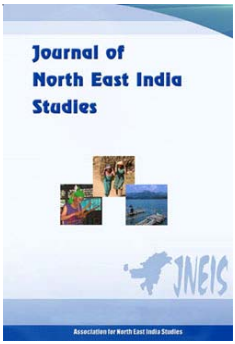

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Urban water governance: Examining the role of traditional institutions in Shillong, Meghalaya

Bankerlang Kharmylliem and Ngamjahao Kipgen

This paper explores the strengths and weaknesses of the traditional institutions (dorbar shnongs) operating in the urban setting in the context of domestic water distribution in Meghalaya's capital city of Shillong. The nature of water governance carried out by these institutions is examined to understand their role and contribution to water (in)equity in the city. Based on empirical study, selected localities are undertaken and compared to highlight the role of dorbar shnongs in water governance that are directly and indirectly contributing to water supply. This study focuses on the significance and the role of the local traditional institutions with regards to urban water governance in Shillong.

Keywords: dorbar shnong, traditional institutions, urban water governance, Shillong, social sustainability, water (in)equity

Introduction

Urban sustainability is a significant concern because of increased urbanization across the world (Rydin, 2010). By 2030, almost sixty per cent (60 %) of the world's population will live in urban areas (UN-Habitat, 2015). Urban areas are fundamental to all aspects of sustainable development (Rydin, 2010) and water is a defining factor to sustainable development (UNDESA and UN-Water, 2015). As a critical issue of this century, a fresh and dependable water supply is critical for urban sustainability (Benton-Short and Short, 2013). It is forecasted that by the year 2050 there will be less water available for cities across the world (Pew Research Centre et al., 2017). In 2001, one third of the India's population was living in the urban areas. According to the government census, thirty one percent of India's population lived in urban areas in the year 2011. Satellite images suggest that sixty three per cent of India is presently urban (Sreevatsan, 2017). Urbanization represents a positive development as well as challenges (UN, 2017). The physical imperative in urbanizing India is water (Soni and Virmani, 2014). India fares very poorly with regard to water supply even when com-

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pared with other developing countries. A little less than two-thirds of the urban population is covered by individual piped water connections from a treated source (Ahluwalia, 2014).

Water governance is critical to water security and to the long-term sustainability of freshwater (Bakker, 2013). The challenges of water governance are most acute in developing countries (Araral and Wang, 2013). Local institutions are important for sustainable development of the urban regions and for mobilizing resources and regulating their use (Uphoff, 1986). Sustainable use of a natural resource like water in developing countries is supported by the strength of its local institutions (Ascher, 1995). Local institutions are highly dynamic. They develop with society according to local needs and could foster participation (Mowo et al., 2013) in water governance.

India does not suffer from a natural scarcity of water; rather the scarcity that we see is because of mismanagement (Ahluwalia, 2014). Like most cities in India, the city of Shillong in the state of Meghalaya has many acute water problems which include inequitable intra-city distribution, high unaccounted-for water (UFW) level, inadequate financial resources, absence of integrated approach in service delivery, the inability to impose user charges and others. In Shillong there exists a distributed governance of water where both formal and informal institutions take part in the distribution of water (Batchelor, 2007). Here, water production and distribution systems are covered by the Shillong Municipal Board (SMB), the Public Health Engineering Department (PHED) and the local institutions which are known as the *dorbars shnongs*.

The Setting

Shillong, the capital city of Meghalaya state in India is located in the East Khasi Hills district at an altitude of 1496 metres above sea level (Government of Meghalaya, 2015). Urbanization can be said to have started when Shillong was made the capital of the Khasi and Jaintia Hills District in 1866. The expansion of bureaucracy was the main reason for the growth of urbanization of the city (Dkhar, 1981). Shillong was made the summer capital of Eastern Bengal and Assam for many years. Shillong became the new political and administrative station of the region. Thus the settlement of the British and other European officials in the area began (Dkhar, 1981). In fact, the growth of the city can be attributed to the establishment of cantonment by the British in 1867. In 1878, two sub-urban villages of Mawkhar and Laban were formed into a station with the consent of the *syiem* (monarch) of Mylliem. Subsequently, Lachumiere and Haneng Umkhrah were included in the station. Then the station was converted into a municipality in 1910 (ADB, 2009). What started as a small village, Shillong became the capital of colonial Assam in 1874 till 1972 when Meghalaya got its statehood (Government of India, 2017).

According to the 1872 Bengal census, Shillong had a population of 1363 (Hunter, 1975). As per the 2011 Census, the total population of Shillong Urban Agglomeration region is 354,759. With the rapid growth of urbanization, Shillong now faces shortage of water, inadequacy of sanitation and civic services (Dkhar, 1981). The population

of Shillong is projected to be 5.5 lakhs and 7 lakhs by the years 2021 and 2031 respectively (Department of Urban Affairs, 1990).

