
Privatization of Local Water Resources: A Challenge to Water Justice and Sustainability in Darjeeling Town, West Bengal

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Abstract: *The paper focuses to study the impact of privatization of local water resources on the overall water management system in Darjeeling town. A thorough study of different sites of privatised water sources have been conducted through a field survey to understand the nature of water mining and utilization by the private entrepreneurs. The study further attempts to understand the factors and key elements that governs the emergence of water privatization in Darjeeling town. It is evident from the study that privatization of local water resources has brought about water injustices and disparities in water security among the common masses across the town. The existing water market of Darjeeling town is functioning through illegal establishments which has monopolistic and discursive implications on the water supply system. The study suggests that to ensures equitable distribution and sustainable utilization of the local water resources, it is imperative on the part of government authorities to encourage community based small-scale water management and distribution models, that offer cost benefits and long term sustainability over the privatization models.*

Keywords: *Privatization, local water sources, , water market, water injustice, Darjeeling.*

1. INTRODUCTION

In Darjeeling town lack of access to clean, safe, and affordable water has become a threat to public health and well-being. The situation is so critical that it stands contradictory to the global notion of 'Human Right to Water'. WHO (2006), suggests that a minimum of about 75 litres of water is required for drinking, cooking, sanitation and other domestic purposes per person per day. However, a normal person can in no way afford around 70 litres of water in a water scarce town like Darjeeling. The scenario is even worse among the poor who are living in a slum like condition where proper hygiene and easy access to basic necessities is a distant dream (Chakroborti, 2018). The focus, as presented in this paper, is to understand how water supply injustices are experienced by a heterogeneous urban community in Darjeeling town. The recent studies concerning water management and supply system suggests that the centralised public water supply system in Darjeeling town has failed to cater the requisite water demand of the total population in the town (Drew and Rai, 2016). The Municipality of Darjeeling town symbolizes a vintage water infrastructure dating back to British colonisation and which is responsible for the dearth of water supply in the town (Josi, 2015). There exists a huge gap between the actual demand and supply where the daily water demand of the town is 18,60,000 gallons but the supply is only 5,275000 and hence the town suffers 13,32,5000 gallons of water per day (Annual Report, 2014, Darjeeling Municipality). The above figures highlight that about 65% of the people in Darjeeling town do not have requisite access to public water supply and are compelled to depend on the locally available alternate sources of water (Joshi, 2014). As the public water distribution is insufficient and intermittent, the urban poor always have to struggle to secure their minimum water requirements for daily operation. In addition to this, the steady rise of private water distribution system has worsened the complexities of water accessibility to the urban poor. They are compelled to survive on the alternative local sources of water which in many cases are highly contaminated and not suitable for ready drinking. In fact easy access to water has become a rich man's business where people with relatively more money, are able to secure household-specific private pipelines or are able to buy water from the private water tankers.

The rapid pace of privatization of water distribution system in recent years in Darjeeling town has given rise to a booming water market where only the handful rich people are getting water according to their demand. The private water suppliers are selling water in litre basis through the private pipelines, tankers etc, tapping from the nearby springs, streams and *Jhora* (drains). All these local sources of water were openly accessible to the people in the past, however now the rich people engaged in water business have bought these sources and have made them

3. METHODOLOGY

The paper focuses on the specific study of the operational understanding of privatised water management and supply system and its relevance in maintaining water justice and sustainability in Darjeeling town. In order to understand the context an extensive field survey in and around Darjeeling municipal town was undertaken During the year 2016-17. The field survey was carried out with the help of a questionnaire, semi-structured interviews, and focus group discussions for the collection of both quantitative and qualitative data from the field to generate primary data.

The paper covers two major aspects, firstly the study of patterns and locational distribution of different modes and mechanisms of private water supply system along with their operational phenomena in the town. Each site of the privately managed local water sources were thoroughly explored to generate first hand information regarding the nature of collection, storage and distribution of water via private water supplying system. Secondly, a theoretical conceptualisation with respect to the role of privatization of water supply system in promoting overall water accessibility and availability to the common citizens in the town was formulated by referring different approaches of resource privatization. During the course of study to understand the real impact of privatization of water resources on the common masses several focus group discussions and personal interviews were repeatedly undertaken which considers the view points of both water vendors and general public.

