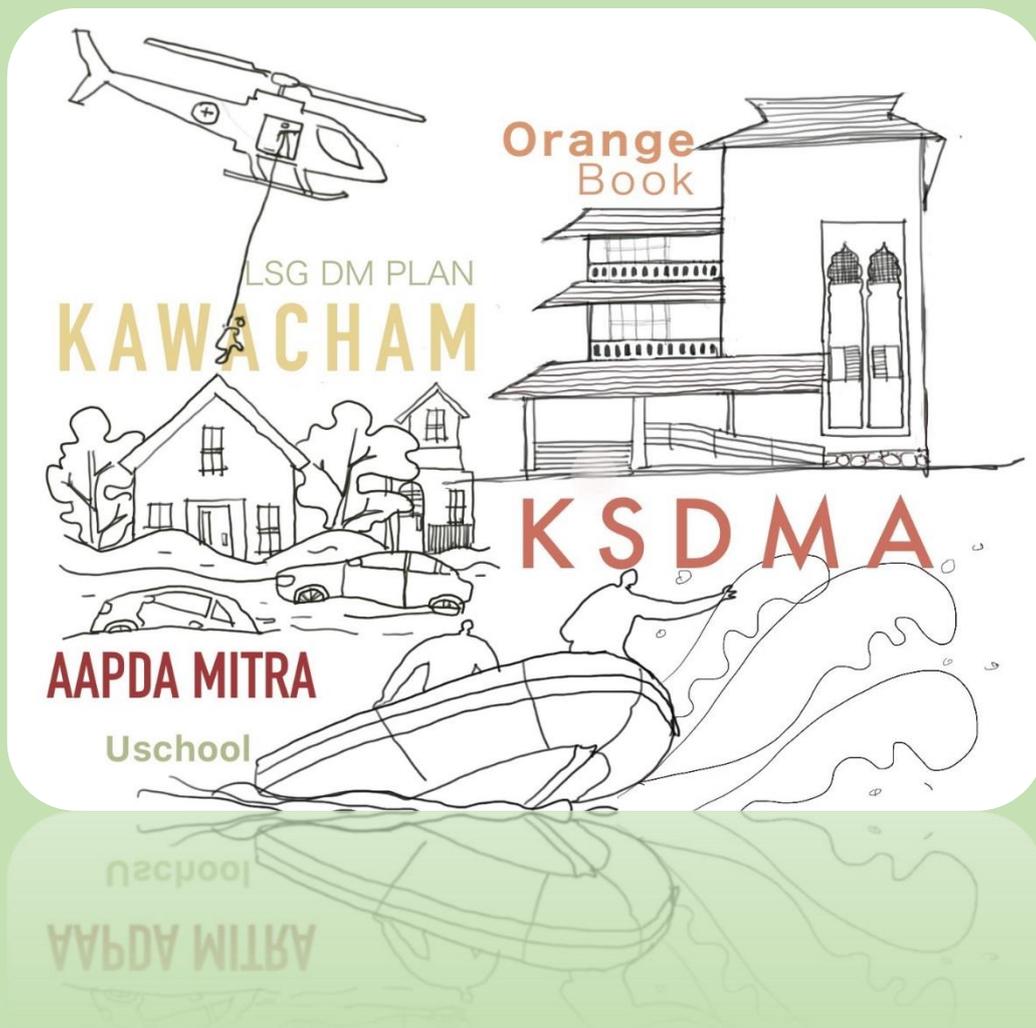




# SOCIAL AND BEHAVIORAL CHANGE (SBC) IN KERALA STATE DISASTER MANAGEMENT AUTHORITY (KSDMA) INITIATIVES

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KERALA STATE DISASTER MANAGEMENT AUTHORITY

GOVERNMENT OF KERALA



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## Preface

Disaster Risk Reduction (DRR) in Kerala has transitioned from a purely technical field to one that prioritizes human behavior. KSDMA's initiatives demonstrate that resilience is built not just through infrastructure, but through shifting risk perceptions, institutional norms, and community habits. This report categorizes these efforts into a cohesive SBC framework.

