CASE STUDY | MAY 2020

RELOCATION of iJal STATIONS for ASSET PROTECTION

iJal Safe Water Stations are decentralized small water enterprises operated by village level entrepreneurs (VLEs), self-help groups (SHGs) or community committees (CCs) under approval from the local governance to provide affordable safe water access to communities in water quality affected habitations. The consumers buy water for drinking and cooking in their own cans, and these sales revenues support the village level operating costs. Thus, communities get safe water access equitably and inclusively. However sometimes, when a Station does not meet the basic tenets of pricing, equitable access, or financial sustainability, it is *relocated* to another village or *shifted* to another site within the same village in consultation with the community and the local governance. As per the IRC-WASH Cost study, 2011, about one-third water treatment systems installed were non-functional within six months to a year.

A successful relocation requires extensive planning and strong community engagement, while difficult and requires an additional investment. In order to protect the donor funds, relocation is, however, a necessary step for asset protection. Governments and international development agencies are retrofitting and supporting their water treatment systems in-situ as providing water access is their core responsibility.

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KEY INSIGHTS

Need for Relocation

Relocation is required when an iJal Station is unable to meet financial, operational or social performance standards due to low volumes or village-level entrepreneur issues, such as waning interest or partner conflicts. iJal Stations need to adhere to standard operating practices and comply with the essential principles of affordability, quality, reliability and equitable access while ensuring station level financial viability. In the event of disruption of a Station's operations due to entrepreneur or partnership issues or non-compliance with any of these principles, relocation to a more viable location is essential to ensure portfolio optimization and continued asset utilization. Whenever possible, *relocations* to a nearby village and *shifts* to a different location within the same village, seek to ensure continued safe water access to existing consumers.

Key Insights

- Relocation is required when an iJal Station is unable to meet financial, operational or social performance standards due to low volumes or village-level entrepreneur issues, such as waning interest or partner conflicts.
- Relocation to a more viable location is essential to ensure portfolio optimization and continued asset utilization and, whenever possible ensure continued safe water access to existing consumers.
- Relocation is an expensive process, ranging from INR 175,800 (USD 2,600) to INR 212,800 (USD 3,100), but essential to ensure operational and financial sustainability when other solutions fail to rectify at-risk Stations.
- Investing $3,100 to relocate a system prevents a write-off of the $12,000-$15,000 initial investment in the hardware and enables the system to continue to dispense clean water for years to come.
- Revenue more than doubles as a result of higher volumes and 'pays back' the investment of $3,100 within a year and half. After covering OpEx, these revenues are shared among the individual or group (entrepreneur, self -help group, safe water committee, etc.), managing the Station, regular service fee payments, and higher contributions to the sustainability fund.
- Relocations have resulted in improved Station performance, with an average 109% increase in post- vs. pre-relocation volumes; 136% increase in revenues; and 236% increase in Sustainability Fund contributions.
- Relocation experience has helped us refine partner, location and water source selection criteria and informed improvement of our SWE Plant Assessment Tool (PAT), which rates Stations based on social, operational, financial, institutional, and environmental criteria.
- Relocations in any given year are generally 5-6% of that year's total install base. Despite additional costs, relocations are critical and benefit communities over the long-term. Idling assets and Stations that produce poor quality water or allow unaffordable pricing are redeployed to become Stations that sustainably provide safe water access to communities.

BACKGROUND

Safe Water Network India (SWNI) is a not-for-profit Trust, that promotes initiatives to bring reliable, affordable price of INR 5 (USD.07) for 20 liters, sustainable safe drinking water access to quality-affected habitations in Telangana, Maharashtra and Uttar Pradesh. SWNI endeavors to expand its impact and access by growing the annual dispensed water from its current level[1] of 310 million liters, a CAGR of 86% in the last nine years. This requires maximizing the productivity of assets and reducing down time.

iJal Water Stations run on four market-based models: (i) village level entrepreneur (VLE), 58%; (ii) Self Help Group (SHG)-managed, 26%; (iii) Community Committee (CC), 6%[2]; and (iv) Social Entrepreneur (urban models), 10%. Of a total of 319 Stations implemented over nine years, 49 have been relocated: 43 to other villages and 6 shifted to new locations within existing villages.

