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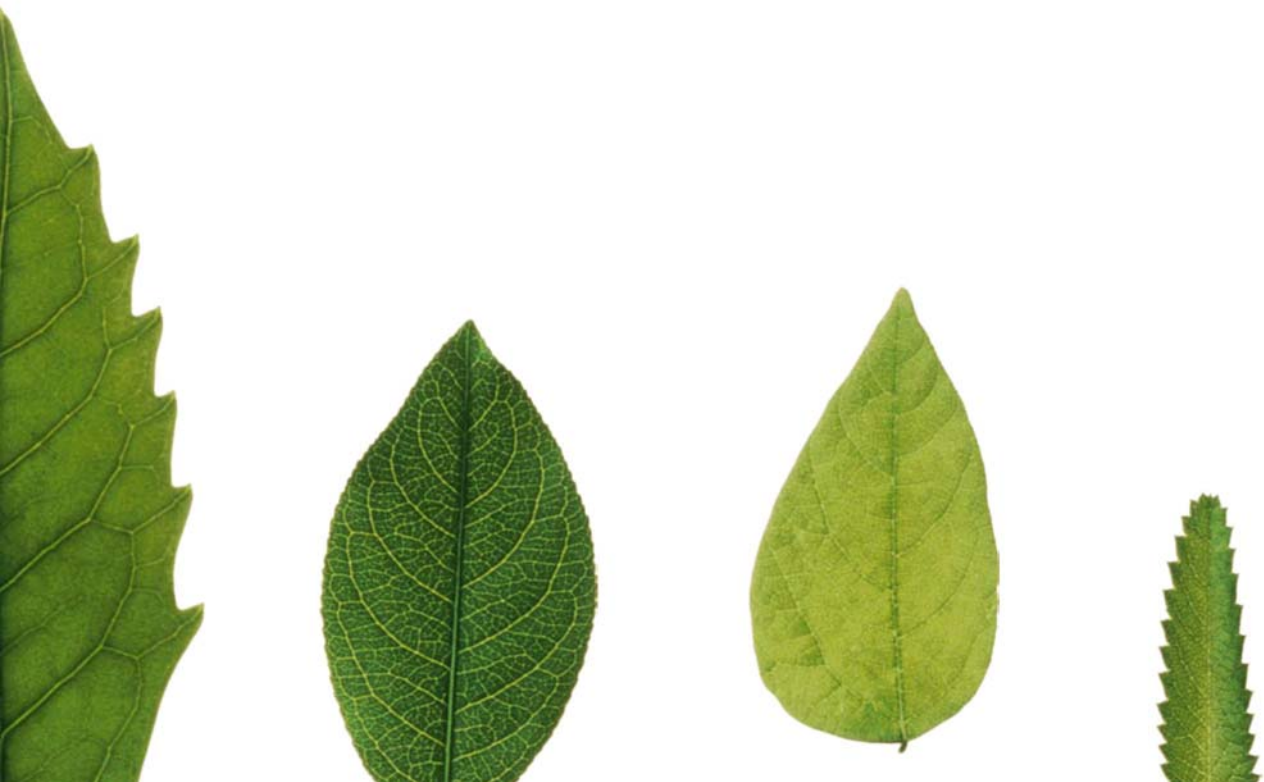
Sanjiv Phansalkar & Vivek Kher



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**Sanjiv Phansalkar & Vivek Kher**

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# 1 INTRODUCTION

Norms of customary usage of common property resources have usually evolved under conditions of resource abundance. As population expands and resource scarcity appears, problems arise in relation to resources that are used by a large number of individuals and groups for meeting a variety of needs. Such conflicts then need to be resolved by changing the norms of access and usage, and these norms tend to find their ways in legal institutions governing the resource. The case of groundwater in India illustrates this point. Groundwater available in underground aquifers is actually a common pool resource. The access to groundwater is by way of drilling holes on lands on which individuals have property rights. As such, though a common pool resource, landowners were deemed to have unfettered right to groundwater under their lands and these rights were limited only to the extent that they should not in any way affect similar rights of other individuals. As there was insufficient understanding about the movement of water in the aquifer systems, rights to groundwater subsumed under the property rights to land was the legal position in India for a considerable period of time. From about 1970, efforts have been made to change the law governing groundwater. The evolution of law on groundwater is still in a flux. A particularly compelling case of modifying the law governing groundwater arises in water scarce regions of the country, where the basic subsistence need of drinking water of human and livestock population is met from groundwater but alternate private uses of groundwater in combination with periodic failure of rains cause acute water scarcity. Maharashtra is among the few States in India which modified the law pertaining to groundwater to effectively address this issue and thereafter seriously tried to implement the modified law. This paper is aimed at understanding the experience of implementation of the Act.

This paper is based on a perusal and analysis of documents pertaining to the Act and Rules being studied, discussions with concerned Government Agencies, interviews with elected representatives of Gram Panchayats, and fieldwork undertaken in fifteen villages in three talukas in Vidarbha covering over 110 respondents.

In the first section of this paper a quick summary of the overall groundwater situation in Maharashtra pertaining to the evolution of the efforts to redress the problems caused by groundwater scarcity, culminating in enactment of the Maharashtra Groundwater (Regulation for Drinking Water Purpose) Act 1993, is presented. A brief summary of the provisions of the Act and the Rules framed there-under is presented in the next section, followed by the presentation of the data gathered from our field work.

# 2 SITUATION REGARDING GROUNDWATER IN INDIA

The National Commission on Integrated Water Resources Development has estimated that of the 432 billion cubic meters (bcm) of groundwater available in the country, 396 bcm is annually recharged and can be used.[1] While precise estimates of how much of this is actually being used differ, Shah et al[2] have estimated that there has been an extremely rapid development of groundwater in the country resulting in some 23 million tube wells operating in the country and the 'groundwater juggernaut is still accelerating'. He reports that groundwater development closely follows population density rather than resource availability. He explains this by stating that not only does most of the rural population 'self-provide' their subsistence need of drinking water by exploiting groundwater but the area under groundwater has now actually overtaken the total command area under canal irrigation in the country. The result of this has been severe depletion of groundwater

1 Report of the National Commission on Integrated Water Resources Development, Ministry of Water Resources, Government of India, New Delhi, Vol. 1, Chapter 2.

