RIGHT TO LIVELIHOOD AND ACCESS TO GROUNDWATER IN INDIA

Abstract

The right to livelihood forms a part of the right to life under article 21 of the Constitution of India. It also lends support the right to work and the right to food. Majority of the Indian population is dependent on agriculture which alone consumes 85% of the total ground water annually. Groundwater as a source of livelihood has been recognised as such under various international instruments. The right livelihood has a strong nexus with access to groundwater in India as the availability and access to groundwater is crucial to livelihood of many.

Access to groundwater is influenced by a number of factors in India such as erratic rainfall, pressure of increasing population, influence of money, political networks, industrialization and urbanization, indiscriminate pricing, the depletion of ground water due to overdraft and chronic salinization, *etc.* Access to groundwater is purely based on the natural endowment conditions in India. All these factors lead to inequitable access to groundwater threatening not just the agriculture industry but the human settlements itself which directly impact the right to livelihood. Laws in India do not specifically deal with groundwater. Also, conjunctive use of surface water with ground water is not there. The most disheartening thing about groundwater management is that there is a greed based distribution and not need based. Thus, a balance between the right to livelihood and access to groundwater, has to be established.

I Introduction

WATER IS the elixir of life.[1] A person can live without food for some time but not without water. Water brings prosperity since it is not used just for domestic purposes but it also has productive uses. Out of the total available freshwater, groundwater has played and is still playing a pivotal role in moulding the Indian economy by augmenting livelihoods. With the development of science and technology, it has become very easy to extract groundwater. Liberalization and industrialization has made groundwater depletion a necessary consequence. Groundwater depletion is taking at a very large scale in India due to which aquifers have been drained beyond recharging capacities. Quality of groundwater is worsening due to continuously coming in contact with the polluted environment. Since, groundwater has an immense importance, its over-exploitation is a big concern for a large population like India. It is the major source of livelihood of many, therefore, its allocation and management assumes greater importance in this age of modernization.

II Groundwater as a source of livelihood

Before discussing the interface between right to livelihood and access to groundwater, it is imperative to see how the international law posits the importance of water. The

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1 R. C. Mythrey, Nisargi Ramachandra, *et. al*, "Water: The Elixir of Life" 3(6*) Int. J. Res. Ayur. Pharma.* 769-771 (2012).

right to clean water was recognised as a human right for the first time by the United Nations General Assembly by a resolution on July 28, 2010.[2] In the same year in September 2010, the right to water was also recognised as a part of international human rights law by the Human Rights Council.[3] India voted in favour of both the resolutions. However, importance of right to water had been realised much earlier when in November, 2002, the Committee on Economic, Social and Cultural Rights adopted General Comment No. 15 on the right to water.[4] According to article I.1 of the General Comment "The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights."[5] Comment no. 15 also defined the right to water as the right of everyone to sufficient, safe, acceptable and physically accessible and affordable water for personal and domestic uses.[6] There are other international human rights instruments which also recognise the right to a standard of living adequate for health and well-being *etc.* Universal Declaration of Human Rights (UDHR) adopted by the United Nations General Assembly in 1948, states that "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food…"[7] Therefore, we can infer that the right to safe drinking water flows from this article. Similarly, principle 4 of the Dublin Conference states that "… it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price."[8] Clean water is also one of the Sustainable Development Goals adopted by United Nations members in 2015.[9] There are several other conventions, declarations and treaties which refer to the right to clean water as a human right. However, these international instruments only deal with domestic use of water resources and not productive uses. These instruments therefore posit that "water is thus not a right but a need."

As regards the Constitution of India, the right to water does not find explicit mention in the Constitution. However, the Constitution guarantees every citizen, the fundamental rights to equality, life and liberty. Article 15(2) confers on every citizen the right to "the

2 United Nations General Assembly, Resolution A/RES/64/292 (July, 2010).

3 Human Rights Council, Resolution A/HRC/RES/15/9, (Sept., 2010).

4 UN Committee on Economic, Social and Cultural Rights, "General Comment No. 15. The Right to Water" (Nov., 2002), *available at:* https://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf (last visited on Nov. 26, 2021).

5 *Id.* at 1.

6 *Id.* at 2.

7 Universal Declaration of Human Rights, 1948, art. 25.

8 International Conference on Water and Sustainable Development. Dublin Conference, (June, 1992), *available at:* http://www.wmo.int/pages/prog/hwrp/documents/english/icwedece.html (last visited on Dec. 25, 2021).

