

## **Taking the road less taken: Reorienting the state in periurban water management**

**Aman Dewan, Vishal Narain and Pranay Ranjan**

This paper describes the intervention strategy to improve water security in two periurban villages, Sultanpur and Jhanjhrola Khera, in periurban Gurgaon. Most approaches to improving natural resource management in periurban contexts focus on mobilising the community; little attention is paid to reorienting the state or strengthening the user-bureaucracy interface. This paper describes the process that was followed to reorient civic agencies engaged in the provisioning of water and to break what is popularly called the 'anarchy syndrome' in water management. The paper argues that for periurban areas that suffer from lack of institutional cover and weak responsiveness of service providers, providing platforms for direct engagement between water users and service providers can be a key tool for improving water security. It can build community resilience in the face of climate change and urbanization, both of which threaten periurban water security: the key is not just to augment water supply physically or technologically, but to build the community's capacity to ask for better water supply and to negotiate better with service providers.



## Water Security in Peri-Urban South Asia

*Adapting to Climate Change & Urbanization*

This is one of a series of Discussion Papers from the Peri Urban Project of SaciWATERS.

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**Citation:** Dewan, A., Narain, V., Ranjan, P., 2013. 'Taking the road less taken: reorienting the state in periurban water management', Peri Urban Water Security Discussion Paper Series, Paper No. 14, SaciWATERS.

First published in 2013

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Design by Mohd Abdul Fahad

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## Taking the road less taken: Reorienting the state in periurban water management

Aman Dewan, Vishal Narain and Pranay Ranjan

### Abstract

This paper describes the intervention strategy to improve water security in two periurban villages, Sultanpur and Jhanjhrola Khera, in periurban Gurgaon. Most approaches to improving natural resource management in periurban contexts focus on mobilising the community; little attention is paid to reorienting the state or strengthening the user-bureaucracy interface. This paper describes the process that was followed to reorient civic agencies engaged in the provisioning of water and to break what is popularly called the 'anarchy syndrome' in water management. The paper argues that for periurban areas that suffer from lack of institutional cover and weak responsiveness of service providers, providing platforms for direct engagement between water users and service providers can be a key tool for improving water security. It can build community resilience in the face of climate change and urbanization, both of which threaten periurban water security: the key is not just to augment water supply physically or technologically, but to build the community's capacity to ask for better water supply and to negotiate better with service providers.

### 1. Introduction

The villages of Sultanpur and Jhanjhrola Khera are located about 15 kms away from Gurgaon city in the North-West Indian state of Haryana. Urbanization and climate change have together altered water access and security in these villages (Ranjan and Narain 2012). Under the IDRC supported project on periurban water security, action research was initiated by the SaciWATERS team to improve periurban water security for their residents. This paper describes the process that was followed to do so. The main focus of the intervention strategy was on providing a platform for dialogue between water users and service providers and creating a mechanism for improving responsiveness and mutual accountability.

### 2. Theoretical framework

Soon after the project inception meeting, the project team spent time understanding the critical gaps and challenges in water supply in the two villages. The approach was to understand ongoing local initiatives and how their progress could be supported. We wanted to take an approach in which we catalyzed change and supported on-going efforts to improve water supply rather than carried out what we thought was good for the communities in a top-down, prescriptive manner.

Three criteria were adopted to identify our role; namely, capability, acceptability and sustainability. We felt that what we do should be acceptable to the communities and should be sustainable beyond the duration of the project. Unlike several external or donor funded interventions, we did not wish the intervention to lose steam or to collapse after the project funding. Finally, we should be capable of doing this within the time and resources allocated to the project and there should be local level capability to take it forward. We also felt that the process of action research should build some local capacity among communities for long term, sustained improvement in water supply, as against a specific technological or institutional intervention for improving water supply confined to the period of the project duration.

To start this process, the following steps were carried out in Sultanpur village.

Assessing acceptability of the interventions. The SaciWATERS team had small meetings with different groups of people to understand the potential of different approaches to improving water security. The possibility of building water harvesting pits and reviving johads (the village ponds) was discussed. There was low acceptability of this. Dominant narratives about climate variability and change undermined the potential of water harvesting. 'Jab baarish hi nahin hoti, to johad ko zinda karke kya karenge ! (when there is no rain, what is the point in reviving the ponds) !! We also discussed these issues in a local level village meeting where the village Sarpanch (headman), key members of the panchayat (village level governance body), villagers and BDO (Block Development Officer) interacted face to face.

The team explored the possibility of using the funds of the NREGS (National Rural Employment Guarantee Scheme) for building water collection pits and recharging johads. However, residents of the village did not wish to engage in manual labour. "Paisa to mere paas hai, par koi lena vala nahin hai (I have money, but nobody asks for it)", said the BDO. This issue was discussed subsequently again in a one to one meeting with the village Sarpanch. We also explored the possibility of involving NGOs; the resounding response was "hum atma nirbhar hai, aur aise he rehna chahte hain (We are self-reliant and want to stay that way)." "yeh seedha saadhe logon ka gaon hai... yahan gair kanooni paise ki zaroorat nahin hai (this is a village of innocent people... we do not need any illegally acquired funds)." It appeared that the communities wanted

to do something that they could lead and sustain on their own, with some support from the project team.

Assessing the sustainability of interventions. In order to ensure sustainability of the intervention, it was felt necessary to involve local agencies. Since they have a continued presence in the field, their involvement was seen as necessary to ensure the sustainability of the intervention. The strategy to accomplish this was to initiate dialogue and build relationships with local service providers and state agencies, namely, the PHED (Public Health Engineering Department), HUDA (Haryana Urban Development Authority), Forest Department and the Irrigation Department.<sup>1</sup> In-depth semi structured interviews were carried out with their key officials to investigate their role in service provision and identify emerging challenges and problems in working with the village Panchayat. Meetings with these agencies gave insights into the institutional dimensions of the main problems related to water. This helped understand the role of different agencies in service provision, map the institutional relationships and identify critical gaps. A rapport was struck with the concerned agencies; most of them offered support in what we wished to do.

