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Theory of Change for Sustainable and Equitable Access to Safe Drinking Water

A Policy Framework Aligned with UN Sustainable Development Goal 6.1

Document History

Version	Date	Description	Next Review
1	13/5/2024	Created and updated as per ACFID Sustainability Approach requirements	Before annual board meeting

Introduction

This document sets out the Theory of Change for Fairaction International. It defines the core logic through which Fairaction seeks to contribute to the achievement of UN Sustainable Development Goal 6.1, which aims to ensure universal and equitable access to safe and affordable drinking water for all. The purpose of this Theory of Change is to articulate how Fairaction understands water poverty as a complex systems challenge, how its interventions are expected to lead to sustainable impact, and how evidence, learning, and adaptation are embedded into programme design and delivery. The document establishes a shared framework for decision-making, implementation, monitoring, and scaling across all Fairaction activities.

This Theory of Change is a binding policy document for Fairaction International. All Fairaction subsidiaries, including Fairaction Nigeria, as well as any future country entities, thematic programmes, or project implementation

partners operating under the Fairaction umbrella, are required to design, implement, monitor, and adapt their interventions in alignment with the logic, principles, and evidence requirements set out in this document. Context-specific adaptations are permitted at the implementation level, but the underlying causal logic and learning standards defined here must be applied consistently.

This document is intended to be publicly available through the Fairaction website and will be periodically reviewed and updated to reflect learning generated through research, data analysis, and field implementation. In this way, the Theory of Change functions as both a planning tool and a living governance framework.

Mission and Impact Objective

Fairaction International's mission is to contribute to the achievement of universal and equitable access to safe and affordable drinking water. Fairaction's impact objective extends beyond the delivery of water infrastructure. It is focused on ensuring that water systems remain functional, reliable, and sustainable over time, while generating measurable improvements in community resilience, wellbeing, and human development. In contexts affected by water poverty, institutional weakness, and increasing climate risk, sustained access to safe drinking water underpins health outcomes, reduces vulnerability to shocks, and strengthens adaptive capacity.

By stabilising water access, Fairaction seeks to reduce the disproportionate burden borne by women, girls, and children who spend significant time collecting water. Time savings support increased participation in education, income-generating activities, and community life. For children who have been out of school due to water poverty, reliable access supports school attendance and learning continuity. For women and girls, reduced water collection burdens contribute to improved productivity, safety, and gender equity.

These outcomes are treated as core dimensions of impact, enabled by sustainable water systems rather than incidental benefits of infrastructure delivery.

Problem Context

Global water poverty presents two interrelated challenges.
First, approximately 2.1 to 2.2 billion people globally lack access to safely managed drinking water. This challenge is not solely driven by physical water scarcity, but by widespread infrastructure failure resulting from complex and interacting social, institutional, financial, environmental, technical, and political factors. Across many contexts, water systems fail prematurely due to poor location viability assessment, weak governance, insufficient maintenance financing, aid overlap, and lack of long-term performance monitoring.

Second, populations that currently have access to water services face increasing future risks. Climate change, population growth, urbanisation, groundwater stress, and extreme weather events threaten the reliability and safety of existing water systems. Without adaptive, evidence-based management, communities that are currently served risk becoming water-poor in the future.

Fairaction addresses both dimensions by prioritising communities that currently lack access while building the capacity, tools, and knowledge required to sustain access under future stress.

Foundational Logic of Fairaction's Theory of Change

Relationship between Theory of Change, iteration, and data

In Fairaction's model, the Theory of Change explains why change is expected to occur, while Fairaction's iterative and data-driven approach explains how that change is continuously tested, refined, and protected from failure. Table 1 summarises this relationship.

Table 1. Core components of Fairaction's change logic

Component	Function
Theory of Change	Defines the causal logic linking interventions to outcomes and long-term impact
Iterative approach	Tests and refines the causal logic through pilots, monitoring, and redesign
Data-driven systems	Validate or challenge assumptions using real-time and longitudinal evidence

Data-driven systems include the Target 6.1 Map, IoT-enabled monitoring, predictive models, and AI-assisted analytics. Together, these systems function as the evidence base for decision-making.

As a result, Fairaction's Theory of Change is not static. It is treated as a living hypothesis that is repeatedly tested through implementation, data analysis, and adaptation.

How Fairaction's approach differs from conventional models

Conventional Theories of Change often assume a linear progression, where an intervention leads predictably to outcomes and impact.

Fairaction's operational reality requires an adaptive logic. If an intervention is implemented, data are used to assess whether expected outcomes are occurring. If outcomes are not emerging as expected, the intervention is adapted before long-term impact is compromised. Table 2 summarises this distinction.

