Water Rights: A Case of Waterlogged Rural Areas of Allahabad

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Abstract

Under the Human Rights manifestos and fundamental rights in the constitution of India, the right of access to safe water is one of the rights. The Human Poverty Index also measures poverty by the percentage of people not using improved water sources. But for many, it is still inaccessible or difficult to access this important resource. The objective of the paper is to look into the matter how the human rights are being violated in terms of accessibility related to different water sources.

The paper discusses a case study of waterlogged rural areas of Allahabad. The case study area is one of the fertile plains of the Ganges. But the area is in the grip of waterlogging for the last sixteen years, since the upcoming of Sharda Sahayak Canal into the region without taking into consideration the watershed of the area. The other reason behind vast waterlogging are callous dumping of the river Varuna, ineffective drainage system, natural rainfall and Kharanja road construction.

The paper deals with the present sources of drinking water provided by Jal Nigam (water body responsible for drinking water supply in Uttar Pradesh). The paper would reflect the scenario of accessibility of drinking water sources by households, accessibility of drinking water sources within premises, accessibility to contaminated drinking water sources, magnitude of per capita water consumption by caste etc. The sand, mud with foul smell and worms are common features of drinking water during waterlogging days.

The paper also shows discrimination in accessibility of drinking water sources by social groups. The Open Caste and Muslims households have higher percentage of safe sources of water, whereas, the Schedule Caste and the OBCs have a low share comparatively. The tap connections were found to be very low among the Dalits and OBC households than the other counterparts. The Open Caste in rural areas still has the privilege of protected water provided by the civic bodies. There is discrimination in accessibility of drinking water sources within premises where maximum populations of the weaker sections have to go to a distance of half a kilometer to fetch water for household purposes. There is also an inequality seen in per capita water consumption by Social Groups.

The first part of the paper would discuss the government's norms dealing with drinking water, fundamental rights present in the constitution of India, how these rights have been violated in terms of per capita consumption, inequality related to caste etc., availability of drinking water, quality of water etc. The second part of the paper would deal with policy implications that would consider the role of Panchayati Raj Institutions, community institutions, NGOs and the government bodies for management and conservation of water resources. Finally a model would be presented for a participatory approach to sustainable water resource management.

Keywords: Drinking water, groundwater, households, lpcd norms, per capita consumption, sanitation, water supply, water rights, water policy.

1. Introduction

The HPI measures poverty in developing countries. It focuses on deprivation in three dimensions: longevity, as measured by the probability at birth of not surviving to age 40; knowledge, as measured by the adult literacy rate; and overall economic provisioning, public and private, as measured by the percentage of people not using improved water sources and the percentage of children under five years who are under weight. A balance sheet of human development- goals, achievements and unfinished path shows that almost halve the proportion of people are without access to safe water. Nearly one billion people still lack access to improved water sources. India rank 55 in Human Poverty Index-1 and commitment to health: access, services and resources; it shows that only 31 percent Indian population have adequate sanitation and only 88 percent population have improved water sources according to 1999 estimates (Human Development Report 2001 p 160) but the percentage has fallen down to 28 percent and 84 percent for adequate sanitation and improved water sources in 2000 (Human Development Report 2004 p 162).

1.2 Drinking Water as Constitutional Right

The Fundamental Rights in Article 21 and Article 39 (a) and 39 (b) of the Constitution of India includes the right to clean water[1]. The National Water Policy has assigned highest priority to drinking water supply followed by irrigation, hydropower, and navigation, industrial and other uses. As per the existing norms mentioned in the Ninth Five Year Plan (1997-2002), for rural water supply includes 40 litres of drinking water per capita per day (lpcd) and a public standpost or a handpump for 250 persons. Further, the sources of water supply should be within 1.6 km. horizontal distance in plains or 100 meters elevation distance in hills. The norm for urban water supply is 125 lpcd excluding sewerage system and 40 lpcd in towns with spot sources. Availability of at least one source for 20 families within a maximum distance of 100 meters has been stipulated (Ramachandraiah, 2001 pp 619).