The expansion of the city into the new Shillong Township will produce new water challenges to the present water governance systems. The expanded area of the city will accommodate villages like Mawdiang-diang, Umroh, Mawlong, Diengiong, Umsawli, Mawkasiang, Madansaisiej and Mawpdang. This study seeks to add to the small cities literature in trying to understand the uniqueness of the study area with reference to water and thus reiterating the importance of small cities (Bell and Jayne, 2009) in contributing to overall urban sustainability.

Rationale of the study

Shillong city is chosen as a site of study because of the recurrent water supply problems in the city and to improve the understanding of such problems with the intent of contributing to the solution (Hedrick, Bickman and Rog, 1993). The central concern of this study is to examine the effect water governance carried out by these local institutions with regards to water distribution. Although water is a common property resource, it is not fairly distributed and is insufficient. Therefore, future water security of Shillong lies in collective good urban governance. In a sense, the existence of democratic state institutions and traditional institutions has both its advantages and disadvantages. Mention may be made that the presence of traditional institutions alongside the state machinery in the urban arena is significant on its own and as means to a better urban future prospect.

The *Dorbar Shnongs*

Shillong is a comparatively a small city. It is divided geographically into *dongs* (localities) and each *dong* (locality) has its own *dorbar shnong*.[1] The *dorbar shnong* is a "traditional assembly of all resident adult males under an informal headman elected by them from among their number" (Syiemlieh, 1989). The *dorbar shnong* is the primary unit of administration based at the locality (in the urban areas) or village level (in the rural areas) (Baruah, Dev and Sharma 2005) and it is ethnocentric and semi-democratic in nature (Lyngdoh, 2016a). *Dorbar shnongs* are autonomous bodies with independent decision-making processes and implementations (War, 1998).

The traditional Khasi political organization can be divided into the following (War, 1998):

1) *Ka Dorbar ka Hima Pyllun* (state *dorbar*); 2) *Ka Dorbar Raid or Dorbar ki Laiphew Shnong* (*dorbar* of the Thirty Villages); 3) *Ka Dorbar ki Kyntoit* or *Ka Dorbar Pyllun* is a small council of a group of villages or localities; 4) *Ka Dorbar Shnong* (village or local dorbar); and 5) *Dorbar Kur* (clan council)

The Khasis believed the *dorbars* to be an institution of divine origin (Baruah, 2004). The traditional institution of *dorbar shnong* is linked with the modern political institution of the district council created by the Indian Constitution. They have no constitutional recognition but the people identify themselves with such institutions as they are rooted in society (Nongkynrih, 2015). Whereas, Lyngdoh (2015) contends that the *dorbar shnong* today is not totally unconstitutional. It has an indirect

constitutional recognition. The *dorbar shnong is a* new grassroots governance institution built upon the precepts of the past, and evolving out of the amalgamation of Khasi clan-based democracy and modern individual-based popular democracy, operating in a new social situation (Lyngdoh, 2016b).

In general, the *dorbar shnongs* are efficient in meeting the day-to-day requirements of society at the grassroots level. They have also played a significant role as a legitimate organ of the government in implementing various development programs and in maintaining law and order (Lyngdoh, 2016c). Most *dorbar shnongs* works closely with the government to bring overall development (Laloo, 2014). Their water-related functions include the protection of springs and streams, prevention of underground water overuse, identifying genuine residents for water connections, assisting in new water connections, looking after the health of water infrastructure and acting as a medium for grievance redressal. *Dorbar shnongs* have their jurisdiction over their residents and the natural resources within their territories (Nongkynrih, 2002).

Meghalaya has the unique distinction of having retained its customary laws and practices and its traditional institutions (Mukhim, 2004). The protective discrimination under the Sixth Schedule of the Constitution of India made it possible for the traditional Khasi institutions to function as self-governing institutions at various levels. Of all the traditional institutions, the *dorbar shnong* seem to be most important in the everyday politics and administration affecting the lives of the people (Baruah, 2004). The Sixth Schedule is aimed at protection of the tribal areas and interests, by constitutionally mandating local self-government institutions. These institutions are entrusted with the task of protecting tribal culture and custom, and to undertake development. However there are provisions in the Sixth Schedule which make the 73rd and 74th amendments not applicable to the Sixth Schedule areas. One major deficiency is the provision that the establishment of village councils is not mandatory in the Sixth Schedule areas and hence do not have constitutional protection for election on the basis of universal adult suffrage and tenure (Lyngdoh, 2013).