As to brought about further interpretive focus to the study most of the sources of secondary data collection have been used such as review of published literatures, journals, articles, books, magazines etc. Maps and other significant information have been gathered from the institutions such as municipal offices, forest departments, settlement office, NGOs, libraries, colleges and online sources.

4. SCENARIO OF WATER PRIVATIZATION IN DARJEELING TOWN

Scarcity of water and improper water management have given rise to the growth of commercialisation and privatization of water resources in Darjeeling town. The scenario of water resource management and distribution has dramatically changed over the last two decades through the initiation of privatized water management system in Darjeeling town. It is in fact, the result of the adaptive restructuring of the governance failure in the region. Centralised public water distribution system has failed to provide requisite supply of drinking water in the town and it seems futile to the urban poor who are compelled to survive on the alternative sources. Consequently, this situation has led to the growth of privatisation of water supply system that has become one of the most susceptible and intervening act to take on the situation of water crisis by the rich people in Darjeeling municipal area (lama and Rai, 2016). It is argued that privatisation allows for a more efficient provision of service by private companies and other stake holders, but its efficiency is highly cost effective which is beyond the reach of common people. Privatisation has not withstand efficient and equitable allocation of the resources in Darjeeling town as majority of the population cannot afford the cost set by private entrepreneurs. Private water supply system is in fact the outcome of high water demand throughout the year in the commercial sectors such as hotel, restaurants, tea stalls etc. Initially it was limited to commercial sector alone but due to its relevant services in the doorsteps, these days it has become one of the popular means of water supply in the domestic sector as well.

In Darjeeling town, privatisation of water supply system is undertaken mainly by private pipelines, water tankers, manual carts (Gorkhey Jeep) and individual head load carriers. Among all these mediums, water tankers and private pipelines are highly preferred, where private pipelines supply water throughout the year while water tankers have high demand during dry seasons. Water business has become a thriving source of income where hundreds of people are engaged in hierarchical basis under different capacity. The ever increasing water demand in the town has encouraged many people to privatize the local water sources existing in their lands. Mainly the natural springs which traditionally used to be openly access to all have now been privatised by the land owners who are using it for market purposes. They are commercially selling water to the people through private water tankers, private pipelines and Manual carts in the town. "Given the low amount of water that reaches most households each week through the piped municipal water supply, and due to the low quality of some of this water, more and more of Darjeeling's residents have begun to pay for water distributed by the litre" (Drew and Rai 2016). The fashion of accessing water from the private sources has become more popular option to avail potable water in the town. Such

privatisation of water supply system has given rise to decentralisation of water resource management and distribution in the town.

In the context of private water distribution system, Pipelines play the most active role in supplying water from the springs, however the supply of spring-water through pipelines is limited to the low-lying areas as the areas above the springs cannot be served through pipelines. As per our field survey about 62% of private water supply in and around Darjeeling municipality is dependent on the private pipelines. The field survey further reveals that the demand for water supply through private pipelines is almost perennial in nature and hence are mostly connected to the permanent residents in and around the town. This system is predominant in the regions where huge concentration of small springs has fallen in the control of several individual vendors who supply water from the sources located in their private lands. Specially the settlements of the western hill slope of the town is largely dependent on this type of water supply as the region has large number of small springs all over the slope. The maximum concentration of springs can be seen over the higher elevation regions, mostly the vegetative area under the jurisdiction of Jala-Pahar military cantonment area and also the areas extending over the few patches of social forestry in the surrounding villages. More than 45 scattered small springs have been tapped by the people to provide water to their houses from the Jala-Pahar area catering the people residing at Ghoom, Upper Rai Ville, Upper Dali, Chun Dhura, Upper Merry Villa, O.C Dara, Upper kak Jhora and Lal Khoti area. One of the respondents Mr. Deepak Mukhia, who resides in ward No. 6 near West Point School is a water vendor who supplies water on monthly and yearly rental basis, and says that he has taken a spring source from the cantonment authority on lease for about Rs 2400 for the initial occupation with the recurring cost of Rs 2000 per annum.