Assessing the capability of the team and the communities. From our interactions with the village Sarpanch, he came across as someone who was earnest and capable of asking for change. He had been pursuing the task of legalization of the village's water connections<sup>2</sup> since our first interaction with him during the scoping study meeting. He had also initiated several efforts to improve local water supply by installing hand-pumps especially to serve the backward communities. He came across as candid and hard-working and willing to work with us. Finally, we had to bear in mind that we were a small team of three researchers and had limited resources to bring about some change over a short span of three years.

## 2.1 Critical areas for intervention

Based on our analysis of the situation, we found the following areas to be critical for intervention.

### 2.1.1 Responsiveness and accountability of service providers.

As noted above, at the start of the project, Sultanpur village was undergoing the task of legalization of water connections. However, there was some lack of communication between the PHED and the village residents. The village sarpanch sensed some unresponsiveness on the side of the PHED. "Itni baar main phone karta hoon, par JE phone hi nahin uthata (I call the JE (Junior Engineer) so many times, but he does not pick up the phone)," he said. We noticed that there was an institutional lacuna – a lack of a forum to ensure the accountability of the PHED to water users, or for them to interact and engage in constructive dialogue. A communication channel between the two sides was absent. Improving accountability and responsiveness of service providers was thus identified as the core area for intervention; advocacy was needed with service providers to put pressure on them to respond to the recipients' requirements.

A start to this effect was made by a representative of the SaciWATERS team by tracking the status of applications for legalization of water connections with the PHED and communicating them to the village headman. From our meeting with the PHED we also learnt that the panchayat was supposed to check the spread of illegal water connections. We wanted to work hand in hand with the Sarpanch to support his efforts.

Thus, we defined our role in terms of what we chose to call yo-yo advocacy – going back and forth between the recipients and providers of water supply, to see where the communication and intervention gaps were, put pressure on public service providers for change, identify stumbling blocks in the process and correct them through pressure, persuasion or a combination of both. The key was to break what has often been referred to as the "anarchy syndrome" in local water management - a situation of distrust and prisoners' dilemma between water users and service providers (Wade 1988).

### 2.1.2 Overcoming periurban blindness of policy-makers.

The second larger goal of intervention was identified at a higher level in terms of overcoming the periurban blindness of policy-makers. Policy-makers tend to think in terms of rural and urban issues, without looking at the relationships between the two or the implications of the growth and expansion of one for that of the other. With urban expansion, policy-makers and urban planners focus on the needs of the urban populations, often turning a blind eye to periurban populations. This aspect of intervention was directed through a two-pronged strategy:

- 1) An exposure visit of mid-career civil servants to periurban locations to sensitise them to periurban issues.

1 Interviews were also held with the Agriculture Department, though we did not see their direct role in water provision.

2 Many people access water using connections not authorized by the PHED. They are considered to be illegal connections. For legalization, households need to apply for a connection, that needs to be formally approved by the PHED.

2) Communicating with policy-makers both in written form (by sending representations and memos) and orally (by inviting them to stakeholder meetings and workshops).

A start was made in this direction by organizing a visit of 24 mid-career civil servants to Sultanpur Village. The participants of MDI's Post-Graduate Programme in Public Policy and Management, a batch of mid-career civil servants, were first introduced to a case on periurban issues through exposure and discussion in class. This was followed by a periurban transect drive in which they drove from the city to the Sultanpur village to see the changing and emerging periurban landscape. Finally, they attended a meeting in which local residents were present and voiced their grievances, giving them a forum to express their anger and resentment. The Public Policy Programme participants came back with a good exposure to public policy challenges in dealing with periurban issues.

On the second part of this strategy, a short write-up emphasising aspects of periurban water insecurity was submitted in a National Level Consultation to the development of the 12th Five Year Plan. This write-up was developed through contributions from the SaciWATERS team in Hyderabad and Gurgaon. We could see some effects of this in that the major points that were made finally were incorporated in the recommendations of the consultative process.

The elements of the action and advocacy strategy are summarized in the following table.

Table 1. Action and advocacy strategy for the Gurgaon project

Gap or need for intervention	Strategy for intervention
Low responsiveness of service providers to periurban residents	Meeting service providers to put pressure on them to respond; encouraging and mobilising water users to ask for change
Absence of channel of communication between service providers and recipients	Mediating the relationship between the two by fostering and facilitating dialogue; providing a forum for them to interact and engage in constructive dialogue, rather than a blame-game
Periurban blindness of policy-makers	Involvement of government representatives in local meetings around periurban water issues; exposure visit of civil servants to periurban contexts
Absence of platform for interaction among multiple agencies engaged in service provision	Stakeholder meetings to bring these water users and service providers together, to foster dialogue and build mutual responsiveness and accountability

As part of a long-term intervention strategy to improve water security, the team focussed on improving the communication between the water users and PHED. Regular visits were made to the PHED office in order to reorient the perspective with which the state agencies looked at peri-urban areas. Regular stakeholder meetings were envisaged as a platform through which the relationship between water users and water providers could be realigned, from being one of blame and distrust to one based on mutual trust and accountability. A series of local stakeholders meetings were planned in which periurban residents were brought face to face with service providers.<sup>3</sup> In the following sections of this paper, we describe these meetings and their impact on periurban water security.

