

Environmental Analysis of Ground Water Regulation Act and Related Laws

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I. INTRODUCTION

The absence of even a single legislation governing or regulating the utilization of groundwater in North Indian states is an extremely important and often ignored aspect of the ecological problems in the Bhakra command area. The farmers in these regions have enjoyed proprietary rights over the groundwater below their lands and have had near absolute freedom in deciding the extent and nature of the exploitation of groundwater.¹ The rapid depletion of groundwater is, in a large part, due to absence of any governmental policy or control regulating the manner and degree of groundwater usage.

The first step towards framing a policy for regulating groundwater usage was framed by the central government in the form of Groundwater (Regulation and Control) Bill, 1969. This bill envisaged regulations on groundwater abstraction structures such as wells, tube wells etc., by all individuals or communities for all uses except for drinking water. The draft bill was circulated to state governments for suitable action since waters, except inter-state flowing surface water, is a state subject. However, only six states- Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Gujarat and West Bengal- acted upon the bill and drafted legislations.²

Andhra Pradesh has enacted the A.P. Land, Water and Trees Act, 2003 to stem the over-exploitation of groundwater resources. The Act mandates the setting up of a Water, Land and Trees Authority, which will have a three-tier structure at state, district and mandal levels. The salient features of the A.P. Act, and the powers of the Authority are as follows:

- a) In order to ensure that ground water is not over-exploited, the Authority shall have the power to specify the spacing criteria for adjacent wells. At present, the rule is that there must be a distance of 250 meters between two wells.
- b) If the Authority determines that groundwater extraction levels have crossed sustainable limits, the area may be declared as over-exploited and further extraction may be banned.
- c) The Act also makes it mandatory for all the agencies and groups owning drilling rigs and engaged in the business of sinking wells to be registered with the Authority on the payment of a prescribed fee, and report to the Authority every well that has been sunk.
- d) The Authority has been conferred with the power of preventing as well as penalizing groundwater pollution.

¹ Saleth, R. Maria, (1994), "Towards a New Water Institution: Economics, Law and Policy", *Economic and Political Weekly*, 24th September.

² <http://www.financialexpress.com/stories/water>

Although the Andhra Pradesh Act is a step in the right direction, the need of the hour is to put greater emphasis on impact assessment in accordance with the Precautionary principle. The A.P. Act specifies that extraction can be banned after groundwater levels have fallen considerably. The Authority has not been empowered to stop extraction when there is a threat of groundwater shortage, and it can act only when the threat becomes reality. However, there are laws in place which follow a preventive approach by taking *a priori* cognizance of the impact industrial projects have on the environment. These provisions are called Environmental Impact Assessments (EIA)³. India although seems keen to have EIA, but there has been problems with regards to its implementation in the country. The 2006 EIA Notification suggests that the focus is on industrialization rather than protection of the environment.

Therefore, there is a strong case for enacting Groundwater Regulation legislation in states like Punjab and Haryana. This should help in arresting the over-exploitation of ground water, which is leading to its shortage. However, it should be kept in mind that Impact Assessment must be incorporated in the legislations to prevent the damage to groundwater resources rather than acting after the damage has been done.

II. STAGNANT AND DECLINING YIELD

The extensive irrigation provided by Bhakra is widely regarded as the backbone of the Green Revolution that catapulted the agrarian sector of the economy to new heights and made it possible to achieve food security. Although the contribution of Bhakra to the lives of the farmers of the region should not be slighted in any manner, however it is essential to put things in perspective. In the first two decades after Bhakra's establishment, the rise in agricultural productivity was tremendous. The farmers had everything going for them. The high yielding variety of seeds was introduced and was being offered at subsidized prices and made easily accessible throughout the entire region. Bhakra irrigation canals had ensured that no farmer would suffer failure of crops owing to lack of irrigation facilities. The government had made efforts to make pesticides and fertilizers available to the farmers. Fixing the minimum support price for the crops and establishing extensive procurement mechanisms to purchase the harvest further ensured prosperity of the farmer.

It is said that no growth can continue indefinitely. Unfortunately, the same happened in the Bhakra command area. Soon, the farmers realized that there were limits to the exponential growth they had witnessed thus far. The indications for the same could not be missed. The degradation of land and loss of fertility had become apparent and it became necessary greater quantities of fertilizers with each passing season to maintain the levels of productivity. This is because repeated cultivation of the same crops had robbed the lands of certain essential nutrients due to their over-use and the dependency of yield on external aids had multiplied. A different but related phenomenon could be seen in the case of pesticides also. The crops had become extremely prone to pest attacks and pesticides had ceased to be as effective as they used to be, possibly because the pests had developed some kind of immunity to them.

³ Leelakirshnan, P., "Environmental Impact Assessments: Legal Dimensions," 34 *J.I.L.I.* (1992), 543.

The discussion in the above paragraph serves to emphasize the fact that the input costs for the farmers have been on the increase without a corresponding increase in the productivity. A simple example will illustrate this point. tubewell irrigation has taken off in a major way all over Punjab and Haryana. In many places, motors running on diesel are utilized for drawing out waters. Now, the prices of diesel have rocketed in the past two decades, which has impacted the finances of those engaged in the agricultural sector also. Another related example could be the requirement of re-boring because of falling ground water levels. The problem of tubewells and handpumps drying up has become quite common in the villages of the area. When that happens, the entire digging process has to be re-done which again costs substantial sum of money. Also, it becomes essential to install new motors with increased horsepower to draw out water from greater depths.