[2] Article 21 deals with protection of life and personal liberty, article 39 (a) with equality among men and women having a right to an adequate means of livelihood and article 39(b) states that the ownership and control of the material resources of the community are so distributed as best to subserve the common good.

2. State Intervention in Safe Water Accessibility

For the development and management of water resources, National Water Resource Council (NWRC) was constituted in 1983. The National Water Policy (NWP) gives first priority in water allocation to "fundamental rights" for drinking and domestic use. Agriculture has second priority followed by industry. The NWP was reviewed in 1987 followed by another review on 1st April 2002. It focused on larger ecological system, its sustainability, rainwater harvesting, watershed management, and allocation of drinking water resources for human beings and livestock, drainage system etc. The goals of NWP are efficiency, equity, and sustainability in order to promote the livelihood of the poor.

The Government of India had launched the decade wise program in April, 1981 "International Drinking Water Supply and Sanitation Decade" with a view to achieving populations coverage of 100 percent water supply facilities in urban and rural areas, 80 per cent sanitation facilities in urban areas and 25 per cent sanitation facilities in rural areas respectively by the end of the decade, i.e. March, 1991. In September 1999 the National Commission for Integrated Water Resource Development Plan (NCIWRDP) in their report have modified the norms for water supply as 220 lpcd for urban areas and 150 lpcd for rural areas.

The new liberal norms were approved in June 2002 by the Cabinet for the provision of 55 lpcd towards drinking water for rural habitations as against the 40 lpcd at present. The norms related to distance have also been relaxed to 0.5 km in the plains and 50 meters as against 100 meters elevation in the hills. The rural water supply program would now be given 15 percent weightage instead of 10 percent for not covered or partially covered areas. Similarly, a weightage of 10 percent will be given to water supply affected habitations instead of the present 5 percent norm (Hindustan Times, 2002, pp 7)

The Accelerated Rural Water Supply Program (ARWSP), currently implemented through Rajiv Gandhi National Drinking Water Supply, has been in operation since 1972-73 to assist the States and UTs to accelerate the pace of coverage of safe water supply and also to widen adequate drinking water supplies facilities to the rural population. The number of habitations covered under it is 26,803 against a target of 45,527 and the population covered is 10.5 million as against a target of 21.6 million till the end of January, 2002 (Economic Survey, 2001-02).

2.1 Rural SC/ST Payjal Yojana

This scheme is being implemented in the state of U.P. from the year 1971-72. The objective of the scheme is to provide potable water in SC/ST dominated areas. This scheme is being implemented under the Minimum Needs Programme and is cent percent state fund scheme. Under the scheme, Jal Nigam installs India Mark II handpumps in the plain areas of the State and in Hill areas diggies were constructed by the block agencies.

2.2 Water Supply System in District Allahabad

According to the available literature by the Jal Nigam, there were about 115 tubewells and rivers, which provide 120 and 80 million litres of water per day respectively to the city. The total availability of water is 200 litres per capita per day to the city. There were 2000 units of handpumps installed in the city.

Each village of the district has the facility of piped water supply or India Mark II handpumps facilities for domestic purposes. District Allahabad has 48 rural piped water supply system in which 1680 villages were connected. These systems have 111 handpumps, 90 overhead tanks, 6 groundwater tanks, and the plateau region of the district has 4 water purifying system, 6 zonal pumping stations and nearly 3897 km. long piped water supply system. In rest of the village the water supply is maintained by India Mark II / III handpumps. Till the year 1998, approximately 14057 units of handpumps were installed, in which 1100 handpumps were of India mark II. Nearly 1582 partly covered habitations were left for saturation until date 1st April 1998. According to the departmental information, nearly 333 handpumps were defunct in 1997-98 (U.P. Jal Nigam, Six Construction Division, Allahabad, 1999-2000). Jal Nigam, look after about 48 rural piped drinking water supply and 14057 handpumps in rural areas of district Allahabad.