2 T. Shah et al., 'Sustaining Asia's Ground Water Boom: An Overview of Issues and Evidence', 27 *Natural Resources Forum* 130-141 (2003). *See also* T. Shah, 'Ground Water and Human Development: Challenges and Opportunities in Livelihoods and Environment', 51/8 *Water Science and Technology* 27-37 (2005).

pushing dug wells out of use, and requiring competitive deepening of tube wells and installation of engines with increasing capacity to pump the water from deeper aquifers.

The situation has become particularly aggravated in the drought prone 'hard rock' areas of the country covering most of Western and Southern regions. Four causal factors for the situation can be identified:

- Development and wide acceptance of deep rock drilling technology and proliferation of drilling contractors;
- Increasing commercialisation of agriculture (cultivation of sugar cane, banana, fruit and vegetables, cotton etc.) based on groundwater in these regions endowed with good soils and habited by skilled peasantry;
- Inadequate recharge of groundwater due to insufficient and uncertain rainfall, and often successive years of drought; and
- Electricity subsidies and fixed electricity tariffs for farmers which reduce the marginal cost of extraction of groundwater to nearly zero, and hence encourage them to maximise their current revenue by using and even trading in groundwater.

Maharashtra falls precisely in this zone. The groundwater situation in Maharashtra, as elsewhere, is defined by the specific constellation of topography, climate, soils and rock formation. A third of the State is semi-arid and hence prone to groundwater stress. It falls in the rain-shadow zone of the Western Ghats. In this belt, broadly covering portions or whole of Dhule, Jalgaon, Nasik, Ahmednagar, Pune, Beed, Osmanabad, Latur and Solapur districts, rainfall averages between 500 and 750 mm annually. Further, even this scanty precipitation runs off as the rock formation and gradients do not permit much percolation. Nearly four-fifths of the State is under the Deccan trap formation characterised by impervious basaltic trap of variable thickness. Low porosity of underlying rock formation and scanty rainfall mean poor underground water storages and uncertainty in location and capacity of subsoil aquifers. Vidarbha region has better rainfall as well as better surface water availability. The streams have longer flow life and there is a preponderance of tanks in Bhandara and Gadchiroli districts. Traditionally, dug wells tapping into shallow aquifers zones have formed the major sources of drinking water in much of the State.

The rain-shadow regions of Marathwada have a fund of folklore and stories about the severity of drinking water problems and some of these can be traced to the times of Sant Dnaneswar in the thirteenth Century. The problem of drinking water came up several times during the British rule as well, in Western Maharashtra and that is in fact the genesis of the whole preparatory work which resulted in rapid progress in creating irrigation infrastructure in Western Maharashtra.[3] Use of dug wells for taking irrigated crops has been in vogue in the State for quite some time. This was usually restricted to alluvial belts (for example the Jalgaon-Bhusaval banana belt) and elsewhere along rivers and streams. However, post Independence, as the farming community took increasingly to commercial crops such as sugar cane (and more importantly as electrification of farms improved) the pace of groundwater exploitation for agriculture increased rapidly. Circa 1972, AFPRO, a Non-Governmental Organisation with Swiss Development Aid, brought modern drilling technology to Maharashtra for addressing drinking water scarcity. The advantage of this technology in reaching deep aquifers was quickly recognised by the entrepreneurial commercial farmers of banana, sugar cane, grape, orange etc. all over the State. As a result, between 1972 and mid-nineties, deep bore wells were constructed in large numbers in even the water scarce regions of the State. It is estimated that about 1.25m wells irrigate a command of some 1.75m ha in these regions. As functionaries CGWB puts it, 'the advent of high speed drilling rigs, especially the down-the-hole hammer rigs, with their capacity to construct bore wells in shortest possible time and at low cost, and a mushrooming of drilling contractors to complete the job instantaneously has resulted in excessive (exploitation) of groundwater with deleterious effect on the sources.'[4] This has had tragic consequence

3 Report of the Irrigation and Water Commission, Government of Maharashtra, Chapter 1 (Mumbai 2000). *See also* S. Bhongle, *Rajkaran Panyache* (original Marathi) (Pune: Rajhans, 2001).

4 D.K. Chaddha and S.K. Sharma, Central Groundwater Authority: A Vehicle to Implement Groundwater Legislation (Paper presented at the UNICEF Workshop on Groundwater regulation, Pune, Feb. 2001).

on availability of groundwater for meeting the subsistence needs of bulk of the rural population. The travesty is that such access to groundwater is heavily tilted in favour of those who can afford to invest relatively large amounts in groundwater development or can avail of credit from banking or cooperative institutions.

These trends and their consequences were visible from the early seventies. Simultaneously, drinking water needs of the scarcity affected areas had to be met through public initiative in the State. Initially with a view to systematically and efficiently access groundwater, the State formed Groundwater Survey and Development Agency (GSDA) in 1971. This agency primarily helps local self-government institutions (Gram Panchayats, Municipal Boards, Zila Parishads) in surveying groundwater for locating public drinking water wells. Right of farmers to groundwater below their farms has been recognised both as a customary right under Common Law as well as under the Easement Act of 1883.[5] However, Maharashtra, as many other States, has always resorted to sequestering private wells for the purpose of drinking water of the communities in times of crisis in drought years. This would be done by administrative dictates issued by Collectors and they would remain in force till such time as the acute scarcity conditions prevailed. This was the beginning of State intervention in the field of groundwater regulation. As the groundwater conditions continued to deteriorate, the State decided to discourage creation of new wells and tubewells. It asked the agency GSDA to assess different parts of the State for the groundwater situations. The agency has done assessment of groundwater availability a number of times so far. They would categorise well marked zones into white (zones with no scarcity), grey (zones where caution had to be exercised) and black (zones where groundwater was overexploited). Such periodic assessment has tended to reinforce the common observation regarding overexploitation of groundwater. A massive programme titled '*pani adva, pani jirva*' (stop water and recharge aquifers) was launched all over the State in the mid-seventies. This saw construction of thousands of small check dams and KT type dams on practically every stream in the State, leading to favourable consequences on groundwater situation.