The *dorbar shnong* is a very powerful social institution even without any constitutional or legislative support (AusAID, 2005). According to most traditional institution leaders, *dorbar shnongs* represent a superior form of governance, free from the deceitfulness of modern party politics (Karlsson, 2005). The *dorbar shnong* has the support of the Khasi community as a spontaneous social authority that emerged from within and not imposed from outside the society. As an institution, the *dorbar shnong* is sociologically legitimate, though it is not fully democratic (Lyngdoh, 2015). The present governance system in the Khasi Hills is "a curious mixture of that of the traditional and the modern" (Syiemlieh, 2006). The *dorbar shnong* at present is "a new grassroots governance institution built upon the precepts of the past, and evolving out of the amalgamation of Khasi clan-based democracy and modern individual-based popular democracy, operating in a new social situation" (Lyngdoh, 2016b). Out of this, two basic advantages emanate. First, it is the dependence of the government on the institutions for a great deal of support (Syiemlieh, 2006). Second, the people comply and respect the traditional authority of "the eternal yesterday" (Weber, 1978).

Dorbar shnongs functions largely on the basis of an unwritten code of conduct though a number of *dorbar shnongs* today also have a set of guidelines. The headman (*Rangbah Shnong),* functions on the principle of collective decision-making. He is assisted by a small executive council, comprising of a council of elders (Lyngdoh, n.d). The powers and functions of the *Rangbah Shnong*s combine executive and judicial powers (Baruah, 2004). A few major functions of *dorbar shnongs* and urban areas include the following:

i) The *dorbar shnong* carries out specific judicial functions and arbitrates minor local crimes and functions as a prosecuting body (Baruah, 2004). The civil administration of the state has partially accepted that the *dorbars* are the legitimate law-enforcing authority (Baruah, 2004).
ii) The *dorbar shnong* is quite efficient and effective in the maintenance of peace, and law and order (Lyngdoh, 2015).
iii) Developmental and welfare works such as the construction and maintenance (War, 1998) of streetlights, water infrastructure, etc.
iv) *Dorbar shnong* can levy contributions and duties from households and retailers (mom-and-pop shops) within its jurisdictions, to meet their expenses (War, 1998). Fees are collected for allowing residents to buy property and to forward applications for trading licenses by non-tribal traders (Baruah, 2004). Other kinds of fees include such as vehicle parking fees.
v) Many *dorbar shnongs* promotes youth development activities through the youth organization of the locality (Lyngdoh, n.d).
vi) The *dorbar shnong* is usually approached to implement government programmes (Lyngdoh, 2015).

The representatives of traditional institutions, such as the dorbars, claim historical legitimacy. The representatives of the constitutional bodies want traditional institutions to contribute more effectively to governance and for this they have to accommodate change (Sharma, 2004). Critics of the dorbar shnongs claim that these institutions are an exclusivist and extend an ineffective form of rule that ought to end (Karlsson, 2017). These institutions are also presently being criticized as ones that have no or little utility (Kharbani, 2016). Dorbar shnongs today have lost focus of their mandate to provide basic fundamental services to the community they serve. Blah asked an important question- "are the dorbars providing governance which is in tune with the needs of our times?" (Blah, 2016).

Present State of Water Supply in Shillong

Despite high rainfall, many areas in Meghalaya face water shortage. Water demand is rising whereas supply is declining (Shabong, 2015). According to the Master Plan of Shillong 1991-2011, the available quantity of water is just sufficient to meet the demand of about fifty per cent of total population of Shillong. The rest of the population depends upon private wells, vendor tankers, small springs, etc. Water supply available to the city is 28.68 mld (million liters per day) as against the demand of 51.70 mld for

the year 2006. During the dry season water supply is irregular as it is evident in most parts of the city. The amount of water that the localities receive differs in both quality and quantity. The major issues of the current water supply systems in Shillong are inadequate availability of water supply, antiquated water infrastructure, inadequate financial resources and inefficiency in mobilizing capital by SMB and PHED, absence of integrated approach in service delivery and inability to impose user charges.

The SMB and PHED provide the bulk of the water supply services in the city. The main water sources are rivers, streams and springs. The SMB controls several springs and stream. In areas beyond the ambit of the municipality, the PHED networks with some *dorbar shnongs* to develop small water schemes supplying the water through stand posts and through piped-in-premises.

Findings and Discussion

This study examines three localities in the non-municipality area of Shillong, namely Lawsohtun, Nongkhryiem and Mawpat. The non-municipality area was chosen because the *dorbar shnongs* here have more water related functions to carry out compared to their counterparts in the municipality area. Their roles in water governance are compared to see how different they are which in turn determine the kind of water experiences their respective residents receive. Other localities in the city are also taken into consideration in the study while interpreting and juxtaposing the findings with the three localities.

