PPAF
پی پی اے ایف

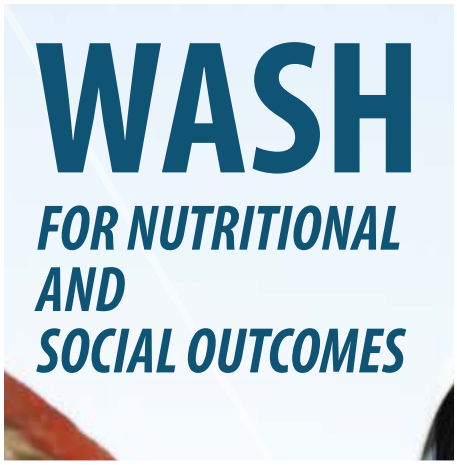
DEVELOPMENT DIALOGUE

Celebrating 20 years of PPAF
Passion, Knowledge, Action

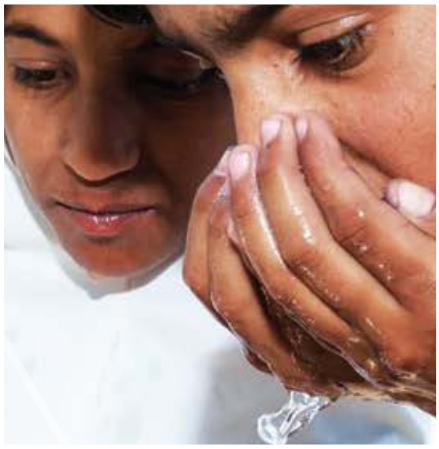
VOLUME 4 | ISSUE 1 | OCTOBER 2019

WASH

FOR NUTRITIONAL AND SOCIAL OUTCOMES









BEHAVIOURAL CHANGE APPROACH TO WASH

A CRITICAL REVIEW TO IDENTIFY INDICATORS FOR ASSESSING WASH APPROACH

Kausar S Khan
Head-Behavioural and Research Sciences
The Aga Khan University

"WASH is the collective term for Water, Sanitation and Hygiene. Due to their interdependent nature, these three core issues are grouped together to represent a growing sector. While each (is) a separate field of work, each is dependent on the presence of the other. For example, without toilets, water sources become contaminated; without clean water, basic hygiene practices are not possible." [1] The issue is how WASH implementers design and execute their programmes – do they include behavioural change interventions, or do they only focus on behavioural change.

Assessment of a WASH intervention can be from at least two perspectives – (1) benefit to the household/family or individual (2) integration of the intervention in an on-going system so that sustainability is established. Take the example of diarrheal deaths of children under five in Pakistan. While ORS (oral rehydration solution) is prescribed as a treatment of diarrheal, but for prevention a great deal of focus is on the washing of hands by the care giver and treating the water by boiling it. The last two are interventions for behavioural change. When this is undertaken, what is ignored is primary cause of diarrhea – i.e. non availability of clean water. This cause can be called the structural cause. A 2x2 table could help here.

Behavioural change \ Structrual case address	Yes	No
Yes	A	C
No	B	D

In the table on the left, Cell A has both interventions – Structural as well as Behavioural change; Cell B – there is structural intervention, but no behavioural change intervention; Cell C has no structural intervention but there is behavioural change intervention. D Cell has no intervention. .It can now be seen whether WASH interventions fall in Cell A, B, or C. As is apparent, the most desirable situation is that of A, especially as health behaviour cannot be assumed to be most conducive to WASH related health outcomes.

Literature shows reduction in diarrheal rates[2], for example, when simple innovative and participatory approaches are taken. Such successes however, ignore the structural issue. The question is: are water and sanitation merely an individual's issue only, or is also a responsibility of the State? Where there is no clean water, and where there is no latrine, should not the State be held accountable? Once the State response begins, behavioural change at the household level would be needed. Another option would be to start behavioural change but with the participatory approach help people see their right which is to be fulfilled by the State. This would not only bring about a more sustainable situation, but also help people see their right to ask the State what is due to them.