Therefore, the point that comes across is that the wheat-rice cycle is no longer as profitable as it once used to be. The farmers have plenty to worry about as the input costs keep on mounting and there are very few other avenues open to them as they battle the declining productivity and consequently, declining profitability. It is estimated that the situation can deteriorate much further if the government is forced to withdraw the subsidies currently being offered to the farmers, in keeping with the trade liberalization process. If the minimum support price has to be removed for these crops at any stage, then there could be a severe drop in the prices of these crops. Given the high cost structure of Punjab agriculture, it does not enjoy comparative advantage in either rice or wheat. For instance, the cost of Punjab wheat to Food Corporation of India is Rs. 850 per quintal inclusive of transportation costs. In contrast to this, wheat is available internationally at roughly Rs. 620 per quintal.⁴ The government does not allow free import of wheat from outside and has imposed substantial import duties on agricultural products. It can be reasonable stated that but for this government policy, it would have been very difficult for the Punjab farmer to sell his wheat in the country.

The declining yield of wheat and rice have had pronounced financial implications when seen in combination with other factors e.g. loss of diversification of crops. Even though the productivity of wheat went up after the Bhakra project, approximately 11 quintals per acre, the problem is that wheat only sells at Rs. 6 per kg. With the input prices gradually increasing, this is not as profitable now as it once used to be. On the other hand, chana yields only 8 quintal per acre but it sells at Rs. 20 per kg. The input price for chana has not increased as much as for wheat.⁵ But the problem is that even if someone wants to, chana cannot be grown now in many areas.

III. DEPLETION OF GROUND WATER

The problems of depletion of ground water, loss of crop diversification and stagnant yields can be traced directly to the advent of green revolution. It is true that green revolution could not have been sustained without the extensive irrigation network made possible because of construction of Bhakra. However, the negative impact of Bhakra on ecological harmony of the region could have been prevented if the governmental policies of the time had factored in environmental assessment as a concern.

⁴ www.indiancommodity.com/grain/rice/InternationalRiceTrade1

⁵ Ibid.

The problem is beginning to acquire serious proportions. If the problem is not addressed immediately, it could seriously threaten the food security acquired by India. There are some steps that need to be taken immediately. It has become clear from the research that strict adherence to the wheat-rice cycle has been at the root of most of the problems. It is true that this cycle has proved to be immensely beneficial in the past, but its detrimental impact on the ecology can no longer be sidelined. The wheat-rice cycle need not be given up altogether. However, initiatives must be taken to discover a substitute and move towards a diversified cropping pattern. Loss of diversity has led to loss of fertility in the traditionally fertile Indo-Gangetic plains, which has substantially increased the dependence of the land on fertilizers for sustained productivity. Similarly, increased usage of insecticides and irrigation waters can be attributed to the persistent mono-cropping season after season. However, it is not easy for the farmers to opt for diversification. They must be supported by governmental policies. The wheat-rice cycle still has the benefit of availability of Minimum support price that provides enough incentive for the farmers to continue with the current trend even though they realize that this would be detrimental to their interests in the long run. The government needs to offer minimum support prices for crops such as chana, cotton, sarso, etc. to revive their cultivation.

Also, there is a severe need for new policies regarding the conservation of ground water in the twin states. The creation of the Central water body authority should be seen as a positive step, but at the same time, it should be given more powers to effectuate the policies it formulates. In the end, the researchers are of the opinion that all these problems should be taken serious note of, otherwise the food basket of India will suffer such long term damages that it will be hard in future to redeem and replenish its existing stature.

IV. LEGAL REGIME CONCERNING GROUND WATER

A model bill for groundwater regulation was first proposed by the union government for adoption by the states in 1970. It has been reconsidered a few times yet the fundamental system of the most recent 2005 form holds the essential structure of the first bill. Late administrative movement by states shows that they are for the most part prepared to take after the system gave by the model bill. This is the situation of states embracing a general groundwater enactment like Kerala, or states concentrating on its drinking water viewpoints like Karnataka, Madhya Pradesh and Maharashtra. The essential plan of the model bill is to accommodate the foundation of a groundwater expert under the immediate control of the administration. The expert is given the privilege to inform zones where it is considered important to control the utilization of groundwater. An official conclusion is taken by the separate state government. There is no particular arrangement for open investment in the plan. In any told zone, each client of groundwater must apply for an allow from the expert unless the client just proposes to utilize a hand-pump or a well from which water is drawn physically. Wells should be enrolled even in non-advised territories. Choices of the expert in conceding or denying licenses depend on various elements which incorporate specialized factors, for example, the accessibility of groundwater, the amount and nature of water to be drawn and the dividing between groundwater structures. The specialist is likewise ordered to consider the reason for which groundwater is to be drawn however the model bill does not organize residential utilization of water over different employments.

V. CONCLUSION

Basic drinking water needs are by implication considered since, even in told territories; hand-worked gadgets don't require the gaudiness of permit. The model bill accommodates the grandfathering of existing use by just requiring the enrollment of such employments. This suggests in circumstances where there is as of now existing water shortage, a demonstration displayed after these arrangements. By and large, the model bill broadens the control that the state has over the utilization of groundwater by forcing the enrollment of groundwater foundation and giving a premise to presenting licenses for groundwater exception.