Major Water-related Roles of dorbar shnongs in non-municipal localities

Some of the water-related roles of the *dorbar shnongs* in non-municipal localities are highlighted as follows:

a) Like the municipality localities, No Objection Certificate (NOC) is required for a house water connection, which is issued by these institutions.

b) In many of the non municipal localities, there are plumbers who are kept by a particular *dorbar shnong* for rendering service to that particular *dorbar shnong* only. A *dorbar shnong* pays the plumbers from its own funds.

c) There are *dorbar shnongs* which own property (community land) like forests. They are committed in protecting these forests. Also, they oversee the protection of reserved and protected forests of the government. Protecting these forests aids in preserving both surface and underground water.

d) Being outside of the municipal area, many *dorbar shnong* have to intervene for better water supply. They seek support and aid from local Members of Legislative Assembly (MLAs), Members of District Council (MDCs), the Public Health and Engineering Department (PHED), etc.

e) The *dorbars* collect water fees on behalf of the PHED. They also have their own funds which they collect from residents. These funds are utilized for water related works besides others.

f) They construct water infrastructure like water tanks, structures around springs for washing of clothes and other minor water-related infrastructures. They also maintain public standpipes and borewells.

g) Protection and preservation of water sources.
h) A *dorbar shnong* acts as a medium for complaint for problems beyond its capability.
i) *Dorbar shnongs* resolve water-related conflicts.

The following section discusses the case of three selected localities in the non-municipality area of Shillong undertaken in this study.

Case I: Lawsohtun

Lawsohtun is a locality outside the municipal boundary. It has a population of around eleven thousand. Piped-in-premises cover eighty five per cent of the households (approximately). The supply is an average of six hours daily (morning and evening). Springs are the major sources of water to this locality. The waters were tapped by the *dorbar shnong* long before the PHED came into the picture. The PHED's assistance was sought with increase in population.

Underground water is also utilized in the form of six bore-wells which supply water to the locality through public standpipes. These are maintained by the PHED and Lawsohtun Dorbar Shnong. There are six main tanks constructed by the PHED and twenty branch tanks constructed by the *dorbar shnong*. Funds for such a purpose and other water related requirements are obtained by the *dorbar shnong* mainly from the respective elected representatives to the government i.e., the MLA and MDC.

The *dorbar shnong* is committed to preserving the water sources and catchment areas. Since 2011, borewell drilling has been disallowed because, according to the *dorbar shnong*, groundwater extraction spring water discharge.

The *dorbar shnong* of Lawsohtun is aware that the locality will grow in terms of population and expand in settlements. So it has already searched for other potential sources of water supply. It located one in the form of a waterfall known as *Kshaid Tymmen*. To tap the water of the waterfall permission was sought from the Forest Department and the *Syiem* (king) of Hima Mylliem. The *dorbar shnong* has also communicated to the PHED to start the water supply scheme.

With the permission granted to the *dorbar shnong*, the PHED can start with the construction of a reservoir and other water infrastructures. Looking at the relationship of the Lawsohtun Dorbar Shnong and the PHED, the necessary work may begin in a few years.

Members of all the *dorbar shnongs* work on a voluntary basis. The degree and quality of service rendered differs from one *dorbar shnong* to another. What can be seen in Lawsohtun Dorbar Shnong is a greater sense of responsibility towards its citizens. Because of this the PHED wants to hand over the whole water supply project to the *dorbar shnong*. Future plans include replacement of old pipes both for house connections and public standpipe connections. Another aim is to control wastage of water. According to the secretary of the *dorbar shnong*, "Water is a gift from God; therefore they have a stewardship role to take care of it. The locality is also involved in tree plantation".[2]

Water is sufficient for all households in the locality. Those without piped-in-premises collect water from nearby public standpipes. After winter of every year, some parts of the locality encounter water shortage due to faulty distribution system.

The main reason is the lack of water tanks. The *dorbar shnong* will soon find a remedy to tackle this problem. But compared to other localities outside the ambit of SMB, Lawsohtun executes exemplary water management by its *dorbar shnong.* The locality boasts of its clean water which according to them tastes better than other waters in the city.

In Lawsohtun we see several features that contribute to its near-equitable water distribution:

1) Lawsohtun *dorbar shnong* committee members are dedicated. Residents are satisfied with its functions. The leadership team of this locality is agile.
2) Office bearers of the *dorbar shnong* are prudent. They set rules and regulations for all water consumers in the locality which have to be strictly followed.
3) Water related assistance is prompt due to the hiring of full-time plumbers by the *dorbar shnong.*
4) Besides improving water supply at present, the *dorbar* is preparing for future water needs.
5) It adopts and extends its authority further and better than most *dorbar shnongs* in the city.

Case II: Mawpat

Another locality being examined is Mawpat. It has more than one thousand households and a majority of them suffer from large-scale water scarcity. Like most localities outside of the municipal area, the residents obtain water in four ways: piped-in-premises, community springs, public standpipes and purchase of water. Purchasing of water is the major source of obtaining water in this locality. Community springs are mostly used for washing of clothes. There are around eighty public standpipes but not enough to meet water needs. Households with piped-in-premises constitute less than twenty per cent of the coverage. For the rest, water for consumption is obtained mostly through water vendors, which is the only option for most. Only a handful of households practice rainwater harvesting here.