RELOCATION: AN OVERVIEW

Consistent with any large-scale operation with multiple partners, relocations ensure continuity of operations and are a critical component of the iJal initiative. When a Station violates the basic principles of affordability, quality, reliability or equitable access or faces ongoing, insurmountable issues, its purification system is *relocated* to a different village or *shifted* to a new location within the same village.

Need for Relocation for Project Sustainability

Relocations are essential to sustainable operations and to ensuring that Stations meet basic principles of social inclusion, reliability (24X7 access), water quality (meets national water quality standards), affordability, environmental sustainability, and financial viability (covers local financial costs and runs without ongoing external financial support). Relocations are methodically executed and benchmarked against these social, operational, financial, institutional and environmental (SOFIE) parameters. [3]

[1] The moving annual total (MAT) volume dispensed between Jan 1, 2019 and December 31, 2019 is 310 million liters.

[2] As of December 2019.

[3] The Plant Assessment Tool (PAT), an open-source digital tool available on Play Store and WASHfunders.org uses SOFIE parameters to allow measurement of performance against benchmarks.

Rationale for Relocations SWNI has *relocated* or *shifted* Stations in all three geographies in which we operate: Uttar Pradesh (UP), Maharashtra (MH) and Telangana (TS).

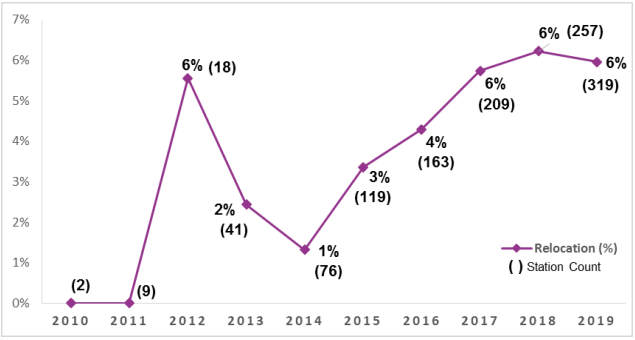
UP had the highest proportion of relocations on a very small install base of four stations (see Table 1) with 3 relocations in ~5 years of operation due to lower willingness and ability to pay and caste-based issues, e.g. where customers' purchase decision is based on the caste of the operator. In addition, consumers prefer to avail credit but the low-ticket value and insufficient margins cannot cover collection efforts, resulting in bad debts.

Table 1. Relocations (incl. Shifts) by State (2010-2019)

STATE>> MEASURE	UP	MH	TS
Average Life of Stations (years)	6.1	1.4	3.1
Station Install Base[4] (2010-2019)	4	47	267
Total Relocations (2010-2019)	**3**	**2**	**32**
Cumulative Relocations over time as % of Install Base	75%	4%	12%
Average Relocations per year[5]	12%	3%	4%

By contrast, in Telangana, it is 4% and in Maharashtra, it is 3% of 267 and 47 Stations respectively were relocated. Both of these States have comparatively casteless or secular user bases and consumers have a higher willingness and ability to pay. Consumers in these States generally recharge their smart cards in advance.

Fig 1. Relocations as a Percent of Total Stations (2010-2019)



Relocations are 7%[6] of the existing Stations despite a significant increase in the number of Stations. (see Figure 1).

Table 2: Reasons for Station Relocations

Reasons	Relocations	
	#	%
Sustainability: (Financial and Operational)		
Low volumes and poor financial performance	11	30%
Raw Water Shortage	2	5%
Institutional:		
Entrepreneur's focus on primary occupation	13	35%
Entrepreneur's health	2	5%
Internal conflicts among partners	4	11%
Moving Station from rented to owned premises	2	5%
Local legal compliances	2	5%
Social: Lack of equitable access to all; caste-based access	1	2%
TOTAL	37	100%

Low volumes and resulting poor financial performance were the predominant reasons (30%) for relocations (See Table 2). In Telangana and Maharashtra, 35% of relocations were result of VLEs giving higher priority to an alternate occupation diverting attention from Station operations, resulting in lower sales and consequent financial stress.

Fig 2. Relocation Process

Relocation Process

The relocation process is more complex than setting up a new station due to the additional steps described in Figure 2. Nonetheless, relocation requires about the same amount of time required to set up a new station, anywhere from 3 weeks to 3 months. In addition to the steps above, if a new location is not immediately available for relocation of the treatment system, the system is removed, refurbished and stored until a viable new location is found.

