

A Decade of The Maharashtra Ground Water Legislation: Analysis of The Implementation Process In Vidarbha

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I. Introduction:

As is commonly known, use of ground water has been continuously increasing. Ground water is being pumped out of aquifers for meeting the needs of industry, domestic consumers as well as irrigation needs of farmers. The largest drain on ground water perhaps has been on account of ground water based irrigation. Far from matching it, the rate of recharge is perhaps on the decline due to denudation of vast stretches of landmasses and hence huge increase in run off of precipitation. The wide scale availability of electricity has meant a corresponding rapid growth in volumes of water being pumped out for domestic and even more importantly for agricultural use. The latter has been greatly encouraged by hidden and explicit subsidies for electricity consumption for the agriculturists. A further boost to ground water use for agriculture has come from increasing commercialization of agriculture that is spreading in hitherto backward areas due to the "flying geese" effect. A direct result of drop in recharge and massive increase in exploitation has been in terms of alarming depletion in water levels in aquifers. In a number of regions in the country, open dug wells exist mainly in history as bore wells of competitively larger depth exploit deep aquifers. As a result the subsistence need of human and animal population has been threatened.

The problem of drinking water that hitherto appeared in the public domain only in the exceptional bunch of consecutive years of severe droughts, has come to routinely occupy centre stage in many ground water fed regions of the country. Vidarbha illustrates this case. Come January and newspaper reports start become increasingly shrill about the severity of water scarcity in many towns and villages and decry the public apathy.

Drinking water and ground water are both State subjects as per the Constitution of India (Art 248) Schedule II. Drinking water has been assigned the highest priority in the Central Water Policy. To give its policy intent a concrete shape, a Model Bill for regulation of ground water development was circulated to all states by the Centre in 1972. The Centre requested the States to study the Model bill, to modify it to suit local conditions and to enact it as a Law within their respective territories. Maharashtra is among the few states who have followed up on this, enacted the legislation titled Maharashtra Ground water (Regulation for Drinking Water Purposes) Act, 1993 and put it on the book of statute in 1995. It is perhaps the only state that has a history of reasonably serious implementation of the Act.

This paper is aimed at understanding the logic of enactment of this legislation, the provisions thereof, the procedures announced for the implementation of the Act, the public awareness about the Act and the current status of implementation in different parts of Maharashtra, especially Vidarbha. It is based on the following work:

- Perusal of State records including Assembly Debates pertaining to the Act;

- Discussion with the officials of the Ground water Survey and Development Agency in Maharashtra and perusal of their records;
- A survey of lay public in five villages each in three tehsils in the most affected regions within Vidarbha (This covered Narkhed, Warud and Kalmeswar tehsils).
- Discussions with Sarpanchas and other PRI leaders as at Village, Block and District levels.
- Discussion with enforcement officers and the water scarcity department of the ZPs.

This paper is by design essentially narrative of the reality. It presents the data gathered from these sources and subsequently attempts to synthesize an explanation of the pattern of behaviour of different categories of individuals and agencies.

II. Background

2.1 India accounts for 2.5% of arable land, 4% of precipitation but 16% of population of the world. The pressure on land and water resources vis a vis other countries is obvious. Two facets of the complex reality about rural drinking water scenario are worth noting. The first is the fact that according to GoI drinking water need of close to 98% of the rural population has been provided for⁵⁸ though only 5% of the ground water drawl is used for this purpose. Yet simultaneously, the overall increasing drawl has seen emergence of water quality concerns. Bacterial infestations are inevitable in Indian country-side but in addition there are issues about fluoride in West and Central India and arsenic in the East. There also is the alarming question of sustainability of drinking water sources every where. Almost eighty five percent of rural drinking water supply is based in India on ground water sources. Hand pumps India Mark II and India Mark IV became powerful innovations for fulfilling basic drinking water needs in the country precisely because of this. While the country is fortunate in having an overall high precipitation of about 1100 mm annually, most of it occurs in the water surplus Eastern tracts and flows away in the form of devastating floods. Even in the thirsty Western and Southern regions of the country, run off of precipitation is a major cause for creating drinking water scarcity in the dry seasons. Since the water tables are falling and since most of the rural people get their drinking water from ground water sources, they are the worst sufferers of the water scarcity. Finally, this issue has its gender dimensions as conventionally fetching drinking water is a women's chore.