Table 1: Distribution and Income Traits of Major Private Pipeline Sources in Darjeeling Town

| Sl. No. | Ward no. | No. of Private springs | Household connection | Monthly rent per connection (Rupees) | Annual Average Income (Rupees) |
|---------|----------|------------------------|----------------------|--------------------------------------|--------------------------------|
| 1 | 2 | Ghoom Joreblow area-2 | 16 | 300-500 | 76,800 |
| | | Bherikhan-1 | 9 | 300-400 | 37,800 |
| | | Ghoom Query-1 | 12 | 350-450 | 57,600 |
| 2 | 6 | Krishna villa-3 | 27 | 400-600 | 1,62,000 |
| | | Nimki Dara-3 | 21 | 500-600 | 1,38,600 |
| | | Merry Villa-6 | 49 | 500-700 | 3,52,800 |
| 3 | 11 | Upper merry villa-3 | 23 | 500-700 | 1,36,800 |
| | | Lower Lal kothi-3 | 41 | 500-800 | 3,38,400 |
| | | Navin Gram-1 | 17 | 600-800 | 1,42,800 |
| 4 | 30 | Rai Villa-2 | 14 | 400-500 | 75,600 |
| | | Hormintage-2 | 16 | 400-500 | 86,400 |
| 5 | 31 | Bhutia Busty-2 | 11 | 300-500 | 52,800 |
| | | Muldara-2 | 6 | 300-400 | 25,200 |

Source: Field Survey by Author, 2016-17

The selection of springs depend on the people who want to get the spring source and they have to search for the spring which is not so far occupied or used by the other holders. The spring holders are provided a written document regarding their temporary occupancy over the source, however they are not entitled to construct any concrete or permanent structure at the source site. They are also not allowed to fetch the water through the full length iron-pipes over the cantonment area. Mr. Mukhia further says that he currently supplies water to 18 households which are located in Dali, and upper Krishna Villa (the two villages below West Point School, Darjeeling). A verbal agreement is done between the water supplier and the consumer before they set up the connection of the pipelines to the houses. The water is supplied on the basis of fixed duration where the consumers have to pay a negotiated amount of money every month or every year. Mr. Mukhia further adds that the people pay money according to their convenience, some pay on monthly basis while many pay annually. According to him one

normal connection can get water supply for a duration of an hour at a fixed time which generally starts from 5'o clock in the morning to 8'oclock in the evening at the rate of around Rs 600-700 per month or about Rs 7200-8400 per year.

VIEW OF PRIVATE PIPE LINE CONNECTIONS FROM THE SPRINGS OF PRIVATE WATER VENDORS



Figure 2: Source: Field Survey November 2016

The total charge for the set up of pipe lines between the distribution point and the connecting house has to be paid by the consumer itself. Besides, special provisions for water connections are also there who are willing to pay little higher to get water supply for more duration say about two hours a day or two times in a day at a little nominal rate than the normal cost. This type of connection is on demand mainly by the people who have given their houses for rental purposes and are providing the facility of drinking water from such connections. The field survey reveals that about 70% of the people who are living in the periphery of the town in Darjeeling municipality are dependent mainly on the water supply through private pipeline connections. About 150 private water vendors, residing in different parts of the town were interviewed regarding the relevance of income generated from water business and they said that this is one of the easiest and dependable business that involves less recurring expenses. One of them also mentioned that the task of supplying water to people's house is not only a matter of earning bread and butter but also a medium of earning dharma. Realising the scope of growing water market, many individuals who own springs in their private land have stopped the free access of water to the general public, and are using it for commercial purpose. All these springs which were openly accessible to all till few years ago and people who were availing water from these springs freely now have to pay for water after the initiation of privatisation of local water resources. However, the supply of water through pipelines is limited to the nearby low lying areas and it is not suitable for distant places.

The another significant share of private water supply system is fostered by the water vendors who sells water through the private water tankers at different places in the town. Huge influx of tourists in dry seasons i.e. during March-May and due to highly irregular water supply system, many hotels and restaurants in the town are compelled to depend largely on the private water tankers who supply water even in the driest months from the natural springs located far from the town, about 12-15 Km away. During this period, the water business reaches its all time heights and water vendors make huge money as per litre water become very expensive. In this context, they supply water mostly to the rich and commercial establishments, thereby the poor are thoroughly deprived of even necessary water requirements. During this season private water tankers runs actively with high frequency across the town to fulfil the escalated water demand. "Darjeeling today has a thriving water business, with a fleet of 105 trucks plying three or four trips a day from April to June, carrying 5500 to 6500 litres of water on each run" (Lama and Rai, 2016). The cost of water varies greatly depending on the distances travelled by the truck. It is about Rs. 1000 per mini-truck carrying 2000 litres and about Rs. 1600 carrying 6000 litres of water by large trucks covering

the distance of about 10 to 15km between the source and the supply point. Despite of such a huge supply of water by private entrepreneurs the urban poor are still deprived of requisite access to water as they are not capable to bear the cost of water tanker on a regular basis. They are generally the low income group people and daily wage workers who live mostly over the periphery of the town.