Table 3: Average Operating Costs of Relocation

Details	INR	USD
Project Team Time Allocation	150,000	2,150
Transportation	4,000	60
Labor (dismantling, transport, fitting)	1,000	20
Pipes & Fittings	2,500	40
Rebranding: Signage, Paintings	20,000	290
Media (Sand, Carbon, other)	2,500	40
Sub Total (A)	180,000	2,600
Occasional Costs:		
System Refurbishment	11,000	150
Reject Water Management	25,000	350
Sub Total (B)	36,000	500
Total Costs (A + B)	216,000	3,100

Station relocation costs range from INR 180,000-216,000 (USD 2,600-3,100), depending upon whether the relocation is within or outside a village and the time required to complete the transfer. The cost of relocations and shifts are comparable owing to the need, in the case of shifts, to transport the system to a warehouse for refurbishment and storage while the new site is renovated consistent with standards. Further, the plant cost is factored in at 15% annualized depreciation on a Written Down Value (WDV) method assuming a 15-year life when the end of life value depreciates to less than 10% of its original value.

[4] Station Install Base indicates number of stations set up in the state over the assessment period

[5] Number of relocations in a year geographically.

[6] Percent of relocations is calculated by dividing the number of relocations in the year by the total number of stations in that year.

PRE- AND POST-RELOCATION IMPACT

All one-year-old relocations through June 2019 demonstrated improved performance against both operational and financial indices (see Table 4), regardless of the cause of the relocation. Relocated Stations overall realized an increase of 109% in sales volumes, 136% in revenues, 236% in Sustainability Fund contributions and 297% in annual service fee payments. Revenue growth is higher than the volume growth due to improved realizations over time including price rise implemented in May 2016 from INR 4 to INR 5 for 20 liters of water dispensed. If we offset this price increase, the revised revenue increment is still very attractive at 117%. Consumer registrations also increased by 7% (from 32% to 39%), considering that the average age of the 37 Stations prior to relocation (27 months) is similar to that of these stations after their relocation (28 months).

Table 4: Key Station Performance Indices

KPI (all figures on a US$ per month basis) per station	Pre-Relocation	Post-Relocation	Delta %
Station Age (months)	27	28	-
Sales Volumes (# of 20L cans)	105	219	+109%
Household Registrations %	32%	39%	+7%
Without price adjustment (INR)			
Revenues	11,796	27,826	136%
Sustainability Fund Contribution	1,222	4,100	236%
Service Fee Payment	494	1,958	297%
With price adjustment (INR)			
Revenues	12,849	27,826	117%
Sustainability Fund Contribution	1,222	4,100	236%
Service Fee Payment	494	1,958	297%

NOTE: Service Fee refers to the prescribed nominal fee of INR 2,360 (or USD34) per station to be paid by the Station each month towards costs of service technician visits for system repairs or preventive maintenance.

WAY FORWARD

We are applying lessons learned from relocations including further refining our partner selection criteria, location and water source selection process, legal approvals, community engagement process and the use of our Plant Assessment Tool to evaluate plant performance after one year of operation.

Partner Selection Criteria: We updated our partner selection criteria to better vet and identify the right partners to operate the Stations. VLEs /SHGs/CC should have:

- An ability to devote time within the family for 365 days/ year to operate the station, even if on a part time basis.
- A current occupation that allows sufficient spare time to devote to the Station

- Premises to house the system with source of raw water
- Investible surplus to install the facility housing the system in accordance with the set standards
- A zeal for doing business and learning new skills

Location and Water Source Selection Process:

- Prevalence of groundwater but with water source contamination, to be verified by certified laboratory tests
- Understanding bore well yield using pump-out tests if groundwater is the source of raw water for treatment
- Testing of treated water by certified laboratory prior to the launch, to ensure quality compliance as per national standards

Legal Approvals:

- Obtaining all due approvals from the local authorities in writing

Consumer and Community Engagement Process:

