof from Panache Greentech Solutions was applied on all residential buildings' rooftops and chipped tiles to compare the most efficient reflective surface

• **Data Collection:** Thermal Survey was conducted, and a weather station was installed at the site to capture the ambient air temperature, humidity, solar radiation, and wind speed

• **UHI Assessment for Hyderabad:** Assessing Urban heat island for Hyderabad City with Temperature Trend Analysis, Extreme Heat Events data, Land Surface Temperature Analysis and Future climate projections

• **Dissemination Workshop:** Workshop at Hyderabad and videos – case study of cool roof pilot, UHI – problem and solutions

Grey Roof		Mosaic Roof	Cool Roof	
IR Gun	65.5ºC		IR Gun	44.8ºC
Thermal Camera	65.3ºC	Thermal Camera 44.2ºC	Thermal Camera	44.3ºC

Major Findings of the Study

Indoor Temperature	Average	Peak
Cool Roof	33°C	28.9°C
Grey Roof	37.3°C	30.2°C
Difference	4.3°C	1.3°C

Key Inference from the Results

- The maximum reduction in the indoor air is **4.3°C,** underdeck is **6.1°C** and over deck temperature is **17.3°C** for the white room as compared to the grey room.
- As per Bureau of Energy Efficiency in India, every one degree can **save 6% energy** for air conditioning. Effectively, this can help in **reducing up to 24% peak energy demand**. The thermal comfort range for buildings without air conditioners for Hyderabad is between 26 - 32 degrees with average of 29 degrees – The cool roof and China mosaic helps in keeping indoor air temperature within that range and this has been confirmed through surveys & testimonials at Garden Housing.

Conclusions from the experiment

- Energy simulation results show that for the peak summer month May, a reduction in AC electricity consumption in the range of 4.2% -18.8% are possible with high albedo roof (0.5-0.9).
- Thermal comfort survey conducted showed a slight improvement in the perception of comfort.
- The on-spot measurements for roof surface temperature of a China mosaic roof were found to be similar to freshly coated cool roof.

Key interventions

15 residential buildings were coated with Cool Roof and China Mosaic was installed

10 acres of total site area

> ❝AKAH approached us with the innovative idea of implementing cool roofs in our residential complex. Prior to this, all our buildings had conventional grey roofs. Cool roof installation was an easy process, primarily involved applying a specialized reflective coating to the terrace floor. Every summer, our homes would become unbearably hot, with indoor temperatures almost matching the scorching outdoors. We relied heavily on ceiling fans, running them continuously while indoors, and even during the night, we had to use air conditioning to maintain a comfortable environment. The winters in our region are relatively mild, so the need for fans persisted year-round. Since the installation of cool roofs, we've noticed a significant reduction in our dependence on air conditioning and fans. During the evenings, we can now comfortably sit without the need for a fan, and our use of air conditioning is limited to the hottest summer days. As a result, our energy bills have noticeably decreased. When we step in the house, we can feel a change, that it is slightly cooler than what is used to be ❞
>
> *Hussain Merchant,*
> *Resident and Manager of the Garden Housing Society, Kompally*

Cool Roofs in Hyderabad, Telangana

Building urban resilience & addressing climate change

Rapid urbanization causes higher temperatures in certain areas of the cities due to reduced green spaces and increased heat-absorbing surfaces. This phenomenon is known as the Urban Heat Island (UHI) effect, which leads to health risks, energy demand, and decreased comfort. Mitigation through green infrastructure and urban planning is essential for a sustainable urban future. Kompally, a fast-developing suburb of Hyderabad with an industrial area developing at the periphery confronts the consequences of UHI effect Summer temperatures touch 40°C. Crowded settlements with the concretization of roads and buildings result in the trapping of heat. To mitigate these instances AKAH, in collaboration with the International Institute of Information Technology- Hyderabad (IIIT-H), piloted a Cool Roof Installation in Garden Housing Society in Kompally, comprising of over 15 mid-rise buildings spread over 10 acres with over 850 residents.