Simultaneously, the second step of the State in discouraging groundwater exploitation was to declare that the banking sector would not lend any farm credit for sinking wells/tube wells and installation of pumps in black zones. These moves were also backed by National Bank of Agriculture and Rural Development (NABARD) which framed guidelines towards this end. This began in the eighties. These assessment reports have formed an important background for careful assessment of the need for the legislation. The need for legislation was felt more strongly in the early nineties as the State found that the NABARD guidelines for restricting flow of banking credit for groundwater development in problem areas were far from effective. It was realised that this only made investment more difficult though it imposed no legal sanction on accessing groundwater whatsoever.[6] The drought of the early nineties proved that these measures were inadequate to cope with the rapacious overexploitation by commercialising agriculture. As many as thirty thousand villages had to be declared scarcity hit. The State was forced to take serious steps to halt further damage to its groundwater resources and in furtherance of that objective enacted the impugned legislation in August 1993. This is summed up in next section.

## 3 EVOLUTION OF GROUNDWATER REGULATION

What was happening in Maharashtra in relation to groundwater was also happening in Gujarat, Rajasthan, Karnataka, Andhra Pradesh and Tamil Nadu to

5 C. Singh, *Water Rights and Principles of Water Resources Management* (Mumbai: NM Tripathi, 1991).

6 As per the latest assessment in 1999, of the 1503 watersheds in 30 districts of the State, only thirty four are declared as dark, fifty nine as grey and the balance as white. This paints a far rosier picture than is the reality. There is an element of political compulsion about not declaring watersheds in problem categories as such declaration leads to a ban on banking sector credit for groundwater exploitation. Since groundwater is the only source of reliable irrigation, banning it attracts the wrath of people.

name a few other States. Keeping in view the paramount importance of conserving and prudently using the precious groundwater resources for meeting essential subsistence needs of the populace, the Centre framed the Model Bill in 1970. This was essentially to empower the State governments to tackle the drinking water situation. Subsequently, it was revised in 1972, 1992 and further in 1996. In its present form, the Model Bill (2005 version) is under discussion and has expanded its sweep to cover the whole problem of groundwater over-extraction. It requires registration of owners of tube wells, allocation of water rights, registration of drilling contractor and prior permission before drilling a tube well.

Simultaneously, environmental groups were also active both in regard to over-extraction of groundwater and in relation to contamination of groundwater. Several Public Interest Litigations have been filed and have come up for disposal in various courts. One was filed in reference to the Model Bill in 1986 in the Hon. Supreme Court of India. The Court was requested to direct the Government of India to take necessary action for regulation and control of groundwater development. Two more public interest cases, the Vellore Citizens Welfare Forum Case[7] and the Indian Council for Enviro-Legal Action case[8] pertaining to groundwater, came up for disposal in 1996 in the Hon. Supreme Court. In the Vellore Citizen Welfare Forum case, Justice Kuldip Singh ordered:

> The Central Government shall constitute an authority under section 3(3) of the Environment (Protection) Act, 1986 and shall confer on the said authority all the powers necessary... The Central Government shall confer on the said authority the powers to issue directions under section 5 of the Environment Act and for taking measures with respect to the matters referred to in Cls. (v), (vi), (vii), (viii), (ix), (x) and (xii) of sub-section (2) of section 3. The Central Government shall constitute the authority before September 30, 1996

The Central Groundwater Board has been constituted as the Authority in pursuance of the Hon'ble Supreme Court's order by the Ministry of Environment & Forest vide Gazette Notification No. 30 Part II, section 3 of sub-section (ii) dated 14 January 1997. The mandate of this Authority is regulation and control of groundwater management and development of groundwater in the country. It has for its objectives the exercise of powers under section 5 of the Environment (Protection) Act, 1986, for issuing directions and taking such measures in respect of all the matters referred to in sub-section (2) of section 33 of the said Act, to resort to the penal provisions contained in sections 15-21 of the said Act, to regulate indiscriminate boring and withdrawal of groundwater in the country and to issue necessary regulatory directions with a view to preserve and protect the groundwater under the Regulatory Act and to notify an area where over exploitation, pollution, salinity hazard etc has been considered. It has jurisdiction over the whole of India. The Authority shall function under the administrative control of the Government of India in the Ministry of Water Resources.

The Authority has already been constituted under the chairmanship of the Chairman, Central Groundwater Board and three members from CGWB and one member from Ministry of Environment & Forest.[9]

# 4 MAIN PROVISIONS OF THE MAHARASHTRA GROUNDWATER (REGULATION FOR DRINKING WATER PURPOSES) ACT 1993

## A. The Act

The Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act 1993 is modelled on the Model Bill of 1970 referred above. We ignore the technical and definitional aspects of the Act and

7 1996 (84) AIR (SC) 2715.
8 1996 (83) AIR (SC) 1446

9 http://www.cgwber.nic.in/cgwa_profile.htm.

summarise the main provisions of the Act in this section.

Section (3) requires provision of a minimum of 500 metres distance between a public drinking water source and any new well. This distance is derived from technical calculations pertaining to rainfall, porosity of the soil and the need for providing drinking water for an assumed level of the population dependent on the public drinking water source. This requirement is relaxed for the construction of new wells at the behest of State or PRI authorities for provision of drinking water.

