

Turnover of Public Tubewells by Gujarat Water Resources Development Corporation¹

Shashi Kolavalli and K.V. Raju

THE GUJARAT WATER Resources Development Corporation (GWRDC), a wholly owned corporation of the Government of Gujarat (GOG) engaged in groundwater exploration, construction, and management of public tubewells, has been facing worsening financial and operational conditions ever since its inception in the mid-seventies. It has to depend on the government for large subsidies to continue its operations; constraints on what it can charge for its services and cost escalations only add to the deficit every year. It also faces difficulties in collecting water charges from the users and in operating its tubewells effectively through its field staff. In recent years, nearly 20 percent of the deep tubewells which were not being utilized adequately have been closed down. The Corporation began leasing out the tubewells to users in 1987 to reduce costs. About 350 wells have been leased out to users so far.

The objective of this paper is to examine the following: i) the initial objectives of the organization, its performance and the forces which led to the policy of leasing wells; ii) the agency's expectations from transfer; iii) the procedures adopted for leasing the wells; iv) the working of wells subsequent to transfer; and v) the impact of and implications from transfer. This will be done based on information obtained from GWRDC and information collected from a small sample of users who have leased the wells.

OBJECTIVES OF THE ORGANIZATION

The government of Gujarat has been engaged in the development of public tubewells with the belief that it is the responsibility of government to provide irrigation wherever possible (GWRDC 1991, 1). Deep tubewells were installed particularly in alluvial areas which were not served by any public surface irrigation systems. The installation of these wells and their management were initially undertaken by the Irrigation Department now renamed as the Narmada, and the Water Resources Department (WRD). After the introduction of democratic institutions at the district level, the management of these tubewells was transferred to the district *panchayats* (DPs). The latter supplied water at charges which were less than supply costs. The panchayats were in turn given operating subsidies by the irrigation department.

The government felt that its own resources were inadequate to instal a sufficient number of public tubewells. In order to facilitate mobilization of funds and to provide a more flexible and efficient administrative mechanism for developing and managing public tubewells, the government created a wholly owned GWRDC which could borrow from financial institutions (GWRDC 1991, 2). GWRDC had a broad mandate to: i) construct and maintain tubewells; ii) protect, preserve, and develop groundwater resources; and iii) manage the public tubewells using institutional finance.

In accordance with the mandate, the government transferred the Directorate of Groundwater Investigation which was part of the state geological unit to GWRDC in 1976. The irrigation department which was receiving a large number of complaints from users was also not satisfied with the way in which the government tubewells were being managed by the panchayats. In order to centralize their management, about 900 tubewells which were under the control of the panchayats were withdrawn and placed under the control of GWRDC in 1978. As in the case of district panchayats, the government directed GWRDC to supply irrigation at low charges. The government committed to reimburse the losses sustained by GWRDC as a result of the policy (GWRDC 1991, 3). The extent of subsidy, however, was to be determined on the basis of norms to be established periodically for expenses on operation and maintenance of tubewells.

PROGRESS AND PERFORMANCE

A GWRDC tubewell comprises a deep tubewell, a pump house, a tank to create the required head, and an underground distribution system with air vents and outlets to serve about 100 hectares (ha).² It has installed 250 to 300 new tubewells annually. GWRDC borrowed nearly Rs 700 million from NABARD to instal tubewells under 11 different projects. The number of public tubewells increased to 3,623 by March 1993.

Unfortunately, not all of the tubewells were used for 2,000 hours annually as had been expected. The performance in terms of the area irrigated or hours of use has declined over the years. The overall capacity utilization was around 67 percent in 1981 owing to poor demand, improper location of tubewells, erratic power supply, poor quality of water, and greater emphasis on construction rather than utilization (Asopa and Dholakia 1983).

¹We would like to acknowledge the assistance provided by various officials in GWRDC and Mr. Bhrambhat. Messrs. Rajeev Bhagwat and Prabhat Desai provided valuable research support.

²The area which can be actually irrigated by a well is estimated annually based on well discharge. A discharge of 1,000 gallons per hour is expected to be sufficient for 3 hectares or 8 acres. Of this 50, 30, and 20 percent of the area are planned to be irrigated in rabi, hot and kharif seasons.