U.P. Jal Nigam six construction division supplies drinking water to the villages of Phulpur Tehsil in Allahabad District. The sources of water are tubewells, overhead tanks and handpumps. The norm is that one handpump is to be posted for 250 people. Each headquarter have a Geologist who is responsible for maintaining efficient supply of water, checking chlorination and bleaching levels etc. The officials are responsible for checking water per day, hour to hour, monthly, half-yearly, yearly and so on. During the monsoon (in case of dysentery, diarrhea, etc) the responsibility lies on the geologist to perform chemical and bacteriological test of supplied drinking water regularly.

There was approximately 5000 India Mark II handpumps installed in the Tehsil at the depth of 100-140 ft. The responsibility of maintenance of the defunct sources lie on the Area Panchayats. Previously the responsibility was on Jal Nigam but that has shifted to the Panchayati Raj.

There were many water supply schemes running in Phulpur Tehsil. Phulpur Block consists of Sarain Abdul Malik, Patulki, Chandoha and Mahlahan Water Supply Schemes. Most probably, the water supplies of the selected sample villages come under the Mahlahan Water Supply Scheme.

2.4 Mailahan Water Supply Schemes: A Scheme that covers the Study Area

This scheme was started in 1975, and was supposed to cover 51 villages, but the real benefited villages were only 40. The population covered under the water supply scheme in the year 1981 and 1991 was 42604 and 55074 respectively. The projected figure of the population was 40145 at the time of implementation of the scheme. The water supply scheme was projected to provide 70 litres of water per capita per day to the rural people. The sources of water supply system were the four tubewells having the capacity of 336 kilolitres per hour. Availability of the electricity was, estimated to be, an average of sixteen hours per day. The number of overhead water tanks per tubewell is one having the capacity to hold 179 kilolitres of water. The Mahlahan Water Supply System also has a pipeline of 48 kilometres. The numbers of handpumps installed in the scheme were 45 in the covered villages. The number of 1050 private handpumps and 40 standpost were installed in this scheme (Source: U.P. Jal Nigam Six Construction Division, Allahabad, 1999-2000). There was also Dagpura Water Supply through piped lines, two kilometers away from Mailahan. Timings for water supply in the morning were from 5:00 am to 8:00 am, and in the noon from 12:00 pm to 1:00 pm. In the evening, the water is supplied from 4:00 pm to 6:00 pm. The Mahlahan water supply system provides piped water in the Gram Sabha Bhamai also. The overhead water tank at Dagpura (a single boring tubewell) was responsible for the water supply in Mahlahan and its adjoining area.

3. Unique Features about the Study Area

The multiple factors behind waterlogging in the region were rainwater, canal irrigation, impeded drainage of the river Varuna etc, but the frequency of these varies village wise. The respondents gave different weightage to each factor. Greater emphasis by the respondents had been given to rainwater as the primary cause of

waterlogging. Rainwater created more havoc in the absence of effective drainage system during the peak monsoon season. The second factor was attributed to the river Varuna that they thought was responsible for the waterlogging due to its impeded drainage and its low level of capacity to carry water. The low capacity of river Varuna and its callous dumping had made most of its neighbouring areas waterlogged.

The third major factor was the coming up of Sharda Sahayak Canal into the region since the last ten years. Often the canal embankment got ruptured, causing unwarranted water to flow into crop fields and then into village settlements. The other factors too play a major role behind waterlogging. The *karanja* road construction at the higher heights in villages also hinders the natural drainage thus causing waterlogging in the middle of human settlements.

3.1 Drinking Water Scenario:

Availability of potable water has a direct relationship with health related indicators. If water sources are equitably distributed, easily accessible and per capita consumption is high, it could alter the lifestyle, result in better health, higher productivity and income, and lead to improvement in school enrolments as well. Villages with piped water supply had higher levels of household and per capita income and relatively higher wage rates and even they had high level of literacy, immunization and contraceptive prevalence rate. Villages in which handpumps are the dominant source of water supply do not show a positive association between levels of income and poverty as appears to be the case in relatively backward villages (India Human Development Report 1999, p. 191).

