



Public tubewells have been a failure almost everywhere in India. Far from providing benefits of economies of scale, they are now a burden that public agencies want to get rid of. Efforts to transfer their management to irrigators have also met with little success.

Gujarat Water Resource Development Corporation (GWRDC) has achieved rare success in tubewell transfer by transferring around 1800 tubewells to groups of water users. Findings of the study suggest that there has been a marked improvement in the performance of tubewells after transfer.

The essence of GWRDC's success lies in its willingness to transfer actual management to farmers and devising a simple and flexible process for doing so. Other states can replicate GWRDC's success by adopting a similar target-oriented marketing approach towards irrigation transfer with the interest of the water users as the main focus.

Water Police Research

Highlight

**Public Tubewell
Transfer in Gujarat
Marketing Approach to IMT**

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Public Tubewell Transfer in Gujarat: Marketing Approach to IMT¹

RESEARCH HIGHLIGHT BASED ON A PAPER TITLED:

“IRRIGATION MANAGEMENT TRANSFER: GWRDC’S TUBEWELL TRANSFER PROGRAMME IN GUJARAT”

INTRODUCTION

Public tubewells in India were built with the intention of realizing economies of scale and equity in access to groundwater irrigation. But this initiative has more or less failed in almost all states. Efforts to transfer their management to water users too have met with little success. However, Gujarat Water Resources Development Corporation (GWRDC) has achieved a rare success in tubewell transfer by transferring around 60 percent of public tubewells to user groups. This study tries to identify the factors that have helped in accelerating the transfer process and evaluate the performance of transferred tubewells against those owned by individuals and GWRDC. It also suggests some policy changes that can make the scheme better and explores the replicability of success achieved in Gujarat.

TUBEWELL TRANSFER PROGRAMME OF GWRDC

GWRDC was set up as a government company in 1971 to increase the area under irrigation in

Gujarat and ensure equity in access to groundwater to resource poor. Since its inception it has built around 4000 tubewells all across Gujarat. However, it remained financially unviable and operationally inefficient right from the beginning because of its high operational costs (mainly staff salaries) and poor maintenance of infrastructure. Under increasing financial pressure and directive from the State Finance Commission, GWRDC decided to turn over tubewells to farmers in the command area. The process started in 1988-89, with slow progress during the first decade but gained momentum only around 1998 (Figure1).

MAJOR FINDINGS

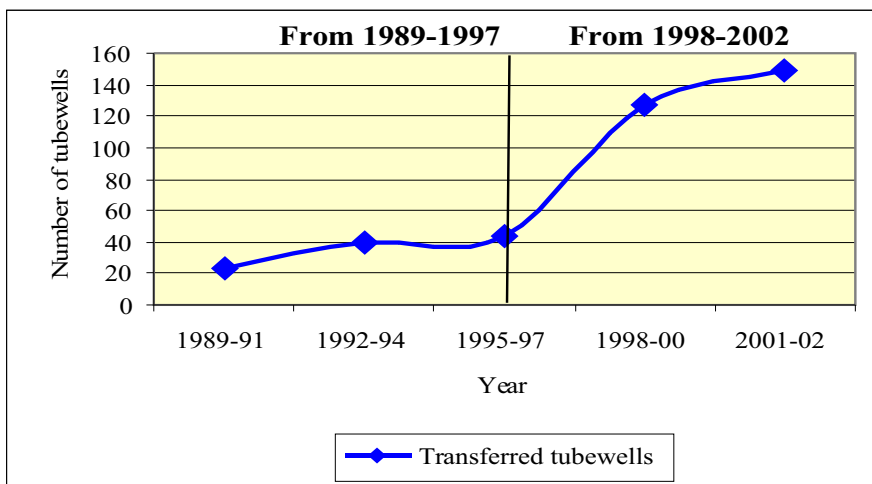
The paper compares the transferred tubewells with tubewells still managed by GWRDC and private tubewells on various indicators: operational efficiency, financial viability, profitability to both public agency and farmers, and quality of service and maintenance using

secondary data collected for 309 tubewells from GWRDC offices and primary data for 110 tubewells, both in Anand district.

Hours of operation and gross area irrigated per year have been used as indicators of operational efficiency. Turned over tubewells perform better than GWRDC managed tubewells on both counts (Table1).