## 2.2 The first stakeholders' meeting

### Sultanpur

The first of these meetings was held in Sultanpur village in June 2011. After a brief introduction by the project leader about the project rationale and objectives, the session was left open for the Sarpanch and the villagers to discuss the issues of water. The Sarpanch insisted that since the focus of the meeting was on water issues, the PHED officials should be present before starting any discussion. Soon, the PHED officials joined the meeting and speaking on behalf of other PHED members, the PHED representative spoke about

<sup>3</sup> Parallel to the stakeholders' workshops, a series of capacity-building workshops were organised. The purpose of these capacity-building workshops was to build the water users' capacity to reflect collectively on water management problems, encourage them to ask for change and secure better responsiveness of service providers. Separate capacity-building workshops were targeted at service providers and state agencies, with an intention to sensitise them to water management challenges and to seek their support and involvement in our work. While the staff of the PHED often underwent training on technical issues, the purpose of these workshops was to build a perspective on managerial and social issues, especially reorienting their attitudes towards water users.

the issue of rapidly decreasing resources and the need to be judicious while using them. He went on to speak about urbanization and increasing population. It was evident how narratives of urbanization and climate change were seemingly used as resources to create a sense of community obligation and commitment to save water.<sup>4</sup>

Speaking about water resources, he mentioned about the Sabi River, the flooding of which used to recharge the ground water in this section of Haryana. However, with the construction of a barrage, this natural recharge had stopped. He also mentioned that 2011 had been declared by Haryana government as the 'Water Conservation Year' and as part of this, water awareness activity would be carried out in Sultanpur. He also stressed on the issue of water wastage and villager's callousness towards this issue. He recommended that everyone should install taps (on their water connections) in order to check water wastage. In fact, he urged the Sarpanch, 'aap tooti lagwao, baaki ka kaam hum kar lenge' (you install the taps, we would do the rest!).<sup>5</sup>

He applauded the efforts made by the village Sarpanch in ensuring proper availability and distribution of water. He specifically applauded the Sarpanch's efforts in encouraging the households to get their water connection legalized. As a recommendation, he also mentioned about other villages where water distribution had been taken over by the Panchayat, and urged that the same be tried in Sultanpur as well. He spoke about the benefits of this system as it would not only ensure proper distribution of water but also generate money for the Panchayat which in turn could be used towards maintaining the Johad.

The voice of the village was led by the village Sarpanch. He spoke about the specific water issues that were faced in the village. The issue of intermittent power supply disrupting the water supply and distribution came to the fore. He specifically highlighted the issue of small streets having large pipe connections, which in turn reduced the water availability and lead to unequal distribution of water to those at the tail reaches. He also highlighted that many households in the village had multiple illegal water connections. He pointed out that the Junior Engineer (JE) responsible for taking care of water issues in the village was casual in his response, and unresponsive. The JE was instructed by his superior in front of the villagers to be more vigilant hereafter.<sup>6</sup>

The womenfolk of the village could also be heard in the background and were encouraged to speak up. While ordinarily their voice would drown among the cacophony of men, when given a chance to speak up, one among them spoke about cases where single households had multiple (illicit) connections. An immediate ramification of this was that other households – in the lower reaches - did not get water. Many other voices could be heard during the meeting, with some quick reflections by the District Councillor. He reiterated the need to stop water wastage. The BDO (Block Development Officer) joined quite late for the meeting; however, he made a very important comment – 'Kami paani ki nahi, vyawastha ki hai (the shortage is not of water, but of management capacity).'

Interestingly, the womenfolk of the village wanted to speak to the government officials separately, as they could not be very expressive during the meeting. Therefore, during the end of the meeting, the SaciWATERS team arranged a small meeting between the women folk and the PHED representatives to allow them a face to face interaction.

Every now and then the discussion seemed to go out of hand and the project leader, who was mediating and moderating the session, would intervene. The ambience was that of recrimination and mutual blame game. After some time, it was felt that there was a need to agree to some action points for follow-up. Moving the discussion towards a more conclusive phase the project leader specifically asked both the Sarpanch and the PHED officials to come to an agreement about core issues and the next steps for action. It was necessary to agree to some action points on both sides so as to fix mutual accountability and define tasks to improve water supply in the village.

Towards the end of the meeting, the PHED promised the following steps.

- IEC (Information, Education and Communication) activity would be carried out in Sultanpur village. This would create some awareness among the water users on the imperatives of saving water and using it more efficiently.

4 Upon hindsight, it appears that these narratives help state agencies evade accountability and place the ball in the water users' court by creating a sense of urgency to act more responsibly in the use of water resources.

5 This narrative of immense waste of water by not installing taps appeared at several points during the meetings over the course of the project. It is used to create a sense of accountability among users to prevent wastage of water.

6 Interestingly, the JE disappeared from the site of the meeting soon after the admonition. The popular perception was that the JE started working immediately as he did not even join us for the post workshop lunch!

- D.I. (Ductile Iron) pipes would be laid down in the village, replacing the cement pipes currently in use, to prevent pilferage and excessive use beyond the authorization; however, an order for procurement would have to be made. The existing cement pipes lead to excessive wastage of water through pilferage and illegal connections. Besides, they allowed local wastes to seep in and contaminate water, while depriving those at the tail reaches of the system access to water.
- Large pipe connections in the village by-lanes would be removed in order to stop reduction in pressure in the main pipeline. Following a field survey, proper zoning of the village water pipelines would be carried out to identify the connections that needed action.
- The Executive Engineer of the PHED reiterated the possibility of taking over of the internal water distribution system by the village Panchayat and the formation of a water management committee to regulate the internal distribution of water. The PHED urged the Sarpanch to do the following activities:
- Within one week of the meeting a couple of announcements would be made by the Sarpanch asking the villagers to install water taps (to keep the water from overflowing) and submit files for proper water connections (that is, to legalise them). If this was not done, the connections would be removed.
- The Sarpanch shall have to ask the villagers to install water taps and submit files for proper water connections.
- The Sarpanch would report to the PHED officials about the status of steps undertaken by him to carry out the above, and vice versa.

