Documentation of Best Practices
Thematic Area: Rural Water Supply & Sanitation

Managing Rural Water Supply through Panchayats:

Case of Bakaram Jagir Gram Panchayat, Rangareddy, Telangana



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Content

EXECUTIVE SUMMARY

1. Introduction

While the recent reforms in water governance enhanced the opportunities of increasing people's access to drinking water supply, the actual realisation of such access depends to a large extent upon effective functioning of Panchayati Raj Institutions (PRIs) and delivery of water services to the people in an equitable, efficient and sustainable manner. Since PRIs are entrusted with the task of delivering basic services at the rural areas, it therefore, becomes pertinent to understand how these intuitions (PRIs) deliver drinking water services to ensure enhanced access to drinking water supply. It is in this context, the present case study intends to document a successful case of rural water supply through Gram Panchayat, so as to understand the role of the PRIs in efficient, equitable and sustainable delivery of basic services like drinking water in rural areas. The primary objective of the study was to document a successful case of delivery of safe water services by decentralised local governance institutions to the households in rural areas, and thereby to explore the possibilities of its replication in similar socio-economic and political contexts.

The Bakaram Jagir gram panchayat of Moinabad mandal of Rangareddy district was chosen for the detailed case study. Bakaram Jagir panchayat has a water supply scheme, which has been in existence for more than two decades. With a commitment to provide clean and safe drinking water to households, the panchayat in recent years has established a water purification plant with Reverse Osmosis (RO) technology. All the households of the panchayat have the opportunity to access purified water from the RO plant with a minimal payment of Rs. 5/- per 20 litre of water.

2. Learning Outcomes

Having gone through this case study, learners will be enlightened about a successful case of water service delivery by the Gram Panchayat in an efficient and equitable manner. The case study is expected to ignite the minds of the learners and create an enthusiasm among them to replicate the same in their respective localities.

3. Case Presentation

Demographic Profile: As per 2011 census, there are 579 households in the village, consisting of different social backgrounds, such as Scheduled Castes, Backward Castes and other castes of general category. Total population of Bakaram Jagir as per 2011 census was 2,218 which included 1,113 (50.18 %) males and 1105 (49.82 %) females.

Water Supply Scenario of Bakaram Jagir: Past and Present

Bakaram Jagir started using improved source of water such as pipe connections since late 1990s with digging up of tube-wells, which pumped water from ground. The first Over Head Tank (OHT) of the village was constructed in the year 1998 in the central part of the village – near

to the Reddy households – with a system of pumping water from ground and lifting it to the OHT, and then releasing water to households with supply channels. Considering the larger demand and higher dependency upon the single OHT, in the year 2005 an Under Ground Tank (UGT) and in the year 2008, the second Over Head Tank was established in the village with additional bore wells and supply channels.

At present there exist seven bore-wells in the fringes of Bakaram Jagir village, from which water is pumped for day-to-day use of people. In the present system, water is extracted from ground through these bore-wells and is stored in a considerably large Under Ground Tank (UGT), with a capacity of 1,58,000 litres, constructed near the OHT - 1. From this UGT, water is lifted to the two OHTs through pumps, and then supplied to households through distribution pipelines. As per the gram panchayat records, there are 265 active house connections, who receive water in a regular for around three hours daily. The water supply system of the panchayat now exists in three forms:

(i) Piped water connections to the household premises,
(ii) Public stand-post in common locations, and
(iii) Water Purification Pant with Reverse Osmosis (RO) technology to provide safe drinking water

Besides the household connection, there exist six **Public Stand Posts** in the village. Households, who do not have piped connection in their premises, usually depend upon these public stand-posts. The RO plant for provisioning of safe drinking water services is the latest addition to the water supply scenario of the village, which is accessible to everyone in the village with a minimal payment.

The novel initiative of setting up of the RO plant in Bakaram Jagir is perhaps the most noteworthy achievement of the panchayat to provide safe potable water to rural households. Before establishment of the RO plant, people used to drink the same untreated water which was supplied to them OHTs.

It was during the Gram Sabha meeting January 26 2015; that the villagers raised the concern of safe drinking water facilities of the village. The proposal for setting up a water filter plant in the village came to the forefront, albeit apprehensions about its actual realisation owing to huge cost factors. The present Sarpanch of Bakaram Jagir Mr. Sudhakar Yadav initiated the idea of setting up of the RO plant in the panchayat and started mobilising support for it. The Panchayat approached the Rotary Club of Hyderabad to support in the initiative of providing safe drinking water to the village, which after studying the ground realities, agreed to financially support the setting up of RO plant in the village. The detail modalities of setting up of the plant, site of construction and Operation & Maintainance (O&M) issues were discussed in the Gram Sabha meeting. The process of setting up the RO plant almost took one year for completion, and became functional since January 2016.