AKAH installed cool roof and China Mosaic on the terraces after understanding the topology of the building structures. Cool Roof refers to the application of a reflective white paint on the terrace surface that reduces the absorption of heat and lowers the surface temperature of terrace and the indoor temperature of apartments below the terrace. China Mosaic works on a similar principle, using white chipped tiles to cover the terrace surface. To monitor the difference in temperature before and after application, temperature sensors were installed in the apartments on the topmost floor. The research study was anchored by the International Institute of Information Technology-Hyderabad (IIIT-H).

After the installation, thermal comfort surveys were carried out and residents confirmed that they perceived reduction in the indoor temperatures at their homes. Peak indoor temperatures reduced up to 3-4°C as tested by IIIT-H, and this brought about a change in the usage pattern of air conditioners, coolers, and fans, potentially reducing energy demand. The surface temperature on the terrace was tested post-installation showing a reduction of 15-20°C.

AKAH is planning to work on macro-level assessments for cities like Pune, Rajkot, Nagpur and build partnerships with potential funders to support the full-scale projects from assessment to action – implementation of strategies for mitigation and adaptation to urban heat through solutions like greening, cool roof, green roof, grass pavers, as well as the creation of cooling centers for relief during heat waves

Pre-installation Temperature

IR Gun   65.5⁰C

Post-installation Temperature

IR Gun   44.8⁰C

De-Carbonization Initiative Mumbai, Maharashtra

Supported by Aga Khan Development Network

De-carbonization refers to the process of reducing or eliminating carbon dioxide (CO_2) emissions from various sectors, such as energy production, transportation, and industry, to combat climate change. This involves transitioning to cleaner and renewable energy sources, improving energy efficiency, adopting sustainable transportation options, and implementing strategies that capture or offset carbon emissions like afforestation or increasing the green cover. The De-Carb project implemented in Jogeshwari, Mumbai, Maharashtra focuses on climate mitigation and carbon sequestration through the Miyawaki Method of tree plantation.

About Miyawaki Method of Tree Plantation

The Miyawaki method of tree plantation, pioneered by Japanese botanist Akira Miyawaki, focuses on creating dense and diverse forests in a short time. Unlike traditional reforestation, this technique involves planting native tree species in a close-knit arrangement, fostering rapid growth and ecological restoration. The method enhances biodiversity, as various plant layers mimic natural ecosystems, supporting wildlife and soil health. It contributes to carbon sequestration, air purification, and temperature regulation, mitigating urban heat island effects. The Miyawaki approach has gained global recognition for its effectiveness in restoring degraded lands,

5500 trees (Ring Road-Rajkot) were planted using the Miyawaki method of tree plantation with periodic visits to monitor the progress and site upkeep.

Enviroshala

Towards Resilient and Green schools

Enviroshala is a school-based outreach program in the environmentally vulnerable region. The program aims to transform schools into 'Enviroshala', an environment education and experimentation hub. Schools under the Enviroshala project exhibit environment interventions for water, waste management, green spaces, implementation of green energy projects and enhancing capacities of youth related to emergency response to become 'Environmental Ambassadors'. The project aims to empower children and young people to advocate, innovate and act sustainably leading to youth-centered sustainable development.

Environment Education

Environment education program is designed to cultivate eco-consciousness in students. Through interactive workshops, and hands-on projects, students engage with pressing environmental issues. They learn about biodiversity, conservation, and sustainable practices, fostering a deep appreciation for nature. Topics like renewable energy, waste reduction, water management and climate change are major focus of environment education, empowering students to become informed advocates for a greener future.

Infrastructure Improvement

School infrastructure and amenities have a substantial impact on children's learning outcomes and retention. Proper classrooms, benches, toilets, playgrounds, and mid-day meals have a significant impact on admission and regular attendance of students, particularly girls. AKAH seeks to improve regular and reliable water supply for drinking and sanitary purposes. It retrofits toilet facilities and handwashing structures, designs accessible sanitation facilities, and implements rainwater collecting and subsurface water recharging. It also creates School Management Committees comprised of teachers, community leaders, and students to ensure the program's long-term viability.