Section (4) specifies that GSDA (being the Technical agency) shall advise the district Collector about possible scarcity of drinking water in identified locales depending on rainfall up to 30 September and the readings of groundwater levels in wells in that locale. The Collector can then notify such locales as scarcity affected for the following year. The subsequent sections come into force in locales so notified.

Section (5) provides for regulation of groundwater extraction for non-drinking purpose in locales declared scarcity affected as above. These regulations can be imposed on even existing wells being used for irrigation, whether they fall in such a distance from the public drinking source or otherwise.

Section (6) authorises the GSDA to advise the Collector to declare identified watersheds as overexploited water sheds and section (7) authorises the Collector to impose a complete ban on any further construction of new wells/bore wells in such over exploited watersheds.

Section (8) empowers the Collector to prohibit a farmer from extracting water from his pre-existing well during certain time periods for purposes other than drinking water needs.

Section (9-11) empower the Collector to take necessary action, such as gathering technical information, for ascertaining whether a well is interfering with a drinking water source etc. and for closing down an existing well if so found etc.

Section (11) in particular gives wide latitude in terms of the nature of action; it may be to close down a well, remove pumps, disconnect power supply or otherwise take such measures that stop contravention of the provisions of the Act.

Section (12) provides for compensation in the case of a Collector ordering a pre-existing well to permanently close, if it is found to have negatively affected the drinking water source.

Remaining sections provide for procedural details such as appeals, protection of officers acting in good faith, penalties and punishments under the Act etc. Maximum punishment for contravention is six months' simple imprisonment. Finally section (18) gives the Act an overriding effect over other laws in force.

## B. Subsequent Developments: Maharashtra Water Resources Regulatory Authority Act 2005

The Government of Maharashtra (GoM) has introduced amendments to this Act in 2000 in the State Legislature. These Amendments were meant to make the Act more comprehensive and to make it compatible with the intent of the Model Bill and the Supreme Court directive. The amendments included the important provision that groundwater belongs to the State and the State reserves the prerogative to decide the priority of appropriation and apportionment of the groundwater to meet public good as it deems fit. The amendments also contained provisions regarding inter alia conjunctive use of water, prevention of water logging, water pollution and water quality. The amendments also provide for creating a think tank comprising of representatives of NGOs etc. and this think tank was meant to assist and advise the State in its water policy. These amendments were referred to a Select Committee. Later in 2005, these moves culminated in the GoM passing an Act regarding water resources with wider ramifications and stronger teeth. Termed the 'Maharashtra Water Resources Regulatory Authority Act, 2005' (MWRRA), the provisions of the Act would substantially strengthen the control of the State over all water resources. Section 11 of this Act defines roles, responsibilities and powers of the Authority which is to be set up under the Act. It empowers the Authority *inter-alia* to make a State water use plan, assign priority for use of

water, determine water allocations to various users, prevent people not allotted any water from using it, regulate owners of lift irrigation equipments (after five years from the date of coming in force), require all drilling contractors to register, require prior permission before drilling new tube wells and even charge differential price for water to farmers who have more than 2 children! These powers are very wide reaching. Finally, in the same year the Government also enacted an Act titled 'Maharashtra Farmers Management of Irrigation Systems Act' for giving legal status to Water Users Associations. Dug wells used for drinking water purposes have been excluded from the ambit of the MWRRA. The precedence of the Groundwater Regulation (Drinking Water) Act is accepted explicitly in section (12) (8) of the MWRRA Act which stipulates that 'the Authority shall abide by the relevant provisions of the Maharashtra Groundwater Regulation (Drinking Water Purposes) Act, 1993'.

## C. The Rules under Maharashtra Groundwater (Regulation for Drinking water purposes) Act 1993

The Rules under the Groundwater Act vest the authority for technical advice and verification in the GSDA which acts as the Technical Agency. It's geologists, posted in districts, act as the Technical Officers for the purpose of collecting information. They advise about declaring specific locales as scarcity affected, determining watersheds as dark or grey and in providing assessment as to whether a violation of the provisions of the Act has occurred, how serious it is and what action is necessary. The Rules provide for an annual cycle of making assessment of scarcity affected areas based on rainfall till September 30 each year. These have to be notified by the end of January. The provisions of many sections (such as ordering stopping use of a well for non-drinking purpose) can be invoked only after the notifications are issued.

## D. Administrative arrangements regarding drinking water

In Maharashtra the subject of drinking water has been assigned to the Zila Parishads (ZP). Each ZP has a water scarcity department. This department is vested with the responsibility of ensuring that the public is not subjected to any acute distress that can lead to either severe health effects or to serious breakdown of law and order. This department receives complaints from villagers about paucity of water and initiates action. The GSDA deputes a geologist to this department. He has to verify the complaint and find out the status of the public drinking water source (PWS). He verifies whether any violation of the provisions of the Act has occurred, who is the responsible farmer, to what extent is the problem caused by him and what is the severity of the problem. Other than mere initiation of action for this purpose, the water scarcity department is required to take proactive action (such as constructing new PWS) and making alternate arrangements (such as bringing water from nearby tanks/dams by means of pipelines or starting water supply through tankers). While the geologist or the department may notice a contravention of the provisions, the Rules framed under the Act require that the Gram Panchayat (GP) must take cognizance of the violation and make a written complaint to the Block Development Officer (BDO). The intent is that in the first instance, the GP must try to amicably resolve the conflict and solve the problem at the local level itself. The practical effect is that even when the Scarcity Department or the geologist makes an assessment that violation of the Act on the part of some farmers is the primary cause for disruption of water discharge from a PWS (this could be a hand pump, a well or a tube well), nothing can be done unless the Panchayat makes a complaint. So we have this bizarre situation of the ZP functionary trying to persuade the GP people to make a complaint about a serious problem under its nose! Clearly, since emergency about drinking water scarcity and its serious consequences on law and order have to be avoided, when the GP does not make a complaint and when action can not be taken under the Act, the department in any case has to move to make alternate arrangements.