Issues of Operation & Maintenance:

The water supply system of Bakaram Jagir is maintained and managed by the Gram Panchayat. For the household connections, the Panchayat collects a water fee of Rs. 40 per month, which is collected by the *Karobar* (tax collector) appointed by the GP. Besides, the GP has also appointed a Pump Operator, who switches on the bore-well every morning for pumping the water to OHT, and releasing to the households. The pump operator also looks after the functioning of the public stand-posts. The *Karobar* (tax collector) and the pump operator receive a salary of Rs. 10,000 per month from Gram Panchayat.

For the RO plant, the Panchayat has entrusted the O&M responsibilities to one of the persons from the village on the basis of rent. The RO operator (who manages the functioning) has paid a caution deposit of Rs. 70,000/- to Panchayat. Further he also pays a rent of Rs. 10,000/- per month to the Panchayat. As per the agreement between the GP and the RO operator, the Panchayat would take care of repair and maintenance of the RO machine and any other major electrical facilities such as the motor. It is also Panchayat's responsibility to provide in-put water supply to the RO plant. The RO operator is entrusted with the responsibility of other day-to-day minor repairs whenever needed and regular replacement of water filter of the RO machine. The RO operator provides drinking water to the people at a nominal price of Rs. 5/- per every 20 litre bottle.

4. Outcomes of the Initiative

The setting up of the RO plant in Bakaram Jagir has increased access to safe potable water. While in the earlier scenario, people were mostly consuming untreated water, and had the risk of suffering from several water borne diseases; now almost every household of the village are consuming safe and treated drinking water.

It was interesting to learn from Bakaram that the GP has made provisions to provide filtered water to the village primary school and the *Anganwadi* free of cost for consumption of small children of the village. One of the significant transformations of the Bakaram Jagir concerning water has been people's changing attitudes and behaviours regarding consumption of water. Even the poor and less educated households of the village now consider it right and just to use water treated at the RO plant rather than using pipe water for drinking purposes. One may observe the practice of separating drinking water from other regular water usage in almost all households of the village.

5. Conclusion

What makes Bakaram Jagir stand unique amongst similar other efforts of drinking water service delivery by Gram Panchayats is its emphasis on 'safe drinking water', rather than just 'pipe water' to households. Some of the factors that may be considered as enabling conditions of success of Bakaram Jagir, and therefore, should be taken seriously while attempting to replicate the case in other locations are the following:

- Able leadership, strong (political) will and commitment to developmental needs of people
- Ability to mobilise outside support, especially from those who have willingness to give back to society
- Ability to mobilise the community to find solutions to their problems by themselves at their level
- An active and supporting civil society, willing to work for and with the people
- An active citizenry who is ready to participate in making decisions on matters that affect their lives
- Relative higher degree of social capital (explained in terms of trust, social norms and networks) and past history of community mobilisation and collective action
- An overall democratic environment in true sense of the term, where people can deliberate and find solutions to their problems at a public forum

We may conclude by way of invoking the idea that democratic decentralisation is not just an extension of liberal representative democracy to the lower levels, but is an endeavour to promote and practice direct and deliberative democracy at the grassroots, where people's affairs are governed by themselves with their active participation in making decisions that affect their lives most. In this sense, the experiment of Bakaram Jagir Gram Panchayat to govern its drinking water needs may truly be considered as an effort to democratise access to water. Such an initiative, if replicated at other locations of rural India with due recognition of local needs, preference and available resources, would definitely be a great step towards realising the target 6.1 of Sustainable Development Goals (SDGs) to achieve universal access to safe drinking water for all by the year 2030.

Managing Rural Water Supply through Panchayats:

A Case Study of Bakaram Jagir Gram Panchayat in Rangareddy District, Telangana

Location of Study:
Bakaram Jagir GP, Moinabad Mandal, Ranga Reddy District, Telangana

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February 2018

I. Introduction and Methodology

1.1 Contextual Background

WATER is the elixir of lie, source of livelihood, input in production process, element of religious practice and discourse, and above all a site for socio-political contestation. It is seemingly paradoxical that in our blue planet, both water scarcity and plenty coexist. Nearly three-fourth of the surface area of our planet Earth is covered by water. The total quantity of water on earth is estimated around 1.4 billion cubic kilometres (UNESCO, 2003: 68). However, almost 96.5 per cent of the total available water is saline, and exists in oceans, seas and bays; leaving a meagre 3.5 per cent as fresh water. Further, out of the total freshwater available on our earth, more than two-third exist as glaciers, permanents snow and polar ice caps; leaving only 1 per cent of the total available water, which is suitable for human consumption. It is, therefore, evident that while seemingly abundant, water scarcity has emerged as a perceived reality.

In order to address the problem of water scarcity and insecurity, the target 3 of Millennium Development Goal (MDG) 7 aimed at halving the proportion of population without sustainable access to safe drinking water and basic sanitation by the year 2015. The achievements of MDG indicate that between 1990 and 2015, the proportion of the global population using an improved drinking water source has increased from 76 per cent to 91 per cent, surpassing the MDG target. Nearly 2.6 billion people gained access to improved drinking water sources since 1990, out of which over 1.9 billion people gained access to piped water supply between 2000 to 2015 (UNO, 2015: 58). More than half of the global population (58 %) now enjoy this higher level of piped water service. While there is something to cheer in achieving the targets of MDG, the current situation of access to safe drinking water is not far from gruesome. It is now estimated that 844 million people globally

lacked access to basic drinking water services in 2015, who either used improved sources with water collection times exceeding 30 minutes (termed as limited services), used unprotected wells and springs (unimproved sources), or took water directly from surface water sources (WHO-JMP, 2017: 11).