⁵⁸ RC Panda, "Integrated Approach for sustainability of Drinking Water Supply" Paper presented UNICEF-GSDA Seminar on Integrated Approaches for sustaining Drinking Water Supply, Pune, Sep. 2001

DK Chaddha and SK Sharma, "Central Ground water Authority: A vehicle to implement Ground Water legislation

2.2 Status of ground water balance in the country

Of the total 432 billion cubic metres (BCM) rechargeable ground water stock of the country, only 71 BCM (about 16%) is used for meeting industrial, domestic and drinking water needs. Of the remaining, 325 BCM is used for irrigation. The balance is accounted for by wastage and losses in the system. The rocky and hard rock areas of the country accounts for two thirds of the country's land mass but has access to a one third of the ground water stock. A recent World Bank survey notes that as a combined result of rise in population, industrialisation, increase in water discharge for irrigation etc., the per capita availability of water in the country has fallen from 5000 cu mt to 2000 cu mt over the last fifty years. The assessment of future need of water is as given in the Table 1.

Table 1
Projected Need of Water for Various Purposes in India

(in Billion Cubic Metres)

SN	Use	2000	2010	2025
1	Domestic	42	52	56
2	Irrigation	541	688	910
3	Industrial	8	12	23
4	Energy	2	5	15
5	Others	41	52	72
6	Total	634	819	1076

Source: Panda op cit

Of the 5683 blocks in the country, the 1997 publication Ground Water Resources of India⁵⁹, 249 were declared as over exploited, 179 as Dark (between extraction at 85 to 100% of recharge) and 595 as Grey (between 65% and 85%). The corresponding picture for Vidarbha reveals that there are six dark and about a dozen grey micro-watersheds in 557 micro-watersheds in the region.

Keeping in view the paramount importance of conserving and prudently using the precious ground water resources for meeting essential subsistence needs of the populace, the Centre framed the Model Bill in 1970. Subsequently, it was revised in 1972, 1992 and further in 1996. A Public Interest Litigation was filed in reference to the Model Bill in 1986 in the Hon. Supreme Court of India. The Court was requested to direct the GoI to take the necessary action for regulation and control of ground water development. Subsequently the Court directed the GoI to create a Central Ground Water Authority under Section 3(3) of the EPA. The Authority was to have necessary powers to regulate and control ground water management and development. The Court further directed that this Authority should have power to regulate "indiscriminate boring and with-drawl of ground water in the country and to issue necessary directions with a view to preserve and protect ground water." The Ministry of Environment and Forest complied with the order by creating the Central Ground Water Authority in 1997.

III. History of the Ground water legislation in Maharashtra:

The ground water situation in Maharashtra as elsewhere is defined by the specific constellation of topography, climate, soils and rock formation. A third of the State is

⁵⁹ NABARD, Ground Water Resources of India, NABARD, Mumbai 1997

semi-arid and hence prone to ground water 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 400 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 characterized 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. The exception to this rule occurs in alluvial patches in the Eastern parts of the State (namely in Bhandara Vidarbha) as well as portions of the Northern parts of the State in the basins of Wainganga, Wardha and Tapti. 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 did come up several times during the British times too in Western Maharashtra and that is in fact the genesis of the whole preparatory work upon which rapid progress in creating irrigation infrastructure in the Western Maharashtra.⁶⁰

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 ground water exploitation for agriculture increased rapidly. It is estimated that about 1.25 m wells irrigate a command of some 1.75 m Ha in these regions. Circa 1972, under the leadership of SDC and AFPRO, modern drilling technology was brought 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. As functionaries CGWB puts it, "The advent of high speed drilling rigs specially the down-the-hole hammer rigs, with their capacity to construct bore wells in shorted possible time and at low cost and a mushrooming of drilling contractors to complete the job instantaneously has resulted in excessive (exploitation) of ground water with deleterious effect on the sources."⁶¹ This has had tragic consequence on availability of ground water for meeting the subsistence needs of bulk of the rural population. The consequences are the most pronounced in the districts where these commercial crops dominate e.g. Kolhapur, Nasik, Pune, Ahmednagar, Jalgaon etc.. The travesty is that such access to ground water is heavily tilted in favour of those who can afford to invest relatively large amounts in ground water development or can avail of credit from banking or cooperative institutions to do so.

⁶⁰ Report of the Irrigation and Water Commission, GoM, Chapter 1, Mumbai 2000. Also, see Bhongle Sudheer, *Rajkaran Panyache* (original Marathi), Rajhans, Pune.

⁶¹ Chaddha and Sharma op cit.

These trends and their consequences were visible from the very seventies and the GoM felt the need to manage ground water more prudently. 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 ground water, the State formed Ground Water Survey and Development Agency (GSDA) in 1971. This agency has done assessment of ground water availability a number of times so far. Such periodic assessment has tended to reinforce the common observation regarding over-exploitation of ground water. These assessment reports have formed an important background for careful assessment of the need for the legislation. 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 ground water exploitation. The need for legislation was felt even more strongly in the early nineties as the State found that the NABARD guidelines for restricting flow of banking credit for ground water development in problem areas were far from effective. It was realized that this only made the investment more difficult though imposed no legal sanction on accessing ground water what so ever.