Human behaviour is shaped by the norms and customs of the family and the family in turn absorbs the norms and customs of its community which could include its larger family, tribe, and the neighborhood. Laws are there to tell people what is acceptable and not acceptable in terms of their behaviour, and the Constitution also lays down its position on the entitlements of the people. Pakistan constitution considers people have right to education, and dignity, but is silent on people's right to water and sanitation. The Constitution mentions 28 rights, and water and sanitation is not considered a right, just as health as a right is missing from the Constitution. Does the WASH approach recognize water and health as a right that the State must first ensure before behaviour kicks in. Before wanting women to wash their hands and utensils and boil water to prevent childhood diarrhea, why can't the State ensure clean drinking water to all?

Considerable work has been done on understanding human behaviour, and theories developed. How this learning is to be integrated in implementation research is an area to be further explored. Globally, researchers and practitioners have examined how a range of factors such as emotions, habits, and settings may drive behaviour. Interventions for behavioural change need to identify indicators of change and be able to link them with change in the factors that construct behaviour. The Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium addresses WASH with a Behaviour Centred Design. The approach proposes that interventions respond to the local context and are boosted by an engaging campaign and followed by rigorous evaluations to see what worked and why, as well as assess behavioural and/or health outcomes. [3]

In 2005, WHO formed a Commission on Social Determinants of Health (CSDH). Its final report (2008) titled Equity, social determinants and public health programs [4] establishes the importance of working on SDH (Social Determinants of Health) so that health outcomes may improve. The 1978 Declaration of Primary Health Care clearly advocates an integrated approach to achieving wellbeing of all. CSDH report stipulates reduction in inequities, but whether WASH programmes incorporate this goal is not a standard measure of most programmes. Thus, in Pakistan, for example, there are piece-meal programmes, some offering health services, other take up one or other aspect of social determinants of health, with water being just one of the many SDH that a programme may choose to monitor.

People's right to water and sanitation needs to be acknowledged as a fundamental right. This recognition could galvanise WASH efforts to go beyond the behavioural change model by building an ownership of the right by the communities, which can then start holding the State departments accountable.

Behaviour Centred Design Approach of Sanitation and Hygiene Applied Research for Equity (SHARE)

1. Assess, what is already known about a target behaviour; evidence about the behaviour they want to change, the target audience, the context for the intervention and its parameters
2. Build, field-based data collection, to help understand the contextually specific drivers of existing and/or target behaviours; use methods that engage with the target behaviour as it exists in a particular setting, rather than methods that focus solely on what people say about their behaviour.
3. Create, design an innovative campaign and associated materials—intervention should be surprising and disruptive in order to maximise the effect on the target behaviour
4. Deliver, Interventions can be delivered through face-to-face contact to mass media campaigns.
5. Evaluate, provide insights: whether continue the existing programme, provide new information on changing or redesigning a programme, or might inform policymakers whether they should replicate a similar programme elsewhere

Source: SHARE; Behaviour Change for Water, Sanitation and Hygiene (2018)

[1] https://www.unicef.org/wash/3942_3952.html

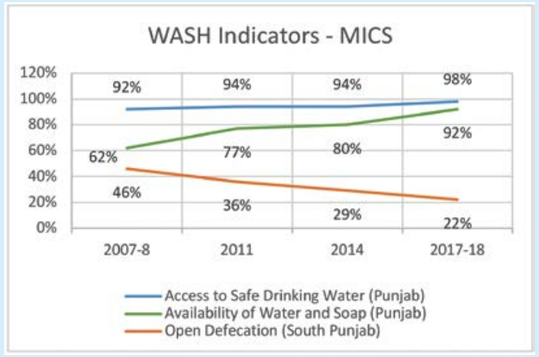
[2] https://academic.oup.com/aje/article-abstract/125/2/292/109683
[3] https://www.pseau.org/outils/ouvrages/share_behaviour_change_for_wash_policy_brief_2018.pdf
[4] https://apps.who.int/iris/bitstream/handle/10665/44289/9789241563970_eng.pdf

WASH SERVICE DELIVERY AND CHANGE IN BEHAVIOUR IN SOUTH PUNJAB

Mubarak Ali Sarwar
Chief Executive Officer
AGAHE

Access to safe drinking Water, Sanitation and Hygiene (WASH) is essential for healthy life and is recognized as a human right[1]. According to Multiple Indicator Cluster Survey (MICS) 2017-18[2], Inadequate WASH is primarily responsible for the transmission of diseases such as cholera, diarrhea, dysentery, hepatitis A, typhoid and polio. Diarrheal diseases exacerbate malnutrition and remain a leading cause of child deaths. Analysis of WASH indicators of MICS Punjab shows improvement as access to safe drinking water increased from 92% to 98% from 2007 to 2018. In the same period, people who defecated in the open decreased from 46% to 22%.