The general decline in performance can be attributed to both supply and demand related factors. In addition to decline in discharge from wells caused by either changes in aquifer conditions or other technical faults with wells, repair and maintenance of wells were not prompt. These delays combined with erratic power supply have reduced the hours of operation. In addition, GWRDC has had little control over its own operators. It was not uncommon for operators to be taking bribes from users and to often cultivate leased lands in the commands of tubewells in their charge. On the other hand, the users also were not paying the charges regularly. Water allocation procedures deny irrigation to those who have not paid the charges for irrigation already received, as a result of which a significant portion of the users in the commands of several tubewells became ineligible to take water.

In 1992, GWRDC decided to close down wells operating for less than 500 hours annually or discharging less than 10,000 gallons an hour. Nearly 800 wells were shut down because of lack of demand for water, the need to redrill the wells to augment yields, inadequate discharge owing to receding water tables, decline in the quality of water, and large overdues. Out of the total 3,623 wells installed till March 1993, only 2,852 were functioning.

In 1993, the government directed the GWRDC Agency to drill new tubewells only where alternative irrigation sources were limited, where users agreed to manage the well through a cooperative society, and where the users agreed to bear a part of the capital cost. During 1993-94, only 23 new tubewells were put into operation. In the first three months of 1994-95, only 3 wells have been installed. NABARD, the main source of funds for well construction, has decided that it would no longer lend to GWRDC as it has not been recovering the full cost from the users.

FINANCIAL PERFORMANCE AND STATE SUBSIDIES

The financial condition of GWRDC has worsened over the years. The causes can be traced to a low fee for irrigation which was not revised to keep pace with increasing costs, increasing maintenance and repair costs, and to a limited extent, poor recovery of irrigation charges.

GWRDC could not raise its revenues by increasing water charges. In 1975-76, water charges were Rs 1.50 for 10,000 liters. The charges levied by the WRD for the same quantity of water from canals was about Rs 0.30 for 10,000 liters. As the charges for water from tubewells were several times that of charges from surface systems the users protested in 1977-78. GWRDC agreed to charge only Rs 0.80 for food crops. As much of the area irrigated generally grew cash crops, the agency revised the rates to Rs 1.00 for 10,000 liters. The last rate revision took place in 1981 when GWRDC fixed the rate as Rs 1.80 for 10,000 liters. Subsequent proposals to the state to increase the rates were not approved. Based on the operation and maintenance costs approved by the state in 1988-89, GWRDC estimates the cost of supplying 10,000 liters of water to be Rs 5.47. The current costs are estimated to be nearly Rs 7 for 10,000 liters.

While water rates have stayed constant or have declined in real terms, the costs have been increasing. Being assured of subsidies to cover the deficits and without clarity on the extent of subsidies, GWRDC has also lacked the incentives to economize on its costs. The operation and maintenance costs have been rising rapidly. Overhead expenses have been high (Asopa and Dholakia 1983). GWRDC has a total staff of about 6,000 of which 3,500 are operators. As the corporation is fully owned by the state government, the employees demand the benefits extended to regular state employees. It has faced difficulty in keeping up with periodic upward revisions in benefits provided to state employees. In addition, the operators have succeeded in their claim for overtime payments for operating wells at night when electricity supply is more reliable. The salaries and benefits of a tubewell operator nearly equalled the annual average recoveries of water charges from a well.

The operation and maintenance subsidy that GWRDC receives from the government is negotiated on the basis of established norms for incurring these expenses. The norms were revised in 1973, 1976, and 1979. The permissible expenses for an electric well with greater than 30 horsepower (HP) motor were increased from Rs 12,835 in 1973 to Rs 17,335 in 1976 and Rs 24,750 in 1979 (GWRDC 1991). But they have not been revised regularly since then. A committee to recommend new norms set up in 1989 submitted its report only in 1991. GWRDC had to manage with ad hoc provisions for nearly a decade. The committee in 1988-89 approved about Rs 59,000 as maintenance and repair expenses for a well. The same committee also recommended norms for staffing in 1988-89. The actual expenses have grown substantially since then. GWRDC will be claiming operating and maintenance expenses of about Rs 112,000 per well in 1994-95.