9 Sustainable Development Goals, *available at:* https://sustainabledevelopment.un.org/?menu=1300 (last visited on Dec. 27, 2021).

use of wells, tanks, bathing ghats." In *Narmada Bachao Andolan* v. *Union of India*,[10] the Supreme Court stated that "water is the basic need for the survival of human beings and is part of the right to life and human rights as enshrined in Article 21 of the Constitution of India." In many other cases, the Supreme Court has held the right to clean water[11] and a pollution free environment[12] as forming a part of article 21 of the Constitution of India. Hence, every citizen is entitled to a pollution free environment which also manifests a pollution free groundwater. Water is something so vital to the survival of organic life on earth that it could hardly be otherwise than a natural right.[13] All people, whatever be their moral, legal, social or civil status, have a natural claim to water.[14]Water has been described as a natural resource, fundamental to life, livelihood, food security and sustainable development, noting that it is also a scarce resource.[15]

Groundwater which obviously is a part of water resource, is used for both domestic and productive purposes. The productive use of groundwater generates livelihood. Livelihood is the means of securing the basic necessities of life. Possessing such immense importance in a person's life, the right to livelihood has been recognised as a fundamental right forming a part of article 21 of the Constitution of India by the Supreme Court in *Olga Tellis* v. *Bombay Municipal Corporation*.[16]

In addition to article 21, article 39 (b) of the Directive Principles of State Policy (DPSP), mandates that "the State shall, in particular, direct its policy towards securing that the ownership and control of the material resources of the community are so distributed as best to subserve the common good." It has also been stated by the court that "if the right to livelihood is not treated as a part of the constitutional right to life, the easiest way of depriving a person of his right to life would be to deprive him of his means of livelihood to the point of abrogation."[17]

Indian population accounts for 23% of the total population of the world and agriculture is the primary source of livelihood of about 58% Indians, who use almost 60% of the total groundwater in India for irrigation.[18] Not just agriculture, groundwater is used in

10 (2000) 10 SCC 664.

11 *Subhash Kumar* v. *State of Bihar*, AIR 1991 SC 420.

12 *Enviro-Legal Action* v. *Union of India,* 1996 3 SCC 212; *Vellore Citizens Welfare Forum* v. *Union of India,* AIR 1996 SC 271; *M. C. Mehta* v. *Kamal Nath*, (1997) 1 SCC 388, *etc.*

13 Chhatrapati Singh, *Water Rights and Principles of Water Resource Management* 23 (1991).

14 *Ibid.*

15 India to have new national water policy by March 2012, *Indian Water Review* (Nov. 4, 2011, 2:11 PM), *available at:* http://www.indiawaterreview.in/Story/News/india-to-have-new-national-water-policy-by-march-2012/447/1 (last visited on Nov. 25, 2021).

16 AIR 1986 SC 180.

17 *Supra* note 4.

18 India Groundwater: A Valuable but Diminishing Resource, The World Bank (Mar. 6, 2012), *available at:* https://www.worldbank.org/en/news/feature/2012/03/06/india-groundwater-critical-diminishing(last visited on Nov. 28, 2021).

a number of occupations and businesses such as horticulture, cattle-rearing, food industry, aquaculture, chemical industries, thermal power plants etc. depicting remarkable dependence on groundwater. It is the second most important source of water for industries after surface water accounting for 35%.[19]Chemical industries alone provides employment to millions of people in India.[20]Hence, it is amply clear that groundwater is an important source of livelihood and that it is necessary that it should be managed and conserved in a proper manner not just for the present generation but also for the future generations.

III Some factors influencing the access to groundwater

Access to groundwater is affected by many social and political factors such as caste based discrimination, political connections and increasing population etc. In India, safe drinking water is not accessible to more than 20% of Dalits. 48.4% of Dalit villages are denied access to water source.[21] Infrastructure inaccessibility is another problem in India. Scheduled castes's are not allowed to enter areas where upper castes reside and where water resource is available.[22] So they prefer to reside in areas where all of them belong to the same community. Even after 70 years of independence and urbanisation nothing has been done to help them shed their feeling of insecurity.