The existence of source of drinking water in rural areas is one of the most important indicators of development that reflects the economic prosperity of a village. This paper analyses how the State still lacks in providing the basic necessity of safe drinking water to all its citizen and regulate developmental activities that pollutes the water sources and thereby affect the health and development of the people and the economy as a whole. According to the unpublished 'Uttar Pradesh Human Development Report', Allahabad's Human Poverty Index is 44.91 and Poverty Ratio is 33.45. The poverty ratio reflects the unweighted average of households having temporary non-service house and houses without access to safe water sources. The percentage of households in Allahabad without safe drinking water is 56.11 percent.

Table-1

Main Source of Drinking Water by Caste

Source of Drinking Water	General Caste	SC	OBC	Muslims	Total
Closed Wells*	1 (8.3)	1 (2.50)	1 (1.43)	2 (7.14)	5 (3.3)
Open Wells	3 (25.0)	32 (80.0)	46 (65.71)	6 (21.43)	87 (58.0)
Tap*	6 (50.0)	1 (2.50)	11 (15.71)	10 (35.71)	28 (18.7)
Hand Pumps	2 (16.67)	5 (12.50)	12 (17.14)	8 (28.57)	27 (18.0)
India Mark II*	-	1 (2.50)	-	2 (7.14)	3 (2.0)
Total	12 (100.0)	40 (100.0)	70 (100.0)	28 (100.0)	150 (100.0)

Source: Field Survey (Figures in bracket denote percentage)
Note: * represents safe drinking water sources.

It is clear from table-1 that almost 76 percent of the rural population had to depend on the traditional sources of water like the open wells (58%) and handpump (18 %), which were considered to be unsafe for human use. Only 24 percent of the households were getting safe water from closed wells (3.3 %), Taps (18.7%) and India Mark II handpumps (2.0%). This has so far been below than the rural India average (55.54%) in 1991 (Kanmony, 2003).

The safe drinking water sources include taps, closed wells and India Mark II. The Table-1 clearly indicates that the disadvantaged groups are still discriminated in provision of safe drinking water. Out of the total, 58 percent General caste (that include 50 percent tap and 8.3 percent closed wells dependents) and 50 percent Muslims (which include 36 percent tap, 7.14 percent closed wells and 7.14 percent India mark II dependents) households have safe sources of water, whereas, the Schedule Caste and the OBCs have a low share of 7.50 percent and 17.14 percent having access to safe water sources respectively.

Above all, only 19 percent of the total households have taps connections in their premises or in their surroundings (In India, 8.7% population in rural areas receive organised piped water supply, Statistical Abstract of India, 1998). The distributions of tap connections were found to be very low among the SC and OBC households where only 2.50 percent of SCs and 15.71 percent of the OBCs had to depend on tap water. Thus, it could be said that the General caste in rural areas still have the privilege of protected water provided by the civic bodies.

3.2 Burden on Single Source:

The dependence on single sources was quite high among the sample households that reflected the burden on particular sources. A meager of 1.33 percent of households dependent on open wells and 1.33 percent of households dependent on handpumps opined that near about 200 people take water from a single source. It means that a particular source is unable to cater the needs of the larger society, thus the availability of water becomes low. Even 6.66 percent household's who depend upon open wells as their primary source are of the view that 150-160 persons take water from that respective source whereas 14.66 percent said that 40-50 persons depend on single well for drinking and domestic water purposes thus reflecting higher dependence.

Higher dependence on a single source directly relates to low water consumption by the households accruing in water shortages and frequent breakdown of handpumps and India Mark II, deterioration of wells and the other sources of water. It was observed that the water shortages mainly aggravate during peak summer months or during waterlogging periods.

3.3 Distance of the Main Sources of Drinking Water

Table-2 presents the profile of drinking water sources within or outside the premises of sample households. It shows that only 19 percent households have access to safe water sources present within household premises that includes closed wells (2.67%), taps (14.67%), and India Mark II (1.33%). Other 5.34 percent households have safe water sources outside their premises, of which only 4 percent households have taps connections and 4.67 percent also have standposts within a distance of half kilometer.