Recent efforts by the *dorbar shnong* to deal with present water problems include the acquisition of a piece of land for installing a distribution tank. A local resident donated another piece of land for the same purpose. Like in Lawsohtun, water drilling has been prohibited when the *dorbar shnong* saw the effect it had on existing springs in the area. The *dorbar shnong* also engages the local community in tree plantation programs in the locality. According to the secretary of the *dorbar shnong*, the reason this program was initiated was to ensure a regular flow of water in the community springs. Since 1992, felling of trees has been disallowed in the community forest which is around one hundred acres in size.[3]

Apparently efforts put in by the Mawpat Dorbar Shnong are minimal when compared with that of Lawsohtun. Unlike Lawsohtun, Mawpat does not keep its own plumbers nor check wastage of water. Residents are not satisfied with its water related functions. This is an essential factor, maybe the most essential one which portrays the general account of the water scenario in Mawpat. Some residents even complain that their *dorbar shnong* even discriminates in water distribution.

As an expanding locality, many new residents come to Mawpat. In Lum Wahktieh, a division of the locality of Mawpat, there are no piped-in-premises. People here used to go to a river for washing their clothes. At present the water is unusable, it has become polluted. In an interview with two residents here, they said that the *dorbar shnong* treats them like 'outsiders'.[4] Providing water connection has not been a priority in this area for the *dorbar shnong*. Their water problems are overlooked, giving preference to original inhabitants of the locality first. The 'outsiders' have no voice in the *dorbar shnong*. People here feel that they are being discriminated upon, not only in terms of water supply but other issues as well. Though the number of households is many, Lum Wahktieh does not have even a single public standpipe. There is present a politics of recognition and water grabbing that gives rise to inequity in this place (Lu, Ocampo-Raeder and Crow, 2014). This *dorbar shnong* exercises its power and makes what are essentially political decisions about people's access to water (Sikor and Lund, 2009).

Compared to Lawsohtun, the study of Mawpat *Dorbar Shnong* reveals four major shortcomings:

1) Unlike Lawsohtun, Mawpat does not keep its own plumbers.
2) It does not check wastage of water.
3) Residents are not satisfied with its water related functions.
4) It discriminates in terms of water distribution which gives rise to manufactured scarcity (Johnston, 2012).

As institutions play an important role in influencing use of water as a local resource (Agarwal et al., 2013), the differences highlighted between the two localities show the accessibility of water to the people. This again is being determined by factors related with the *dorbar shnongs* like attitude towards water scarcity, sense of obligation and accountability, compassion (Berg, 2016) and sense of community. The city of Shillong has about one hundred localities each with its own *dorbar shnong* and each locality is different from one another. One can imagine the complexity of their governace of water and the result thereof. Each functions on its own accord and each being accountable to no higher authority. This is one of the key reasons for the current state of water supply in the city.

Solutions to water problems depend on many factors and the governance of water by the local institutions is one among them. The water governance practiced by the Lawsohtun *Dorbar Shnong* can be said to be good due to its capacity of achieving results in a fair and inclusive manner that leads to sustainable water management practices which also contributes to ensuring water security in the future (Akhmouch and Correia, 2016). We see a kind of governance that accommodates the people unlike the case in Mawpat where the *dorbar shnong* governs its water by (mis)using its power to dominate (Johnston, 2012) thus determining equitable distribution of water.

Dorbar shnongs can be said to be clusters of small groups of people. One of their strengths is their social capital. Lawoshtun, through its *dorbar shnong*, utilizes its social capital more rationally than Mawpat. This has led to better governance (Portes, 2000) of water. The *dorbar shnong* of Lawsohtun as an informal institution works

hand in glove with the PHED. This coexistence and interdependence is inescapable for the management of water (Mowo et al., 2013).

Case III: Nongkhryiem

Community water (*um shnong*) obtained from springs and a river account for about seventy per cent of the total water supplied in the locality of Nongkhryiem. The rest (thirty per cent) is directly supplied by the PHED. Community water supply is on an average for forty-five minutes daily (45 min/day) which according to the *rangbah shnong* is sufficient to meet needs. The whole water infrastructure was provided and set up by the PHED i.e. for both community and government-provided water.

The water fees are fixed by the *dorbar shnong* and rates differ according to the source. These fees are used for paying electricity bills for pumping the water and general maintenance costs and other expenditures like salary of the plumber, etc. The PHED water fee is more than the *um shnong* fee. The residents are proud to have own sources of water supply. Water quality is good, in fact better than PHED water. Residents prefer community water. There are two water supervisors in this locality which are paid by the *dorbar*. Many times even PHED pipes are repaired and funded by the *dorbar shnong*.

