

Association for Humanitarian Development

Nadi Filter

An Innovative Safe Drinking Water Solution
for the World's Most Vulnerable
Communities



\$50
per family

385K+

Families Served

3.8M+

People Reached

7

Countries

8

Int'l Awards



Community training in rural Sindh, Pakistan



Nadi filter clay pots ready for village distribution

A Global Water Crisis Hidden in Plain Sight

Health Crisis

80% of rural Pakistan lacks safe water. Cholera, typhoid, hepatitis A and diarrhoea kill hundreds of thousands annually. Children under 5 are most at risk.



Market Failure

Bottled water, imported filters, and chemical treatments are unaffordable or unavailable at the last mile — leaving 2.3 billion people globally without options.

Economic Trap

Families spend 15–25% of household income on medical bills from waterborne illness. Lost productivity and school days trap communities in poverty cycles.



Flood Compounding

Repeated floods across Pakistan displaced 33M people and destroyed water infrastructure. Post-disaster waterborne outbreaks become immediate life-or-death crises.



Pakistan flood victims collect water

2.3B

People globally without safe drinking water

525K

Children under 5 die from dirty water yearly

1.4M

Deaths/year from water-borne illness in Africa

80%

Rural Pakistan faces unsafe water crisis

THE SOLUTION

The Nadi Filter — Nature's Own Water Purifier

A locally made, community-owned biological sand filter. No electricity. No chemicals. No imports.

HOW IT WORKS

- 1 Contaminated water poured into clay Nadi (pitcher)
- 2 Water passes through layered sand & gravel — forming a biological schmutzdecke layer
- 3 'Good microbes' consume pathogens: bacteria, viruses, protozoa, heavy metals
- 4 Clean water flows into storage Matka — ready to drink immediately
- 5 Filter self-regenerates; 10–20 year lifespan; only periodic sand washing needed

KEY SPECIFICATIONS

\$30–50

Cost per unit
(8–20 people)

50–60 L/hr

Safe water output

95–99%

Pathogen removal

5–6 hrs

Assembly time

10–20 yrs

Lifespan

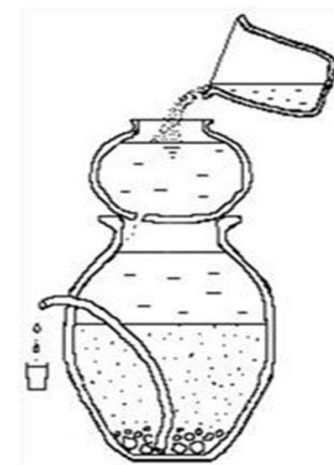
Zero

Electricity /
chemicals



Women trained on Nadi filter installation — Sindh

<u>Items</u>	<u>USD</u>
Nadi Mud Pot 30" to 32"	\$9
Matka	\$6
Sand	\$3
Pipe	\$4
Cement	\$3
String	\$4
Bricks	\$3
Travel/Labor cost etc	\$9
2 Nail	\$2
White Mulmal Cloth/Rope	\$2



Typical per unit cost = US \$45

Maintenance: Periodic sand washing only — no technician, no spare parts, no external input. Filters operational since 2007.

+20 Years of Proven Impact — Pakistan & Africa

Not a pilot. A fully deployed, 7-country, 3.6M-person system.

385,000+

Households served

Pakistan + 6 African nations

3.8M+

People with clean water

Estimated at 10 persons/household

\$20–25/mo

Rural household savings

Avoided water purchase & medical costs

2007–2025

18 years operational

Oldest filters still working today

GLOBAL DEPLOYMENT (2006–2025)

Country	Filters	People
Pakistan	385,000	3,850,000
Mozambique	2,000	26,000
Kenya/Uganda/Zimbabwe/Ethiopia/Malawi	880 combined	8,735



Community distribution — Mozambique, Africa



Filter distribution training — rural Pakistan

Who We Serve — and Why They Have No Alternative

Rural Flood-Affected Families

Sindh, Punjab, Balochistan — Pakistan

Post-flood wells and canals contaminated with cholera. Families need a filter assembled within hours from materials at hand.

Scale: ~8M families in recurring flood corridors

Indigenous & Remote Communities

Coastal Sindh, rural Pakistan, East Africa

No piped water, no market access, no grid power. Solution must be self-contained and community-trainable in one session.

Scale: ~15M families across South Asia & Africa

Urban Slum Households

Hyderabad, Karachi, Lahore peri-urban zones

Unreliable municipal supply forces families to buy bottled water at \$80–100/month — unaffordable on low incomes.

Scale: ~3M urban slum families in Pakistan alone

Humanitarian Emergency Response

Disaster-affected regions globally

In crises, industrial WASH systems arrive too late. Nadi Filter is deployable within hours from local clay as first-response.

Scale: 15,000 families per project cycle — any emergency

A Proven, Replicable Deployment Engine

From single village to 1 million families — the institutional scaling roadmap

1

CBO Formation

Register Community-Based Orgs at village level (male + female). CBOs become permanent custodians — no AHD dependency.