Following the disastrous and repeated droughts of the early seventies, the then Chief Minister Vasantadada Patil announced a massive programme titled "*pani adva, pani jirva*" (stop water and recharge aquifers) all over the state. This saw construction of thousands of small check dams and KP type dams on practically every stream in the whole state. This movement led to favourable consequences on ground water situation. However the drought of the early nineties proved that these measures were inadequate to cope with the rapacious over exploitation by commercializing 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 ground water resources and in furtherance of that objective enacted the impugned legislation in August 1993.

IV. Main provisions of the Ground water legislation in Maharashtra

4.1 The Maharashtra Ground water (Regulation for Drinking Water Purposes) Act 1993 is modeled on the Model Bill referred above. We ignore the technical and definitional aspects of the Act and summarise the main provisions of the Act in Maharashtra in this section.

S(3) requires provision of a minimum 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.

S(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 Sep. 30 and the readings of ground water levels in wells in that locale. The Collector then can notify such locales as scarcity affected for the following year. The subsequent sections come into force in locales so notified.

S(5) provides for regulation of ground water 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.

S(6) authorizes the GSDA to advise the Collector to declare identified watersheds as overexploited water sheds and S(7) authorizes the Collector from imposing a complete ban on any further construction of new wells/bore well in such over exploited watersheds.

S(8) empowers the Collector in prohibiting a farmer from extracting water from his (even) pre-existing well during certain time periods for purposes other than drinking water needs.

S(9) through 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 in closing down an existing well if so found etc. S(11) in particular gives wide latitude in terms of 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.

S(12) provides for compensation in case of Collector has to order a pr-existing well permanently closed if it is found to negatively affect 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 S(18) gives the Act an over-riding effect over other laws in force.

The GoM has introduced amendments to this Act in the year 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 include the important provision that ground water belongs to the state and the State reserves the prerogative to decide the priority of appropriation and apportionment of the ground water to meet public good as it deems fit. The amendments also contain provisions regarding inter alia conjunctive use of water, prevention of water lagging, water pollution and water quality. The Amendments also provide for creating a think tank comprising of representatives of NGO etc. and this think tank will assist and advise the state in its water policy. However to date these amendments have not been passed and perhaps are pending with a Select Committee.

4.2 The Rules under the Act vest the authority for technical advice and verification in the GSDA which acts as the Technical Agency. Its 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 Sep. 30. These have to be notified by 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 is issued.

4.3 Administrative arrangements: The subject of drinking water has been assigned to the Zilla 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 break-down in 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, 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, 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 must take cognizance of the violation and make a written complaint to the BDO. The intent is that in the first instance, the GP must try to amicably resolve the conflict and solve the problem at local level itself. The practical effect is that even when the Scarcity Department or the Geologist make 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 and serious consequences 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.

V. Experience of Implementation

Fortunately, the problem of increasingly severe drinking water scarcity is restricted only to the northern fringe of Vidarbha (the orange belt). We conducted a survey of about 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.) in Vidarbha. We asked questions such as

- Whether they (the people) had experienced problems regarding access to ground water
- 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 below. We can see from this Table that most of the people surveyed felt that they had 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 some what 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 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, viz 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 press and media report was also common.

UNICEF had prepared posters to create awareness about the Act and the rights of the people. It highlights the S(3) and S(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

- There is a wide social legitimacy to the right of those who can to enable them opt for thirsty crops like oranges.
- There is as 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 were 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 antagonize 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 can not 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."

Even when they write a complaint, it is seldom acted upon unless some one 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.”

Thus there is a strong undercurrent of “gender insensitivity”. This too is widely legitimized.

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.

VI. Official Response 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 mt 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 realized 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. 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 the 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 said 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.

Data from the Government sources indicates 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 the Table 2.

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 ar 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

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 violation of the Act have been noticed. We abstract a few interesting lessons drawn by other writers.

1. Ramteke and Deshpande of GSA from Beed⁶² 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 bor 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% and also

⁶² Ramteke A. and Deshpande RR "Effective Implementation of the Maharashtra Ground water Act: A case study" paper presented at the UNICEF Workshop.

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 S(5) of the Act. The order was rigorously implemented and that solved the dispute.

2. 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.
3. Bagde⁶³ has attributed successful implementation of the Act where it has happened 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.
 - 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 PRI people 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,
- Lacunae in the Act. The Electricity Act over-rides the Ground water act and when the power connection is cut using powers under the Ground water Act, courts have ordered reinstatement of the connection
- Delay in notification and action under S(5),
- Procedural complexities that make it difficult to implement the Act in time and to avoid acute distress, State resorts to tanker supply.