Existing community water in Nongkhryiem is not sufficient anymore for house connections. Even new connections from PHED are no longer given. The Greater Shillong Water Supply Scheme (GSWSS) Phase III was supposed to cover this locality. The *dorbar shnong* foresees a water crisis in the city as a whole. The *dorbar shnong* protects water sources and catchment areas. It is committed to work more closely with the government for water security.

In recent years, Laitkor, a village in the upstream areas proposed to dam the river for water supply. Nongkhryiem and other localities protested. The idea was scrapped. Hence the *dorbar shnong*s were able to protect and sustain its water supply. The *dorbar shnong* has approached the PHED to dam the river for water supply. Clearance has been given by the Forest Department.

Following are some of the notable features from Nongkhryiem:

1) The Nongkhryiem *Dorbar Shnong* has a water committee.
2) Like Lawsohtun, it uses its authority for the improvement of water supply in the locality.
3) Unemployed people of the locality are permitted to sell the spring water of the community (locality).
4) Community water is efficiently distributed.

There are similarities the way in which Lawsohtun and Nongkhryiem govern water. Lawsohtun and Nongkhryiem reinforce a sense of community among its residents. This adds to social sustainability (Rydin, 2010). They envision a future water scenario that is based on principles of equity and accountability. The implementation of any long-term goal on water governance will require the understanding of the changes and challenges that are likely to be faced in the coming years (Tortajada, 2010). The practice of good water governance by these two localities is recognized. There exists

a democratic and coherent coordination and a regulation process that leads to equitable, efficient, and sustainable water usage (Sehring, 2009).

According to Tropp (2005) one of the dimensions of good water governance is equitable use. There is water equity in these two localities. It is efficiently distributed. We witness traditional institutions operating in the urban platform while imbibing their innate characteristics of transparency, conscientiousness and community-centricity. The reason for the persistence of these particular *dorbar shnongs* is not only that they perform a certain functions but also that they serve the interests of people and culture (Sehring, 2009). Institutional continuity is a dynamic process of reproduction and adaptation (Streeck and Thelen, 2005). They can become relevant in the 21st century if they are effective thus earning the trust of the community. What is seen is a classic state the local level people no longer relying exclusively on the state to provide for them (Franks and Cleaver, 2007). What has developed within these *dorbar shnongs* is institutional bricolage (Sehring, 2009).

Therefore deregulation may become feasible for better water governance. If more control is given to the *dorbar shnongs*, they will distribute the water more efficiently in a transparent and responsible manner. *Dorbars shnongs* have the capacity. Because the *dorbar shnongs* govern small areas, governance becomes more workable. Water supply systems are at a smaller scale. One major obstacle is that *dorbars shnongs* do not have the wherewithal for large projects which can limit their capacity.

This study indicates that a traditional institution such as dorbar shnongs has a significant role in water management and governance. Urban water management is not merely a technical issue but also a social and political issue, a multi-level integrated approach involving all actors (Neto, 2016) is necessary. Therefore, *Dorbar shnongs* as a grassroot institutions are indispensible and responsible in social sustainability of water. Since solutions to water problems depend not only on water availability or scarcity but also on many other factors including the processes through which water is managed, competence and capacities at the institutional level, attitudes and perceptions and social and environmental conditions (Casadevall, 2016), the importance of institutions like the *dorbar shnongs* cannot be overemphsized.

In Lawsohtun and Nongkhryiem there is community engagement and a sense of belonging, that encourages people to gain a better appreciation of their capacity to bring about change within their local community by networking people and re-invigorating a more contemporary interpretation of community values in a networked society (Hearn & Stevenson, 2011) making these age-old traditional institutions apt for present times and demands. Since cities are dominated by secondary and tertiary relations (Gottdiener, Budd and Lehtovuori, 2016), it is the more pertinent for these institutions to take advantage of their social capital.

Also, these *dorbar shnongs* have general rules in relation to the institutional structure and functions that can assist in the implementation of the procedurally just decision-making processes in the localities in urban water management (Syme, 2008). *Dorbar shnongs* are institutions that can be referred to as the "prescriptions that humans use to organize all forms of repetitive and structured interactions" (Ostrom, 2005). The prescriptions are rules and norms (Andries and Janssen, 2013) which

apply to water collection, consumption and maintenance. Giving the example of Lawsohtun again, its *dorbar shnong* has a set of guidelines for its residents specifically regarding water management. For change to occur in urban water provision; it is these dynamic social aspects like values and behaviour at individual, organizational and community levels that can drive it (Syme, 2008) which rules and norms have a part to play.

As an institution, Lawsohtun Dorbar Shnong and Nongkhryiem *Dorbar Shnong* have the delivery capability (Padowski, Carrera and Jawitz, 2016) to augment water supply. To a certain extent they also have the transformative capacity which is defined as the ability of a governance system to adapt to current or anticipated changes in the social or natural environment (Pahl-Wostl, Gupta, Lebel, Schulze and Stuart-Hill, 2015). Though institutional fragmentation engagement (Keremane, McKay and Wu, 2017) is still a challenge for the most part of water governance system of the city, the successful case of PHED and Lawsohtun Dorbar Shnong working today generating efficient water supply to all households of Lawsohtun shows that it is doable and hence can be replicated.