Before-after comparison of turned over tubewells shows marked

Figure 1: Number of Tubewells Transferred in Anand District, 1989-2002



¹ The research covered by this IWMI-Tata Research Highlight was carried out with generous support from Sir Ratan Tata Trust, Mumbai under the IWMI-Tata Water Policy Programme. The research paper can be downloaded from the IWMI-Tata Website <http://www.iwmi.org/iwmi-tata>.

This is a pre-publication paper prepared for the IWMI-Tata Annual Partners' Meet. Most papers included represent work carried under or supported by the IWMI-Tata Water Policy Program. This is not a peer reviewed paper; views contained in it are those of the author(s) and not of the International Water Management Institute or Sir Ratan Tata Trust.

Table 1: Comparison of Basic Performance Indicators: 2000-01

Tubewell Status	Sample Size	Average HP	Average Gross Irrigated Area (ha)	Average Hours of Operation
GWRDC	27	26	43	1440
Turned over	48	20	60	1698
Private	35	14	25	1841
All	110	20	43	1567

increase on both indicators after transfer, the increase being as high as 55 percent in gross irrigated area and 50 percent in hours of pumping (Figures 2 and 3).

Similarly, two-thirds of the respondents perceive definite improvement in quality of services. Adequacy and timeliness of irrigation supplies have improved while water rates have gone down. Seventy percent of water users feel that the tubewell maintenance has improved after the

transfer and getting water has become much easier and simpler.

In financial terms, transferred tubewells have performed much better than GWRDC managed ones. GWRDC tubewells charge highest water rates and yet make huge losses. Private tubewells make highest profits, followed by tubewells run by cooperatives and informal groups (called *juths*). Low operator salaries, better maintenance and more appropriately sized pumpsets help private

Figure 2: Average Gross Irrigated Area Before and After Transfer

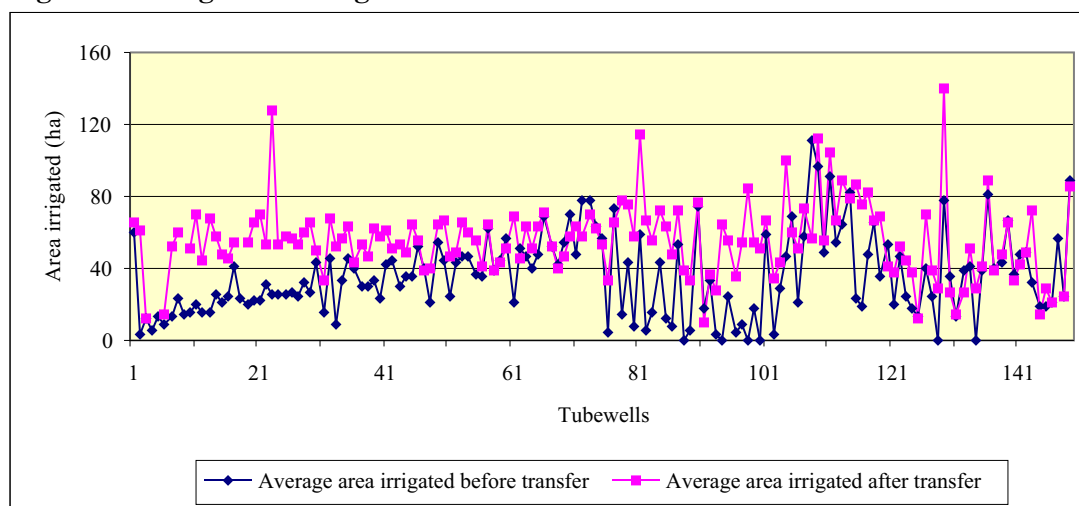
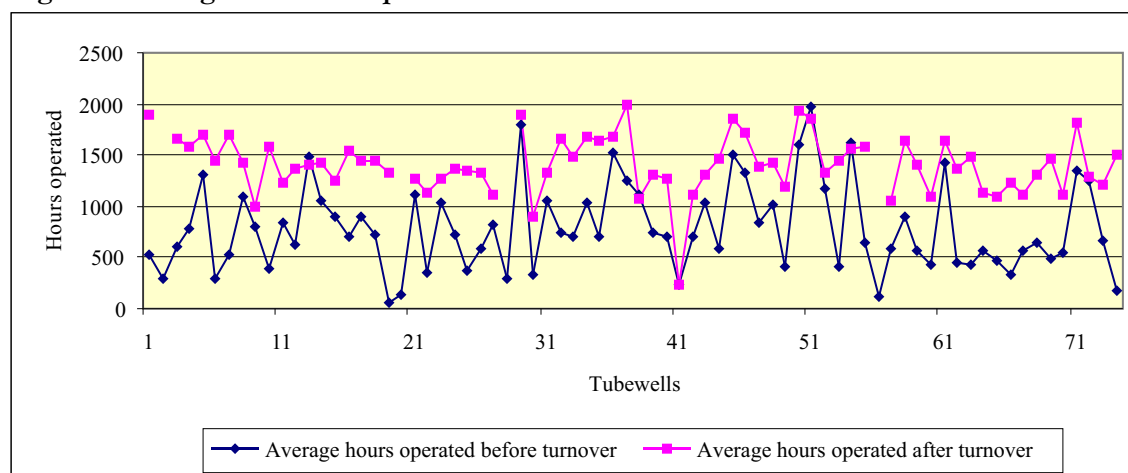
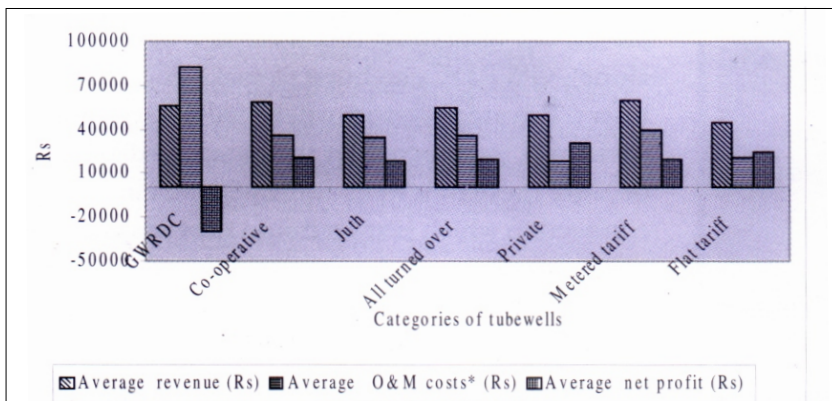