PRIVATE WATER TANKER SUPPLYING WATER IN THE TOWN



Figure 8: Source, Field Survey March, 2016

Apart from this two major water supply system "some of the distribution is very small scale with enterprising individuals selling water that they have sourced from nearby springs and streams in gallon jugs. Others sell water that they distribute via handcarts in larger quantities to households" (Drew and Rai, 2016). Such small scale water supplier mainly includes the individuals who own manual wooden carts (popular as *Gorkhe Jeep*) and supply water to the local level small restaurants, tea stalls and the households.

Table:2. Income Traits of Popular Means of Private Water Supply in Darjeeling Town

| Sl. No. | Mode Of Supply | Total No. | Total Capacity (Litres) | Average Trips/Day | Average Daily Income/Trip | Average Expenditure | Profit /trip (Approx) |
|---------|--------------------|-----------|-------------------------|-------------------|---------------------------|---------------------|-----------------------|
| 1 | Large tanker | 93 | 6,000 | 2 | 1700 | 700 | 1000 |
| 2 | Small tanker | 36 | 2,000 | 3 | 1200 | 500 | 700 |
| 3 | Gorkhe jeep | 18 | 2,00 | 2 | 120 | --- | 120 |
| 4 | Head load carriers | 33 | 40 | 4 | 50 | --- | 50 |

Source: Field survey by the author, 2016-17

The water is mostly supplied to the core-part of the town where water scarcity is very high during dry seasons. They buy water from the nearby perennial springs at a low cost and sell it to the town at comparatively higher rate. Their cart is fitted with 16 buckets of 20 litres capacity each and they charge about Rs 130-150 for about 300 litre of water. They do not supply water throughout the year but are very active during dry months i.e. between March to early June. One of the respondent Mr. Dhurba Rai, from Chari-kot, Nepal and a tenant at Chota Kak-Jhora says, He is selling water as part time business since 2007 and he knows very well about the nature of water crisis in the town. During pick period he does not get the time to sleep properly as he has to collect and supply water all night till morning. It is very difficult to carry water during day time as the traffic is very dense. He often manages to earn a

profit of about Rs 400-700 per day and goes to his regular work after 10 AM daily. The business is for three months when he gets maximum call for the supply of water and he often fetch water from the road side springs located at Merry villa and Krishna villa where he has a very good relation with the owner of the springs. He buys a full cart of water i.e. about 300 litres at the cost of Rs 40-60 and sells it in the town at the rate of about Rs 100-150 depending on the nature of demand and the distance travelled by him. He further said that many of them have made fast money by selling water and progressed a lot in the water business who have finally bought their own water trucks.

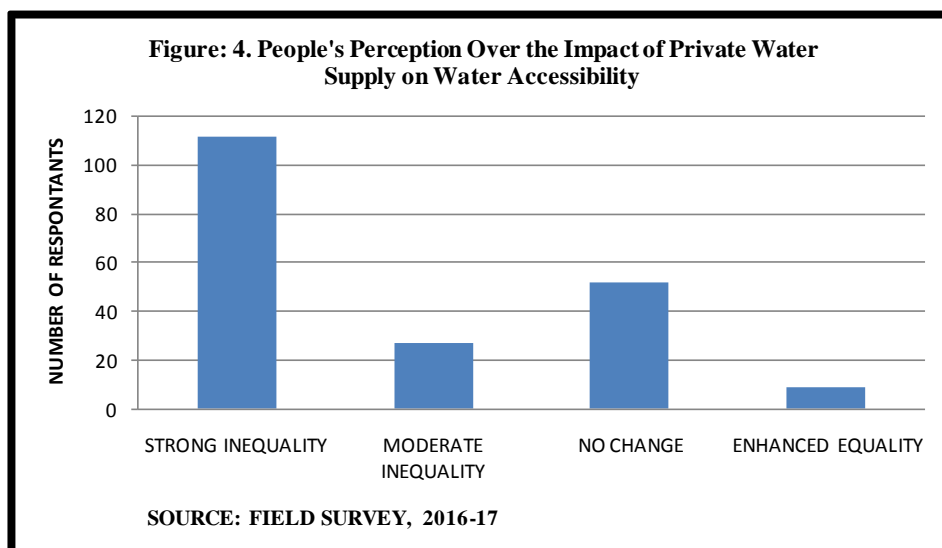
There are also some individuals, mainly the people who are engaged in manual works in the town, sell water in small scale during dry seasons when the supply of water in the town goes down tremendously. They mostly collect water at night or early morning from the nearby springs in the town when there exist less queue of people to fetch water (Lama and Rai, 2016). They usually travel short distances to distribute the water through jerry cans of varying quantities such as 20-30 litres. They are mainly single men or women who offer doorstep services to deliver about 80 to 90 litres of water at the cost of about Rs 80 to 100 per trip. Their supply is more or less to the permanent households or small tea stalls who demand water on daily basis during lean seasons (Josi, 2015). Hence, the small scale water sellers also play a vital role to fulfil the additional water demand of the town during the time of acute water scarcity.