### 2.3 Defining the role of the SaciWATERS team

The first stakeholders' meeting set the tone for the nature of engagement of the SaciWATERS project team in the action research project. The team took on the role of a facilitator and mediator of the relationship between water users and service providers. On the one hand, it encouraged the community to ask for change and on the other, contacted the PHED when it found responses to be slow and lacking. For instance, on one occasion many households received bills for a water connection, while they did not have any supply of water. This was shared with the SaciWATERS representative, who communicated this to the PHED. The PHED officers urged the villagers not to pay the bills and to lodge a formal complaint against this at the PHED block head-office in Farookhnagar. This was communicated by the SaciWATERS representative to the villagers who then did not pay the bills. Similarly, soon after the first stakeholders' meeting described above, the team was informed by the PHED that an order for procurement of D.I. pipes had already been made. This was communicated back to the villagers by the team in due course.

After this, the focus shifted to the community, and meetings were held regularly with different groups of people emphasising the need to legalize water connections; the benefits of legalizing were discussed. The response from the community was mixed; while many did legalize their connections, others did not trust the PHED enough. Many houses that had secured water connections by illegally drilling the cement pipes were not ready to discontinue this.

A parallel meeting was conducted in Jhanjrola Khera. Jhanjrola Khera comprises two villages, with a common panchayat; sometimes the differences between the two villages made it difficult to instill community discipline. Jhanjrola is located on a higher terrain; illegal connections which reduce the pressure of the water flow affect it more than they affect Khera. Similar issues cropped up during the meeting as in Sultanpur; such as the slow pace of legalization of water connections, internal waste and mismanagement of water caused by illegal connections and some people taking more water than authorised. Another problem was the use of the domestic water supply for irrigation, that also reduced the availability of water to households at the lower reaches. The public school was also in need of a water connection; a request was put forth to procure that. At the end of the meeting, two important decisions were taken. First, the PHED agreed to provide a water connection to the school and second, to do an internal survey to identify the households drawing more than the authorised share or taking water illegally.

### 2.4 The Second Stakeholders' workshop

The second stakeholders' workshop was organised a year later on the 24th of June, 2012. While the first meeting was organised at the village Dharamshala- a meeting place- to allow for wider representation, the second meeting was arranged at a meeting room in a private hotel to provide for focused dialogue between the PHED and village representatives.

The project leader began by highlighting the agenda of the meeting which was mainly to:

- Assess how far the PHED had come in terms of performing the tasks agreed to at the last meeting to improve the water access of communities in Sultanpur and Jhanjrola Khera
- Identify other areas that needed face to face dialogue between the water users and the PHED

- Identify the further course of action during the last year of the project to improve water security in these two villages
- Identify ways of continuing this process of dialogue between the PHED and the water users beyond the project period

The project leader highlighted the progress since the last meeting. Two positive developments had taken place. First, DI (Ductile Iron) pipes for Sultanpur had been procured; however, they had not yet been laid down by the PHED on account of the shortage of labour. Second, a water connection for the school had been set up by PHED in Jhanjhrola Khera. The presence of several illegal connections and wastage of water in both the villages, however, still prevented water from reaching many of the households.

#### 2.4.1 Expediting the laying down of DI pipes

The Sarpanch of Sultanpur mentioned that work was still pending with regard to the laying of DI pipes. The representatives of PHED mentioned that the pipes had been available since April, but lack of labour had delayed further work. It was not possible to leave the pipes in the open since they were expensive, and could be stolen. Moreover, to make the work cost effective, pipes would be transported at one go.

The PHED emphasized that the pressure from the communities had made them more responsive to their needs; a process to procure and lay the pipes, that can take a long time, was being taken up on a fast track. "mere paas kitne saare gaon hain; jo zyaada dabaav daalta hai, uski main pehle suntan hoon, (so many villagers are under my jurisdiction, whoever puts more pressure on me, I respond to them first)," said the Executive Engineer, in a candid submission. The representatives of the PHED assured the village representatives that the work to lay down the D.I. pipes would start very soon.

#### 2.4.2 Expanding water coverage to the unreached

The area in Sultanpur village across the railway line is not covered by water supply provided by the PHED, as it requires the approval of the Railway Authorities. The Sarpanch of Sultanpur mentioned that he had been in communication with the Block Development Officer (BDO) as well as the local Member of the Legislative Assembly (MLA) to get permissions, so that water could be provided to the households in the 'dhaanis', especially across the railway line. Even after seeking all permissions, however, there had been no progress.

Regarding the request for a pipeline across the railway line in Sultanpur, the PHED explained that it was not possible to extend the existing pipeline to the other side. This required permission from the Railways, the Central Government, routed through the State Government and was not possible to seek, owing to security reasons. It would be a long drawn out, bureaucratic procedure with very uncertain results. This option for improving the water security of those living beyond the railway line therefore had to be abandoned.

The other option suggested by the villagers was to set up a tube-well to serve this part of the village - where presence of sweet water had been identified - or to extend the pipeline from an adjacent village. The PHED agreed to survey the area in question and said that if satisfied with the water quality it would surely arrange for setting up a tube-well, but a portion of land would need to be donated by the Sarpanch in order to set it up.<sup>7</sup> The PHED agreed and informed the communities that they would take necessary steps to ensure that they could cover as much as possible of the Sultanpur village as far as water supply is concerned. In this regard, they would survey each section carefully with the communities to ensure systematic uptake of any plans.

Jhanjhrola Khera also identified the presence of sweet water in certain patches which the PHED agreed to check and arrange for a single phase pump to distribute water to households suffering from lack of water. The communities felt that their involvement and participation was necessary during the planning or implementation of any of the technical interventions by the PHED in order to ensure that the interventions would be of help to the village communities, especially those living in the elevated section of the village.