# 5 EXPERIENCE OF IMPLEMENTATION

Experience of implementation of the Act was studied through a survey in Vidarbha. The problem of increasingly severe drinking water scarcity is restricted only to the northern fringe of Vidarbha (the region called orange belt due to extensive presence of mandarin orange orchards there). We conducted a survey of one hundred and thirty persons in fifteen villages of three of the worst affected talukas (Narkhed, Warud and Kalmeshwar). All three are dominated by orange orchards, most of which are now withering in the absence of water. We asked questions such as whether the people had experienced problems regarding access to groundwater; whether they knew that this legislation existed and was meant to protect their drinking water interests; whether they knew what was involved in seeking and obtaining redress to their grievances to the drinking water problems; whether they were aware of the procedures involved; whether they had in fact taken any recourse to the provisions of the Act, and if they had what was the response etc.

The responses obtained from the people are summed up in Table 1.

We can see from this Table that:

- Most of the people surveyed felt that they had an acute problem of accessing drinking water.
- There was a general yet very vague awareness of what the Act was all about. Specific provisions were by and large not clearly known and understood. In fact there was a somewhat exaggerated and erroneous impression about the power of the Collector to ban construction of new wells and to take over existing wells for the purpose of protecting drinking water sources.
- People stated that when the existing public wells failed in terms of adequate discharge, their preference was to ask for a new 'scheme' such as a deeper and new bore well, a tapped water scheme, a water supply scheme from some nearby dam etc. In other words, they were tempted to use the opportunity presented by failure of an existing scheme to press for an 'upgrade'. Awareness about procedures under the Act was in general, low. Few people seemed to be aware that the Collector can take cognizance of an offence under the Act only if the Gram Panchayat as a whole made a written representation and it was verified by the Technical Officer, namely the GSDA. Their preference was to voice their complaint to some 'higher' elected representative or go to higher officials directly without insisting that the GP take up the matter. The recourse to the press and media was also common.
- UNICEF had prepared posters to create awareness about the Act and the rights of the people. It highlights sections (3) and (9) of the Act. These were printed and meant for wide display in villages. It is amazing to note that in quite a few cases, these posters did not reach the villages at all, and where they reached, they were not displayed.

While there were numerous complaints formally recorded with the district and technical officers, the villagers surveyed declined to state that they had recorded any formal complaint. Our discussion with villagers also reveals an interesting pattern of thinking and behaviour. The pattern is summarised below.

There is a wide social legitimacy to the right of famers to grow oranges if they can. There is also a strong legitimacy to the tendency of orange growers to protect their standing plantation by extracting water from the bore wells located in their own farms. People did feel that they were aggrieved in terms of stress on access to drinking water because of discharge for irrigating orange. Yet they felt that it was not very nice to stop irrigation of orange growers for this purpose. Rather, they tried to dissolve the issue by seeking a solution to drinking water that did not hurt the interests of the orange growers. The opinion of the Sarpanch and other PRI leaders was even stronger. Taking recourse to the

provisions of the Act was considered to be a 'negative' or a 'revengeful' act. The arguments of most of them can be summed up in the following lines:

> See, my tenure as the head of the GP is much shorter than my life span. I have to spend my life here with these very people. I do not want to take steps that will radically antagonise the people. After all, even I would like to see that my orchard is healthy. There is nothing immoral or unjust in wanting to irrigate oranges. For me to write a complaint will mean that this cannot happen at least for those whose orchards are close to a public well. It is a very painful decision and I would like to steer clear of it.[10]

Even when they write a complaint, it is seldom acted upon unless someone rigorously follows it up. And to be seen as an assiduous chaser of such a complaint is definitely asking to be identified as a revengeful man! One individual in village Budhla went to the extent of saying:

> See, the orange orchard is my only way of earning a decent income. This is possible only if I can irrigate it. I am quite prepared to spend money and ask my womenfolk to trudge long distances or stand in queues for getting our daily drinking water, but there is nothing I can do to protect my orchard if the Government disallows me from irrigating the trees. This is unacceptable.[11]

Thus there is a strong undercurrent of 'gender insensitivity'. This too is widely legitimised.

Does it mean that there is no official effort to implement the Act? We turn to such cases that did come up for action to the District authorities and how they were resolved.

10 Paraphrased from interviews with Sarpanchas of Pipla, Bhisnur and Naigaon taken during the fieldwork.

11 Interview with Bhikaji Tirmare in Budhla.

# 6 OFFICIAL RESPONSES TO CASES REPORTED UNDER THE ACT

During our survey, we came across at least three cases that were reported. These were in Sukli (Warud), Bhishnur (Narkhed) and Mendki (Katol).

**Cases Noticed and their management in Vidarbha**

In Sukli, a farmer constructed a bore well within the prohibited 500 metre distance from a public drinking source because his existing bore well failed. The people complained of the shortage of drinking water and the matter did reach the empowered authority. During his visit to the village, the BDO realised that the problem was caused by the new bore well. He ordered the farmer to stop using the new bore well. The farmer seemingly agreed but overnight adjusted his pipeline so that he was able to make a case that the water was being delivered from his pre-existing bore well. Upon noticing this, the BDO threatened him that his power connection would be ordered to be cut. The farmer was told that he could continue to irrigate the orchard if he also supplied drinking water to the village during stipulated hours every day. The farmer agreed to this restriction and the matter was resolved without going to court or formally registering an offence under the Act.In Bhishnur, there is a public drinking water source located in the command of a small check dam on a local nallah. Within the same command, a farmer made a new bore well. Because of this well, a hand pump in the opposite side of the same nallah failed. GSDA officials pointed out this to the farmer. His argument was that he has legal right to the command as his title is impeccable. He filed an injunction against any possible action from the State. The case is sub-judice. In Mendki, three farmers made bore wells within the prohibited distance from a public drinking water source. This was brought to the notice of the GP. The GP has not yet formally made a complaint. Since the authorities do not have any power unless the GP makes a written complaint, nothing is being done! The case remains unregistered.