In 2011, the Government of Pakistan set out the national sanitation policy of Pakistan's Approach for Total Sanitation (PATS) as a framework to achieve and sustain an open defecation free environment both in rural and urban context with clear emphasis towards behavior change and social mobilization enhancing the demand side of sanitation.[3] With this as guiding framework, Association for Gender Awareness & Human Empowerment (AGAHE), since 2011, has employed a Community Led Total Sanitation (CLTS) approach to improve health and hygiene practices and WASH services, both in humanitarian and development context, in rural communities of South Punjab.



Social Cohesion, Community Engagement & Capacity Building

Using social mobilization as foundation, AGAHE engages and motivates a wide range of partners varying from community at the local level to government at the district and provincial levels. At the community level, AGAHE has built capacity of communities to improve access to WASH by first forming WASH Committees which lead the community in planning, managing, and maintaining the water and sanitation system. Second, by identifying community resource persons (CRPs) who champion the cause and raise awareness on health and hygiene and access to water and sanitation as a human right.

Through these behavioural change campaigns and linking community based groups with government departments, AGAHE, thus bridges the state-society gap in service delivery, helps develop mutual trust, as well as engages government at policy level to influence better planning and budgeting of community needs.

Step 1: Broad Based Community meetings to orient the community about the programme and create community profile

Step 2: Formation of village WASH committees and identification of CRPs

Step 3: Issue based and skills trainings of village WASH committees, CRPs and relevant government officials

Step 4: Mobilization of communities by engaging village WASH committees and CRPs around healthy hygiene practices and improved WASH services

Step 5: Linkages development with relevant government departments for functionality and sustainability of intreventions

Inclusion is ensured through active participation of marginalized groups, and women in WASH interventions. Their input is sought in the planning process and roles and responsibilities are identified in implementation. Environment remains a cross-cutting theme as quality of water is tested and waste and sanitation is dealt with in a way that it does not have a negative effect on the environment or is not a risk to human health.

Innovative modelling in rural and urban areas

AGAHE has created community based and school-based WASH models for government to replicate and/or scale up. Low cost, easy to use, safe water, safe disposal are key features of these models.

- Low cost demonstration latrines
- Communal hand pumps
- Water filtration plants in communities and schools
- Sewage treatment units for liquid waste management
- Group handwashing stations in schools
- Women friendly toilets in schools

AGAHE has also synergised with Oxfam and WaterAid for Integrated Public Health & Economic Empowerment for Urban Poor in Pakistan for Urban WASH solutions and designed a replicable model for the Municipal Corporation.

Coordination Mechanisms and Knowledge Sharing on WASH

AGAHE is a resource hub for training and capacity building on WASH across the country. As member of district level fora, such as District WASH Coordination Committee, District Malnutrition Addressing Committee, AGAHE has stepped up dialogue between government and citizens for coordinated development work. To keep government connected with the communities, the officials are invited to AGAHE organized events celebrating international days dedicated to healthy hygiene practices and WASH services. The learnings are shared through quarterly newsletters, organised discussion forums and sharing of best practices and case studies.

Impact

Since 2011, AGAHE has provided water access to close to 50,000 households through communal handpumps and filtration plants in 59 Union Councils of Rajanpur, Muzaffargarh and Layyah. Hand pump and filtration plants, and rehabilitation and construction of toilets in over 300 schools in these districts has not only increased access to water and sanitation of around 70,000 children but also paved way for improving their learning outcomes.

AGAHE ensures to have a lasting positive change in the communities it works with. Behaviour change campaigns helped over 2 million people understand and practice positive hygiene behaviours. Some 1300 demonstration latrines built in selected ultra-poor households along with encouragement through campaigns to adopt safe hygiene practices motivated over 200,000 households to change attitude and construct latrines in their houses.