With their commitment for a sustainable world, 193 countries of the UN General Assembly on 25th September 2015 adopted the 2030 development agenda titled "Transforming our Would: the 2030 Agenda for Sustainable Development", - popularly known as Sustainable Development Goals (SDGs), which replaced the UN's Millennium Development Goals (MDGs). This agenda identifies 17 Sustainable Development Goals, with 169 targets. Goal 6 of SDGs states that "access to safe water and sanitation and sound management of freshwater ecosystem are essential to human health and to environmental sustainability and economic prosperity' (United Nations, 2015). Target 6.1 of SDG aims to achieve universal and equitable access to safe and affordable drinking water to all by 2030.

Investigating the problems of water scarcity and insecurity, the global discourse concerning water has focused much on 'water governance' as a significant determinant of access to water, moving away from hydro-engineering approach of water resource development. Ever since the adoption of Dublin-Rio principles of water in 1992, significant global attention has been paid to governance of water. Reiterating the significance of governance, the Global Water Partnership's (GWP) Framework for Action declared at the World Water Forum in 2000 at Hague that 'the water crisis is mainly a crisis of governance' (GWP, 2000). The 2000 Hague Ministerial Declaration reinforced this view and called for governing water wisely to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources.

Subsequently, reforms in the water sector to ensure effective governance of water for human consumption (drinking water supply) and other usage (such as irrigation) has emerged as the main public policy challenge in the last two to three decades, especially in developing world.

In the Indian context, the sector reforms in rural drinking water supply may be said to have begun during the Eighth Five Year Plan (1992 – 97), which introduced the concept of water as a commodity that should be supplied based on demand and cost recovery principle, and maintenance of services by the users. Consequently, policy reforms in drinking water sector in India were adopted during April 1999 through 'Sector Reform Project', based on a paradigm shift towards decentralisation and people's participation in provision of drinking water services. The reforms in rural water supply advocated three fundamental principles: (i) a shift from supply-driven to demand-responsive approach, (ii) decentralisation of decision making in service delivery, and (iii) achieving financial viability of service delivery to make the sector sustainable.

The demand-responsive approach required joint efforts by community and local government (PRIs) in service design, construction and operation and maintenance (O&M) of water supply services – making community participation through PRIs an integral part of rural water supply schemes. Alongside the reforms in the water sector, the decentralised reforms of the same period through 73rd Constitutional Amendment Act, 1993 also paves the way for governance of rural water supply services at the local level through people's participation in design and implementation of water supply schemes. To strengthen the Panchayati Raj Institutions (PRIs) so as to emerge as effective institutional arrangements for delivery of public services at the grassroots level, the XI Schedule of the constitution devolved 29 subjects, including drinking water, to the PRIs. Under the decentralised local

governance system, the PRIs are now expected to design, implement and take care of operation and maintenance (O&M) of rural water supply services, with active engagement of people and collective mobilisation in decision making.

Following the 73rd Constitutional Amendment Act, 1993 efforts are being made to empower the PRIs by way of devolving funds, functions and functionaries (FFF) to them. In order to strengthen the Gram Panchayats (GPs) financially and with a purpose of providing a measure of unconditional support to the GPs for delivering basic services, the Fourteenth Finance Commission (FFC) has recommended a Basic Grant of Rs. 1,80,262.96 crore for the GPs for the period 2015 – 20. Further, FFC has also recommended Performance Grant amounting to Rs. 20,029.22 crore for the Gram Panchayats (Finance Commission, 2014).

While these reforms in water governance enhanced the opportunities of increasing people's access to drinking water supply, the actual realisation of such access depends to a large extent upon effective functioning of PRIs and delivery of water services to the people in an equitable, efficient and sustainable manner. It, therefore, becomes pertinent to understand how these intuitions (PRIs) deliver drinking water services to ensure enhanced access to drinking water supply in rural areas. It is in this context, the present case study intends to document a successful case of rural water supply through Gram Panchayat, so as to understand the role of the PRIs in efficient, equitable and sustainable delivery of basic services like drinking water in rural areas. The central purpose of the proposed study is to understand the role of the PRIs in efficient, equitable and sustainable delivery of basic services like drinking water in rural areas, and to highlight the challenges and opportunities that panchayats encounter so as to explore the possibilities of its replication in other locations.