Table- 2
Distance of the Main Drinking Water Sources

Source of Drinking Water	Within Premises	0 to 0.5 Km	0.5 to 1 Km	Total
Closed Wells*	4 (2.67)	1 (0.67)	-	5 (3.3)
Open Wells	29 (19.33)	56 (37.33)	2 (1.33)	87 (58.0)
Tap*	22 (14.67)	6 (4.00)	-	28 (18.7)
Hand Pumps	20 (13.33)	7 (4.67)	-	27 (18.0)
India Mark II*	2 (1.33)	1 (0.67)	-	3 (2.0)
Total	77 (51.33)	71 (47.33)	2 (1.33)	150 (100.0)

Source: Field Survey (Figures in bracket denote percentage)

More than 19 percent of the households have open wells located within their premises, 38 percent households have access to open wells located within half kilometer distance and 1.33 households carry water from a distance of 0.5 to one km. The provision of India Mark II in the selected villages was very low. Only 2.0 percent households depended on India mark II of which 1.33 percent households had access to India Mark II within their campus and 0.67 households had to carry water from outside their premises.

Table-3
Source-wise Analysis of Drinking Water in Selected Area

Village	Closed Wells	Open Wells	Tap	Hand-pumps	India Mark II
Rajepur	2 (9.5)	15 (71.4)	1 (4.8)	3 (14.3)	-
Rajepur Sarain Arjani	-	10 (83.3)	-	2 (16.7)	-
Mailahan	-	22 (68.0)	1 (3.1)	7 (21.9)	2 (6.3)
Rasoolpur	-	8 (80.0)	2 (20.0)	-	-
Chitaha	-	-	6 (100.0)	-	-
Balkaranpur	1 (5.6)	10 (55.6)	3 (16.7)	4 (22.2)	-
Jalaalpur	-	16 (84.2)	-	3 (15.8)	-
Bhamai	2 (6.3)	6 (18.8)	15 (46.9)	8 (25.0)	1 (3.1)
Total	5 (3.3)	87 (58.0)	28 (18.7)	27 (18.0)	3 (2.0)

Source: Field Survey
(Figures in bracket denote percentage)

The source-wise analysis of drinking water (Table-3) shows that a majority of the people in the selected villages except the village Chitaha were dependent on groundwater through open wells and handpumps which were considered to be unsafe sources. But, 100 percent households in Chitaha and 47 percent households in Bhamai relied on tap water supplied by the Mailahan Water Supply Scheme. Nevertheless, households in Mailahan itself do not get sufficient water supply through taps and it was found that only 3 percent households were dependent on tap water supply. In Rasoolpur and Balkaranpur, 20 percent and 17 percent used tap water respectively. None of the households in Rajepur Sarain Arjani and Jalaalpur had access to tap water. Fewer households use India Mark II water in Mailahan (6.3%) and Bhamai (3.1%) and no households had access to India Mark II in any other sample villages.

According to the respondents, few hamlets in Mahlahan namely Usri and Azadnagar, have the problem of hard water through groundwater sources that are not sufficient to meet the requirements for domestic purposes. Because of hard water from wells, handpumps and India Mark II, many of the households in these hamlets depended upon tap for the drinking purposes. Both the hamlets have only one well as a source of drinking water, which has less saline water. Apart from this, Azadnagar hamlet has two private handpumps whose water was being used for domestic purposes. Few households also take water for domestic uses from their neighbours who are located at some distance. Monra hamlet, a Harijan Basti in Mahlahan have no handpumps and India Mark II in the area so they have to depend mainly on the well.

When the main source dry up or gets polluted, then the households opt for secondary sources lying within half a kilometer range from their premises. The other sources of water were mostly the open wells or the handpumps. One of the respondents in Mailahan replied that when water gets contaminated, they shift towards the tap water available at 35 feet from their house. Little more than a percent of the households were of the view that they had to carry water from a kilometer distance during water crises. All the members of the households including children helped in the task of carrying water from far off places.

3.4 Per Capita Water Consumption

It was reflected from the Table-4 that about 51 percent of the households in the study area were getting water much below the national norms of water requirements i.e 40 liters per capita per day (lpcd) for rural areas. Caste-wise analysis shows that 63 percent households of the Schedule Caste got water below the above-defined norm. However, only 33 percent of the General caste households were getting water below the standard norms. The household in Muslims and the OBCs shows a similar trend with nearly 50 percent of them getting water below minimum requirements for daily consumption.