Source: Fieldwork done by us in 2002-3

Data from Government sources indicate a number of instances where apparent violation of the Act has taken place. The details of the causes and nature of violation are as given in Table 2. In most of the above cases, while the cause affecting PWS is identified and it is clearly in violation of the Act, no action is possible unless the concerned GP lodges a formal written complaint.

Elsewhere in Maharashtra as well, numerous cases of apparent or clear violations of the Act have been noticed. We abstract a few interesting lessons drawn by other writers. Ramteke and Deshpane of GSA from Beed[12] report that in a small village of 1500 people named Pipalgaon Manjra, the State had constructed a tapped PWS on a tube well with a pump capable of delivering 7700 LPH. A farmer constructed a bore well some fifteen metres away from it and fitted a pump of 7.5 HP. The operation of this pump reduced the discharge of the TPWS by 50 percent and also affected hand pumps nearby. The GP made a formal complaint and the Collector requested the GSDA to investigate the matter. When investigation revealed the violation of the Act, the Collector ordered closure of the well under section 5 of the Act. The order was rigorously implemented and that solved the dispute. GSDA officials from Latur reported at the UNICEF workshop that irrigation of the newly introduced sugar cane crop has led to a spurt in the number of tube wells. They estimate the number to be around 25000. They have assessed that the situation regarding drinking water in the district has been severely affected by the continuous withdrawal of water from these wells for sustaining the sugar can crop. However, no action has even been mooted against any one. Bagde[13] has attributed successful implementation of the Act to due notification of sources as per the rules framed under the Act, awareness of the Sarpanch about the provisions of the Act and his vigilance and follow up in getting the provisions implemented in case of violation; prompt action and diligent use of powers vested by the Act in them by competent authorities in stopping construction of new wells in violations of the Act and due procedures being followed for notification of scarcity. GSDA has advised appropriately regarding restriction on pumping. He attributes laxity or failure in implementation of the Act to lack of awareness on the part of the people; unwillingness of the Panchayat representatives in making a formal complaint or in following it up; clear and emphatic preference of the farmers in applying water to growing irrigated crops; pressure group activity of the farmers irrigating the crops being stronger than the voice of those whose subsistence needs are affected; and lacunae in the Act. He states that The Electricity Act over-rides the Groundwater Act and when the power connection is cut using powers under the Groundwater Act, courts have ordered reinstatement of the connection without delay under section 5. He also complains of procedural complexities that make it difficult to implement the Act in time and the tendency of the officials and elected representatives to press for starting supply of water in tanker to avoid distress induced by scarcity of water.

## 7 LACUNAE AND CONSTRAINTS IN MAKING THE ACT AN EFFECTIVE INSTRUMENT

The first and the most important aspect that weakens the force of the Act is that its provisions are enforceable either in watersheds declared as overexploited (this declaration is of a permanent nature) or if a specific locale (generally defined as a micro-watershed) is notified as scarcity affected in a particular year. This declaration follows a certain cycle of actions: assessing groundwater situation after noting the rainfall till 30 September and then preparing a list of the areas (villages) likely to be scarcity affected. The notification has to be made by January. Often this itself is delayed or manipulated by

12 A. Ramteke A. and R.R. Deshpande, Effective Implementation of the Maharashtra Groundwater Act: A Case Study (Paper presented at the UNICEF Workshop, Pune, Feb. 2001).

13 S.P. Bagde, Effectiveness of Implementation of the Maharashtra Groundwater Act 1993: A Comparative Analysis of Cases of Success and Failure (Paper presented at UNICEF Workshop, Pune, Feb. 2001).

pressure groups. Whether any provision can be invoked in an area not notified as scarcity affected is a matter of conjecture. Secondly, this Act does not make itself relevant for any overexploitation of groundwater being done by wells located beyond the specified distance of five hundred metres from a PWS. And certainly it has no role in regard to 'competitive deepening of wells' that keeps occurring between neighbouring farmers. Thirdly, the Act has not provided for registration of wells or for mandatory applications for sinking any new wells. Nor does it provide for compulsory licensing of drilling companies or agencies. Thus, the Act does not try to control the problem from arising, but only takes steps if a problem has been created. Thus, even after the Act, the only policy regarding further exploitation of existing threatened watersheds is really the proscription on grant of banking credit for the purpose of wells or pumps. Fourthly, since the enforcement in non-dark watersheds follows an annual cycle, it precludes any long-term measures. If in one village, one particular violation is noted this year and action such as preventing its use for irrigation is taken this year, there is no guarantee it will not happen next year. Whether this locale will be notified again next year, whether the violation will be noted next year and acted upon really are matters of chance. As one can see from the provision of MWRRA summed up in section 11, these weaknesses are sought to be corrected. How effective that Act would be is only a matter of conjecture at this stage.

We believe that the fundamental problem in making the legislation effective is its weak social legitimacy. It must be noted that nowhere in India does the obvious need for stopping rapacious exploitation of groundwater enjoy popular recognition and support. Whether we agree with their interpretation or not, we need to at least understand the situation as the people see. As we have noted above, people are used to the earlier regime of unfettered right to groundwater and find nothing ethically incorrect if a farmer takes all necessary steps to protect his standing orchard. Perhaps in so opining they put themselves in the shoes of the affected party and find that they would have reacted the same way. Whatever its legal merit, people certainly feel that this is a sacred right and they must guard it. We have had occasion to study the agricultural economy of the region.[14] In all fairness it must be stated that orange offers to the people of Vidarbha about the only route that is well understood by the people to a state of reasonable prosperity. We have also concluded[15] that the GoM has been particularly insensitive and deliberately negligent towards the development of water resources in Vidarbha. Thus what we have here is a State that is unwilling to take any proactive steps in helping them to take higher income yielding crops (their only hope for a decent life), and on top of it the State now comes down heavily if they use what they have always regarded as theirs! Thus people are unable to appreciate the logic or justification for preventing legitimate owners of wells from using them to irrigate their farms. This perception that 'every man is entitled to use his well the way he wishes' is very strong and legitimised. The absence of public support for the implementation can thus be understood.