Impediments to Water Governance

There are many barriers faced by the *dorbar shnongs* that obstruct, slow down and/or delay good water governance practices. These are both internal and external and the presence or absence of these challenges is contingent on people and place. The *dorbar shnongs* in the urban arena faces problems of division, disinterestedness and impassivity. Reasoning for this is supported form the work of Wirth (1938) who argued that size, density, and heterogeneity of the urban population paved the way for impersonal, transitory, and secondary social relationships based on anonymity, formality and rational interest (Abraham, 2014). The contacts of urbanites are impersonal, superficial, transitory, and segmented and "the reserve, the indifference, and the blasé outlook which urbanites manifest in their relationships may thus be regarded as devices for immunizing themselves against the personal claims and expectations of others" (Wirth, 1938).

For the sake of self-preservation, modern man tends to develop a defensive reserve around his personality to shelter from the overwhelming social forces around. Also, selfishness brings about human interactivity in our cities (Moroni, 2018). Individuals living in today's mass society acquire what Simmel (2002) calls the 'blaœe attitude' which involves antipathy, repulsion and utmost particularization. This attitude precludes them from interacting with other men fully. Instead people interact with one another in the most rational and impersonal way (Abraham, 2014).

As 'representatives' of the citizens, members of *dorbar shnongs* feel duty-bound (Hearn and Stevenson, 2011) and the feeling may not shared equally inter- nor intra-*dorbar shnong*. This results in the differences in water governance system of these institutions. Another reason is that water governance depends on how determined and 'powerful' the *dorbar shnong* is. It is surprising that there are even headmen who are 'forced' to take up their position because there is none willing. The kind of service rendered is affected in many different ways. Moreover, headmen and others office

bearers of a *dorbar shnong* are not paid any form of remuneration.

The interaction with other institutional systems, such as local government is low. Instead of acting as a vital bridge between community and the administration the *dorbars* are instead prompting confrontation with state government. This has produced governance of confrontation instead of governance through cooperation (Blah, 2016). Communication between different *dorbar shnongs* is also inadequate. This has a glaring impact in the way water flows through the city. This shortcoming produces a situation where co-operation is reduced.

Further, in the municipal area most urban water systems are excessively centralized and heavily dependent on public funding which bolster weak institutional framework at all levels including the *dorbar shnongs* (Barraqué and Zandaryaa, 2011). This in turn has given rise to a lackadaisical position of these institutions in the municipal area.

There are still many impediments to the *dorbar shnongs* exercising good water governance in Shillong. These are summed up briefly in the following points:

1) Because office bearers' membership in these institutions is voluntary in nature, members might lose interest or commitment.
2) Lack of management capacity
3) Undemocratic practices
4) Political interests (other than water)
5) Lack of resources (financial, human, material)
6) Lack of political will of the government
7) Exclusiveness
8) Community awareness and acceptance
9) Lack of functional and organizational flexibility
10) Lack of institutional linkages (including with other *dorbar shnongs*).

Water Future and the Village Councils

Major challenges exist in governance in modern society since the scale of interaction among people is much larger today. The future will bring with it new water-related problems to Shillong that will emerge due to rapid environmental and technological change (Andries and Janssen, 2013). The challenge of securing equitable access to water is enormous. The nature of water and the multiple roles of actors involved in extraction, use and distribution produce challenges to collective action (Bakker, 2010). Also, water circulation is dependent upon institutions and practices because it is not only socially produced, but also socially enacted (Bakker, 2003). Institutional arrangements that can promote equity can be made possible with the *dorbar shnongs*.

Dorbar shnongs can be institutions for improved water supply. Such institutions matter for providing good-quality water in adequate quantity to urban to reduce poverty and increase social welfare (Venkatachalam, 2015). Criticism and support for these institutions point to their advantages and limitations. Both will play a role in shaping the future of water supply in Shillong. For a better urban prospect in terms of domestic water, it is imperative that Shillong formulates its own specific strategy based on its special conditions, requirements, expectations and capabilities (Biswas and Tortajada,

2010) for urban water governance. The traditional instituions are essential constituents.

According to Linton (2010), "water is what we make of it". So what water will become to the citizens will heavily depend on how it is influenced and trasnformed as it flows through the hydrosocial cycle; the *dorbar shnongs* being part of the cycle. As a relational substance water will be constituted by many relationships among these and other institutions (Ioris, 2016). Let us look at possibilities drawn after having examined these institutions in the study.