Table-4

Per Capita Water Consumption by Caste

S.N	Per Capita Water (in Litres)	General caste	SC	OBC	Muslims	Total
1.	11-20	1 (8.33)	2 (5.0)	2 (2.86)	-	5 (3.33)
2.	21-30	1 (8.33)	4 (10.0)	13 (18.57)	3 (10.71)	21 (14.0)
3.	31-40	2	19	18	11	50

		(16.67)	(47.50)	(25.71)	(39.29)	(33.33)
4.	41-50	6 (50.0)	8 (20.0)	22 (31.43)	10 (35.71)	46 (30.67)
5.	51-60	1 (8.33)	8 (7.50)	5 (7.14)	3 (10.71)	12 (8.0)
6.	61-70	1 (8.33)	1 (2.50)	2 (2.86)	1 (3.57)	5 (3.33)
7.	71-80	-	1 (2.50)	2 (2.86)	-	3 (2.0)
8.	81-90	-	1 (2.50)	3 (4.29)	-	4 (2.67)
9.	91-100	-	1 (2.50)	2 (2.86)	-	3 (2.0)
10.	100-110	-	-	1 (1.43)	-	1 (0.67)

Source: Field Survey

3.5 Contamination of drinking Water

The waterlogging scenario had highly affected the social and economic condition of the people in the study village in many different ways. Contamination of drinking water was one of the severe problems faced by the local people. Almost 80 percent of the households stated that problem aggravated more when water of well rose up to the ground level during the rainy season. In the sample village, occurrence of sand, mud and worms with foul smell was commonly found during the waterlogging which contaminated the drinking water sources.

The presence of sand and mud with water were common features for 54 percent households in the sample villages. The other problems that were faced by 15 percent households, were the bad smell and worms in drinking water mostly through open wells, handpumps and taps. So open wells and handpumps were found to be the unsafe source of water that negatively affected the health condition of the sample households. The source-wise analysis shows that 37 percent households faced sand and mud with drinking water through open wells and 9 percent households experienced bad smell and worms in drinking water from the same source during the peak waterlogging days.

More than 7 percent and approximately 5 percent households opined that drinking water contained sand and mud, with bad smell and worms respectively through handpumps during the waterlogging days. Tap water, which was hygienic for domestic purposes also, indicates that 6 percent households depending upon them had sand and mud mixed with water and about five percent of the total respondents even had reported bad smell and worms. The households dependent on the closed wells and India Mark II were least affected by the above mentioned problems. Only 3.3 percent

and 0.67 percent households had access to closed wells and India Mark II respectively, however they had sand and mud mixed with water. None of the households dependent on India Mark II and closed wells had foul smell and worms present in water.

4. Policy Implications

Some policy implications would certainly help in mitigating out the problems of shortage and inaccessibility of drinking water.

A critical aspect of the water supply scenario in India is the existence and emergence of defunct sources. A growing number of sources becoming defunct is a matter of deep concern as it involves the issues of management, possibilities for rejuvenation and a thorough re-evaluation of water supply schemes in India for its sustainability and perenniality.

The nodal agency should provide mechanics at village and panchayat levels, which will facilitate easy resumption of water supply. They should be motivated to come forward to identify the potential people who could be imparted training to repair their own defunct sources in their respective areas. The Panchayat and the Corporators should be made aware of government's allocations and the schemes be prepared for them in their respective areas by professional bodies.

Panchayat members, Corporators and Ward members should be motivated to identify the causes for unequal water distribution so that the weaker section of society are able to access this facility. Such bodies can play a significant part in creating awareness and identifying the role of professional functionaries. The local people should be sensitized, so that they may become aware of every loophole in the government departments and they can fight for the opportunities and welfare, which are provided to them. Altogether, they should initiate local movements to tackle water problems.