2

ToT Training

250 trainers certified per year. Each reaches 12–15 villages independently — exponential reach without proportional cost.

3

Local Procurement

Clay pots from village artisans. Sand, pipe, gravel from local markets. Zero imports. Value stays in community economy.

4

Installation + Hygiene Ed

Families install own filter with trainer support. Hygiene and maintenance training included. Self-sufficiency from day one.

5

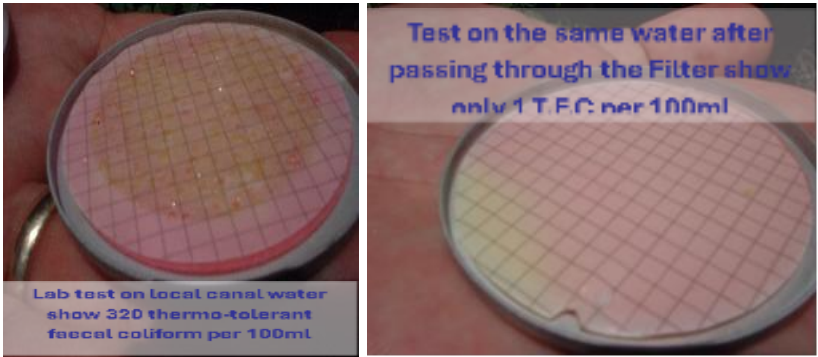
M&E + Replication

Quarterly CBO reviews track health outcomes. Verified data shared with donors. Successful CBOs train new villages — cascading scale.

Target at AHD Pakistan: 5-Year Target: 10,000 families/yr × 5 years = 50,000 families | 500,000 people | Pathway to 1 Million families by 2030 through multi-donor replication

Why Nadi Filter Wins Where Others Fail

7-criteria comparison vs all mainstream safe water alternatives



Criteria	Bottled Water	Ceramic Filter	Chlorine Treatment	Tube Wells	Nadi Filter ✓
Cost per household	High (\$80–100/mo)	Medium (\$80–200)	Low but recurring	Very high (install)	Very low (\$40-50 one-time)
Local materials only	✗ No	✗ No	✗ Chemical import	✗ Machinery	✓ 100% Local
No electricity needed	✗	✓	✓	✓/✗	✓ Yes
Disaster deployable	✗	Partial	✗ Supply chain	✗	✓ Within hours
Community-maintained	✗	Partial	✗	✗ Tech required	✓ Self-sufficient
Pathogen removal	✓	85–90%	Bacteria only	Bacteria only	95–99% all pathogens
Lifespan	N/A (recurring)	2–4 years	Continuous cost	15–25 yrs (motor)	10–20 years

Core moat: Nadi Filter is the ONLY solution simultaneously ultra-affordable, locally producible, community-maintainable, disaster-deployable, and scientifically validated for 95–99% removal.

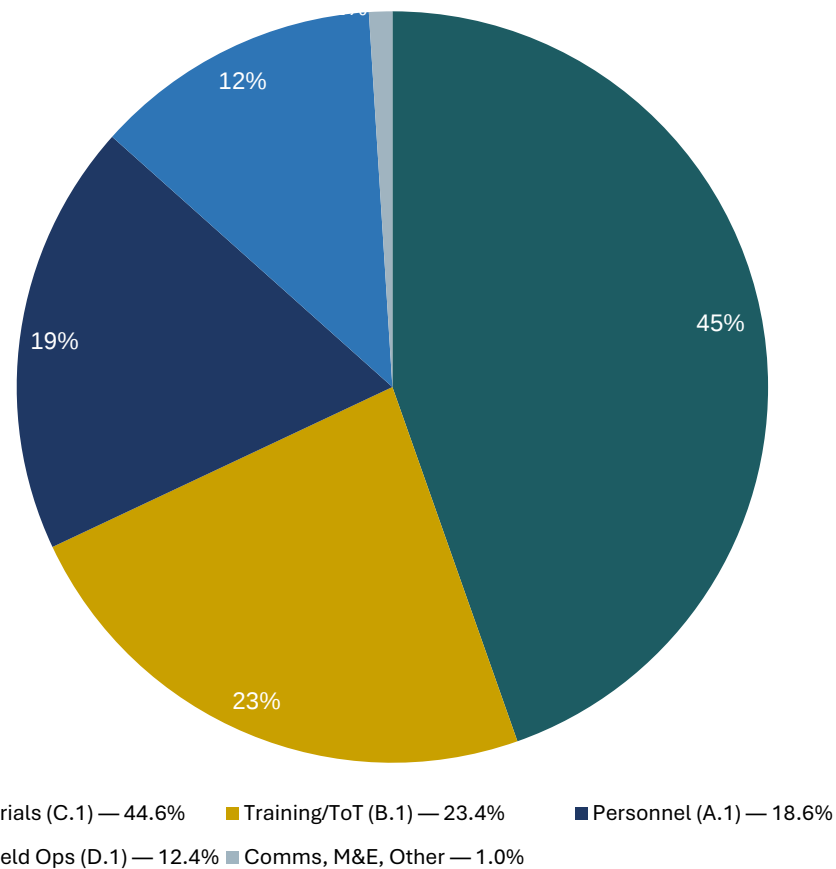
How AHD Operates — A Transparent Non-Profit Model