## Executive Summary

The Kerala State Disaster Management Authority (KSDMA) has implemented a wide range of disaster risk reduction (DRR) initiatives that strongly align with Social and Behaviour Change (SBC) approaches. Although many programmes are not explicitly labelled as SBC, they collectively contribute to sustained behavioural change by improving risk perception, strengthening capacities, promoting inclusive participation, and creating enabling institutional and community environments. Through capacity building, inclusive communication, participatory planning, and continuous engagement, these programmes move beyond awareness creation to foster sustained behavioural change and resilience. The convergence of technical interventions with social and behavioural strategies strengthens Kerala's disaster preparedness and supports long-term, community-led resilience building

### Institutional and System-Level Behaviour Change

KSDMA has embedded behavioural change within institutional systems through initiatives such as the Virtual Cadre, which builds trained disaster management champions across departments and promotes preparedness as a routine administrative responsibility. Training needs assessments and structural support mechanisms reinforce continuity, role clarity, and institutionalisation of disaster preparedness behaviour across government systems.

Community-centred initiatives like the Kanichar Living Lab demonstrate sustained preparedness through local resilience centres, ward-level emergency teams, community mock drills, and strengthened early warning systems. These interventions promote practice-based learning, participatory planning, and integration of disaster risk considerations into local governance and service delivery.

### Community and Household-Level Behaviour Change

Several programmes focus on strengthening community awareness and protective behaviour at household and local levels. The School Safety Programme enhances preparedness through experiential learning, mock drills, and inclusive materials for children with disabilities. Similarly, initiatives such as Mazhapolima and eco-friendly check dams promote water conservation behaviours, drought risk awareness, and collective responsibility for sustainable resource management.



The Shelter Hub project encourages safer construction practices through technical guidance, training of masons and contractors, and follow-up support, thereby strengthening self-efficacy and adoption of resilient construction behaviours among households and professionals.

## Inclusion, Trust, and Social Protection

KSDMA programmes emphasise inclusion and trust-building. Disability-inclusive DRR initiatives strengthen accessible communication, build capacities of persons with disabilities and responders, and promote inclusive participation in preparedness and response activities. The Prathyudhanam scheme and Janakeeyam Athijeevanam initiative enhance trust in public systems through transparent communication, community facilitation, feedback mechanisms, and convergence across departments.

Tribal Hamlet Disaster Management Plans further promote participatory risk communication, community leadership, and culturally appropriate DRR practices through participatory mapping, focus group discussions, and integration of traditional knowledge into planning.

## Risk Communication and Public Awareness

Public awareness campaigns, IEC materials, COVID-19 response communication, and the Tsunami Ready programme strengthen risk communication through accessible, locally relevant messaging and community engagement. These initiatives improve understanding of hazards, encourage safe behaviours such as evacuation and hygiene practices, and build public confidence in early warning systems and institutional processes.

## KSDMA Comprehensive SBC Programmatic Analysis

### Institutional & Structural Transformation

These initiatives target the "Enabling Environment," ensuring that the system itself facilitates safe behavior.

- Virtual Cadre Initiative: Addresses the barrier of "siloed" governance. By mandating seven officials per department across eight key sectors, it institutionalizes disaster preparedness as a routine administrative duty rather than an ad-hoc emergency response.
- Shelter Hub Project: Shifts professional norms in the construction industry. By providing technical consultancy and site visits, it transforms the behavior of masons, contractors, and students toward resilient building practices.
- Prathyudhanam Programme: Focuses on system accountability. Transparent financial assistance and grievance redressal build trust in public institutions, which is a vital precursor for community cooperation during future disasters.



- Tsunami Ready Programme: Standardizes evacuation behavior through hazard mapping and official capacity building. It uses visual tools to ensure that administrative response is predictable and uniform.

### Community-Led Resilience & Ownership

These programs move the needle from "top-down" instructions to collective social norms.

- Kanichar Living Lab: A place-based model that uses "Resilience Centres" to maintain a constant local presence. It turns abstract risk into lived experience through mock drills and localized early warning systems.
- Tribal Hamlet Disaster Management Plans: Utilizes Participatory Rural Appraisal (PRA) and transect walks. This ensures DRR is not seen as an outside imposition but as a culturally appropriate extension of tribal leadership and collective responsibility.
- Janakeeyam Athijeevanam (2019): A community-feedback recovery model. By integrating survivor voices into planning, it reinforces the "Social Contract" and ensures long-term community engagement beyond the recovery phase.
- Mazhapolima Initiative: Promotes rainwater harvesting not just as a technical solution, but as a household habit. It fosters a sense of collective responsibility for groundwater conservation.
- Eco-friendly Check Dams: Uses local materials and community funding to remove financial and technical barriers, encouraging the adoption of drought-mitigation practices at the grassroots level.