Priority should be given to rehabilitation and restoration of decaying traditional water harvesting structures to their full potential for the future. It is not enough to build new water harvesting structures only but efforts should also be made to revive the vast treasure that already exists and have been thrown into disuse (Agarwal, 2001 pp 4). Water harvesting should be made a national movement. There is a need for planners and policy makers to formulate an effective strategy to club the institution as well as individual endeavour for revival of traditional resources.

Local Communities must have a right over the resources that they regenerate and manage. The Khadins of Rajasthan, and the community wells of Gujarat are the outstanding examples of water harvesting. A conducive environment for water management would mean community empowerment and enactment of laws that promote it. Panchayati Raj Institutions could offer a platform to bring this about gradually.

A new paradigm is needed to manage water that can be built both on past and current practices of numerous communities in India and other parts of the world, which remain outside the fold of state managed water supply systems. This does not mean that the state has no role to play in water management or there is no role for centralized water supply systems. But there is clearly an urgent needs today to restore a balance between the role of the state and that of communities and individual households. The rational and the emotional needs are required to be merged to form a coherent direction for effective preservation.

India today needs a people's movement to meet its water requirements and to protect its water resources. So water literacy is an immediate as well as historical necessity for the people to generate awareness among the society. There is a need for the participation of the NGOs, Government, professional, educational institutions and other representative bodies' interaction with the local people to generate the required awareness among the society. In 1999, the Madhya Pradesh's Chief Minister urged the Panchayat members to take up at least one water harvesting structure in their village. This gave rise to the birth of ***Ek Panch Ek Talab*** concept and as a result of which now each and every village of Madhya Pradesh has one water harvesting structure.

The local people must be made aware of the conservation programmes like ***Pani Roko Abhiyan; Gaon ka pani gaon mein, Khet ka pani khet mein;*** making of small check dams, and celebrating programmes like ***Jal Mahotsava,*** etc. The ***roof-top harvesting programmes, water conservation and harvesting programmes etc*** are required to stop run-off of rain water to rivers and oceans to recharge groundwater. Small checkdams, wells, tanks, ponds and lakes should be created or renewed. Silt from lakes and ponds etc should be regularly removed after certain periods.

A national campaign for water literacy is required to spread the message that water is a precious natural resource with a value system that makes the water every body's concern. The society should know how to manage its water resources and how to

share it equally and optimally. As women play an important role in collection of water, systematic persuasion should be made to involve women in project identification, development, maintenance and its upkeep. Both men and women should equally be involved in managing water.

Pricing Policy should be devised in such a way that it might contribute to augmentation and repairing of water sources. Where water taxes are not levied in rural areas, it is suggested that appropriate water taxes should be taken to make operation and maintenance self-sustaining to the extent possible.

5. Conclusion

Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a prerequisite to the realisation of all other human rights. Under the Human Rights manifestos and fundamental rights in the constitution of India, the right of access to safe water is one of the rights. But for many, it is still inaccessible or difficult to access this important resource. Very often, lack of water for personal and domestic hygiene causes water washed diseases like diarrhea, worms, eye infections, skin diseases etc. Unless the fundamentals of an issue are not disseminated and absorbed, mere constitutional protection serves little purpose.

Despite several Drinking Water Supply Schemes and approved liberal norms for drinking water availability, there are number of partially and not covered habitations and several households showing insufficiency of drinking water facility. Even high variations among the states are seen. There is bias in terms of supply of water among household's income level. Apart from this, there is inequitable distribution and consumption of water among various settlements and class town size. The worst victims are people below poverty line mostly dependent upon traditional water sources, where women entails long hours in fetching water from far off places. There is a need for an equitable distribution of water system in every human settlement.

To ensure access to water for all, multiple angularities prevailing in water supply systems should be removed. The externalities like water pollution and contamination, depletion and over exploitation of groundwater, etc are also causes of low per capita water availability. So an integrated approach to water resource management would help in solving water problems and making water easily accessible to all. The Government should charge the users both in urban and rural areas to finance better

supply of water- better quality of water, with low levels of dirt, minerals and biological matter, as well as increased number of hours or water supply. The consumers and political support as well as community and local participation will help in universal access and clean water as every body's right and business.

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