Apart from this, political connections and influence of money also affect the access to groundwater. Tanker-mafia is one such example. Tankers spell money.[23] These mafias are run in in collusion with the state authorities such as the police and the municipal corporations. It is easy to find the relatives of government officers in the tanker business and the source of water supply for the tankers is often the municipality itself.[24] It is easy to create artificial scarcity in the urban/peri-urban areas. The demands are then are met by rural groundwater. This leads to inequitable access among the urban and the rural

19 Water Use in Indian Industry Survey, Report by FICCI Water Mission, FICCI, 2 (2011), *available at:* https://ficci.in/Sedocument/20188/Water-Use-Indian-Industry-Survey_results.pdf (last visited on Nov. 28, 2021).

20 Indian Chemical Industry, Five Year Plan – 2012-2017, *available at:*https://chemicals.nic.in/sites/default/files/XIIth%20Five%20Year%20Plan-Yr%202011_0.pdf (last visited on Nov.15, 2021).

21 Fact Sheet: Now We Are Fearless, A 2010 Lenten Study compiled by the World Council of Churches, the World Student Christian Federation and the World YWCA, *available at:* http://www.overcomingviolence.org/fileadmin/dov/images/women_campain/Dalit%2520Fact%2520Sheet.pdf (last visited on Nov. 26, 2021).

22 Hannah Johns, *Stigmatization of Dalits in Access to Water and Sanitation inIndia,* 4, *available at:* https://idsn.org/wp-content/uploads/user_folder/pdf/New_files/UN/HRC/Stigmatization_of_dalits_in_access_to_water_sanitation.pdf (last visited on Nov. 26, 2021).

23 R.N. Bhaskar, Tanker mafia earning Rs 8,000-10,000 crore annually from water biz in Mumbai, *Money Control* (Jun. 05, 2019 06:47 PM), *available at:* https://www.moneycontrol.com/news/eye-on-india/videos/tanker-mafia-earning-rs-8000-10000-crore-annually-from-water-biz-in-mumbai 4057001.html (last visited on Aug. 17, 2021).

24 *Ibid.*

population which in turn affects agricultural and allied activities in the rural areas. People are forced to migrate to urban areas in search of other jobs.

Increasing population is also putting immense pressure on the access to groundwater. India is one of the largest consumers of the groundwater[25]which is being exploited to meet the greed of the people and not their minimum need.

The liberalization and privatization of economy in 1991 led to the rapid growth of industries in the urban areas which are now unable to meet their domestic and industrial water needs. This need is met by drawing water from peri-urban villages.[26] Therefore, a huge amount of water is supplied to urban areas for industrial purposes. This is leading to scarcity of groundwater for irrigation purposes. While on one hand, the transfer of groundwater from peri-urban villages is snatching the livelihood of many small and marginal farmers, it is also providing livelihood to those involved in the water supply business.

IV Effects of over-exploitation and depletion of groundwater quality on livelihoods

Over-exploitation of groundwater and its contamination is a serious problem in India. There is a strong chance that almost two-thirds of the aquifers in the country will be in a critical state by 2032.[27] Over-exploitation and degrading quality of groundwater can have severe consequences. This is because, access to clean water is knitted to many other rights such as right to health, right to food, right to work and the right to livelihood and both, over-exploitation and contamination of groundwater can deprive a person of these rights.

Diminishing groundwater table and its contamination directly affects agricultural productivity. It is a trite that if agricultural irrigation becomes difficult, then people start changing their occupation and move to urban areas in search of jobs. Reduced agricultural productivity and migration leads to another problem of food security. Food security according the United Nation's Food and Agricultural Organisation (FAO) food security is a situation where "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets the dietary needs and food preferences for a healthy and active life."[28] The right to food has also been specifically enforced

25 *Supra* note 18.

26 Sumit Vij and Anshika John, *et al.,* "Whose water? "Whose profits? The role of informal water markets in groundwater depletion in peri-urban Hyderabad" 21 *Water Policy* 1081, 1082 (2019).

27 Mervyn Piesse, "Hunger Amid Abundance: The Indian Food Security Enigma" *Future Directions International*, *available at:* http://www.futuredirections.org.au/publication/hunger-amid-abundance-the-indian-food-security-enigma/ (last visited on Nov. 28, 2021).