#### 2.4.3 Communicating recent policy decisions and improving internal water distribution

Apart from improving communication between water users and service providers, these meetings turned out to be a forum where important policy decisions were communicated to the villagers. For instance, they were told by the PHED representatives that as per government regulations, all stand-posts must have taps to regulate the flow, so that no water is wasted. The PHED representative mentioned that they were planning to nominate Sultanpur for the Rashtrapati Award as one of the well covered villages receiving

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<sup>7</sup> The Block Development Officer had also been working on a similar proposal which according to the villagers had already been submitted to the PHED, but the latter was not aware of it.

water supply and for the efforts and initiative the villagers were taking under the leadership of the village Sarpanch. The PHED made a few suggestions and urged the villagers to try and pursue those at their level. These included:

- Informing the PHED about the illegal connections in the village, so that an FIR (First Information Report) could be lodged against those who pursued such practises.
- Forming a Water Committee to monitor the work and maintenance of the system

In response to this, the community representatives mentioned that despite some of the complaints made in the past, no action was taken. No FIR was ever filed. However, the PHED responded that whenever they had tried to locate an illegal connection and to destroy it, the women of those families started arguments with them, making the work of the PHED officials very difficult. In Jhanjhrola Khera, the Sarpanch stated that due to the failure of a transformer, one of the motors could not be operated. The Sarpanch also urged the need for lowering the level of the pipeline/outlet from the canal, so that the water could be easily distributed, even if water level in the parent canal was low. The PHED stated that they were in communication with the Electricity Board and a requisition to repair the transformer was already being processed. The PHED updated the community that the requisition for lowering the pipeline from the canal had been taken up and a letter requesting for the same had been sent by the Executive Engineer to the relevant authorities.

Some more suggestions that came from the PHED included compulsory registration of personal tube-wells with the Central Groundwater Board; otherwise they would be seized very soon by the authorities, as per a new state regulation. On enquiring about the tank set up by the PHED in Sultanpur on a portion of a private land, the PHED officials informed that it could not be shifted from the current location, but the owner could be compensated. Also regarding the alternate day availability of water for some of the households in the Sultanpur village, the PHED mentioned that as per their records, they were supplying 70 litres per day per person, but due to illegal connections, most of the water was being taken away by other households leaving some without any.

#### **2.4.4 Addressing water quality concerns**

Some village representatives raised issues about water quality. The PHED assured that they treated and chlorinated the water before releasing it to the villages. However, the villagers felt that the water that reached them was not of good quality and one could not drink it. The villagers informed that the TDS level was 118. According to the PHED, however, this was not a very high value to be concerned about. In some villages, the value was as high as 3500 and people were often forced to drink the water, since there was no other option. The PHED representatives stated that the water they supplied was of fairly good quality as compared to the tube-well water, which on many occasions had high fluoride content that affected the teeth of the consumers. The PHED agreed to do water testing of the water reaching the village either from the tap of the household or from the stand-post as suggested by the villagers with their participation.

The meeting concluded with some concerns raised by women panch members from Sultanpur, who felt that water quality testing was very important. There was a need to provide an alternative source of fresh water especially considering the poor families who did not have any means of filtration. Also a piped connection for households across the railway line was urgently needed.

#### **2.4.5 From anarchy to disciplined dialogue**

This meeting saw a lot of change in the attitude of both the villagers and the PHED. The purpose of the meeting was to foster dialogue between the water users and providers, and to find ways to jointly improve or solve the problems; both sides conducted themselves very well. As against the usual blame game and anarchy characterising the relationship between the water users and providers – that had characterised the first stakeholders' meeting - this had taken the form of a disciplined, structured and focused interaction to chalk out a future course of action. The PHED had over a period of time become much more responsive towards the problems of the villagers. For every issue that the community representatives raised, there was a convincing response from the PHED authorities. The stakeholders' meeting thus served effectively the intended purpose of providing a forum for mutual accountability.

### **2.5 Shuffling and reshuffling: a new twist in the process**

The period between the second and third stakeholders' workshop was crucial for the project and for sustaining this process. This period saw an internal change in the SaciWATERs team as well as in the position-holders of the PHED.<sup>8</sup> Initially the team had to re-establish contacts and the new team member had

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<sup>8</sup> Pranay Ranjan, the Research Associate from the SaciWATERs team, who did most of the community mobilization and interface with the PHED, got selected for a PhD programme at the Ohio State University, USA and was replaced by Aman Dewan.

to gain the trust of the community. The community members were initially a bit skeptical of this shift; it was common to hear how now they would have to start discussing their water problems all over again. It took quite some time to talk to the community to explain that the work would go on from where it had left, and active engagement with the Government on their behalf to improve their water security would resume; and that the team would continue to require their support and cooperation as well.

### 2.5.1 The DI pipes arrive

The much awaited DI pipes were finally transported to Sultanpur village in September 2012; their installation started in late November and was completed by December 2012. This work had got further delayed as in the third year of the project, the post of the SDE (Sub Divisional Engineer) of the PHED got shuffled.<sup>9</sup> The concerned position was not filled for about two months. In the middle of October, contacts were re-established with the new SDE, to make him understand the scope and intention of the SaciWATERS project. After initial meetings with the SDE, the team started to follow up on why the pipes that had been transported to Sultanpur were not being installed.

It came to notice that the first tender had failed, as the tender amount was not allowing contractors to make a profit. Thus they had to send the tender proposal back to Panchkula, which was the main budgeting office of the PHED. This period between September and late November became difficult to handle. The community members started to feel that they were being fooled and their pipes would not get installed. This period was spent in building and sustaining relations with the community by empathetically listening to their issues regarding water insecurity and how especially the women had to work hard, day in and out to collect the water needed for daily consumption and chores.