1.2 Objectives and Research Questions

The primary objective of the study was to document a successful case of delivery of safe water services by decentralised local governance institutions to the households in rural areas, and thereby to explore the possibilities of its replication in similar socio-economic and political contexts. To achieve this, the study adopted the following specific objectives:

- To examine and document the role of Gram Panchayats in governance of rural drinking water supply in an efficient, equitable and sustainable manner
- To examine the degree of success of the of the rural water supply scheme in terms of efficiency, equity and sustainability
- To explore the factors behind the success and the possibilities of replication in other locations

The central question of the study pertained to the role of Gram Panchayat in efficient, equitable and sustainable delivery of basic services like water supply in rural areas. In the process of investigation, the case study attempted to answer the following relevant research questions:

- What role do the Gram Panchayat play in effective delivery of water services in rural areas?
- To what extent the scheme can be termed as a successful case?
- What are the challenges that Gram Panchayat face during the process of implementation of the scheme?
- Whether Gram Panchayat has adopted a participatory method to arrive at decisions regarding service delivery?
- What is the outcome of the scheme in terms of people's satisfaction over provisioning of the service?
- Can the initiative be replicated at other locations?

1.3 Methodology and Approach

In order to identify the site for empirical investigation, the study adopted purposive sampling method. Since the study aimed at documenting one of the successful cases of drinking water governance, the following criteria were identified to choose the sample:

- That the responsibility of management of drinking water services should have been entrusted to the gram panchayat
- That the gram panchayat should have a functional drinking water supply system working for last five years
- That the panchayat should have focused on providing safe drinking water services to households
- That every household should have equal opportunity to access water from the water supply scheme provided by the panchayat

Based on above criteria, the Bakaram Jagir gram panchayat of Moinabad mandal of Rangareddy district was chosen for the detailed case study. Bakaram Jagir panchayat has a water supply scheme, which has been in existence for more than two decades. With a commitment to provide clean and safe drinking water to households, the panchayat in recent years has established a water purification plant with Reverse Osmosis (RO) technology. All the households of the panchayat have the opportunity to access purified water from the RO plant with a minimal payment of Rs. 5/- per 20 litre of water. Bakaram Jagir panchayat manages the day-to-day functioning of the RO plant, besides providing piped household water connections to the premises and public water stand-posts in the panchayat.

With regard to collection of relevant data, the study adopted a mixed approach and relied on both secondary and primary sources of data to investigate the drinking water scenario in the chosen village and the role of Gram Panchayat in effective delivery of water services.

Desk research and collection of secondary data: The secondary data sources were mainly tapped to understand the socio-demographic scenario of the village. In order to draw an overview of the panchayat, secondary data were collected from the District Census Handbook and survey reports of Ministry of Panchayati Raj.

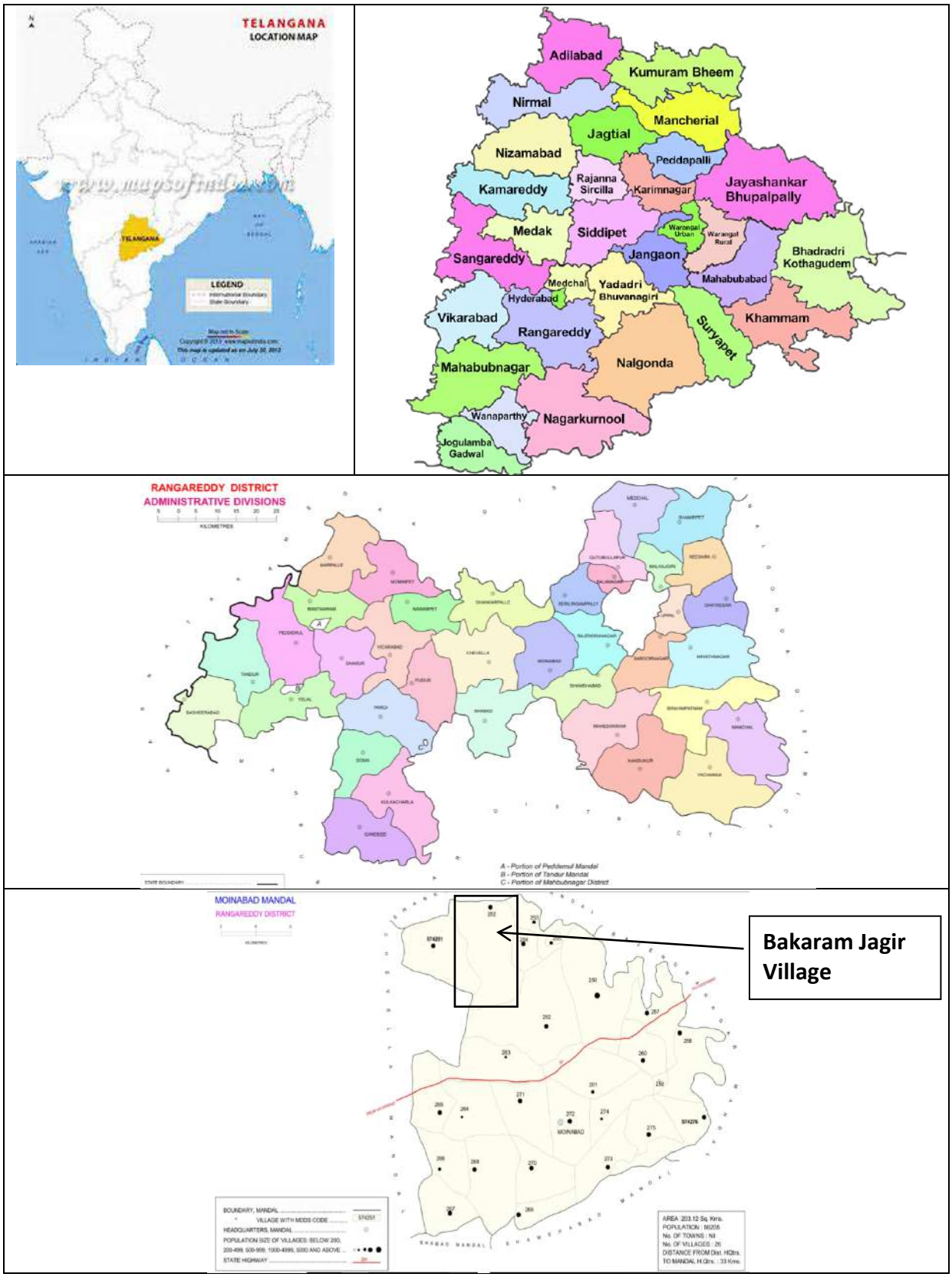
Empirical research and primary data: Along with the secondary source, the first-hand data were also collected from the field with appropriate qualitative methodological design. The primary data about water supply scenario of the village, working of the RO plant and the role of gram panchayat in management of the water service delivery were collected through case study method. Personal interview with key informants and focused group discussion (FGD) were used as relevant techniques to elicit relevant data. A structured interview guide with open-ended questions was used to carry out the personal interviews with the key informants. Likewise, a structured check-list was used to carry out the focused group discussions. Besides, participatory research techniques were also adopted to map the social set-up, resource availability and water delivery system of the village.