GWRDC can claim the difference between its income from levying irrigation charges and the estimated total operation and maintenance costs based on the norms as subsidy from the government. Subsidies are provided on the assumption that wells are operated for 2,000 hours. The agency, in addition, can claim compensation for operational losses from under-utilization owing to reasons beyond its control.³ The committee set up in 1989 also suggested that subsidies should be correspondingly reduced for under-utilization (GWRDC 1991). The gap between income and expenses of the corporation has grown rapidly. During 1992-93, the corporation earned an income of Rs 63.3 million and its expenses were Rs 390.3 million (GOG 1994).

³ Accepted reasons are: inadequate power supply, decreased availability of water in the aquifer, decreased demand resulting from canal supplies and rainfall and topography and agricultural conditions, breakdowns during critical periods, and inadequate resources resulting from ad hoc subsidies (GWRDC 1991, 28-29).

Though the government is committed to meet the deficits of the organization, subsidies have not been coming forth regularly. As the norms for operation and maintenance costs have not been revised regularly, subsidies have often been ad hoc, delayed and subject to prolonged negotiations. The two major sources of difference between GWRDC and the government have been charges not recovered from users and increase in unit cost arising from use of wells for less than 2,000 hours annually. The government holds the Corporation responsible of collecting at least 90 percent of the water charges. Collection has improved over the years and stands at about 80 percent of the billed amount.⁴ Tougher measures instituted by GWRDC to improve recovery have resulted in user pressures on the government and a directive from the government that irrigation should not be denied even to defaulters during scarcity.

The difference between estimated maintenance and repair costs (including overheads) assuming utilization at 2,000 hours and actual was Rs 0.28 per 10,000 liters in 1981 (Asopa and Dholakia 1983). The difference, therefore, between what was permissible and what was claimed would have been nearly Rs 5 million for the 184,650 million liters of water extracted in 1981. Although the subsidy provided by the state grew from Rs 500,000 in 1975-76 to Rs 127,100,000 in 1993-94, the disparity between what the GWRDC claims and what the state actually gave also has increased over time. The process for claiming subsidies has become cumbersome. In recent years, the subsidy given ranges from 50 to 70 percent of the amount claimed by the organization.

MOTIVE FOR TURNING OVER

Involving the users in the management of wells has been in the air for a long time. A government order was issued as early as 1972 when GWRDC was being established suggesting that the management of public wells be handed over to groups of four or more users, panchayats, water user associations (WUAs) or *gram vikas mandals* (GVMs). But firm steps in this direction were taken only in 1987 with the discussion in the Legislative Assembly to lease out GWRDC wells. In 1990, the government decided to shut down any tubewell operating for less than 500 hours annually or discharging less than 10,000 gallons an hour unless users came forward to manage it. The 1994 finance committee has gone a step further and has suggested that GWRDC itself should be wound up (GOG 1994).

The objective behind the government step in transferring tubewells to users is to reduce the burden on the exchequer. Several governments have not had the courage to hike irrigation charges for fear of losing support of the farmer lobby. The growing demand for subsidies is also not backed by a lobby of engineers and contractors as in the case of medium and large irrigation systems. Threatening the closure of wells unless the users themselves take them over appears to be a convenient way out for the government. While reducing the burden on itself, the government, however, does not intend to increase costs to the users. There is an implicit belief that operation and maintenance costs will be substantially lower when the wells are managed by the users themselves with the result that they need not pay any more than what they are paying now. The second objective is to improve utilization of wells. Again, wells are expected to be managed better by the users through timely maintenance, more effective collection of dues and reliable supply of irrigation.

While the government and GWRDC are keen to transfer as many wells as possible to reduce costs, they have tried to retain some control over how the wells are operated at least in the initial stages, to ensure that well utilization subsequent to transfer does not conflict significantly with the objective with which the government operated the wells.

NATURE OF TRANSFER

In the initial stages, any tubewell that a group of users was interested in managing was leased out. In 1992, the rules were revised to permit the transfer of only those wells which had been shut down or those which were going to be shut down for reasons stated earlier. In 1993 the rules were revised again to permit leasing of any well. The process of transfer has been quickened somewhat by authorizing the executive engineer in sub-divisional offices to lease out tubewells which have been shut down or which are about to be closed.