Environment Clubs Champions

The objective of environment education is to improve a student's basic knowledge of the environment and to raise his or her awareness of the significance of environmental stewardship. The goal is to raise children's awareness of our planet through thought-provoking activities. Environment clubs at schools encourage students to take care of their environment by involving them in activities such as planting gardens, developing alternative energy sources, participating in clean-up campaigns, rainwater harvesting, and other projects.

A Journey towards Environmental Stewardship

Environment Education

Waste management

Green Space

Water Management

Renewable Energy

Environment Ambassador

Rainwater Harvesting

Cleanup Campaign

Infrastucture Improvement

Classroom

Toilets

Benches

Playground

Midday

Handwash

Other Projects

Building Safe and Resilient Schools

Porbandar, Gujarat: Building Resilient Schools

Supported by Aga Khan Development Network

Aga Khan Agency for Habitat (AKAH) works with government schools on developing models for climate resilient infrastructure related to water management, and #renewable energy. AKAH has formed school management committees comprising of teachers, community leaders, and students to promote environmental stewardship. The program's overarching goal revolves around bolstering the water resilience of 15 schools through various technical and non-technical interventions. Through this endeavour, we aim to not only fortify educational institutions against water-related disruptions but also to cultivate a generation of young minds attuned to the importance of preserving this precious resource.

Key interventions

12 Schools installed with Roof Water Harvesting structures; Handwash Stations

15 School training for Menstrual Hygiene Management

Stakeholder Consultations

Government officials from the District Education Department, School authorities (teachers/principal/board), and like-minded institutions/individuals

2

Baseline Assessment

To understand the prevailing situation in the targeted schools about water, sanitaiton and hygiene facilities

1

3

Technical Intervention

To understand the current situation pertinent to water and sanitation interventions required for repair and maintenance, propose new structures, and accordingly prepare structural design for execution

4

Awareness Building

Incorporating wall paintings as a strategic tool for community engagement and message dissemination has proven to be a potent approach, aimed at championing behavioral changes and fostering environmental consciousness.

Empowering Tomorrow's Guardians of Water

For a region like Porbandar which is struggling with the issues of water security an awareness program on water security for students and schools is imperative. The lack of reliable water supply has not only affected the development of the state but has also bred social unrest, as communities compete for limited resources, leading to tensions and conflicts. Located in remote areas, the residents are disconnected from essential services and infrastructure for water conservation, exacerbating the existing problems. The limited outreach efforts and lack of awareness initiatives have left many residents uninformed about available resources and potential solutions.

Porbandar's primary schools face concerns intertwined with the city's water and sanitation crisis. Outdated teaching methods and a lack of practical exercises hinder student engagement and understanding, while the absence of effective follow-through impedes the integration of vital water conservation practices. Identifying a huge gap in water security needs in Porbandar, AKAH initiated a program on water management with an aim to address the water scarcity issue, promote sustainable water management practices, improve sanitation facilities, and enhance hygiene practices in schools. By integrating Nature based solutions like water and sanitation challenges into education, Porbandar can shape informed individuals who contribute to overcoming these crises.

The water management programs carried out at various schools focused on ways to save water and energy at school and at home. Education in water conservation and general water management skills Roof rainwater harvesting conservation at schools and community spaces for improved storage and groundwater recharge. Soak pit with filtration to release wastewater for underground recharge Water management through the construction of hand wash and dish wash stations.

The construction progress of rainwater storage tanks, handwashing stations, and dishwashing stations was closely monitored by the respective schools. Regular updates were shared with the AKAHI team by school staff to ensure transparency and effective coordination and regular reports are provided on a quarterly basis by the field team.

Through various interventions AKAH's team connected with 470 students from 3 schools where 40,000 litres of rain water storage facilities was constructed along with 7 soak pits.

The Enviroshala program, as part of the school water security management initiatives, has left a lasting impact on the students, who thoroughly enjoyed its various components. The Enviroshala program has not only imparted knowledge but also fostered an environment where students can actively engage, learn, and make positive changes for themselves and their communities.