This absence of social legitimacy leads to an ambivalent attitude of the affected people themselves. The people are acutely aware that the drinking water issue is becoming more and more serious as years pass by. In a majority of the cases they do not have adequate technical understanding to link the increasing scarcity to continuous withdrawal of water. More importantly, there is sympathy for the view that people must use groundwater for bettering their lot in life. While violation of these provisions by an individual who uses groundwater for irrigating his crops can be stopped by due process, it involves the whole Gram Panchayat formally singling out one man. Others may continue to use water for irrigating their crops and escape such action simply because their wells are outside the 500 metre range. This amounts to being revengeful

14 *See* S.J Phansalkar, 'Understanding Underdevelopment', *in* Issues in Water Use in Agriculture (Nagpur: Amol Management Consultants, 2002), S.J. Phansalkar and M. Khorasi, Cotton Cultivation and Groundwater Development (Paper presented at UNICEF Workshop, Pune, Feb. 2001) and S.P. Bagde, *Effectiveness of Implementation of the Maharashtra Groundwater Act 1993: A Comparative Analysis of Cases of Success and Failure* (Paper presented at UNICEF Workshop, Pune, Feb. 2001).

15 *See* S.J. Phansalkar, 'Political Economy of Irrigation Development in Vidarbha', *in* Issues in Water Use in Agriculture in Vidarbha (Nagpur: Amol Management Consultants, 2002).

against the offender. In a close-knit village community, sole objective facts do not determine perceptions. Such fear of being branded vengeful reduces the motivation of GP to act. Finally, people have realised that the State will always take some necessary action to obviate emergencies on drinking water supply. This may involve water supply through tankers for ensuring that people do not die of thirst. Thus they see real possibility of addressing their problem of drinking water without taking the unpleasant step of complaining against violation of the Act by some farmer.

The violations are not free from their political angle. Invariably violators are locally powerful, resourceful and often politically well connected. When people are ambivalent about the ethics of preventing even a small fry from using his water, their reluctance to act against a powerful violator can be appreciated. Whether it is a tanker based water supply, a tapped water scheme based on a deeper bore well, or a piped supply from any neighbouring dam, much money has to flow out of government coffers. This means there are patronage and rent seeking opportunities for the politicians and the local bureaucracy. These opportunities are available to the very officers and elected representatives who are entrusted with the task of conservation of groundwater for drinking water by implementing the Act. These opportunities naturally dampen the enthusiasm for conservation of aquifers!

## 8 CONCLUSIONS AND IMPLICATIONS

This paper has traced the emerging situation of groundwater availability along with the evolution of water regulations in Maharashtra. The paper has presented evidence about the way an important piece of legislation pertaining to conserving and properly using groundwater for drinking water has been implemented and received in public. We have shown evidence about the absence of any social legitimacy and acceptance to the principle of spacing of wells, even to protect drinking water sources. Right to groundwater has been customarily regarded as an unassailable right of the farmer in whose land the well is located. This pre-existing provision has led to a strong social consensus in favour of irrigators even if that compounds the difficulty in fetching groundwater for people. Thus this case illustrates how social ethos evolving around one set of of property regime becomes a stumbling block to regulations in social interests but which affect that regime.

Absence of this legitimacy makes the Gram Panchayat, where the formal action against offenders is initiated, reluctant to take necessary action against the offenders. Instead people rely on compromise solutions and keep pressurising higher officials for an 'upgrade' of the system. While the State's power over all water resources has been vastly increased in the MWRRA, it remains moot if this fundamental problem of social legitimacy and absence of support for enforcement of the regulation will not go away. Even within the existing situation, some steps are possible to make the implementation possible.

In the first place, there is a need to strongly encourage a groundwater recharge movement that has begun barely a year or two back. After all, arresting run off under the *pani adwa-pani jirwa* did make a huge difference to the severity of the crisis. One can visualise the salutary impact of the rainwater harvesting movement if it is taken to scale by popular movement, civil society and responsible PRI. Secondly, we believe that urgent steps at promoting low cost drip systems in orange belt are necessary. These systems will reduce the overall water needs and hence slow down the disastrous impact of continuous withdrawal. An option like this and apparently proactive steps in the promotion of these technologies will go a long way in perhaps favourably impacting the attitudes of the people. Thirdly, we believe that it may be important to check the tendency to obtain an upgrade of the PWS or water through tanker supply when the village community is unwilling to take any steps to retard further deterioration of its aquifers. We suggest that the Rules and procedures be modified partially for this. The modification should require that before any such thing (i.e. new PWS, an upgrade or tanker supply) is considered by the ZP, the local GP must give a certificate in writing that, to the best of their knowledge, there is no violation of the provisions of the Act (at least the 500 metre norm) and that this certificate must be countersigned by the Technical Officer.