28 United Nations, Food and Agriculture Organisation, "Food Security" (2) *Policy Brief* 1-5 (June 2006) *available at:* http://www.fao.org/forestry/13128-0e6f36f27e0091055bec28ebe830f46b3.pdf (last visited on Dec. 18, 2021).

under article 21 of the Constitution of India.[29] Therefore, for living a healthy lifestyle, food should be nutritious. However, the continual contamination and depletion of groundwater quality leads to a contrary result. Contaminated groundwater can affect the health of the people because of which may be unable to work which is prerequisite of earning their livelihood. Due to high concentrations of toxic matter in the groundwater, people living in Punjab have caught chronic diseases such as lung cancer, diarrhoea, anaemia, damage to the liver, kidney and spleen *etc.*[30] These chronic diseases comes in conflict with the right to work of a person. It compels him to leave his job and seek treatment of the disease, thereby snatching away his livelihood.

The industries also recognize that inadequate availability of water resources is a major risk facing the industries and others agree that poor quality is another major risk in the running of business.[31] High costs for obtaining water are hindering the business interest of smaller industries and the ones which are located in the drier regions of the country.[32] Risk of closure of the industries due to unavailability of groundwater may lead to retrenchments, dismissals from jobs *etc.*

Apart from the above, groundwater resources is inevitably linked to the surface waters like the rivers, streams and lakes *etc.* So when groundwater table falls, it results in the diminished supply of water in these sources of surface water and *vice versa*. Thus, any business or occupation completely dependent upon surface water may bear the risk of going downhill due to water scarcity.

V Law and policy for groundwater management in India

In India, the groundwater does not have a separate existence from land. The land-owners have an absolute right to exploit groundwater under the Indian Easements Act, 1882. According to section 7 of the Indian Easements Act, 1882 every owner of land has "the right to collect and dispose within his own limits of all water under the land which does not pass in a defined channel." The provision under this section is still in force in India by virtue of article 372 of the Constitution of India.[33] As there is no law for abstraction of ground water, the uncontrolled abstraction may lead to unequal distribution of water between the owners of two different lands. For instance, if a person digs a well on his own land, may lead to lessened supply of water in his neighbour's well which may deprive him of groundwater which he may require for irrigation or

29 *Peoples Union for Civil Liberties (PUCL)* v. *Union of India W.P.* (Civil) No. 196 / 2001.

30 Vijay P. Singh, Shalini Yadav *et al.,* (eds.), *Water Resource Management* 99 (2017).

31 *Supra* note 18 at 4.

32 *Ibid.*

33 The Constitution of India, 1950, art. 372 states that: "Notwithstanding the repeal by this Constitution of the enactments referred to in Article 395 but subject to the other provisions of this Constitution, all the laws in force in the territory of India immediately before the

other productive purposes apart from domestic use. This conflation of the right to water with property ownership led to landowners treating groundwater as a private resource with no thought of its conservation.[34] Thus, a landless person engaged in any activity requiring ground water has to resort to water supply markets. Even a small or a marginal farmer cannot afford extraction of water when there is high uncertainty in terms of availability. When this law was made, groundwater extraction was not a big concern as neither the groundwater wasthe major source of freshwater nor the technology was developed enough to facilitate the unsustainable extraction of groundwater.[35] Thus, we need to change our laws that manifest the requirements of the present times.

In India, the first National Water Policy (NWP) was formulated in 1987.[36] The policy maintained that groundwater should be so exploited as not to exceed its recharging capabilities.[37]While allocating water resources, priorities were given to drinking water, hydro-power, navigation, irrigation and industrial and other uses.[38] It also favoured the conjunctive use of surface water and ground water.[39] Conjunctive use implies the planned and coordinated use of surface and ground water so as to maximise the efficient use of total water resources.[40] Therefore, groundwater should be used to supplant the surface water requirements for civil and irrigation purposes. Similarly, surface water may be utilised to fulfil for artificially recharging the groundwater aquifers. The NWP, 1987 was further reviewed and updated in 2002[41] which gave emphasis on ecological and environmental aspects of water allocation.[42] It was further reviewed and updated in

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commencement of this Constitution, all the laws in force in the territory of India immediately before the commencement of this Constitution shall continue in force therein until altered or repealed or amended by a competent Legislature or other competent authority."

34 Rina Chandran, "With fees and laws, India rushes to save vanishing groundwater" *Reuters* (Jan. 24, 2019) *available at:* https://www.reuters.com/article/us-india-water-lawmaking-analysis/with-fees-and-laws-india-rushes-to-save-vanishing-groundwater-idUSKCN1PI183 (last visited on Nov. 18, 2021).