Initially, the wells were transferred only to cooperative societies of users or gram vikas mandals. As many groups faced difficulties with registration, they were given six months from the initiation of the agreement to register themselves as a cooperative society. Later on, the requirement was removed altogether. GWRDC can transfer wells to even groups of users. Nearly 80 wells have been leased out to groups primarily in Mehsana District.

Under the existing rules, the right to use the tubewell is transferred to the lessee for a nominal fee of Rs 11 a year for an initial period of one year at the end of which lease can be extended to five years. The lessees are required to operate the well without causing any damage and undertake any repair only according to the plans approved by GWRDC. The lessees have to deposit Rs 5,000 with GWRDC to ensure compliance with several other conditions.

Two important conditions of the lease relate to collection of dues and access to services of the well. The lessees are required to collect outstanding dues from the members and cannot supply water to those who have overdue. The agreement stipulates that any lessee who supplies water to such farmers will have to pay the outstanding amount on

⁴The total outstanding was Rs 101,367,603 from 101,489 users at the end of 1990. This works out to about Rs 30,000 per operating well. More than 60 percent of these dues were owed by a third of the farmers. Nearly 20,000 farmers owed between Rs 1,000 and Rs 2,000. Another 11,000 farmers owed more than Rs 2,000. The users can accumulate arrears as they need to deposit only Rs 250 per hectare before the season to become eligible for water. The delay in billing permits them to take water for another season without paying the charges for the first season.

behalf of them or that the amount will be deducted from the deposit. GWRDC retains the right to terminate the agreement with lessees who supply water to defaulters.

There are two important clauses in the agreement relating to access. One stipulates that the lessees should charge for water on a "no-loss no-profit basis." In the initial stages, this was taken to mean that the lessees could not charge a fee higher than what GWRDC was charging. This was modified in February 1993 to permit the lessees to charge higher rates. The other clause relates to spreading of benefits. The agreement stipulates that all farmers in the command should be given water on a first-come first-served or *warabandi* basis. Only after meeting the needs of those in the command can water be supplied to others. To ensure that the lessees provide such wide access, they were required to obtain the consent of farmers in the command that they are agreeable to the transfer and that they would be willing to take water from the lessees. This requirement has now been removed and was widely ignored when it was in force.

The government decided in 1991 that the GWRDC wells could be sold to cooperatives of users. The managing director of the corporation constituted a committee to suggest the criteria for determining the sale value of wells. The committee suggested that the sale value should include the value of civil works, tubewell, pumping machinery, and, only under limited condition, land measuring about 425 square meters.⁵ The committee recommended a procedure for estimating the sale value which incorporates both depreciation and cost escalation since construction. The sale value thus estimated falls between fully depreciated value and the cost of construction of a new system or replacement costs. As an example, a well constructed in 1974-75 at a cost of Rs 152,500 would have an estimated sale value of Rs 266,400 compared to the current GWRDC cost of Rs 680,000. The cost of a unit built privately with similar capability may be nearly one half of this.

Whether the sale value thus estimated would be close to the market price would depend on factors such as availability of alternative irrigation sources, the condition of the well, and the nature of agriculture being practiced in the command of a particular well. Recognizing that in most cases the estimated value may exceed the market value, GWRDC has sought approval of the government to sell the tubewells at depreciated values and include individuals and other interested organizations outside the command among the parties to which it can sell a well. GWRDC has recommended that the priority should be in the order of cooperatives of users, panchayat or other cooperatives, NGOs, groups of users, and individuals or other organizations not in the command. GWRDC has also proposed that the wells should be sold to the first three at 50 percent of the depreciated value and to the last two at 25 percent of the depreciated values. GWRDC is yet to receive approval from the government.

PROGRESS IN TURNING OVER AND STUDY SAMPLE

About 385 tubewells have been leased out so far in 13 districts. The step seems to have been successful in Mehsana and Kheda districts. GWRDC believes that the primary reasons for success in the two districts are fairly high well discharge in Kheda and the management of tubewells by companies in Mehsana District (GWRDC 1993). Lessees have returned 96 tubewells to GWRDC. Of the lessees who returned the wells, 60 percent did so within two years from taking over. We decided to limit our study of the performance of leased wells to Kheda District which has a third of the leased out tubewells and has wells which have been leased out for the longest period. In this district, 103 wells were leased out, of which 32 have been returned by the lessees.