II. Case Presentation

2.1 Socio-demographic Profile of the Study Area

Bakaram Jagir gram panchayat of Moinabad Mandal in Ranga Reddy district of Telangana State was chosen as the site for empirical inquiry (see Figure 1). Before we present the water supply scenario of the Bakaram Jagir gram panchayat, it is apt to provide a socio-demographic background of the study area. The following paragraphs attempt a brief description of the profile of the study area.

Figure 1: Map showing location of Study Area



Ranga Reddy District: Ranga Reddy district was formed in 15th August 1978 as a part of erstwhile Andhra Pradesh by carving out some portions of Hyderabad Urban Taluk and then merging them to the then Hyderabad district. Ranga Reddy district is located in the central part of the Deccan Plateau and lies between 17^0, 1', 0" and 17^0, 55', 2" of North latitude and 77^0, 24', 37" and 78^0, 43', 9" of East longitude. The district is bounded on the north by Medchal and Sangareddy district; east by Nalgonda and Yadgiri Bhuvanagiri district; west by Vikarabad and Mahabubnagar district; and south by Nagarkurnool district. The district has five revenue divisions, namely Chevella, Ibrahimpatnam, Kandukur, Rajendranagar and Shadnagar; which are sub-divided into 27 mandals. As per the 2011 Census, the present Ranga Reddy district has a total population of 24,46,265, out of which 12,54,184 were males and 11,92,081 were females.

Moinabad Mandal: Out of the five revenue divisions of Ranga Reddy district, Moinabad Mandal is situated in the Chevella division of the district. Moinabad Mandal is located between 17^0, 19', 36" and 17^0, 32', 67" of North latitude and 78^0, 16', 31" and 78^0, 27',52" of East longitude. The Mandal is bounded on the north by Shankarpally, on the east by Rajendranagar, on the south by Shamsabad, and on the west by Chevella Mandal. Moinabad has 21 gram panchayats, which are further divided into 33 villages. As per the 2011 census, Moinabad Mandal has a total population of 56,205, with land area of 19,814 hectares.

Bakaram Jagir Gram Panchayat: Bakaram Jagir is one among the 21 gram panchayats of Moinabad Mandal of Ranga Reddy district. The gram panchayat of Bakaram Jagir also corresponds to the revenue village of Bakaram Jagir.. Bakaram Jagir has a total area of 756 hectares. The land-use pattern of the Bakaram Jagir village is depicted in the following table (see Table 1).

Table 1: Land Use Pattern of Bakaram Jagir Village

Different land use	Area in hectares
Total land area	756.0
Area under non-agricultural use	27.1
Barren and un-cultivable land	106.5
Land under miscellaneous tree crops	15.4
Culturable waste land	0.4
Fallow lands other than current fallows	3.2
Current fallows	387.5
Net area sown	215.8
Total irrigated land area	165.2
Total un-irrigated land area	441.4

Source: District Census Handbook, Ranga Reddy District, Census of India, 2011

Demographic Profile of Bakaram Jagir: As per 2011 census, there are 579 households in the village, consisting of different social backgrounds, such as Scheduled Castes, Backward Castes and other castes of general category. Total population of Bakaram Jagir as per 2011 census was 2,218 which included 1,113 (50.18 %) males and 1105 (49.82 %) females. Table 2 depicts the socio-demographic profile of Bakaram Jagir village. Caste wise population depicted in Table 2 reveals that there is a numerical preponderance of Backward Castes (Yadav Caste) in Bakaram Jagir (65.96 %), followed by Scheduled Castes (18.03 %) and General Caste (Reddy Caste) (see Table – 2).