Fully grant-funded · Zero-equity · Community-custodian model · Registered under Pakistan Societies Act 1860

FUNDING SOURCES	AHD PROGRAM OPERATIONS	COMMUNITY OUTCOMES
→ International donors: Misereor, Oxfam, WHO → UN agencies: UNEP, UNICEF → Corporate CSR: GSK, Global Giving → Impact grants: EU, USAID, GIZ → Foundations & philanthropists → MassChallenge prize capital (target)	→ 55 full-time staff + field team → Training-of-Trainers (ToT) school → CBO formation & registration → Material procurement & logistics → M&E / impact measurement → Annual external audit & compliance	→ Families own & maintain their filter → CBOs sustain ops independently → Local artisans earn from production → Hygiene behaviour change embedded → Health outcomes monitored quarterly → Peer-to-peer replication expands reach
Sustainability: CBOs registered will continue independently. AHD role transitions from implementer to quality-assurer — ensuring permanence beyond any single grant.		

5-Year Program Budget: 30,000 Families (2026–2031)

All figures USD at PKR 280 = \$1 · Grant-funded, non-profit model · No equity or revenue generation · Source: AHD 5-Year Budget



UNIT ECONOMICS & EFFICIENCY — CORRECTED

Total 5-Year Ask	\$1,500,000 USD
Annual Budget	\$300,000 / year
Annual Target	6,000 families / year
Total Families (5 yrs)	30,000 households
People Served (×10/family)	198,000 people
Cost per family (5 yrs)	~\$50 / household
Cost per person reached	\$7.50 USD
Filter lifespan vs cost	\$50 ÷ 15 yrs = \$3.33/yr
DALYs averted per \$100	Est. 8–12 (WHO benchmark)

ANNUAL BUDGET BY YEAR (USD)

Total 5-Year Funding Request: \$1,500,000 USD | PKR 420,000,000 | 30,000 families across Pakistan

A Global Coalition Behind AHD

Active partnerships across Europe, Australia, USA, and local government — de-risking scale-up

UN & MULTILATERAL

- UNEP-APFED (Award + funding)
- WHO Pakistan (program support)
- UNICEF (WASH alignment)
- World Health Assembly Geneva 2024

EUROPEAN & INT'L NGOs

- Misereor Germany (major donor)
- Blue Community Switzerland (2024)
- Nature-Based Solutions Netherlands
- Oxfam GB (early funder)

USA & AUSTRALIA

- ADP USA (first 100 filters)
- Global Giving USA (crowdfunding)
- Thrive Project Australia (2024)
- Care International

CORPORATE & AWARDS

- GSK – Save the Children UK
- Energy Globe Foundation Austria
- HLEX Innovation Exchange Geneva
- Hope for Children UK

LOCAL GOVERNMENT

- CDP Govt. of Sindh
- Social Welfare Dept. (CBO reg.)
- Provincial health departments
- Local Union Councils

WHAT MASSCHALLENGE ADDS

- CHF 600K+ non-dilutive prizes
- 500+ global corporate partners
- EU market entry advisory
- 65% follow-on funding rate

The Team Behind 18 Years of Proven Impact



A. Khurshid Bhatti

CEO & President / Founder

28 years WASH & humanitarian field experience

Innovated Nadi Filter in 2006. Led AHD from 0 to 365K families. Active at WHO Geneva, UNEP, World Health Assembly. 8 international awards.

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Wasim Anwar

Executive Director — Pakistan Operations

Senior program management & field operations

Leads nationwide program delivery, CBO formation, and government liaison across Sindh, Punjab, and Balochistan. Manages the 55-staff field operations team.

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Karsten Gjefle

Director — Africa Operations

Based in Norway — Africa deployment lead

Leads Nadi Filter expansion across Mozambique, Kenya, Uganda, Zimbabwe, Ethiopia, and Malawi. Manages NADI4AFRICA initiative and European donor networks.

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NADI4AFRICA initiative



INTERNATIONAL RECOGNITION TIMELINE

2008

UNEP-APFED
Showcase Award

2009

SDPI-UNEP
Japan Islamabad

2014

Energy Globe
Pakistan

2017

GSK-Save the
Children UK

2019

Energy Globe
Foundation Austria

2024

HIEX Innovation
Exchange Geneva

2024

World Health
Assembly – UN



Join Us in Scaling

Clean Water for 10 Million Families

- 1 International partners → global network + Fundraising gateway
- 2 \$500,000,000 over 24 years → 10 Million families, 100,000,000 people
- 3 Corporate partnership → CSR co-investment with measurable SDG 6 outcomes



A. Khurshid Bhatti · CEO & President, AHD Pakistan

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TRL 9 · Fully deployed · \$10.2M lifetime funding · 8 international awards · 55 staff