[1] UN General Assembly and Human Rights Council recognized WASH as a right in 2010 and 2015 respectively
[2] Multiple Indicator Cluster Surveys
[3] https://www.communityledtotalsanitation.org/resource/pakistan-approach-total-sanitation-pats

WATER & SANITATION CELL
A SUCCESSFUL JOURNEY OF 10 YEARS

Said Rehman
Additional Secretary,
Local Council Board LG & RDD
Khyber Pakhtunkhwa

In 2009, there was a large scale internal displacement of populations in Khyber Pakhtunkhwa. With the view to strengthen the capacity of the Local Government & Rural Development Department (LG&RDD), UNICEF created the WatSan Cell within LG&RDD to deliver water, sanitation, and hygiene in emergency situation created as a result of the influx of Internally Displaced Persons.

The roles and responsibilities., the roles and responsibilities of WatSan include developing strategies and action plans and enhancing capacities of local government and elected representatives to carry out water and sanitation interventions. For quality assurance, WatSan follows a results-based approach to oversee municipal projects. The Cell also serves as a coordination hub and platform for sector partners across the province to work together and learn from each other. All along, WatSan systematically captures and shares knowledge gained from operational experiences.

Strategy Development Support

WatSan supports provincial government departments in preparing provincial sanitation strategy and getting it approved, prepares action plan for implementation. The Cell also facilitates development and approval of provincial drinking water supply strategy. So far, the Cell has developed guidelines for declaration, verification and certification of open defecation free villages/ neighborhood councils in Khyber Pakhtunkhwa, developed guidelines on sanitation up scaling for Tehsil Municipal Administrations (TMAs), and developed training manual for verification committees for Sanitation up Scaling project.

Institutional Capacity Building Support

WatSan develops capacity of Local Councils and their partners for better management of water supply, sanitation and hygiene promotion services and assists Councils in furthering Community Led Total Sanitation, Hygiene Promotion. The Cell trains WASH partners including Public Health Engineering Department, local government, education, health relevant staff on emergency preparedness & response, behavior change communication, and water quality testing.

Implementation Support

With WatSan's support the Total Sanitation Database of Khyber Pakhtunkhwa has been developed that provides sector partners with the information required to measure impact and progress towards achieving the Sustainable of the Sustainable Development Goals (SDGs) specific to sanitation and the targets set by the Government of Khyber Pakhtunkhwa. The Cell plans to develop a Management Information System (MIS) for gathering water and sanitation data so that information can be analysed and informed decisions can be taken based on evidence and trends.

WatSan is supporting selected TMAs in the province to improve facilities at water quality laboratories and build capacities of TMA water technician to carry out tests and develop a mechanism to maintain database for water quality monitoring. Water quality labs have been set up in 5 Tehsils, namely, Temargara, Chitral, Boni Tangi and Swabi where some 300 water samples have been tested for quality. Work on four other laboratories in Charsadda, Nowshera, Mardan and Battagram is in progress.

Knowledge Management

WatSan is assisting Local Councils prepare Water and Sanitation programmes and document various activities. WatSan engages with communities - interacts with adults and children - identifies problems, proposes solutions and then develops communication and information products on WASH.

To generate knowledge, MoUs have been signed with universities. The University of Engineering & Technology

[1] http://totalsanitationkp.gov.pk/

(UET) Peshawar and Abdul Wali Khan University Mardan undertake research on water, sanitation and hygiene to find affordable solutions. To leverage knowledge internally and externally, conferences/seminars are held to exchange and share experiences and research results on aspects of Water, Sanitation and Hygiene.

A course on WASH in emergencies has also been introduced at University of Engineering & Technology Peshawar in collaboration with UNICEF for future engineers to plan, implement and monitor emergency water and sanitation programmes and understand humanitarian situations.

Coordination Hub

WatSan as a hub brings together all organisations and institutions working on WASH projects and thus ensuring better utilization of resources and avoiding duplication of efforts. Since 2009, WatSan is serving as institutional home to the WASH cluster set up to handle temporary displaced population due to floods, earthquake, and other emergencies in the province. Together the cluster members make decisions on needs assessments, water hands pumps installation, latrine installation, hygiene promotion and IDP's returns.