Table 2. Comparison of Theory of Change approaches

Aspect	Conventional ToC	Fairaction ToC
Structure	Linear	Adaptive
Assumptions	Fixed	Testable
Role of data	Verification	Decision-making
Response to failure	After occurrence	Early detection and correction
Scaling logic	Replication	Evidence-validated expansion

Inputs

Fairaction's Theory of Change is supported by the following inputs:

- Research and development capacity
- Sustainability frameworks spanning pre-construction, construction, and post-construction phases
- Target 6.1 Map algorithmic software platform
- IoT-enabled monitoring infrastructure
- Predictive models and AI-assisted analytics
- Community engagement and governance mechanisms
- Partnerships with governments, universities, and professional bodies
- Capital investment and partner funding

Core Interventions

Fairaction implements a structured set of interventions, summarised in Table 3.

Table 3. Core interventions

Stage	Intervention
Pre-construction	Mapping, context analysis, and location viability assessment
Design	Sustainability modelling and system configuration

Engagement	Community co-design and governance setup
Deployment	Installation of water-source-agnostic systems
Post-construction	Continuous monitoring of performance indicators
Adaptation	System redesign, governance adjustment, or relocation
Learning	Data analysis, research outputs, and knowledge sharing

Early Outcomes

Early outcomes are measured and validated, not assumed. These include:

- Reliable system operation
- Community adoption and consistent use
- Functioning governance and maintenance arrangements
- Early financial sustainability signals
- Environmental stability indicators

Failure to achieve early outcomes triggers adaptive intervention rather than progression.

Intermediate Outcomes

Intermediate outcomes include:

- Sustained and equitable access to safe drinking water
- Reduced time and physical burden of water collection
- Improved household wellbeing validated through triangulation
- Reduced infrastructure failure and underutilisation
- Improved efficiency and targeting of water investments

Long-Term Outcomes and Impact

Fairaction's long-term outcomes include:

- Durable progress toward SDG 6.1
- Reduced recurrence of water poverty
- Increased resilience of water systems under climate stress
- Scalable, evidence-based water service delivery models
- Strengthened water governance through shared learning

Learning, Adaptation, and Evidence Loops

Learning and adaptation are mandatory components of Fairaction's Theory of Change.

- All causal assumptions are treated as testable hypotheses
- Data from pilots and operations are used to validate or revise interventions
- Scaling occurs only after causal pathways demonstrate reliability
- Early detection of failure is treated as a success condition for learning

Application Across Fairaction Entities

All Fairaction subsidiaries and partners are required to:

- Align programme design with this Theory of Change
- Use data and evidence to inform adaptive decisions
- Contribute learning back into Fairaction's shared systems

This ensures consistency, accountability, and cumulative institutional learning across all Fairaction operations.

Monitoring, Reporting, and Review of the Theory of Change

The implementation of this Theory of Change is monitored to ensure that Fairaction's programmes and subsidiaries remain aligned with the causal logic, learning principles, and evidence standards defined in this document. Monitoring focuses on whether Fairaction entities are designing interventions consistent with the Theory of Change, using data and evidence to inform adaptive decisions, and systematically feeding learning from implementation back into Fairaction's shared systems. This monitoring is concerned with alignment and learning, not with duplicating project-level monitoring and evaluation activities.

Oversight responsibility rests with Fairaction International's leadership and research functions, drawing on insights generated through existing data systems, programme reviews, and research outputs. Information used for monitoring includes longitudinal performance data, sustainability assessments, and documented adaptive decisions made during implementation.

The Theory of Change is reviewed periodically to incorporate learning from field implementation, research, and changes in contextual conditions, including climate and institutional dynamics. Revisions are made where evidence indicates that assumptions, pathways, or decision points require refinement.

This process ensures that the Theory of Change remains a living governance framework that evolves with evidence, rather than a static planning document.

Conclusion

Fairaction's Theory of Change recognises that achieving universal and equitable access to safe drinking water is a systems challenge, rather than a one-time infrastructure task. Sustainable impact requires interventions that are context-specific, evidence-based, and continuously adapted in response to social, institutional, environmental, and climate conditions.

By embedding research, data, and iterative learning into water service delivery, Fairaction advances solutions that remain functional, reliable, and resilient over time. This approach enables not only the expansion of access for communities currently affected by water poverty, but also the protection of existing services against future risks.

Through this Theory of Change, Fairaction establishes a shared and enforceable framework that guides programme design, implementation, learning, and scale across all subsidiaries and partners. In doing so, Fairaction contributes durable, scalable, and evidence-driven solutions toward the achievement of UN Sustainable Development Goal 6.1.