5. CHALLENGES TO WATER JUSTICE AND PRIVATISATION IN DARJEELING TOWN

Privatisation and justice cannot go hand in hand as the former is profit oriented while the latter rests on the unconditional services for the welfare of humankind. There are numerous sects of justice and scholars have differences in opinion regarding the concept of water justice too, however majority of them have focused on fair access to requisite water, rightful or equitable distribution and safe quality (Holifield, et al. 2009). Water is always considered as a focal point for the discussion of any aspects of Environmental Justice for its indispensable role and ever intensifying crisis across the globe (Harvey, 2004). The contemporary solution to solve the growing water crisis proposed by the capitalistic society is privatization of water supply system, which in effect leads to treatment of water as a commodity (Reed, 2004). Private-cooperates further argue that water is a scarce resource and market-based private performers are supposedly best situated to efficiently manage water (Bakker, 2007). The arguments put forwarded for water privatization is that the higher cost for water will encourage conservation of water resources (Sampath, et. al., 2005). However, it is evident from several studies that in ground realities the control of water by private companies have taken away the people's access of water as a free resource and challenged the notion of Right to Water, particularly in developing countries. Again the cost of water is not static as it often involves the processing charges such as water harnessing, purification, distribution etc. which in turn hikes the price of water per litre and makes it almost unaffordable to the poor. Several studies underline the practical and distributional aspects to water injustices through privatization modalities which contradicts the service, efficiency and transparency awarded to private sector entrepreneurs; which lacks local community consultation and poses long-standing livelihood risks and challenges for marginal communities (Dubey et al., 2005; Bhattacharya et al., 2012). Hence the introduction of private-sector participation in water supply system escalates a degree of its commercialization and transforms water from a social utility to an economic utility (Josi, 2015).

In Darjeeling town privatization of water resources symbolizes a distinctive feature that does not involves any legal concerns rather promotes governance failure in the region. It is argued that the approaches and mechanisms to control local water resources and water market by the private entrepreneurs in the town entails illegal establishments. The despairs of water scarcity has been capitalized in conjunction with an illegal water market that functions with illicit investment of the 'water mafia' (Lama and Rai, 2016) who are trying to control local water sources and supply in Darjeeling town. Such kind of water privatization is evidently quite different to the nature of water commodification described in the context of neo-liberalism (Bakker, 2007). Owing to negligence from the part of the governance and the deterioration of the existing public water supply system in the town, affordable access to water ceases to be a service to residents as a right, and is progressively relegated as a commodity to be sold to the consumers by the private water merchants on a profit-making basis (Drew and Rai, 2016). The initiation of privatization has thoroughly clogged the common people from free and equitable access to locally available water sources (particularly natural springs), for the people who own springs in their lands have realised the commercial value of the sources. Depriving the common people from free access to natural springs which have been the age old