### Inclusive Outreach & Educational SBC

These initiatives target Individual Agency, ensuring the most vulnerable are equipped to act.

- School Safety Programme: Uses students as "Resilience Ambassadors." By training teachers and students in mock drills, the school becomes a behavioral hub that carries safety protocols back to the household.
- Disability Inclusive DRR: Directly tackles behavioral barriers like "learned helplessness." By providing Braille/Sign Language materials and training caregivers, it builds the confidence and self-efficacy of persons with disabilities.
- Public Awareness & IEC Materials: Combats "Optimism Bias" (the belief that disasters only happen to others) through multi-hazard, multi-language communication that improves individual risk perception.



- **COVID-19 Response:** A masterclass in rapid SBC, focusing on hygiene practices, misinformation management, and psychosocial support to drive collective compliance with public health measures.

## Programme-wise SBC Analysis

Sl. No.	Programme/ Initiative	Key Components	SBC Elements/Contributions	Behavioural Outcomes/Focus
1	<b>Virtual Cadre Initiative</b>	Department-specific trainings across eight departments; mandating seven officials per department; Training Needs Assessments	<ul style="list-style-type: none"> <li>• Institutional behaviour change through risk perception;</li> <li>• normalisation of preparedness in routine governance;</li> <li>• structural reinforcement and continuity;</li> <li>• context-specific training design</li> </ul>	<ul style="list-style-type: none"> <li>• Embeds preparedness within governance systems;</li> <li>• strengthens organisational and institutional behaviour change</li> </ul>
2	<b>Kanichar Living Lab</b>	Panchayat resilience centre; mock drills and ERT restructuring; school preparedness; heat risk awareness; early warning strengthening; institutional preparedness; tribal DM plan	<ul style="list-style-type: none"> <li>• Practice-based learning;</li> <li>• participatory engagement;</li> <li>• localised risk communication;</li> <li>• inclusive preparedness planning</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained preparedness behaviour;</li> <li>• household-level awareness; community ownership;</li> <li>• place-based resilience</li> </ul>
3	<b>School Safety Programme</b>	Implemented since 2010; post-flood pilot; training for students/teachers/staff; mock drills; safety committees; accessible materials	<ul style="list-style-type: none"> <li>• Knowledge and awareness improvement;</li> <li>• experiential learning; barrier reduction for children with disabilities;</li> <li>• inclusive preparedness</li> </ul>	<ul style="list-style-type: none"> <li>• Schools as behaviour change hubs;</li> <li>• strengthened preparedness among students and communities</li> </ul>
4	<b>Prathyudhanam Programme</b>	Financial assistance; transparent eligibility communication; departmental convergence; Anganwadi facilitation; grievance redressal	<ul style="list-style-type: none"> <li>• Trust building through transparency;</li> <li>• interpersonal communication;</li> <li>• strengthened support systems;</li> <li>• accountability mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Increased trust in institutions;</li> <li>• informed decision-making;</li> <li>• sustained institutional engagement</li> </ul>
5		One-stop construction guidance centres; outreach;	<ul style="list-style-type: none"> <li>• Risk perception improvement;</li> <li>• skills-based learning;</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of resilient construction;</li> </ul>