Reaching out to People & Raising Awareness

For sustainability of municipal services, WatSan creates a cadre of municipal volunteers to promote effective community ownership of interventions. WatSan makes behavioural change communication plans to engage communities in improving their health and wellbeing.

Annually, international days on water, sanitation, sanitation and hygiene are marked by a series of activities across the province celebrated jointly by government and non-government sector partners. In October 2018, WatSan organized a mega event for awareness on WASH poetry session, sports, video competition, and debate competition. A huge sanitation festival was organized that showcased WASH.

In order to reach out to the general public through an effective communication medium, WatSan produced a-24 episode-radio drama based on case studies for public awareness on hand washing and good hygiene practices, safe water use and treatment methods, use and maintenance of sanitation facilities, health & hygiene, and nutrition, water and sanitation related diseases and preventive measures.

WatSan has also established Citizen's Complaint Cells within Tehsil Municipal Administration setup with dedicated phone/fax number publicized for the citizens to seek important information and lodge complaints for redressal on water and sanitation related issues.

Future Plans

The WASH sector challenges and opportunities in Khyber Pakhtunkhwa are many. The foremost challenge is to incorporate disaster and climate risk in WASH and reflect WASH in health, nutrition and education actions to achieve progress towards SDGs. The roles and responsibilities are not clear as there are multiple service providers. There is also limited acceptance of WASH as a development priority which compromises dedicated budget allocation to WASH.

In its mission to support the government of Khyber Pakhtunkhwa for water and sanitation, the WatSan Cell will help devise an eleven year (2019-2030) strategic plan for water, sanitation, and hygiene (KPWSP). The plan will set out direction and roles and responsibilities of service provider and address the many challenges the province is facing.

RECOGNISING THE POOR AS A RESOURCE: THE ZERO CARBON AND LIVELIHOODS APPROACH TO WASH

Uzma Nomani
Senior Manager,
Quality Assurance, Research & Design
Pakistan Poverty Alleviation Fund

In the shadow of Makli necropolis[1], the world heritage site, within a radius of 5 to 25 km, reside a high concentration of disabled people, beggars and poor in 8 villages. Lack of services is daunting in this poor rural region; nevertheless, livelihood opportunities exist and have to be grabbed in pursuit of fulfilling these deficits. The Heritage Foundation of Pakistan (HF) perceives these poor as a valuable resource in the barefoot economy that needs to be maximized.

The poor in any locality are interdependent community yearning for recognition and respect. Since 2018, the rights-based development linked with livelihood possibilities is the scaffolding of Heritage Foundation's work to make people self-reliant. With low cost, zero carbon, zero waste as the guiding design philosophy, Heritage Foundation has demonstrated that providing toilets, smokeless chulah (stoves), handpumps, shelter to households has created opportunities for the other poor people to start earning money, enhanced resilience, and provided eco-friendly habitat and comfort in sweltering heat and barren landscape of Sindh.

Reinvigorating the Local Economy - the poor make products for the poor

Since January to March 2019, a team of 250 people, comprising young men aged 18-30 only, women and people with disability from 8 villages learned skills that are usable in the local area. The product and produce of one are fed as input to others. Thus, the poor make products for the poor in contrast to the international perspective of the poor creating products for the rich. Two months on, in some villages, the beggarwomen, youth, and people with disability make clay products, and are selling them to other villages. The clay containers are used to package local produced dairy products, the clay tiles and wash basins are used in eco-toilets.

The same theme of interdependence and livelihoods runs through the Heritage Foundation's heritage buildings cleaning activity initiated in April 2019. Volunteers, celebrities, and dignitaries have gathered to participate in scrubbing these sensitive buildings with reetha (soapnut) soap— produced by mother earth products village. Also, labourers are hired from these 8 villages who go about cleaning the buildings with this soft soap and earn an income.

Tapping into tourism, guest houses have built at the zero-carbon cultural centre and rooms for pilgrims near the necropolis. In preparation for the UN Habitat 'Pakistan Chulah' award event, to be held in November 2019 in Makli, the former beggarwomen supported by youth have been trained to take care of the stay-in-visitors, while youth will carry out guided tours.