❝ I had been writing to the ministry for 2-3 years continuously saying we needed, Roof rainwater harvesting, yet no initiative was taken. The TDS here is around 800, and 500 is the permissible limit. Our students are from different castes and backgrounds and some couldn't even afford water bottles, resorting to drinking whatever we could provide, regardless of its poor quality. The water was undrinkable due to its terrible quality and hardness. When AKAH India approached us, understanding our water issues, I can't describe the joy I felt when they implemented the RRWH initiative. Finally, my students would have clean drinking water, a basic necessity. And to top it off, we would have water until the end of May. I can't thank AKAH India enough for their unwavering support. Their commitment to improving our lives is truly inspiring. ❞

Mitesh Goswami ,
Principal, Ranava school

Disaster Risk Reduction

Building resilient communities that can respond and adapt to risks and changes

Disaster Risk Reduction is a paramount endeavour aimed at mitigating the escalating threats posed by climate change-induced disasters. Through education, training, and participatory planning, AKAH's team identify vulnerabilities, develop action plans, and implement measures to reduce disaster impacts. The flagship aims to enhances early warning systems, establishes safe shelters, and promotes sustainable practices, building self-reliance and minimizing external dependency during crises. This approach fosters a bottom-up, inclusive process that strengthens social cohesion and ensures disaster resilience aligns with the unique needs and context of each community, paving the way for more effective disaster preparedness and response.

Major Initiatives

• Disaster Preparedness Response and Mitigation
• Habitat Planning and Improvement

Key interventions

Hazard Risk Vulnerability Assessment (HVRAs)

Training of Trainers

Earthquake Preparedness Drills

The Four Pillars of Disaster Risk Reduction

Pillars

Response and Readiness

Disaster Risk Reduction

Community Based Disaster Risk Reduction

Institutional Safety

Actions

Planning

Training

Resource allocation

Identifying vulnerabilities

Implementing preventive measures

Raising awareness

Local participation

Knowledge

Resources

Effective coordination

Communication

Resource allocation

Result

Enabling swift and effective actions during disasters.

Minimizes casualties and damages.

Empowering communities to take proactive measures.

Robust structures facilitate swift decision-making, response coordination, and public engagement during a crisis.

Disaster Preparedness and Response

Disaster preparedness and response form the core of effective crisis management. Preparedness involves planning, training, and resource allocation before disasters strike. It builds resilience by identifying vulnerabilities, developing strategies, and establishing communication networks. When disasters occur, a swift response is critical, involving coordination, timely information dissemination, and deployment of resources for rescue, relief, and recovery. Effective preparedness reduces loss of life, limits damage, and accelerates recovery. Integrated efforts ensure a well-coordinated response, bolstering community and institutional capacities to withstand and rebound from disasters while fostering a safer, more resilient society.

AKAH's Disaster Risk Management program includes Readiness and Response (RR), Disaster Risk Reduction (DRR), Community-Based Disaster Risk Reduction (CBDRR) and the Institutional Safety (IS) program activities.

Key interventions

109 HVRAs were updated Gujarat, Maharashtra, Telangana, and Goa

163 Master Trainers on DRR trained

282 Earthquake Preparedness Drills at facilities, including community centres, schools, AKDN offices, project villages and with external partners

Habitat Planning and Improvement

Habitat planning and improvement program in the states of Gujarat, Maharashtra and Telangana focuses on improving habitat safety through assessments, advocacy, retrofitting and repair, and structural and non-structural mitigations. The program involves multiple interventions at habitat and settlement, or regional level which include new constructions at areas of opportunity, redevelopment, adoption of renewable energy and energy efficiency product promotion and facilitation, assessment of settlement resilience and planning, implementation to increase the same. Enhancing the skills – basic and technical of the stakeholders to improve resilience.