This period was devoid of government interaction as the Executive Engineer mentioned that only after the new SDE was appointed would they look into the matter again. After the new SDE came into his position, it took him about two weeks to understand the issue, after which the PHED released the tender which had earlier failed. The PHED at this point was of the opinion that processes sometimes do take time and, if the community was in such a hurry, why didn't the village provide labour for this activity? This was discussed with the sarpanch but it was decided that they would wait, as getting labour in the village was an increasingly difficult task. Nevertheless, things came back to normal soon, as a new tender was floated and a contractor picked up the job for installation of these pipes.

At this point, SaciWATERS asked the PHED for a map regarding the pipe installation, to make sure that none of the settlement areas were left out of the new piped network. As was expected, the pipe lines were first installed in the area where the dominant caste (i.e., the Rajputs) lived.

At the time that this paper was being written, there were a few lanes in which the pipes were yet to be installed although they had been lying in the village for over several months. When this was followed up with the PHED, the team was told that most of the village had been covered, and the remaining would take place in May, as administrative duties peaked at the end of the financial year and they got a renewed budget in the new financial year.

### 3. Shying away from social engineering

Along with following up with the Government, parallel efforts were made with the community, trying to explain the importance of a water management committee to manage water effectively internally and the need to get water connections legalized, as well as installing taps. While taps and legal water connections had increased manifold in the village during the action research period, the idea of a water management committee still did not find support with the community. When a team member broached the topic, he was told "... Sultanpur mein 570 committee hai, mat ghuso, bahut politics hai (Sultanpur has 570 committees, village politics are dominant; it is better if you did not get into this)."<sup>10</sup>

Some people were of the view "panchayat kya committee ki sunegi ? (will the Panchayat listen to the committee ?)" and if the members of the committee and Panchayat would be the same then what difference

9 It is the job of the SDE to finalize the tender and see its release, although it is officially released under the signature of the Executive engineer.

10 At several stages during the project, team members brought up the issue of forming a water management committee, but there was low willingness to do this. An important concern was if there is no water in the village, what will the water management committee do ? For critiques of the social engineering approach to water management, see also Narain (2003), Mollinga (1998) and Hunt (1989). The essence of the argument is that mobilising communities into user groups is futile unless they have real control over water availability, there is a reorientation of the state and the delegation of water management functions to communities is matched by corresponding powers and rights. The experience in Sultanpur village seemed to reinforce this observation.

would it make (to have one more committee??). It was explained to them that water committees should not be seen to be an area of political domination but rather be developed in response to a shared (perceived) scarcity; however, as different groups in the village did not share the same level of scarcity, it was difficult for them to mutually see a need and form a committee.

#### 4. Installation of the D.I. pipes

The Installation of the Ductile Iron pipes – when it finally took place - immensely improved the water supply situation, both in terms of quality and quantity. The representative of the SaciWATERS team asked people about the comparative change they felt, and most respondents said that now they could (fearlessly) consume the water, as it was clean. From this it seemed that the PHED released good quality (potable) water, which was getting contaminated in the village due to leaks. The new pipes effectively took care of this.

The issue of quality though much improved was of little respite to the Dharmshala lane of the village. The community argued for a bigger motor so that the quantity of water being supplied could be increased. It took two months of active persuasion and a stake holders meeting to convince the PHED of its need.

Developments in Jhanjrola Khera were faster; the PHED lowered the level of the inlet pipe, and immediately sanctioned a water connection for the school. They said that providing water to the school was a priority area; thus it had to be done as quickly as possible. The community was dissuaded from using the drinking water supply for irrigation, but still with little success.

#### 5.The Third and Final Stakeholders meeting

The third stakeholders' meeting under the project took place on December 13, 2012 at a private hotel in Gurgaon. This time the focus was mainly on village Sultanpur.

The lead researcher started the dialogue by setting up the background of the issues to be discussed. He mentioned that the role of SaciWATERS was that of a dialogue facilitator and that it wanted to promote mutual accountability amongst the main stakeholders. This exercise would lead to increased trust between the PHED and the communities of the village Sultanpur. Further to this he thanked and congratulated the PHED for installing DI pipes in the village.

##### 5.1 Improving water supply in the Dharamshala line

The major focus of this stakeholder dialogue was to come out with solutions for equitable water supply after the installation of the DI pipes and to attend to any new issues that arose. One of the members of the SaciWATERS team brought up the two core problems which were to be discussed during the dialogue. The first problem was related to the low pressure of water supply in the village Dharamshala line (as noted above). The community members responded further, saying that there were approximately 120 connections in this line, out of which only the first 70 households got water. The representative of the PHED raised a concern on who had been involved in connecting the pipes to individual households (government plumbers or the private ones). However, the community clarified that it was all done by the government plumber using the 6 mm DI pipes, as per the established norms.

The SDO mentioned the probable reasons for the low pressure of water supply in the Dharamshala line. The first reason was that people did not have water taps or else they had removed them. The second reason was that a few households in the Dharamshala line used motor pumps to extract water. He requested the community not to use motor pumps and that he would then personally ensure that water was available till the last household. He mentioned that people in the village perceived water to be a free commodity and they were not concerned with the amount they wasted. He said that all water connections must be legalized and that shall ensure higher efficiency, and less wastage. The PHED also mentioned that they had installed 1450 m DI pipes in the village with a motor of 15 horse power and that technically this would be enough for water to reach every household.