35 Sujith Koonan, "Groundwater legal regime in India: Towards a paradigm shift"*Global Water Forum*, *available at:* https://globalwaterforum.org/2016/12/12/groundwater-legal-regime-in-india-towards-a-paradigm-shift/ (last visited on Dec. 19, 2021).

36 Government of India, Ministry of Water Resources, National Water Policy (1987), *available at:* http://cgwb.gov.in/documents/nwp_1987.pdf(last visited on Nov. 28, 2021).

37 *Id.* at 6.

38 *Id*. at 7.

39 *Supra* note 37.

40 Danielle De Wrachien, *Conjunctive Use of Surface and Groundwater* 2 (1999), *available at:* https://www.researchgate.net/publication/303027285_Conjunctive_Use_of_Surface_and_Groundwater (last visited on Nov. 28, 2021).

41 Government of India, Ministry of Water Resources, National Water Policy (2002), *available at:* http://cgwb.gov.in/documents/nwp_2002.pdf (last visited on Nov. 22, 2021).

42 *Id.* at 3.

2012.[43] The NWP, 2012 acknowledged that "groundwater is still perceived as an individual property and is exploited inequitably and without any consideration to its sustainability leading to its over-exploitation in several areas."[44] Further, it stated that "grossly inadequate maintenance of existing irrigation infrastructure has resulted in wastage and under-utilization of available resources."[45] The policy clearly states that "water needs to be managed as a common pool community resource held, by the state, under public trust doctrine to achieve food security, support livelihood, and ensure equitable and sustainable development for all."[46] Therefore, the policy affirmed the Supreme Court ruling in *M C Mehta* v. *Kamal Nath,*[47] wherein it was stated that "the State is the trustee of all natural resources;" as a trustee, the State has "a legal duty to protect the natural resources," and "these resources meant for public use cannot be converted into private ownership." However, the policy has been criticised for various reasons. One such reason is that the policy doesn't lay out objective for commercial use of water, especially groundwater.

VI Model Groundwater Bill, 2016[48]

The bill according to its statement of objects and reasons, was drafted with the objective of "restoring and ensuring groundwater security through availability of sufficient quantity and appropriate quality of groundwater to all stakeholders in rural and urban areas." The bill recognises that "a serious groundwater crisis prevails due to excessive overdraft and groundwater contamination" and that "this crisis is mainly responsible for the recurrence of droughts year after year, leading to a crisis of life and livelihoods, sometimes even resulting in suicides by farmers."[49] Therefore, the basic proposal of the bill is to provide every person access to groundwater without any discrimination and it is the state which shall ensure equitable distribution and access to groundwater.[50] According to the bill, the "conservation, use and regulation of groundwater shall be based on the principle of subsidiarity" *i.e.,* to be done on local level.[51] It also talks about the decentralization of powers and functions as regards the conservation, protection,

43 Government of India, Ministry of Water Resources, National Water Policy (2012), *available at:* http://nwm.gov.in/sites/default/files/national%20water%20policy%202012_0.pdf (last visited on Nov. 22, 2021).

44 *Id.* at 2.

45 *Ibid.*

46 *Id.* at 3.

47 (1997)1 SCC 388.

48 Model Bill for the Conservation, Protection, Regulation and Management of Groundwater (2016), *available at:* http://mowr.gov.in/sites/default/files/Model_Bill_Groundwater_May_2016_0.pdf (last visited on Nov. 23, 2021).

49 *Id.,* Statement of Objects and Reasons.

50 *Id.* s. 4.

51 *Id.* s. 6.

regulation and management of groundwater.[52] The bill gives first priority of groundwater use to "meeting the right to water for life", followed by food security, sustenance farming, sustainable livelihoods and ecosystem needs.[53] It also provides for the creation of groundwater protection zones (GPZs) to protect appropriate areas of the aquifer from threats.[54] It provides for requirement of authorisation to abstract groundwater for industrial use or infrastructure projects.[55] The bill also has a penal provision which penalises any activity which prejudicially affects the quality of groundwater.[56]

However, the bill has not generated any public debate which it is supposed to evoke. It also does not define "common pool resource." The model bill does not cover the budget aspect of sustainable groundwater management. It talks about the constitution of a gram panchayat groundwater sub-committee but, does not provide for the composition of this committee.