A sample of 20 wells (20 percent of the population) was drawn from two groups of lessees: those which continue to operate the wells and those which have handed the wells back to GWRDC. All the lessees in this district are cooperative societies. These were further stratified on the basis of the number of years they have been managed by the lessees or were managed by the lessees before handing back. A majority of the wells which are still under the control of the lessees have been in operation for 3 to 4 years. The majority of wells which were handed back were managed by the lessees for less than a year.

PERFORMANCE OF SAMPLE WELLS

The lessees of tubewells in Kheda are predominantly cooperative societies of users.⁶ But membership in these cooperatives is not as broad based as the work cooperative would suggest. Most of them have 11 members, the minimum required to register a cooperative society. The members are often relatives, friends or farmers belonging to the same caste. Some of the members are not even aware that they are members of the cooperative society. There were two cases in which relatives of GWRDC staff took over the tubewells without the knowledge of the villagers. The villagers protested when they came to know of this. A society was formed later with broader representation.

All the wells which were leased out were in operation before being leased out. Four of them were operating for an average of more than 2,000 hours in the four years before the transfer. Two others were operating between 1,000 and

⁵The committee suggested that the land cost should be included only if the land was acquired by GWRDC by compensating the original owner. In cases where the owner has not been compensated, the cost of the land should not be included if the owner belongs to the group interested in buying the well. Otherwise, original owners should be compensated if they demand and the cost should be included in the sale value.

⁶The cooperatives pay lower electrical charges. They pay only Rs 192 per HP annually against Rs 360 for others.

2,000 hours and the remaining operated for less than 1,000 hours. The wells that were returned by the lessees operated for an average of nearly 600 hours compared to nearly 1,200 for those which are still being operated by the lessees. The dues outstanding from these wells were also fairly high--nearly Rs 70,000 for wells that are still on lease compared to Rs 41,000 for those which have been returned. The average outstanding from the users per well was nearly equal to the amount billed in about 3 years. When four cases in which the outstanding amount was equivalent to the amount billed in more than 10 years are not considered, the average outstanding amount is equal to amount billed in one year.

Our data suggest that utilization of wells has not improved significantly after they were leased out. The average number of hours for which they were operated was about 950. The average was slightly higher for wells that are still in use (1,063 compared to 966) compared to those returned. Five of the wells out of 14 still operating registered a decline in use. The reasons for poor utilization cannot be easily determined. In some cases, the groups did not have resources to take care of the repairs. Some were affected by erratic power supply and others by frequent breakdowns. Usage ranged from as little as 300 hours to 2,000 hours annually. The value of total sales per well was Rs 18,911. Water charges ranged from Rs 10 to Rs 26 per hour. The average charges were Rs 21 in the case of wells which were still functioning compared to Rs 15 in the case of wells which had been returned. Therefore the average value of services provided by the wells which were returned was one half of the value in the case of functioning wells (Rs 11,000 compared to Rs 22,000). As data on operation before transfer suggest, returned wells were performing poorly to begin with.

The average annual total cost was around Rs 20,000. It ranged from Rs 8,000 to about Rs 40,000. The average cost was higher by about Rs 2,000 for operating wells. The average total cost consisted of about Rs 9,000 for electricity, Rs 4,000 for staff and Rs 7,000 for repair. Most of the groups hired an operator for at least a part of the year. A few societies had hired paid secretaries to maintain their accounts and collect the charges from members. These costs are nearly a third of the costs incurred by GWRDC (see Appendix A for comparison).

The societies on the average incurred a loss of Rs 1,100. Those that were operating showed an average profit of around Rs 1,000 while those which have been shut down incurred a loss of Rs 6,000. All but one of the societies which returned the wells showed losses while one half of societies which still managed the wells showed losses. Many villagers indicated that they were making profits but did not indicate so in books to avoid being subjected to strict rules about what the cooperatives can do with profits. The reasons for failure were not necessarily financial. In two cases, two or more individuals essentially took over the wells without broadbased participation. In one of them, a school teacher and a GWRDC operator took over; the well was wound up because of differences between them. In another, a labor contractor took over with only 2 other active members. In another, only 4 farmers were able to irrigate their fields because of low discharge. Some of the members were not even aware that they were members. In yet another case of well returned after four years, a single family was operating the well to irrigate its own and relatives' lands. It returned the well because it did not want to bother with meeting reporting and audit requirements. Only in one case of a returned well was well usage high but there were problems in collecting dues.