Water and Sanitation Value Chain

For improving access to water, a group of five households gets a handpump and lime. Households hire barefoot entrepreneur for Rs. 1000 to make a bore which goes up to 40 feet. Water quality is then tested and if found suitable, households, under the guidance of the entrepreneur, make a raised platform with mud and lime. Handpumps are then installed. Around the handpumps, households grow plants and trees and kitchen garden fed by waste water.

For improving access to sanitation, an eco-toilet is given to two households on sharing basis. The Foundation gives prefabricated bamboo cross braced structure for the walls for eco toilet and a complete set of sanitary-ware—washbasin, commode, pipe, recycled oil can for water dispenser—and lime for wall plastering. The barefoot entrepreneurs teach them how to make base, erect the prefab structure, fill in the walls, finish the wall with lime and mud, put a thatched roof above, and lay the sanitary pipes and install fittings. The household arranges for mud, reed, and water; so, the material cost is none. Learning techniques from these entrepreneurs, households have even made extensions to their houses and made it disaster risk reduction compliant methodology.

The beggar women make terracotta washbasins and *kashi*/terracotta floor tiles that have been tested for compressive strength. Some households have lavishly covered the entire toilet floor with these locally produced beautiful kashi tiles.

What makes this model work?

- Expanding economic opportunities within the region by closely linking rights-based development interventions
- Raising the profile of sanitation and using its potential for generating income and reducing poverty
- Experience and constant technical research aimed at providing simple solutions to sanitation problems and saves cost associated with sewage treatment
- High stakes of poor and mendicants as they learn, evolve, and generate in-kind products and services to improve their living conditions
- A willing landlord to lease out his land

Product Making and Marketing

250 barefoot entrepreneurs from 8 villages have been trained in construction techniques, chulah making, producing mother earth products, bamboo products including furniture, kashi/ terracotta work, hospitality, growing nursery and kitchen garden, and making dairy products.

A group of men called the Barefoot Bicycle Brigade (BBB) has been trained and made proficient in communicating with people, counting, and selling products on bicycle door to door as well as at shops.

Soon all the 8 villages will be running their businesses full throttle with manufacturing, selling buying happening locally.

[1] In Thatta, Sindh

Women finishing terracotta washbasins in *kashi*/terracotta Pilari 1 village

Eco-toilet with kashi tiles made by the community women in Makli

The commode, designed by Heritage Foundation and yet to be produced locally, has a removable bucket encased in a wooden drawer that can be pulled out from the outer toilet wall. A sawdust / hay basket hangs on the wall to cover the waste. The liquid waste directly goes out through a pipe into a plantation bed already covered by hay and sawdust. The bucket is pulled out and emptied in a compost bin where it is layered with sawdust and hay. The place is absolutely odourless, no mosquitoes nor flies to be seen.

Heavy conditionalities are attached with water and sanitation and livelihood package of the Heritage Foundation. And the results are phenomenal as households clean around their house, segregate waste, compost kitchen waste, create livestock enclosures separate from living area, and engage in plantation and reforestation.

What has this Model Achieved?

Since 2018 the Heritage Foundation with its rights-based holistic practice has touched the lives of 400 households in 8 villages. Consolidating all that started in 2005, with rights-based approach, HF aims to reach to 40,000 households in 1000 villages in lower and upper Sindh over the next 5 years.

In areas with no centralised sewerage systems and safe water, the inclusion of the poor with a value chain and livelihoods approach has resulted in social benefits of human enhancement, resilience to physical shocks, environmental integrity and poverty reduction. The system lays foundation for a self-reliant, self-contained, circular economy where households are able to enter into a market system and meet the needs by serving largely their own communities and do not need capital injections from other sources for sustaining the system.

Based on interviews with Yasmeen Lari, Chair and Chief Executive—Heritage Foundation of Pakistan and Naheem Hussain Shah, Project Manager—Heritage Foundation of Pakistan.