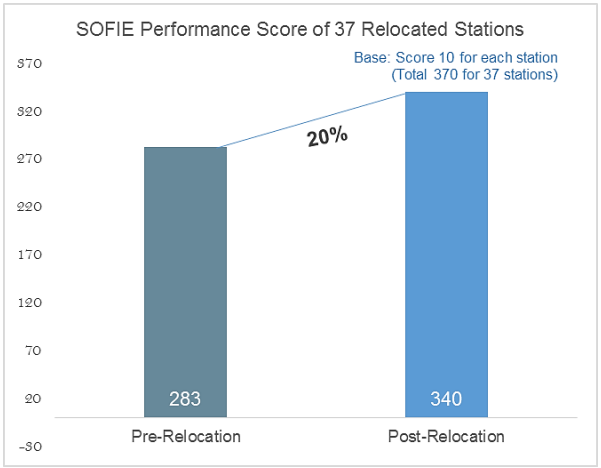
- Strictly adhere to the community selection criteria of a minimum number of 500 households and demonstrated.
- Extensive consumer activation programs to mobilize and educate the community on the relation between good health and use of safe drinking water to unlock their willingness to pay and explain the process of payment in advance by charging the smart cards for availing 24x7 access to dispensing.
- Execution of promotional campaigns in the community to spread awareness and achieve a minimum of 200+ household registrations with placement of HDPE jerry cans and RFID smart cards prior to the re-launch of the station.

Using Plant Assessment Tool to verify (SOFIE) Social, Operational, Financial, Institutional and Environmental score of stations:

SOFIE parameters define indicators and sub-indicators to determine the reliability, affordability and safety of potable water supplied to communities located beyond the pipe. SOFIE scores of post-relocation stations improved from an average score of 283 to 340.

While we continue to implement improvements in processes as described above, and seek to decrease the number (and percent) of relocations, many factors contribute to the need for relocation, as discussed in this report, and new challenges continually emerge that influence the need for relocations, such as a changing competitive environment, e.g. government sponsored plants entering communities with lower prices. For that reason, we expect that, like other large-scale operations engaging with multiple partners, relocation rates will continue to be 5-10% in the future.

Fig 3. SOFIE Score of 37 stations



CASE STUDY 1: RELOCATION LED TO IMPROVED FINANCIAL AND OPERATIONAL SUSTAINABILITY DUE TO INCREASED CUSTOMERS, AND ADDING CHILLED WATER AND SOLAR

Station Relocation from Village Kureb to Village Ranhera in Uttar Pradesh (UP)

The Kureb Station was commissioned on a Community Committee Model in January, 2011, providing access to 2,299 residents living in 398 households in the Gautam Nagar District of UP. The Station also distributed water to nearby hamlets using buffalo buggy.
For a period of three years, the station managed to survive despite selling water on credit. However, this practice led to bad debts and hence the village level operating costs were not covered. Payments for consumables and chemicals, filters, operator salary and electricity were often delayed. Given these operational difficulties, we relocated the system in February, 2014 to Ranhera, an adjacent village. A VLE installed the system in his house after due renovations. The new geography brought access to 3,604 inhabitants living in 555 households. However the credit-based sale of water continued to plague recovery of operational costs in the new

Figure 4. Plant being lifted and in transit to the new identified location

location, although to a lesser degree. To service the consumers in the old village of Kureb, water was distributed in a tank via buffalo buggy.

Today, the station has a strong 60% of households registered, up from 27% in the Kureb village. The new location also offers chilled water during summer to augment revenues and sustain demand. In order to optimize the cost of operations and chilling, a solar system has been installed which helped to reduce the station operating costs by 20%. The Station has average sales of 108 cans per day versus 51 cans a day in Kureb and is able to generate sufficient revenues to cover local operating costs for sustainability.

CASE STUDY 2: RELOCATION LED TO IMPROVED PENETRATION AND SALES WITH NEW VILLAGE LEVEL ENTREPRENEUR (VLE)

Figure 5. Mahabubabad Station under lifting process

Station Relocation from Mahabubabad Town To Village Edulapuram In Telangana

A Station located in the Mahabubabad town was launched in September, 2012, providing access to 5,040 people living in 1,200 households in the Mahabubabad district of Telangana State (erstwhile Andhra Pradesh). Despite the large size of the community, the Station had average sales of only 40 cans per day. The VLEs responsible for the station operation had differences among them leading to a complete stoppage in operations.
Upon extensive discussions with the partners, it was mutually decided among the community, VLEs and the field management team to relocate the plant to a new village and find a new VLE.
The plant was relocated to Edulapuram village in Khammam district of TS in December 2016 with a new VLE. Edulapuram Station today provides safe water access to 4,653 people residing in 1,230 households. For over a year now, the station has 347 household registrations (28% of the population) with an average sale of 200 cans per day versus 40 cans per day at the previous location. The station is able to meet its local operational expenses, but it is yet to pay for field service or contribute towards the sustainability fund.