sources of drinking water, the spring owners are selling water to their targeted consumers who are paying rents them. Controlling hundreds of natural springs many private water vendors are indulged in water business and hence one can easily see bundles of private pipelines across the town that connects the households of the rich people. The urban poor in the town deprive such privileges and have to stand on the queues for many hours to fetch water at the nearby community springs or public taps whose supply is too irregular and uncertain. The situation is so intense during dry seasons (from April to early June) that one can vividly witness the queue of many people with hundreds of buckets even at mid night till early morning. Mainly the female and school going children have to suffer a lot as they have to get up early morning to join the queue to fetch water for everyday use. Due to lack of strong market-competitors and legal surveillance, water privatization in Darjeeling town is explicitly discursive which rescripts water as "a commodity rather than a public good, and its users as individual consumers rather than a collective of citizens" (Josi, 2015). The pressing problems of water crisis becomes more intense when lakhs of national and international tourists influx into the town. All the hotels and restaurants subsequently raises their daily water demand to carter the tourists as their customers and consequently encourages the private water suppliers to sell maximum amount of water fetching the local sources. This exerts tremendous impact on the water market of the town where majority of the private water suppliers ponder to carter the commercial water demand at high price, thereby invariably neglecting the domestic level water supply. During this period, residents of the town often have to face serious disparities in terms of water accessibility and the situation is even worse among the urban poor. Due to such kind of monopolistic and unrepentant functioning of the private water suppliers, the urban poor who lives in the core areas of the town are almost unable to access even requisite amount of water and are compelled to live under water poverty like situation.



The supply of clean and safe drinking water is the another crucial aspect that private water suppliers meticulously compromises as they are absorbed only in making money. None of the private water vendors concern about the potability of the water which they sell to the residents fetching from the nearby sources. During the field survey while stressing about water quality none of the respondents were found to be aware about the quality of water in Darjeeling town. Many of them asserted that they have not even heard about any private water supplier who undertake water quality assessment so far. Recent studies reveal that most of the local water sources mainly natural springs are highly contaminated with faecal coliforms and E.coli that posses potential health risks (Drew and Rai 2016). In this regards Josi (2015) writes, when municipal authorities in 2012, complained about the poor quality of water being supplied to the residents by the private entrepreneurs they defended themselves by saying "We have been supplying water from these sources for ages. To date, there have been no complaints that anybody has fallen ill after drinking water supplied by us. The municipality suddenly decides that the water is contaminated. We will not supply water till the matter is sorted out to our satisfaction" (Rai, 2012). The situation is no better even today, the monopolistic control of private water vendors is still flourishing with accelerated tune as the rich and the local politicians are highly engaged in making money by enabling operation of private water market in the region. On the one hand rich are getting 24 hours running water facility through private pipeline connections to their

houses while the poor are still spending hours standing on the queues to fetch a bucket of water on the other hand. Hence, in Darjeeling town privatization and commodification of water resources have not brought about any improvement regarding the management and supply of affordable, clean and safe drinking water among the common citizens. Instead, the initiation of privatization and commodification of water resources in Darjeeling town has brought about 'water injustices' with several predicaments such as unsustainable mining of water sources, gradual loss of public control over local water sources, accessibility conflicts and disparities in the urban water security and so on.

6. CONCLUSION

Water privatization involves transferring of water control or water management services to private entrepreneurs with a view of enhancement in water supply and distribution system (Bakker, 2011). But its functioning and novelty is often questionable as it incorporates some contradictions challenging to equity, fair and social justice. From the various researches, debates and studies outlined here we could understand that privatization of water resources in Darjeeling town has brought about water injustices and has further intensified the readily existing problem of water crisis. The study further reveals that the existing privatization of water resources is functioning on illegal establishments and has violated the basic rights of the citizens by depriving them from the equitable and affordable access to drinking water in the town. Further, the problems of deterioration and drying up of local springs due to rapid urbanization, deforestation and ill management in the region makes the town disproportionately water insecure and adds a particular urgency to question about the relevance of the functioning of existing water privatization questioning who will be benefited and who will bear the costs. Again, one essential lesson that emerges from the study is that forms of water service must be both affordable and democratically accountable at the local level in order to ensure expanded and adequate service for the poor (Iyer, 2007). However the silence from the governmental authorities with regard to illegal water captivation by a handful of people symbolizes the water crisis in Darjeeling town is a political affairs too. Private water supply system has boomed because of the negligence from the part of the government and the failure of the centralised public water supply system in the town. Hence to improve the situation or to do away with the existing water crisis and injustices, the government authorities must adopt sustainable alternative water management system which secures equitable water accessibility to all the citizens. The accountability, and participation of local initiatives in water management must inevitably be coupled with state or government support in terms of functioning and funding for infrastructure (Sampath, et. al., 2005). In contrast to privatization, the government can encourage community based small-scale water management and distribution models, which offer cost benefits and long term sustainability over the privatization models and ensures equitable and sustainable use of this precious natural resource.

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