	<b>Shelter Hub Project</b>	mason/contractor training; technical consultancy; site visits	<ul style="list-style-type: none"> <li>• professional norm change;</li> <li>• continuous reinforcement</li> </ul>	<ul style="list-style-type: none"> <li>• translation of knowledge into safe building practices</li> </ul>
6	<b>Mazhapolima Initiative</b>	Rainwater harvesting promotion; technical guidance; community outreach; technical studies	<ul style="list-style-type: none"> <li>• Household-level behaviour adoption;</li> <li>• awareness on water conservation;</li> <li>• evidence-based communication</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term water conservation behaviour;</li> <li>• community responsibility for groundwater management</li> </ul>
7	<b>Eco-friendly Check Dams</b>	Low-cost check dams; funding convergence; community involvement; replication across districts	<ul style="list-style-type: none"> <li>• Collective responsibility;</li> <li>• barrier reduction;</li> <li>• demonstration effect;</li> <li>• community ownership</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable water management behaviour;</li> <li>• local adoption of conservation practices</li> </ul>
8	<b>Janakeeyam Athijeevanam (2019)</b>	Community feedback collection; inclusion of vulnerable groups; regular communication; integration into planning	<ul style="list-style-type: none"> <li>• Participatory engagement;</li> <li>• trust building;</li> <li>• accountability;</li> <li>• institutional responsiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Community ownership of recovery and resilience;</li> <li>• sustained engagement beyond disaster phase</li> </ul>
9	<b>Disability Inclusive DRR</b>	Training for persons with disabilities and caregivers; accessible materials; responder capacity building; collaboration	<ul style="list-style-type: none"> <li>• Inclusive communication;</li> <li>• attitude change toward disability;</li> <li>• confidence building;</li> <li>• institutional inclusion</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusive participation in DRR;</li> <li>• strengthened preparedness among persons with disabilities</li> </ul>
10	<b>Public Awareness &amp; IEC Materials</b>	Multi-hazard IEC; multi-language dissemination; media collaboration; inclusive materials	<ul style="list-style-type: none"> <li>• Risk awareness improvement;</li> <li>• repeated messaging;</li> <li>• credibility building;</li> <li>• inclusive communication</li> </ul>	<ul style="list-style-type: none"> <li>• Reinforced preparedness behaviour;</li> <li>• improved public understanding of risks</li> </ul>
11	<b>COVID-19 Response</b>	Risk communication; community engagement; psychosocial support; misinformation management	<ul style="list-style-type: none"> <li>• Promotion of preventive behaviour;</li> <li>• trust building;</li> <li>• stigma reduction;</li> <li>• collective responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of safe health behaviours;</li> <li>• strengthened citizen–institution trust</li> </ul>
12	<b>Tsunami Ready Programme</b>	Hazard and evacuation mapping; capacity building; IEC maps; consultations	<ul style="list-style-type: none"> <li>• Visual risk communication;</li> <li>• community participation;</li> <li>• standardised messaging;</li> <li>• preparedness promotion</li> </ul>	<ul style="list-style-type: none"> <li>• Improved evacuation behaviour;</li> <li>• community ownership of preparedness</li> </ul>
13	<b>Tribal Hamlet DM Plans</b>	Orientation meetings; Hamlet Resource Groups; PRA/FGDs; participatory mapping;	Risk perception strengthening; participatory communication; leadership development; culturally appropriate DRR	<ul style="list-style-type: none"> <li>• Community-led preparedness;</li> <li>• sustained volunteer culture;</li> </ul>



	integration with LSG plans		<ul style="list-style-type: none"> <li>• inclusive resilience planning</li> </ul>
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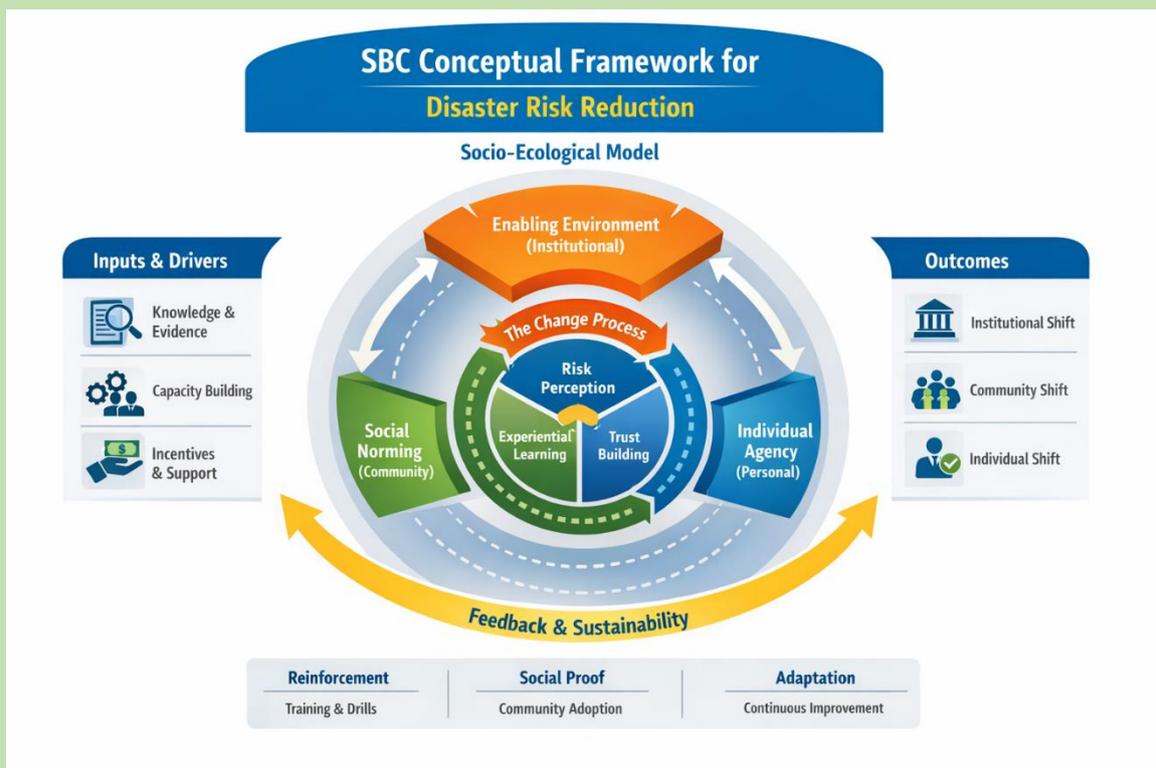
### Thematic SBC Framework