First, enforcement of rules is almost always the weakest link in any system for managing water. But in Lawsohtun and Nongkhryiem the will to enforce rules is present with noticeable results. Moreover peer pressure and social norms and morals present in the *dorbar shnongs* can be much more powerful and effective than any formal law (Richter, 2014). Ostrom's primary conclusion in her work *Governing the Commons* (1990) was that key management decisions should be made as close to the scene of events and the actors involved as possible to avert a tragedy of the commons situation for common pool resources (Richter, 2014).

Second, the adherence of different *dorbar shnongs* to governance principles of transparency, accountability and participation, based on core values of honesty, equity and professionalism varies. Water integrity in Lawsohtun is high whereas in Nongrah it is low (Tropp, Jiménez and Le Deunff, 2017). Such efficacious effort can be advocated and advanced in *dorbar shnong* practices.

Egoism in the city is prevalent and curbing self-interest and putting greater emphasis on altruistic motivations in members of each *dorbar shnong* is likely to produce desired water-related outcomes (Moroni, 2018). Caring is one of the most important yet most devalued values today which has reduced human beings to greed and competition, and transformed everything, including water into a commodity. Again, the *dorbar shnongs* of Lawsohtun and Nongkhryiem have exhibited concern and regard to water management. Caring must move to center stage as a value to avoid future problems like social disintegration and conflict (Shiva, 2014).

Lastly, leaders of these institutions serves as bridging actors influencing the way in which knowledge and learning is exchanged (Horning, Bauer, & Cohen, 2016) with the government and other institutions. Exchange of information of many forms takes place between PHED/SMB and the *dorbar shnongs*. More importantly, in the context of this study, will be the knowledge sharing among these institutions thus shaping the social netrwork.

Conclusion

As discussed, the governance of water supply will greatly depend on the efficiency of the traditional institutions. The role of the local traditional institutions in the city is indispensable to meet the rising water demands. Apparently, most of the *dorbar shnongs* in Shillong at present seem ineffective, disconnected and vulnerable to the onslaughts of urbanization and modernization. As evident from the study, a *dorbar shnongs* like that case of Mawpat shows lack of practice of good governance.

The study also observes that currently there is no definite power accorded to the *dorbar shnongs*. The distribution of power and authority is ambiguous. People have

a lot of respect for these traditional institutions of the *dorbar shnongs* yet the role of the latter is not clearly defined. *Dorbar shnongs* can be considered for providing assistance in rainwater harvesting, water quality testing, renovation, water conservation and disseminating water related information to the people, besides others. According to the Meghalaya Water Policy 2013 (draft) water is to be "used efficiently, shared equitably, managed sustainably, and governed transparently" and should contribute to improving the health and livelihoods of all citizens (Government of Meghalaya, 2013). *Dorbar shnongs* must have an immense role to play in the actualization of this vision. Sustainable water governance helps in achieving water sustainability and particularly water equity (Kuzdas et al., 2014). Lawsohtun and Nongkhryiem Dorbar Shnongs have proven their capability in achieving the same.

Local self-government is the foundation of democracy. The *dorbar shnongs* are institutions that are intrinsic to Khasi society. Their role as custodians of the people in this globalizing era has to be advanced. Such institutions of the people require strengthening and to be entrusted with specific roles and opportunities (Karlsson, 2005). For this to happen there is the need to review the Sixth Schedule or at least some of its provisions (Soreide, 2013). Though the revival of traditional institutions is complex (Karlsson, 2005) it is both significant and urgent that the *dorbar shnongs* accommodate change (Gowloog, 2009). Even the ones that operate comparably better require to evolve and reform their structure as well as practices. *Dorbar shnongs* may be functioning and strong but they are not on an equal footing in terms of their control, influence, contribution and recognition. Maximizing self-governance is critical to empowering people, which will require strengthening of these local institutions (Rao et al., 2013).

It is important to draw out the social capital inherent in the institutions of the *dorbar shnongs*. Social networks will help underpin the informal governance (Rogers, 2006) of the *dorbar shnongs*. As institutions that are closest to the majority of the people in the city, social learning (Casadevall, 2016; Bakker and Morinville, 2009) is accessible and feasible. There will be many challenges in the future. *Dorbar shnongs* are 'action arenas' (Anderies and Janssen, 2013) where the water future of Shillong and the surrounding areas will be vastly influenced.

Notes

[1] A *dorbar shnongs* is one of the traditional political institutions among the Khasi people which have been in existence for generations at the lowest level of administration.

[2] Lawsohtun *dorbar shnong*'s Secretary, interviewed on 20 July 2016.

[3] Such a forest is called *lawshnong* in local dialect. Possession of such a forest carries a sense of pride. Lawsohtun also has its own community forest. Therefore, protection of such forests by the *dorbar shnongs* is important for water security.

[4] Local residents of Lum Wahktieh in Mawpat, interviewed on 15 October, 2016.

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