Table 2: Social Composition of Bakaram Jagir Village

Social Category	Male	Female	Total
Scheduled Castes	195	205	400 (18.03 %)
Backward Castes	737	726	1463 (65.96 %)
Minority	19	19	38 (1.71 %)
Other Castes (General)	162	155	317 (14.30 %)
Total	1113 (50.18 %)	1105 (49.82 %)	2218 (100 %)

Source: Gramajyothi Reports, https://tspri.cgg.gov.in/form2report.do

Social Composition of Bakaram Jagir: Social composition of Bakaram Jagir depicted in Table 2 reveal that the village comprises households from several castes and communities such as Scheduled Castes (SCs), Backward Castes and other General Castes. There is only one Muslim family in the village. Social composition of the village is also reflected in the geographical spread and segregation of the village. While the SC community is inhabited in the beginning and end of the village, the upper castes such as Reddys and the backward castes such as Yadavs and Gouds are located in the inner part of the village. During the early 1980s, while N T Rama Rao was the chief minister of Andhra Pradesh, the Scheduled Caste settlement was established in the outskirts of the village under the weaker sections development programme. Each SC household was given a single-room house, which are now called 'Quarters'. In due process, few of them have extended those single-room houses, while others have sold their land to fellow community members. Majority of the SC people live in these quarters.

Profile of Representatives of Bakaram Jagir GP: Bakaram Jagir GP has 12 elected representatives including the Sarpanch (President) and the Upa-Sarpanch (Vice-president). Out of the 12 elected representatives, 7 (58.3 %) are women and 5 (41.7 %) are men. Age

distribution of the representatives depicted in Table 3 reveal that 31 to 40 and 41 to 50 age category consists of one-third (4 representatives) of the representatives each. There is a numerical preponderance of the Backward Caste (BC) representatives in the Gram Panchayat with half (6 members) of the representatives coming from the BC caste. Scheduled Castes constitute one-third of the total representatives (33.3 %), followed by the General Caste category (16.6 %). Caste composition of the representatives reveals the decreasing numerical strength of the upper caste in democratic rural political decision making institutions, which once upon a time enjoyed a complete dominance over it. With regard to educational qualification, one-third of representatives of Bakaram (33.3 %) did not have any formal educational background; while another one-third (33.3 %) completed high school. Out of the 12 elected representatives, only one representative studied up to intermediate, and another completed graduation. The profile of the elected representatives of Bakaram Jagir Gram Panchayat is depicted in Table 3.

Table 3: Profile of Elected Representatives of Bakaram Jagir GP

Indicators	Description	Frequency	Percentage
Sex	Female	7	58.3 %
	Male	5	41.7 %
	Total	12	100 %
Age	31 – 40	4	33. 3 %
	41 – 50	4	33.3 %
	51 – 60	2	16.6 %
	61 +	2	16.6 %
	Total	12	100 %
Caste	SC	4	33.3 %
	BC	6	50.0 %
	GEN	2	16.6 %
	Total	12	100 %
Educational Qualification	Not literate	4	33.3 %
	Primary	2	16.6 %
	High School (SSC pass)	4	33.3 %
	Intermediate	1	8.3 %
	Graduate	1	8.3 %
	Total	12	100 %

2.2 Water Supply Scenario of Bakaram Jagir: Past and Present

Water from Wells and Hand-pumps: Being situated in the semi-arid zone of Deccan Plateau, Bakaram Jagir does not have any prominent water body such as big or medium lakes or ponds in the village. Consequently, the village has been dependent upon ground water for most of its water needs. As recalled by some of the elderly persons of the village during fieldwork, there were four common wells in the village, from where people used to meet their water requirements. While one of the wells was near the Hanuman temple of the village, the remaining three catered to the water needs of Reddys, Backward Castes, and Scheduled Castes respectively. These wells are situated at different localities of the village, and access to these wells was determined as per social norms of the village. The well-to-do households of the village, mostly belonging to upper castes (Reddys) and in few cases belonging to backward castes had their own wells in their backyards or inside household premises. The SC community depended upon the common well, which existed nearer to their settlements. Later, during 1980s, hand-pumps made inroads to the Bakaram Jagir, and two hand-pumps were set up in the village – one near the Hanuman Temple in the beginning of the village and the other near the Reddy colony. Later some of the wealthy households also built their own hand-pumps in their house premises.