VII. Lacunae and constraints in making the Act an effective instrument

The first and the most important aspect that weakens the force 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 ground water situation after noting the rainfall till Sep. 30 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

⁶³ SP Bagde, "Effectiveness of mplementation of the Maharashtra Ground water Act 1993: Acomparative Analysis of cases of success and failure.

manipulated by 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 over-exploitation of ground water 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 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.

We feel that the biggest problem in implementation is in the ambivalent attitude of the 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 ground water for bettering their lot in life. 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 about "every man is entitled to use his well the way he wishes" is very strong and legitimized. This reduces the motivation of GP to act. Finally, people have realized that the State will take some necessary action such as 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 people. When people are ambivalent about the ethic of preventing even a small fry from using his water, their reluctance to act against a powerful violator can be appreciated.

Finally, there of course is the "7% angle" to the whole thing. Whether it be a tanker based water supply, a tapped water scheme based on a deeper bore well or a piped supply from any neighbouring dam, much morey 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 naturally dampen the enthusiasm for conservation of aquifers!

VII. Conclusions and Implications

Given its geographical and climatic conditions, water in general and drinking water have remained issues of critical public concern for centuries in Maharashtra. The Government of Maharashtra has been constantly engaged in addressing the drinking water issues for the last thirty years. The prudent steps of launching a statewide movement for arresting and conserving run-off water under the "pani adwa pani jirwa" banner launched by the GoM in mid-seventies postponed the problem from going out of hand. Again, the State has shown foresight in making the first serious attempt at enacting and implementing a legislation for controlling extraction and use of ground water. The discovery of the administrative and procedural lacunae is in fact clear evidence of the seriousness with which the State is trying to implement the Act. In our discussions with the GSDA we found them seriously concerned about improving the efficacy of this instrument.

Clearly, the Act is not targeted at the wider problem of conserving underground aquifers or making them sustainable. Had such being the intent, then the provisions would not have concerned themselves with only protection of the PWS. This perhaps is a major weakness of the Act. Perhaps the State finds it has more legitimate locus standi in protecting PWS than in general conservation of aquifers. We also note that despite the directives of the Hon. Supreme Court providing a clear direction and giving a strong legitimacy, the State has shied away from regulating the pace of drilling of bore wells.

We believe that the fundamental problem in the making the legislation effective is in its weak social legitimacy. So Vidarbha is not particularly to be blamed. It must be noted that nowhere in India does the obvious need for stopping rapacious exploitation of ground water enjoy popular recognition and support. This is typically the fetish of the "armchair" conservationist who are busy drawing pessimistic "future scenarios" and other horror stories of that kind.

We need to at least understand the situation as the people see, whether we agree with their interpretation or not. As we have noted above, people 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. Besides, the right to water under one's farm has been traditionally recognised as being nearly absolute. 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 region⁶⁴. 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 state of reasonable prosperity. We have also concluded⁶⁵ that the GoM has been particularly insensitive and deliberately negligent towards the development of water resources in Vidarbha. Thus what we have is a state that is unwilling to take any proactive steps in helping them to take orange, (their only hope for a decent life). And on top of it the state now comes down heavily if they use what

⁶⁴ See for instance papers "Understanding Underdevelopment" or the paper on cotton "Cultivation and Ground water Development" prepared by us in this research programme and submitted to IWMI.

⁶⁵ See SJ Phansalkar "Political Economy of Irrigation Development in Vidarbha", paper submitted to IWMI.

they always regarded as theirs! The absence of public support for the implementation can thus be understood.

Can nothing at all be done then? We believe that the situation regarding any serious attempt to create surface water sources is beyond any reasonable hope given the current political formation in Maharashtra. Rather than hoping for a change in the attitude of deliberate and callous state neglect towards this region, we would prefer to see changes that can make some headway in the situation. In the first place, there is a need to strongly encourage a ground water 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 visualize 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 promotion of these technologies will go a far 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 mt norm) and that this certificate must be countersigned by the Technical Officer.

Table 3 :**Data from survey Regarding Awareness about Provisions of the Ground water Act**

S N	Item	Pipla	Pilkar	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
16	Relevance to their village	no	yes	no	no	no	yes	yes	yes	Yes
17	Knowledge 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 level	na	Local level
20	Was it taken up with Tehsildar	na	na	na	na	na	na	no	na	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 3 contd. Amrawati District (Warud Taluka)

Item	Fatehpur	Tebhurchurkheda	Gawankund	Tiwasa ghat	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
Knowledge 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

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.