The analysis identifies seven key pillars that drive KSDMA’s behavioral impact:

Pillar	Mechanism	Programs Involved
Risk Perception	Improving the understanding of "invisible" threats.	IEC Materials, COVID-19 Response
Self-Efficacy	Building confidence through skill-building.	Shelter Hubs, School Safety
Trust & Accountability	Transparent systems that encourage engagement.	Prathyudhanam, Janakeeyam Athijeevanam
Social Norming	Making preparedness a collective habit.	Mazhapolima, Eco-friendly Check Dams
Inclusivity	Removing barriers for marginalized groups.	Tribal Hamlet Plans, Disability DRR
Experiential Learning	Learning through "doing" rather than just "hearing."	Mock Drills, Tsunami Ready
Institutionalization	Embedding DRR into the "DNA" of governance.	Virtual Cadre, Living Labs

### KSDMA Social and Behaviour Change (SBC) Conceptual Framework for Disaster Risk Reduction (DRR)

The Social and Behaviour Change (SBC) conceptual framework for Disaster Risk Reduction (DRR) is grounded in the Socio-Ecological Model, which recognises that behaviour change is shaped by multiple interconnected levels individual, community, and institutional. Sustainable disaster resilience cannot be achieved through awareness alone; it requires coordinated transformation across governance systems, social norms, and personal capacities.



The framework conceptualises SBC for DRR at KSDMA as a dynamic and cyclical process that ensures that disaster preparedness is no longer an "emergency event" but a standardized social norm and an administrative habit.

### Foundation of the Framework: Socio-Ecological Model

The framework is built on a Socio-Ecological Model, recognizing that behavior change happens at multiple interlocking levels, creating an enabling ecosystem for resilience.

#### A. Three Pillars of Change

Pillar	Focus	Key Elements	Purpose	Expected Transformation
Enabling Environment (Institutional Pillar)	Structural and governance-level factors supporting behaviour change	<ul style="list-style-type: none"> <li>• Policy mandates and institutional frameworks</li> <li>• Leadership and governance commitment</li> <li>• Organisational norms and accountability systems</li> <li>• Structural and technical support mechanisms</li> </ul>	To embed disaster preparedness and resilience within institutional systems and administrative culture rather than treating them as ad-hoc activities	Disaster Risk Reduction becomes an integral component of governance and service delivery



<b>Social Norming (Community Pillar)</b>	Collective responsibility, trust, shared values and social practices influencing behaviour	<ul style="list-style-type: none"> <li>• Community participation and ownership</li> <li>• Collective responsibility for risk reduction</li> <li>• Trust between institutions and communities</li> <li>• Inclusive engagement of vulnerable groups</li> </ul>	To create shared social expectations that preparedness and resilience are collective responsibilities	Preparedness and resilience behaviours become socially reinforced norms
<b>Individual Agency (Personal Pillar)</b>	Empowering individuals for proactive action	<ul style="list-style-type: none"> <li>• Risk perception and awareness</li> <li>• Skills and competencies</li> <li>• Self-efficacy and confidence</li> <li>• Access to information and resources</li> </ul>	To enable individuals to recognise risks, adopt safe practices and actively participate in resilience-building	Individuals become proactive agents of resilience rather than passive recipients of aid