Construction of Overhead Tank and Pipe-Water Connections: Unlike many other villages of rural India, where people still access water from unprotected sources, Bakaram Jagir started using improved source of water such as pipe connections since late 1990s with digging up of tube-wells, which pumped water from ground. The first Over Head Tank (OHT) of the village was constructed in the year 1998 in the central part of the village – near to the Reddy households – with a system of pumping water from ground and lifting it to the OHT, and then releasing water to households with supply channels. In the initial years, water

supply system was limited and only the households, which were nearer to the OHT (mostly the Reddys) had the benefit of accessing water from it. Later water distribution channel was extended to the other parts of the village, and the OHT supplied water to other households belonging to Backward Castes and SC communities. Considering the larger demand and higher dependency upon the single OHT, in the year 2005 an Under Ground Tank (UGT) and in the year 2008, the second Over Head Tank was established in the village with additional bore wells and supply channels.

The Current Water Scenario: At present there exist seven bore-wells in the fringes of Bakaram Jagir village, from which water is pumped for day-to-day use of people. In the present system, water is extracted from ground through these bore-wells and is stored in a considerably large Under Ground Tank (UGT), with a capacity of 1,58,000 litres, constructed near the OHT - 1. From this UGT, water is lifted to the two OHTs through pumps, and then supplied to households through distribution pipelines. The water supply infrastructure of the gram panchayat in the present context includes seven bore-wells, one UGT, two OHTs, from where the panchayat provides water to households. As per the gram panchayat records, there are 265 active house connections to which water is supplied on a regular basis.

Photo 1: Pump operator near one of the bore-wells of Bakaram Jagir

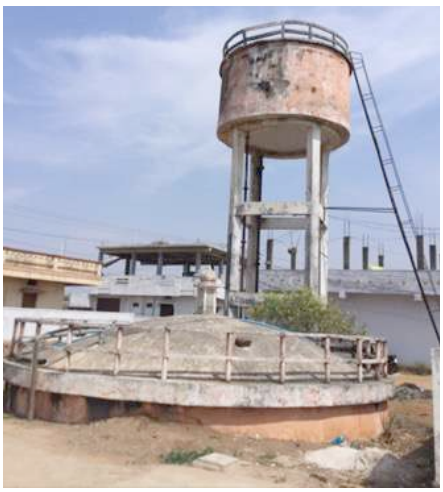


Photo 2: UGT and OHT of Bakaram Jagir

The water supply system of the panchayat now exists in three forms:

(i) Piped water connections to the household premises,

(ii) Public stand-post in common locations, and

(iii) Water Purification Pant with Reverse Osmosis (RO) technology to provide safe drinking water

The 265 households of the panchayat, who have opted for piped water connection to premises, receive water in a regular time every day for around three hours during 5.30 am to 11.00 am. The timings of release of water are determined by the water and sanitation committee of the panchayat and are informed to the households beforehand. Besides the household connection, there exist six **Public Stand Posts** in the village. Households, who do not have piped connection in their premises, usually depend upon these public stand-posts. Most of the people from the Scheduled Caste community depend upon these public stand-posts for their water needs. The RO plant for provisioning of safe drinking water services is the latest addition to the water supply scenario of the village, which is accessible to everyone in the village with a minimal payment.

Photo 3: Public stand post at Bakaram

The Initiative of Setting up of RO Plant: The novel initiative of setting up of the RO plant in Bakaram Jagir is perhaps the most noteworthy achievement of the panchayat to provide safe potable water to rural households. Before establishment of the RO plant, people used to drink the same untreated water which was supplied to them OHTs. Gradually awareness came

among the people that it is unhealthy to drink water without any kind of treatment as it will lead to several water borne diseases. Besides, the RO plants existed in neighbouring villages of Nagireddy Guda and Kamalapur, which created some demonstration effect among the people of Bakaram Jagir. Some of the villagers also used to procure safe drinking water from those RO plants at a relatively higher price of Rs. 15 to Rs. 20 per 20 litres bottle. Besides some of the private water vendors also used to supply filtered water to well-to-do households of the village (mostly belonging to upper castes) at a price of Rs. 25 to Rs 30 per 20 litres.

It was during the Gram Sabha meeting held during January 26 2015, that the villagers raised the concern of drinking water facilities of the village. There were deliberations over health related problems caused due to consuming untreated water. Further, some of the members also raised issues of water related bodily labour and time, money and efforts spent on procuring safe and filtered drinking water. The proposal for setting up a water filter plant in the village came to the forefront, albeit apprehensions about its actual realisation owing to huge cost factors. The present Sarpanch of Bakaram Jagir Mr. Sudhakar Yadav initiated the idea of setting up of the RO plant in the panchayat and started mobilising support for it. The elected representatives of the Bakaram Jagir GP headed by the Sarpanch approached the Rotary Club of Hyderabad to support in the initiative of providing safe drinking water to the village. Soon the panchayat was able to

Photo:4: Meeting in progress at Gram Panchayat Office, Bakaram Jagir

gather help from the local Rotary Club which agreed to support the RO plant. The vice president of the Mandal Praja Parishad also agreed to contribute towards construction of the building required to set up the plant. Some of the villagers also agreed to extend cash contributions as per their capacity for this novel initiative of the village.