**Table 1**

Data from survey regarding Awareness about Provisions of the Groundwater Act

| SN | Item | Pipla | Pilkapar | Budhla | MPathar | TWada | Bhishnur | Rohna | BSinghi | Naigaon |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Taluka | K'war | K'war | K'war | K'war | Narkhed | Narkhed | Narkhed | Narkhed | Narkhed |
| 2 | Pop. | 1525 | 543 | 617 | 1141 | 700 | 3029 | 900 | 1084 | 700 |
| 3 | Sample size | 7 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| 4 | #wells | 200 | 60 | 250 | 70 | 125 | 250 | 400 | 70 | 55 |
| 5 | #borewells | 10 | 11 | 40 | 12 | 7 | 4 | 8 | 2 | 8 |
| 6 | Whether PWS exists | yes | yes | yes | yes | yes | yes | yes | yes | Yes |
| 7 | Whether tanker fed | | | | | | | | | |
| 8 | Major crop | C, O W and G | C, O W and G | C, O W and G | C, O W and G | C, O W and G | C, O W and G | C, O W and G | C, O W and G | C, O W and G |
| 9 | New wells (3 yrs) | 0 | 2 | 0 | 0 | 10 | 10 | 25 | 3 | 0 |
| 10 | Deepened wells (3 yrs) | 0 | 2 | 10 | 0 | 25 | 35 | 0 | 0 | 6 |
| 11 | Av. Depth of bore | 500 | 300 | 450 | 500 | 600 | 600 | 600 | 650 | 600 |
| 12 | Wells acquired if any | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 |
| 13 | Awareness of Act | yes | yes | no | no | yes | yes | no | yes | Yes |
| 14 | Source of information | VLW | VEO | na | na | VLW | VLW | na | Million well | Tehsildar |
| 15 | Knowledge main provisions | no | no | no | no | no | no | no | yes | Yes |

| SN | Item | Pipla | Pilkapar | Budhla | MPathar | TWada | Bhishnur | Rohna | BSinghi | Naigaon |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | Relevance to their village | no | yes | no | no | no | yes | yes | yes | Yes |
| 17 | Knoledge about procedures | no | no | no | no | no | no | yes | no | Yes |
| 18 | Is any violation known to them in the village | no | no | no | no | no | no | yes | no | Yes |
| 19 | How was it resolved | na | na | na | na | na | na | Local | na | Local |
| 20 | Was it taken up with Tehsildar | na | na | na | na | na | na | level no | na | level No |
| 21 | Any action | na | na | na | na | na | na | na | na | Na |
| 22 | Awareness programmes about the Act, if any | no | no | no | no | no | no | no | no | no |

**Table 1** contd. Amrawati District (Warud Taluka)

| Item | Fatehpu | Tebhurkheda | Gawankund | Tiwasaghat | Pipalshenda | Surali |
|---|---|---|---|---|---|---|
| Sample size | 8 | 8 | 10 | 8 | 8 | 7 |
| #wells | 20 | 212 | 200 | 500 | 300 | 10 |
| #borewells | 4 | 103 | 15 | 100 | 50 | 8 |
| Whether PWS exists | yes | yes | yes | Yes | yes | Yes |
| Whether tanker fed | no | no | no | No | no | No |
| Major crop | C,O,W,G | C,O,W,G | C,O,W,G | C,O,W,G | C,O,W,G | C,O,W,G |
| New wells (3 yrs) | no | no | no | No | no | no |
| Deepened wells (3 yrs) | no | no | no | 300 | 100 | no |
| Wells acquired if any | no | 4 | 2 | 1 | no | 1 |
| Awareness of Act | yes | yes | yes | Yes | yes | Yes |
| Source of information | VLW | VLW | VLW | VLW | VLW | VLW |
| Knowledge main provisions | yes | yes | yes | Yes | yes | yes |
| Relevance to their village | Yes | yes | yes | Yes | yes | yes |
| Knoledge about procedures | Yes | yes | yes yes | Yes | yes | yes |
| Is any violation known to them in the village | Yes | yes | yes | Yes | yes | yes |
| How was it resolved | Local level | Local level | Local level | Local level | Local level | Local level |
| Was it taken up with Tehsildar | No | no | no | No | no | no |
| Any action | No | no | no | No | no | no |
| Awareness programmes about the Act, if any | No | no | no | No | no | no |

Source: Our survey and field work in 2002-3
Notes: Crops: C- cotton, O orange, W wheat and G gram
Wells may be acquired by ZP for supplying water to the village temporarily during the scarcity period.
Awareness programme were claimed to have been undertaken using posters, speeches and CDs and Gramsabhas. None of these above villages reported any.
Local level resolution means the offending farmer agrees to supply water to the population upon request of the GP, local leader or at best the BDO but no formal complaint is made.

**Table 2**
Nature of violations of the Act

| Taluka | Village | public drinking water source (PWS) | Nature of violation |
|---|---|---|---|
| Narkhed | Manikwada | Tube well | A farmer has a tubewell in 500 mts and that has caused failure of the PWS |
| | Peth-Ismailpur | Tube well | A farmer has a tube well within just 50 mt of the PWS affecting it. |
| | Mohdi | Tube well | A tube well in prohibited distance. |
| | Jamgaon | Tube well | A farmer made a horizontal bore in his well damaging the PWS completely. |
| | Masura | Tube well | Two farmers have tube wells in the distance and have destroyed the PWS |
| | Saiwada | Well | Farmers lift water making a jackwell in the river bed affecting the recharge of the well. |
| Kalmeshwar | Mohgaon | Well | A well at 130 mts affects this PWS |
| | Mandwi | Tube well | A private tube well at 60 mt from it affects the PWS |
| | Nandikheda | 2 sources | Both are affected by a tube well located some 120 mt away |
| Saoner | Mangsa | Well | Another well sunk at 20 mt away has affected the source. |
| | Narsala | Well | Private well only at 15 mts |
| | Jalalkheda | Well | Private well at 25 mts affects it |
| | Hattisara | Well | Private well at 25 mts affects PWS |
| Katol | Dhurkheda | Well | Another well at 60 mts affects it |
| | Kukdi Panjra | Tube well | Tube well located 50 mts away affects it |
| | Khandala Khurd | Well | A tube well at 130 mts affects the PWS |
| Kamthi | Bhowari | Well | Two wells within 150 mts affect it |
| | T Budruk | Tube well | Two tube wells in prohibited distance. |
| | Parsodi | Handpump | A tube well at 200 mts affects it |
| Nagpur | Mahurzari | Well | Another well 15 mts away affects it |
| Umred | Thana Navegaon | Tube well | Another private tube well at 80 mts |

Source: Water Scarcity Dept., Nagpur

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