##### 5.2 Understanding and addressing the system of water rationing

To this, the community responded that they just got 20 minutes of water supply at one go and that was too little water with a potential to waste. The SDO, in response to this concern, explained that the water supply depended on the availability of electricity. As part of the rationing system, to supply water to all the villages, 20 minutes are allotted to each village. However, he expressed a willingness to extend this supply to 30 minutes duration. Later, during the dialogue, a PHED representative explained to the community how water supply systems operated in urban Gurgaon. In addition, the SDE mentioned that people in rural areas demand more rights, although they are not concerned about their duties towards the usage of these resources. He further mentioned about the significance of metering. As in the past, the SDE came up with the proposal of formulating a small committee which could monitor the wastage of water in their

surrounding households. The committee should be delegated with the responsibility to identify households which do not have water taps. On the other hand, the representatives of the community demanded the PHED to monitor this illegal use of water, though the PHED clearly mentioned that they did not have adequate staff to monitor 57 villages, all under their jurisdiction.

Moving ahead, there was a discussion on the proposal of water supply to the Balmeek community across the railway line. As noted above, the PHED is not allowed by the Railway Authorities to extend the water supply across the railway line. The community representatives mentioned that a problem exists between the higher caste and Balmeek community on sharing the same water.<sup>11</sup> The PHED understood and said that they were ready to provide a new tube-well; however, they would require a resolution from the Panchayat regarding a plot of land of size 15m by 15m for the construction of a tube-well. Mr. Virender Singh (a Panch) volunteered to take the responsibility to provide with the resolution letter within a week.

The SDO came up with suggestions for the village. He promised to increase the water supply timings from 20 minutes to 30 minutes. He requested villagers to form the committee and identify the people who were using motors and illegal connections. With that effect he asked the community to stop all the water motor pumps and check whether water reached households in the Dharamshala line. He said that he could not accept more demands for pipelines in the village, as there was limited supply. Moreover, on concluding remarks, the SDO indicated that there was no shortage of water in the village; it was just that the community had to use it judiciously. The SDO praised the work of SaciWATERS in steering and educating the communities on the issues of water supply and said that the PHED hoped that in due course SaciWATERS as a partnering institution would be able to do this in more villages.

### 5.3 Follow-up to the meeting; expanding water supply to the most vulnerable groups

In March 2013, two months after the stakeholders' workshop in Gurgaon, the PHED got a bigger motor installed for Sultanpur. This however still did not solve the problem of the village especially that of the Dharamshala line; it seemed that only better internal distribution of water could improve the situation. The SaciWATERS team continued to convince people not to get their taps removed and be judicious in the use of water.

As noted above, unfortunately, Sultanpur has a railway line running through it; this leads to many complications. Beyond the railway line, the area is dominated (numerically) by lower caste Balmeeks; these people get no access to government water supply, all of them are dependent on a single hand-pump, which is also accessed by other communities living before the railway line. As noted above, the PHED had made it clear that they would need permissions from the railways to make a line pass through the railway track, and that this was an extremely long drawn process. The community was demanding digging of a tube-well in this region as a measure to compensate the lack of water supply for the residents here.

The SaciWATERS team further pushed this demand with the PHED as it had been agreed to in the Third Stakeholders workshop. On further enquiry it was found out that this area beyond the railway line was situated beyond the Lal Dora<sup>12</sup> of the village. The PHED said that they could not do anything regarding the situation of water in that area, as it was beyond their mandate. The SDE offered a plan, which was taken to the Sarpanch of the village; according to this plan, the sarpanch had to submit a letter requesting the area beyond the railway line to be awarded a Dhaani (a settlement outside the formal residential area) status. This was then pursued by the team. If this could be accomplished, the PHED would go ahead with the installation of a tube-well; unfortunately this would finally take only place – if it did - after the project life and after the disengagement of the team from the project site.

## 6. Improved water supply in Jhanjhrola Khera; a more responsive PHED

In Jhanjhrola Khera, too, ductile iron pipes were installed in the village. In semi-structured interviews conducted with about 60 respondents during the months of December 2012 and January 2013, most people responded positively and admitted that they had now been receiving good quality water in acceptable quantity; no community or area felt neglected. Some respondents claimed that households at an elevation still did not get enough water. When representatives of the SaciWATERS team proposed that they arrange another meeting with the PHED to this end, members of the community responded that it was no longer the Government's fault; rather, it was their own misuse of water. It would need internal regulation and control over the water distribution process to release water so that all got their due, rather than a meeting with the PHED, or a request for supply augmentation.

<sup>11</sup> The members of the Balmeek community in this village depend on shared private hand-pumps to obtain water.

<sup>12</sup> Laldora is the official settlement boundary of the village; the government can only provide services within the boundary of the village.

In the previous stake-holder meetings conducted with Jhanjrola Khera and the PHED, as noted above, the Sarpanch had requested for the lowering of the main pipeline/outlet from the canal and this had been followed up by the PHED. They had also requested for a water connection to the school; this was also arranged for by the PHED. Thus, the stakeholders' meetings had succeeded in making the PHED more responsive to the water security concerns of the villagers. The community now acknowledged that the onus to further improve water distribution was on them. Indefinite supply side augmentation was no longer seen as the next step; rather it was a focus on better internal management through some organization within the community.

Unfortunately, though, the community had not completely adhered to the requests and suggestions that had been made by the PHED. It was still common to see drinking water being used for irrigation in the fields located close to the supply points. Some households still suffer from water shortage, especially the ones located at an elevation.

Another problem had developed in Jhanjrola Khera; a school pipe line was blocked, thus the school was without water for around two weeks. The PHED was informed about this by the members of the community. This was followed up by the SaciWATERS representative; the PHED took action within a fortnight. The community members thanked and congratulated SaciWATERS' efforts and said that a few years back such a response would have perhaps been hard to imagine. They expressed that two weeks for corrective action was significantly faster than the norm. "The team's efforts have helped in how the "water supply department" (this is how the community members refer to the PHED in local parlance) view our needs and a certain understanding has been built", claim the respondents.