Eco-toilet with a terracotta washbasin made by the local women in Makli

Results

- Improved access to water and sanitation
- Human enhancement by promoting human dignity and human rights, especially of women
- Reduced physical vulnerability to disasters
- Improved living conditions and immediate environment
- "There is a pleasure in working," joyously said one former beggarwoman in Makli

INNOVATION AND TECHNOLOGY FOR WASH – WHY NOT IN PAKISTAN?

Uzma Nomani
Senior Manager, Quality Assurance, Research & Design
Pakistan Poverty Alleviation Fund

Pakistan relies on traditional ways and centralised solutions to improving access to water and sanitation of far flung rural communities or even urban slums. With sanitation coverage of 48% and water coverage of 92%, the poor are held back by inadequate access to sanitation services and lack of safe water. The situation is stark in rural areas and urban slums. To overcome these challenges, across the globe, entrepreneurs and innovators are being rewarded for forcing a breakthrough in low-cost water and sanitation solutions with an integrated water and sanitation value chain strategy. Creating Shared Value (CSV) prize of Nestle, Sarphati Sanitation Award, Bill and Melinda Gates Foundation, United Nations Water Best Practice Award are some of the awards given out to scaleup or replicate impact. We also see spaces created to launch commercialization of tech-based products. On the contrary, we don't see activities of similar nature happening in Pakistan to provide ideas and expanding participation; why this vacuum?

Generating and supporting new approaches for water and sanitation

Models demonstrating using pioneering technologies for Water, Sanitation and Hygiene (WASH) to help poor improve their life conditions and even earn an income are many. MSABI (Figure 1) is an exemplary organisation in Tanzania that has developed a decentralized solution of water point maintenance system through water mechanics who repair water points subscribed to MSABI system within 24 hours. Thousands of people benefit from this service and make mobile payments under a fee per visit model or a subscription-based model.[1]

iDE in Cambodia has redesigned the standard toilet (Figure 2) to make it easier to install and much cheaper to make and then trained local cement manufacturers to make the new toilet. Earlier, villagers would purchase the material from the nearest town and get a mason to install it for approximately $200. The Easy Latrine costs just $35 and people buy it directly from the latrine producers who come to the village with their trucks loaded up.[2]

Sanergy in Kenya builds and services modular toilets in the slums of Nairobi. The units are franchised to local micro-entrepreneurs who earn money through fees or membership plans (Figure 3). The system costs $15 per person per year—a compelling model for the government which spends $54, 4 times more through sewer sanitation in Nairobi. In 2018, 6,000 tons of waste was removed and converted into high-value by-products. The farm input (Figure 4) sold to over 1,000 Kenyan farmers reported a 30% increase in crop yields and animal weight.[3]

Prodding the scientific community- Bill & Melinda Gates Foundation

- June 2011-Grant of approximately $400,000 to eight universities
- 2011-Grand Challenges Explorations awarded $100,000 to each grantee
- Projects aligned with reinventing the toilet-US $750,000 to $5 million for grantees and partners
- 2013-Reinvent the Toilet Challenge: China—US $5 million
- 2013-Reinvent the Toilet Challenge: India—The Department of Biotechnology, India, and the Gates Foundation each invested US$1 million

[1] http://www.msabi.org/
[2] https://www.dw.com/en/sanitation-marketing-selling-toilets-to-cambodian-villagers/a-5972194
[3] http://www.sanergy.com/

Figure 1: True Life Water Point project of MSABI, a 2014 runner-up of Nestle Creating Shared Value Prize

In 2011, the Water, Sanitation & Hygiene programme of the Bill & Melinda Gates Foundation initiated the Reinvent the Toilet Challenge to generate and support new approaches for toilet technologies that everyone will want to use—in wealthy as well as developing nations.[4]

Coming to innovative tech-based solutions for water, the HSBC Water Programme from 2012-2019 backed by US$150 million fund is providing and protecting water sources, informing and educating communities across the world. While doing this, HSBC is also training its employees as citizen scientists to monitor the health of local freshwater. Under the HSBC Programme in India, water ATM system has been designed which brings safe water 24 hours a day to poorest communities in Kolkata. Rainwater is collected by special harvesting systems, and a solar-powered biogas treatment plant makes the water safe to drink.[5]