Figure 3: Average Hours of Operation Before and After Transfer



and transferred tubewells to keep their operating costs low while they earn more by pumping for longer hours. Among transferred tubewells, cooperatives seem to perform better than the *juths* possibly because they have five-year secure lease against one-year lease for the *juths* (Figure 4).

Figure 4: Gross Returns, Operating Costs and Net Returns for Various Categories of Tubewells



The GWRDC tubewell transfer programme seems to have satisfied all the criteria generally used to assess the programmes for irrigation management transfer. Not only has GWRDC been able to transfer almost 60 percent of the tubewells in the state, the transferred tubewells have performed much better on operational, financial and other indicators than GWRDC tubewells.

WHAT ENCOURAGES AND IMPEDES SUCCESSFUL TRANSFER ?

GWRDC adopted a simple and direct process for transfer instead of going for a NGO mediated process intensive organization of users. This helped it in achieving the scale and speed in tubewell transfer.

The essence of GWRDC's success lies in the speed, scale and frugality of institutional investment. GWRDC adopted a very simple and direct process for quick results instead of going through a NGO mediated process intensive organization of users. It kept learning from its experiences and made changes wherever necessary. For example, the initial insistence on forming

cooperatives was diluted in later years. Instead, it allowed any informal group or *juth* to take over a tubewell. This helped in overcoming farmers' inhibitions and speeded up the transfer process. GWRDC followed the practice of minimum interference after transfer. Farmers' groups were free to appoint their operator, design irrigation schedules, undertake repairs and maintenance, and even replace the pump sets with a new one of different make and capacity. The groups could also evolve different pricing systems and revise water prices. This kind of autonomy built a sense of ownership and encouraged farmers to invest in tubewells to improve their viability and performance. GWRDC also provided some amount of security by renewing the lease every year. This gave confidence to the groups in their domain and sent positive signals to beneficiaries in command areas of other tubewells.

Finally, unlike other irrigation agencies, GWRDC did not try to shift the burden of collecting unrecovered dues to farmers' groups as a precondition for transfer. Many irrigation management transfer (IMT) projects failed to take off because governments tried to pass off their accumulated losses and dues to new owners. This has been one of the biggest deterrents to the lift irrigation transfer programme in Orissa.