## 7. Conclusion

Most approaches to natural resource management in periurban areas focus on mobilising the community.<sup>13</sup> The thrust is on forming user groups or natural resource management committees to manage their natural resources better. However, though there is widespread recognition of the apathy of civic agencies to the problems of periurban areas, there is little effort to reorient the state. Our work suggests that reorienting the state agencies and making them responsive to the needs of periurban communities should be core elements of action research initiatives targeting periurban communities, especially improving their water supply. It is at the same time important to build communities' capacities to negotiate with the state, and articulate their demands for improved service delivery.<sup>14</sup> Engagement with civic authorities is considered to be an important component of a community's social capital (Putnam 2000). This can in turn enhance community resilience in the face of urbanization and climate change, both of which threaten periurban water security.<sup>15</sup>

The series of stakeholders' dialogues, grounded advocacy and follow – ups done by the SaciWATERS team created a culture of asking for change on the behalf of communities: the PHED started seeing it as a moral obligation to respond to the latter's grievances and complaints. What this brought about was not simply supply augmentation or better water supply, but a reorientation of the relationship between the water users and the PHED. This can bring about important changes in what we may call the 'hydro-culture', comprising the norms, practices and processes through which water access is organised and water supply negotiated. Besides, this can create changes that may last beyond the official project or funding period, as against technical or institutional interventions whose life may stay confined to the project funding period.

13 See, for instance, Dahiya (2003), Halkatti and Purushoththoman et al. (2003).

14 Another approach that was taken in the project to this end was involving water users and communities in the preparation of videos and films. Three videos were shot during the project, interviewing different stakeholders and capturing their perspectives. One of these was a participatory video exercise. This was directed, scripted and filmed by the women of Jhanjrola Khera. The intention was to give them a forum for expressing their opinions and sharing their experiences. They chose the theme of the video – the effects of consuming contaminated water – and then directed and filmed the video themselves. The video thus filmed was then screened in the village. The response to the screening was resounding. "Do not just watch the video, but do something about the problem!", one woman exclaimed at the end of the filming. Put together, these activities, namely, the stakeholder workshops, the capacity-building workshops for the water users and the PHED and the preparation of videos created a climate that facilitated the change process.

15 Another aspect of building community resilience in periurban contexts in the face of urbanization and climate change is building their human capital. Periurban livelihoods face threats from land acquisition as well as climatic variability and change. Thus, training them in alternative livelihood skills can help build community resilience. This was accomplished in the project by supporting the vocational training of village youth. Six village youth were trained by the GMR Varalakshmi Center for Livelihood and Empowerment. Five were trained in Refrigeration and Air-conditioning and one in an electrical engineering course. With the support of the village Panachayat, SaciWATERS selected 8 village youth of which 6 were finally chosen by the center based on their educational and socio-economic background. At the end of the programme, one had dropped out for some personal reasons. Of the remaining five, four were spoken to and they described the outcomes of the training as very positive. They also received certificates and felt that this would enable them to secure their livelihoods.

An important accomplishment of this approach was that in both the villages, the situation reached a point where the community began to understand the importance of internal management rather than placing further demands on the PHED for supply augmentation. Reorienting the state may thus be a prelude to creating an imperative for the communities to organise themselves better; reorienting the bureaucracy can make tasks of social engineering more convincing. The Sarpanch of both Sultanpur and Jhanjhrola Khera villages affirmed that the next steps for improved water management should come not from the state, but through internal organization and better management within the community. This would need internal discipline and policing. Who would bell the cat, of course, is the moot question.

### **8. Acknowledgement**

This discussion paper is produced as part of a project titled Water Security in periurban South Asia: adapting to climate change and urbanization, supported by IDRC, Canada. The project is co-ordinated by SaciWATERS, South Asian Consortium for Inter-Disciplinary Water Resources Studies, Hyderabad. Thanks are expressed to IDRC for financial support provided. Thanks are expressed to SaciWATERS for organizational support. Special thanks are expressed to Sreoshi Singh and Anjal Prakash for support at various stages of the Action Research. We thank Anjal Prakash for conducting the capacity-building workshops and Sreoshi Singh for her support in the organization and conduct of the stakeholder workshops.

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## Water Security in Peri Urban South Asia: Adapting to Climate Change and Urbanization

Working primarily on water security issues in Peri-Urban South Asia, across India, Bangladesh and Nepal, the project's main concerns are the rapidly changing peri-urban landscapes due to urbanisation and implications for water security in specific locations in the larger context of climate change. As an action research project, working across four locations in South Asia, it will serve as a basis for capacity-building at the grass roots level to address concerns of the poor, marginalised and other vulnerable communities to water security and seek to understand the dynamics of adaptation in the specific locations, for action and policy agenda at the regional level. It will build their capacities to cope with climate change induced water in-security.

[www.saciwaters.org/periurban](http://www.saciwaters.org/periurban)

### Coordinating Institution:

The project is being coordinated by **SaciWATERs**, Hyderabad, India. SaciWATERs focuses on transforming water resources knowledge systems, key ideas being an interdisciplinary approach to understanding water resources issues, from a pro-poor, human development perspective, with an emphasis on exchange, interaction and collaboration at South Asia level.

### Partner Institutions:

**Bangladesh University of Engineering and Technology (BUET)** is the oldest and leading university in Bangladesh in the area of technology. IWFM is a premier institute for the advancement of knowledge and development of human resources in water and flood management.

**Nepal Engineering College (NEC)** was established in 1994, as a non-profit organization under private sector initiative, to function as center for advanced learning in engineering and allied sciences. It has been offering the Interdisciplinary Water Resources Management (IWRM) Program since the beginning July, 2007 under the support of Crossing Boundaries (CB) Project funded by Government of the Netherlands.

### Project Support:

This project is supported by Canada's **International Development Research Centre (IDRC)**. IDRC is one of the world's leading institutions in the generation and application of new knowledge to meet the challenges of international development. For nearly 40 years, IDRC has worked in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.

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