Key interventions

11038 Interventions in the thematic area of safe water, adequate sanitation and improved habitat

14341 beneficiaries impacted with various interventions

6 Energy Audits at Aga Khan Education Services India facilities

3500+ energy efficient products to be installed.

Community Emergency Response Training

Capacity building in the local communities

Background: AKAH recognizes the importance of community involvement in disaster preparedness and response and aims to build disaster resilience through the training of Community Emergency Response Teams (CERT). The CERT team plans and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural disasters. These disasters cause significant loss of life, damage to property, and disrupt livelihoods. The immediate response to a disaster is critical to minimize the impact and save lives.

Interventions: The primary objective of the project is to train and equip the community with the necessary knowledge and skills to respond effectively to disasters. The project aims to build a network of community emergency response teams that can self-activate and respond promptly to disasters in their neighbourhood. The project focuses on vulnerable communities, including those living in disaster-prone areas and marginalized groups such as women, children, and the elderly. AKAH has significant technical expertise and experience in disaster risk reduction and emergency response. Through a team of experts who conduct assessments and provide technical guidance on disaster management, AKAH uses modern technology and scientific knowledge to support disaster preparedness and response. AKAH also has a robust network of volunteers and partners who work together to implement programs effectively.

Outcomes and Benefits: Under the project 2284 (948 females and 1336 males) CERTs have been trained across India, benefiting approximately 101473 people. The trained CERTs will be able to respond quickly and effectively to disasters, reducing loss of life, property damage, and environmental impact. The project will also raise awareness among the community about disaster preparedness and response, leading to increased resilience and self-sufficiency. The efforts directed towards the advancement of the United Nations' Sustainable Development Goals, particularly SDG 11 (sustainable cities and communities) and SDG 13 (climate action).

AKAH India in pursuit of Climate-Resilient Development

In our journey towards a sustainable future, the Aga Khan Agency for Habitat (AKAH) India remains steadfast in its commitment to foster community-led climate-resilient future. AKAH's approach not only safeguards environment and ecosystems but also enhances human well-being and socio-economic development.

India, as per the World Meteorological Organization, suffered the third-highest losses in the Asian region in 2022 due to flooding, amounting to more than USD 4.2 billion. In addition to this, extreme heatwaves left 90 per cent of Indians more vulnerable to health issues. Climate change is rapidly transforming urban India, with projections indicating that by 2050 rising temperatures, changing weather patterns, and extreme events such as floods, landslides, heatwaves, droughts, and fires that increasingly disrupt the lives and livelihoods of city residents. While climate change is a significant factor, our weak resilience and adaptation have increased our vulnerability. Further, the lack of resources, infrastructure, and data create barriers in addressing climate change.

AKAH's approach to climate action involves capacity building, advocacy, and implementation of resilient and safe infrastructure. It takes proactive measures to mitigate the impacts of both natural and human-induced disasters. It implements technology driven solutions that offer scalable models for large scale impact. Besides, AKAH also focuses on building resilient habitats as support systems to build adaptive capacities of the communities in distress situations. These adaptation solutions are highly local and tailored to the geographic, climatic, and social context of a region, that include enhancing water security, promoting energy efficiency, and climate resilient livelihoods. AKAH's focus on community and climate resilient practices is an attempt to restore the broken relationship between people and the environment.

At the core of AKAH's strategy is the integration of climate resilience in all our projects. AKAH actively engages with these communities, fostering ownership and ensuring equitable benefits. AKAH is committed to advocating for ambitious climate action at all levels, thereby supporting the policies that promote resilience and sustainability. These efforts align seamlessly with India's G20 mission of "Vasudhaiva Kutumbakam" (One Earth. One Family. One Future) and the Green Development Pact with shared commitment to advance sustainable development, climate change and energy efficiency.

Recognizing the crucial role of finance in achieving climate stability, AKAH is dedicated to advocating Corporate Social Responsibility (CSR) programs to allocate their resources strategically toward climate action and environmental sustainability. AKAH will provide its services to facilitate this transition, ensuring equitable development and inclusivity throughout throughout the process.

Aga Khan Agency for Habitat
India