WHAT DRIVES FARMERS TO TAKE OVER PUBLIC TUBEWELLS?

Opportunity to earn profit and gain prominence in the community drives farmers to take-over the management of GWRDC tubewells.

Many researchers contend that farmers come forward to take over the management of public irrigation systems only when threatened with closure. Our study in Anand points out to factors other than coercion and persuasion. We found that an average tubewell earns an annual profit of Rs18,000 to Rs 19,000 on a small initial investment of around Rs 10,000 to Rs 15,000. We found that the profit motive was crucial in

encouraging farmers to take over the management of GWRDC tubewells.

Similarly, owning or operating a tubewell in rural Gujarat gives status to farmers. With decline in power availability and restrictions on new connections, a tubewell has become a highly valuable resource, control over which brings enviable power, prestige, goodwill, and allegiance to a person in rural Gujarat.

It is this opportunity to gain prominence and centrality in the local socio-economic domain with decent profit that drives farmers to vie for managerial authority over public tubewells. We believe that lure of profit and not fear of loss is the main driver for farmers to take over the tubewells.

WHAT IMPEDES THE TRANSFER OF PUBLIC TUBEWELLS?

GWRDC's professional approach notwithstanding, only around 60 percent of tubewells have been transferred till date. A study of the transfer process would remain incomplete if we do not find out the reasons for non-transfer.

The tubewells in excellent operating conditions could not be transferred because they offer an excellent opportunity to make profits at very low initial investment and O&M cost, thereby attracting competing claims from more than one group in the command area. Tubewells in extremely poor condition require high investment. Even the operation and maintenance cost of these tubewells is liable to be high. An agency taking over a tubewell in poor condition will earn lower margins, making it a poor business proposition.

WHAT CAN BE DONE TO MAKE THIS SCHEME MORE ATTRACTIVE TO FARMERS?

Management contract for the better performing tubewells should be transferred to the highest bidding group or individual in an open auction while the sick tubewells should be sold off to a willing buyer.

We believe that some more changes in the transfer process will make it a better deal for farmers. GWRDC must ensure longer lease for turned over

tubewells. We suggest that instead of giving away the tubewell for a fixed rent of Rs 5,000 per year, GWRDC should award management contract to the highest bidding group or individual through an auction open to all beneficiaries. This will induce the lessee to be efficient and expand water selling apart from earning higher returns for GWRDC. It will also ensure that the local political dynamic does not frustrate the transfer process.

By selling sick units or defunct tubewells (there are almost 48 defunct tubewells in Anand district alone), GWRDC can hope to make good its losses. Private investors will be willing to invest in such units irrespective of their state of disrepair because these tubewells come with an electricity connection which is at premium nowadays as new connections are costly, time-taking and difficult to get. The selling off of such units will ensure revival of a dead asset apart from good returns to GWRDC.

CONCLUSION

Our findings suggest that turned over tubewells perform significantly better than GWRDC managed tubewells and there is a marked improvement in their performance after transfer. The essence of GWRDC's success lies in its willingness to transfer actual management to farmers and devising a simple and flexible process for doing so. We recommend that the transfer process can be further accelerated by making small changes in the contract terms. Other states can replicate GWRDC's success by adopting a similar target-oriented marketing approach towards irrigation management transfer with the interest of water users at the core.

Figure 5: Interest of Farmers Should be at the Core of Tubewell Transfer Process



IWMI-Tata Water Policy Program

The IWMI-Tata Water Policy Program was launched in 2000 with the support of Sir Ratan Tata Trust, Mumbai. The program presents new perspectives and practical solutions derived from the wealth of research done in India on water resource management. Its objective is to help policy makers at the central, state and local levels address their water challenges – in areas such as sustainable groundwater management, water scarcity, and rural poverty – by translating research findings into practical policy recommendations.

Through this program, IWMI collaborates with a range of partners across India to identify, analyse and document relevant water-management approaches and current practices. These practices are assessed and synthesised for maximum policy impact in the series on Water Policy Research Highlights and IWMI-Tata Comments.

The policy program's website promotes the exchange of knowledge on water-resources management, within the research community and between researchers and policy makers in India.

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