Three societies which had reported relatively high profits ranging from Rs 8,000 to Rs 18,000 annually had broadbased representation and appeared to be genuine cooperatives. One of them was managed by a GVM. Two societies which declared the highest losses (in the range of Rs 8,000-10,000 a year) also indicated that they did not show profits on the books. There was another case in which the secretary and the chairman of a society supplied water to nearly 40 ha during rabi for a share of the crop. Between the two, they had purchased a tractor from the profits which the other members were unaware of.

EXPECTATIONS AND OUTCOMES

The government has two explicitly stated objectives for turning over the public tubewells. They are to reduce the financial burden on the state and to improve the utilization of wells. Some of the other implicit objectives are to collect outstanding dues, continue to supply water to everyone in the command of the tubewell, and to supply water at low prices.

To the extent that the leased out wells were already closed, there will not be any reduction in operation and maintenance costs. The transfer of operating wells would result in the reduction of electricity and repair costs which were estimated to be around Rs 28,000 per well at 1991 prices. A transfer of nearly 350 wells is likely to have resulted in a reduction of nearly Rs 1,000,000 in operation and maintenance costs. Although GWRDC claims that there is a reduction of nearly Rs 20 million in its costs, all of this could not have resulted from transfer of wells. GWRDC has not succeeded in reducing the cost of the field staff which makes up for nearly 50 percent of the operation and maintenance costs per tubewell.

The corporation sought permission of the Department of Labor to retrench 300 operators who have no work as a result of transfer. The Department turned down the request on the grounds that the retrenchments were arbitrary as they were not based on any seniority list, the corporation did not make sufficient efforts to improve its financial conditions before deciding to lease the wells, and the retrenchments were not fair as they did not apply to staff at all levels. GWRDC has appealed to the higher courts while staff without any work remain on the payroll. The staff at higher levels expect to be absorbed in the regular departments of the state.

Our information suggests that well utilization has not improved a great deal at least in the short run. A survey by Shah and Bhattacharya (1992) indicates that the wells have been put to far better use subsequent to transfer.

Conceptually, the utilization ought to improve significantly when the control rests with the users themselves. But this is subject to the limitations that some wells are technically not sound, power supply in some regions are very erratic, and some groups, particularly those comprising of small farmers, lack the resources required for timely repair and maintenance of wells.

Several aspects of transfer are designed to achieve equity in terms of wide access to irrigation at reasonable prices, particularly for small and marginal farmers. A cooperative form of organization was initially imposed on the lessees expecting certain core values to drive their operations (Shah and Bhattacharya 1992). This was to ensure widespread participation, democratic decision making, and the use of whatever surpluses created for the general good. The lessees were required initially to operate on a no-loss no-profit basis again to achieve the state policy of providing irrigation at low costs. Strangely, the proposed terms for even outright sales require that the buyers continue to sell water to everyone in the command.

Whatever the intention of GWRDC or the government, what happens in practice is likely to be quite different from the intended policy. The corporation has limited ability to influence the lessees because it can neither get the information it requires to do so at reasonable costs nor does it have effective mechanisms to enforce its will. The government cannot differentiate between true cooperatives and fronts put up by a few individuals. It cannot get full information on whether the lessees are supplying water as they have agreed to. Nor can it establish the veracity of the financial reports filed by the cooperatives to the Registrar of Cooperative Societies. If the corporation could collect such information at reasonable costs, it could effectively operate the wells through its own staff.

Policies which provide opportunities for individual benefit create strong incentive among individuals to subvert the intentions of the state. In fact, the development of state policies may be driven by such interests. It is not too difficult to establish a cooperative society. Nor to meet the reporting and audit requirements of GWRDC or of the Registrar of Cooperative Societies. Some lessees were paying the staff of these two agencies themselves to prepare the reports for them. This was not delegation of a task they were incapable of doing but an attempt to bribe those who monitor them. As potential benefits would suggest, individuals or groups of individuals have connived to use the public tubewells purely for their benefit in violation of the spirit of the lease agreements.