### B. Inputs and Drivers (“The What”)

Component	Sub-components	Role in Behaviour Change
<b>Knowledge and Evidence</b>	<ul style="list-style-type: none"> <li>• Technical and scientific studies</li> <li>• Hazard and risk mapping</li> <li>• Evidence-based communication</li> </ul>	Improves understanding of risks and supports informed decision-making
<b>Capacity Building</b>	<ul style="list-style-type: none"> <li>• Training of government departments and officials</li> <li>• Skills development for community members and professionals</li> <li>• Simulation exercises and drills</li> </ul>	Enhances competencies, confidence and self-efficacy required for behavioural adoption
<b>Incentives and Support Systems</b>	<ul style="list-style-type: none"> <li>• Financial and technical assistance</li> <li>• Community facilitation and feedback mechanisms</li> <li>• Institutional support structures</li> </ul>	Reduces barriers to adoption and motivates sustained engagement

### C. The Change Process (“The How”)

Change Dimension	Behavioural Transition	Mechanisms/Approach	Outcome
<b>Risk Perception Transformation</b>	From: “Disasters are unlikely to affect me” To: “I am at risk and capable of taking preventive action”	Risk communication, localised information, experiential learning	Increased preparedness and proactive risk reduction behaviour
<b>Experiential Learning and Practice</b>	From awareness-based understanding to practice-based preparedness	Mock drills, simulations, participatory exercises	Improved practical skills and confidence for emergency response
<b>Trust and Relationship Building</b>	From limited engagement with institutions to strong citizen–state collaboration	Transparent communication, participatory planning, inclusive decision-making	Strengthened trust, legitimacy and cooperation



#### D. Outcomes (“The Shift”)

Level	Key Transformations
<b>Institutional Shift</b>	<ul style="list-style-type: none"> <li>• DRR embedded in departmental functions and planning</li> <li>• Preparedness institutionalised rather than event-driven</li> <li>• Governance systems demonstrate accountability and responsiveness</li> </ul>
<b>Community Shift</b>	<ul style="list-style-type: none"> <li>• Communities actively participate in resilience planning</li> <li>• Vulnerable groups become leaders rather than beneficiaries</li> <li>• Collective responsibility for risk reduction strengthened</li> </ul>
<b>Individual Shift</b>	<ul style="list-style-type: none"> <li>• Adoption of safe construction, water conservation and preparedness practices</li> <li>• Risk-informed decision-making becomes routine</li> <li>• Resilient behaviours become social standards</li> </ul>

#### E. Feedback Loop: Sustaining Behaviour Change

Sustenance Mechanism	Key Elements	Purpose/Outcome
<b>Reinforcement Mechanisms</b>	<ul style="list-style-type: none"> <li>• Periodic training and drills</li> <li>• Continuous communication and awareness</li> <li>• Institutional monitoring and follow-up</li> </ul>	Ensures behavioural practices remain active and institutionalised
<b>Social Proof &amp; Norm Reinforcement</b>	<ul style="list-style-type: none"> <li>• Visible adoption of resilience practices</li> <li>• Peer learning and community demonstrations</li> <li>• Recognition of best practices</li> </ul>	Encourages replication and normalisation of safe behaviours
<b>Adaptation &amp; Learning</b>	<ul style="list-style-type: none"> <li>• Continuous community feedback</li> <li>• Participatory monitoring and evaluation</li> <li>• Programme refinement based on local context</li> </ul>	Ensures relevance, ownership and long-term sustainability

#### Integrated Conceptual Model

The conceptual framework can be summarised as a cyclical and multi-level process:

Inputs & Drivers → Behaviour Change Processes → Multi-level Outcomes → Feedback & Reinforcement → Sustained Resilience

Together, these components form a dynamic system that sustains long-term disaster resilience through continuous social and behavioural transformation.

#### Conclusion

The Kerala State Disaster Management Authority (KSDMA) has systematically shifted disaster management from a reactive, technical exercise to a proactive, behavior-centered resilience model. By integrating Social and Behavioural Change (SBC) across three distinct pillars Institutional, Community, and Individual KSDMA has addressed the fundamental causes of vulnerability: risk apathy, lack of coordination, and social exclusion. This multi-level and adaptive approach ensures that behavioural transformation becomes embedded within governance structures, social systems, and everyday practices, thereby contributing to resilient and risk-informed societies.



The strength of the KSDMA model lies in its holistic feedback loop. It does not merely inform; it empowers through experiential learning, incentivizes through structural support, and sustains through institutional mandates. This multi-level approach ensures that disaster preparedness is no longer an "emergency event" but a standardized social norm and an administrative habit.

Ultimately, the initiatives studied from Kerala prove that a disaster-resilient Kerala is built not just on concrete walls and check dams, but on the foundation of informed, confident, and collective human action.