Zero Mass Water (ZMW) has defined off-grid water solution using SOURCE hydropanel and thus changing the user experience from inconvenience, broken infrastructure, to owning water and becoming water independent. Using air and sunlight, SOURCE works in a wide range of conditions including arid climates and varied geography. Extraordinary partnership has helped ZMW change lives of people across the globe whether at home, school, orphanage, in disaster hit communities. The technology has a massive impact on offsetting CO2 and plastic bottle waste.[6]

Swarovski Waterschool, a community investment programme, is ensuring access to clean water at schools in around 2,500 schools in Thailand, Austria, USA, Uganda, China, India, and Brazil. Students have a 30 hours of water education annually which ultimately empowers children, families and schools everywhere to protect the world's most precious resource get educated on sanitation, hygiene and water issues.[7]

Creating space for commercialization of water and sanitation solutions through co-operation

The Gates Foundation holds fairs and expos to dispaly sanitation projects, spark conversation and connections and partnership for working together. The fair gathers researchers, designers, investors, advocates from various countries, private-sector players, development banks, and representatives from the communities who could ultimately commercialise and adopt these innovative approaches to sanitation.

Figure 2: Easy Latrine, a runner up for the first Sarphati Sanitation Award 2013. iDE trains local cement manufacturers in Cambodia to make these toilets and get them to take the entire toilet set by truck to villages.

2012 Reinvent the Toilet Fair - Seattle

2014 The Reinvent the Toilet Fair: India - Delhi

2018 Reinvent the Toilet Expo - Beijing

[4] From various pages: https://www.gatesfoundation.org
[5] https://www.thewaterhub.org/content/wash-us-water-sanitation-hygiene-urban-slums
[6] https://www.zeromasswater.com
[7] http://www.swarovskiwaterschool.com/

Figure 3: Fresh Life Toilets, winner of the first Sarphati Sanitation Award (2013). Sanergy designs and manufactures these low-cost, high quality sanitation facilities which it then franchises to local residents of urban slums of Nairobi, Kenya

Figure 4: Fresh Life Toilets-locally produced organic fertilizer and animal feed sold to Kenyan farmers who are seeing increased crop yield and animal weight by 30%.

Lessons for Pakistan

With climate change, increasing population, scare water resources, and high cost of water and sanitation infrastructure, there has to be adaptation from an inadequate system that has failed to a technology based localised, off grid and wholistic system for addressing the needs of distant underserved communities. Linking WASH and livelihoods will help the poor to improve their life conditions. Enhancing outreach to research grants and bringing in engineers, scientists, and graduate students to research on low-cost solutions will help Pakistan avail opportunities that other developing countries are also benefiting from.

As the apex, PPAF must revamp its drinking water and sanitation strategy, leapfrog traditional ways and embrace technology as a way to scale up access of rural communities to low-cost water and sanitation solutions. There is a huge potential of reducing poverty through WASH, as business opportunities emerge alongside. Within this context, in April 2019, PPAF conducted a Balochistan Water Engagement as part of a wider study for managing water resources in the province. For sustainability of water resource across its intervention communities, PPAF could join global force, such as Swarovski Water School and make children water stewards of their communities.

PPAF could also serve as a platform for spurring partnerships, stimulating discussions with policy makers and water and sanitation professionals, bankers, private sector players, and academia and create opportunity to showcase water and sanitation products, build business models, create value chain, and work out ways for commercialization and adoption of successful designs.

Figure 5: Swarovski Water School in India

COVER

Drinking water facility at a PPAF-supported mini dam. Dera Bugti, Balochistan.

PAGE 1

A teacher explaining hands washing steps to children. Deaf Reach School, Karachi, Sindh.

PAGE 3

Hand washing station set up by AGAHE, Rajanpur, Punjab.

PAGE 5

Opening ceremony of WatSan's provincial greeen cricket tournament. Peshawar, Khyber Pakhtunkhawa.

PAGE 7

The zero carbon cultural centre at Makli, Thatta, Sindh.

Pakistan Poverty Alleviation Fund

Plot 14, Street 12, Mauve Area, G-8/1, Islamabad-Pakistan.
UAN: (+92-51) 111-000-102 | Website: www.ppaf.org.pk