VII Pani panchayat model

Pani Panchayat is a community level water management system which was started by Vilasrao Salunke in 1974 after the drought in Maharashtra. He found that the government measures were not sufficient to deal with the situation of drought. Therefore, he shifted to Naigoan with family and took 40 acres land on lease from village temple trust. Upon that land he built a recharge pond wherein he installed a lift irrigation system and started irrigating the land. The yield result was wonderful and it impressed many farmers, who approached Vilasrao to start similar trial for them. It was realised by Vilasrao that this kind of work shouldn't be done on an ad hoc basis, so he established a charitable trust called Gram Gaurav Pratishthan (GGP). His initiatives thus reached many neighbouring areas. It led to the expansion of both groundwater and surface water.

Five Principles of Pani Panchayat: While initiating these group schemes beneficiaries have been organized with following principles:[57]

i. haring of water is not proportional to land holding of the beneficiary but need based, on half acre per person of the members of the family, sothat a familyof five people get 21 acres share of irrigation.

ii. High water consumption perennial crops, like sugarcane, arc totally banned for cultivation.

52 *Ibid.*

53 *Id.* s. 10.

54 *Id.* ch. V.

55 *Id.* s. 20.

56 *Id.* s. 27.

57 Furqan Ahmad, "Popular People's Movements in Water Resources Management and The Role of Law" in Chhtrapati Singh, *Water Law in India* 272 (Indian Law Institute, New Delhi,1992).

iii. Water rights are de-linked from the ownership of land so that if any person sales his land, water rights are not transferable. The purpose of this rule is to avoid speculation and water is made available to the cultivator and not silent land owner. This is to promote the cause of "water to the tiller."

iv. Landless people in the village can also become members of the group and get water rights.

v. People have to contribute 20% of the cost of the project in cash before getting the other assistance. This is possible provided leadership element of the group is identified properly which assures the success of the schemes during operation.

It was one of the best examples of participatory irrigation management which brought equity in water distribution, improved crop productivity and created a sense of ownership among the farmers for irrigation infrastructure.[58] The main thrust of this model is the spirit of community participation and to cooperate on the issue of sharing of groundwater equitably.[59] Pani Panchayat idea had brought under irrigation about twelve hundred hectares of land of about fifteen hundred beneficiaries with their population coverage of ten thousand peoples in twenty villages.[60] Pani Panchayats do not have any legal backing as such in India. However, the state of Orissa has given a legal backing to this participatory irrigation management model by the Pani Panchayat Act, 2002 which has been amended 2006, 2008 and 2014 for better implementation and higher participation.

VIII Conclusion

Groundwater is a vulnerable resource and is pivotal to both animal and plant life. Sustainable management of groundwater is therefore very important. The existing laws do not specifically deal with groundwater management. The Indian Easements Act, 1882 treats groundwater as a private property which needs to be done away with. It is because the jurisprudence around article 21 has dramatically expanded to include rights such as the right to water, the right to work, right to health, right to pollution free environment and the right to livelihood. The fundamental right to water requires the state not to interfere with the enjoyment of the right and to take affirmative action to provide decent access to groundwater. The right to health and pollution free environment also restricts the right to land owners to extract groundwater. Groundwater is a common pool resource which does not and cannot belong to any individual. Therefore, it is time that we abolish the groundwater-land nexus and enact a specific statute to regulate groundwater extraction.

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58 *Pani Panchayats for Water Management*, Ministry of Water Resources, *available at:* http://mowr.gov.in/sites/default/files/BestPractice-PaniPanchayats.pdf (last visited on Dec. 24, 2021).

59 Model Bill, *supra* note 48.

60 *Supra* note 57 at 274.

Another drawback of the existing groundwater regulatory framework is the centralised planning and implementation of groundwater policies. Groundwater has become a basic necessity. So it is necessary that while planning and implementing groundwater policies, local institutions such as panchayats and block development *samitis* should be engaged. The Model Groundwater Bill, 2016 is a positive initiative in this direction. It has provisions for participation of gram panchayats in formulation of a groundwater security plan.

At the individual level, the people must be encouraged to adopt sustainable techniques of groundwater extraction and use. Extraction of groundwater beyond the recharging capacities of the aquifers should be regulated by law. Conjunctive use of ground water and surface water should be encouraged.

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