Gujarat offers interesting models which show how a well owner who provides irrigation services is likely to behave. Markets for irrigation services are prevalent in Gujarat. Most well owners in alluvial areas sell water to their neighbors in addition to meeting their own needs. Most well owners have an incentive to provide services to their neighbors particularly because they pay a fixed fee for electricity (see Shah 1992). Even in times of scarcity well owners try to meet the needs of the buyers as much as their own. They do so because they face competition from other well owners.

A lessee of GWRDC who is likely to treat the asset as his own is also likely to behave as any other seller in the market. The only difference is that having obtained the asset at no cost, he would be under less pressure than a private investor to earn returns from the investment. Our survey indicates that whenever there was power shortage or where well discharge was inadequate, buyers who were not part of the management were not treated fairly. The outcome of the current policy of transfer is, in a disturbing number of cases, free provision of valuable public assets to individuals or groups of individuals for their private use.

Groundwater irrigation systems are amenable to greater control by a few than parts of a surface irrigation system. It is not always feasible to avoid such control by imposing certain forms of organization. Imposing a cooperative form of organization also may impose severe limitations on the ability of the groups to improve performance. Shah and Bhattacharya (1992) in their comparison of the cooperatives and water companies argue that the rules which the cooperatives have to abide by affect the incentives of the management, pricing decisions, and the ability to muster resources. They find that the performance of irrigation companies was far superior.

Whatever the outcome, the government is keen on divesting itself of the public tubewells. As the response of the users has not been too enthusiastic GWRDC has modified the terms of transfer. Outright sales of tubewells has also been recommended by the finance commission which may be more desirable as those who are likely to benefit from the assets would have compensated the government for the value of these assets. Whether there will be enough buyers and whether the value can be captured through public auctions remain to be seen.

References

Asopa, V.N.; and Dholakia, B.H. 1983. The performance appraisal of Gujarat Water Resources Development Corporation. Ahmedabad: Center for Management in Agriculture, Indian Institute of Management.

Government of Gujarat (GOG). 1994. Report of the Gujarat State Finance Commission. Gandhinagar.

Gujarat Water Resources Development Corporation (GWRDC). 1991. Report of the Committee for Deciding Working Norms for the Maintenance and Repairs of the Tubewells under Gujarat Water Resources Corporation Gandhinagar. Gandhinagar: GWRDC.

GWRDC. 1993. A note on working of tubewells managed by Co-operative Society. Gandhinagar: GWRDC

Shah, Tushaar. 1993. Groundwater markets and irrigation development. New Delhi: Oxford University Press.

Shah, Tushaar; and Bhattacharya, Saumindra. 1992. Farmer organization for lift irrigation: Irrigation companies and tubewell co-operatives of Gujarat. Anand: Institute of Rural Management.

Appendix A

Comparison of Expenditure of GWRDC and Cooperative Wells in Kheda District, 1991-92

Items		GWRDC norms (Rs)	Cooperative (Rs)
1	Electricity charges	10,800	7,000
2	Repair charges		
	a) civil	3,000	2,800
	b) mechanical/electrical	9,000	6,700
	c) electrical control panels	3,000	
	d) transportation charges	1,500	
	e) cleaning and fishing	500	
	Total	17,000	9,500
3	Field establishment		
	a) tubewell operator (one per well)	25,370	7,000
	b) mechanic (one per 60 wells)	527	
	c) electrician (one per 120 wells)	304	
	d) wireman (one per 30 wells)	865	
	e) beat karkoon (one per 15 wells)	1,525	
	f) helper (one per 15 wells)	1,125	
	Total	29,716	7,000
4	Other committed expenditure towards field establishment such as travel, medical, leave, concessions, bonus, gratuity, stationery, registers and other facilities	10,602	1,630
	Total (1+2+3)	68,118	25,130
5	Supervision and overhead charges for regular establishment sub-division to head office level charged on M&R of tubewells at 15% of items covered under 1 to 4	10,217	
	Grand total	78,335	25,130

Source: GWRDC 1993.