The Panchayat made efforts to ensure peoples participation in the process of design and implementation of the RO plant. Detail modalities of setting up of the plant, site of construction and Operation & Maintainance (O&M) issues were discussed in the Gram Sabha meeting. The Rotary Club also made community mobilisation a precondition for setting up the RO plant. It was articulated in the panchayat meeting that people's participation will develop an ownership over the water supply system, which will in turn create a sense of responsibility towards the project. Therefore, people's contribution towards establishment of the RO plant in the village was sought both in the form of monetary contribution as well as voluntary donation of labour. As it was recalled by the Sarpanch, the total cost of construction of the RO plant amounted to Rs. 2,50,000/-, which was mobilised mostly from Rotary Club and partially from people's contribution. The process of setting up the RO plant almost took one year for completion, and became functional since January 2016.

Photo 5: RO Water Purification System of Bakaram Jagir

III. Outcome of the Initiative

3.1 Issues of Operation & Maintenance (O&M)

The water supply system of Bakaram Jagir is maintained and managed by the Gram Panchayat. For the household connections, the Panchayat collects a water fee of Rs. 40 per month. Households are given the option of paying the water fee either half-yearly (Rs. 240 for six months) or yearly (Rs. 480 per annum) basis. Usually the households deposit the water fee at Gram Panchayat office. The panchayat has appointed a *Karobar* (tax collector) who is responsible for collecting water taxes from those households who have opted for house connection inside their premises. During the month of March ever year, the tax collector visits the house of those who have failed to deposit the tax at GP office. Besides, the GP has also appointed a Pump Operator, who fulfils the functions of switching on the bore-well every morning and then pump it to OHT, and finally releasing the water to households at a regular time. The pump operator also looks after the functioning of the public stand-posts. Both the *Karobar* (tax collector) and the pump operator receive a salary of Rs. 10,000 per month from Gram Panchayat.

For the RO plant, the Panchayat has entrusted the O&M responsibilities to one of the persons from the village on the basis of rent. The RO operator (who manages the functioning) has paid a caution deposit of Rs. 70,000/- to Panchayat. Further he also pays a rent of Rs. 10,000/- per month to the Panchayat. As per the agreement between the GP and the RO operator, the Panchayat would take care of repair and maintenance of the RO machine and any other major electrical facilities such as the motor. It is also Panchayat's responsibility to provide in-put water supply to the RO plant. For this purpose, Panchayat has constructed a small Over Head Tank for the RO plant. The RO operator is entrusted with the responsibility of other day-to-day minor repairs whenever needed and regular replacement of water filter of the RO machine. The operator is also instructed by the Panchayat to keep the premises of RO

plant neat and clean, and remain present throughout the day to supply water to people. The RO operator provides drinking water to the people at a nominal price of Rs. 5/- per every 20 litre bottle.

3.2 Increasing Access to Safe Potable Water

The setting up of the RO plant in Bakaram Jagir has increased access to safe potable water. In the earlier scenario, people were mostly consuming untreated water, and had the risk of suffering from several water borne diseases. Only a few households of the village used to procure RO water from nearby villages with a price of Rs. 15/- to Rs. 30/- per every 20 litre bottle, which also involved the additional burden of carrying water from a long distance. However, with a RO plant in the village, now almost every household of the village are consuming safe and treated drinking water. The following excerpt from our interview with Ms. Gunnamma, an elected representative of Bakaram Jagir belonging to Scheduled Caste bears testimony to the increased access to safe drinking water in the village

Photo 6: People purchasing water from the RO Plant at Bakaram

"… Awareness about 'safe drinking water' is one thing and access to it and affording it are quite another. Most of the people in our village were aware about drinking safe water. But not all had access to it, nor were in a condition to afford it. Only few households – those who had money – were able to buy filtered water from the water vender. Most of us were drinking untreated water. But now things have changed in our village. After the RO plant was established, most of the families of our village, irrespective of caste and economic standards, are able to consume safe water. It is available just for Rs. 5 and we also don't have to travel a long distance to fetch it…"

Ms.Gunnama, 58 Years, Female, Bakaram Jagir Village

The RO plant of Bakaram Jagir remains open from 8 am in the morning till 9 pm in the night, and people are free to walk in with their own 20 litre bottles to collect water. It was also reported that people not only depended upon the RO plant for their day-to-day household requirements, but also fetched water from it during family functions such as weddings.

It was interesting to learn from Bakaram that the GP has made provisions to provide filtered water to the village primary school and the *Anganwadi* free of cost for consumption of small children of the village. Bakaram has two *Anganwadi Kendras* for 0 to 5 years children, one primary school and one high school in the village; and filtered water is provided to these educational institutions free of cost on a daily basis. Highlighting the importance of safe drinking water for children, Ms. B. Parameswari, principal of Bakaram Primary School reiterated the following:

Photo 7: Children of Bakaram Primary School drinking 'safe water'

> *"… Consuming safe water is most important for kids as it protects them from various water borne diseases. All children in this village drink filtered water. GP has made provisions to provide two bottles (20 litres each) of RO water to the primary school, and one bottle to the Anganwadi Kendra every day. It is not enough to teach children about Swachh Bharat, we should also make them available safe water and sanitation. Bakaram Jagir village has done it for its children"*
>
> Ms. B. Parameswari,
> Principal, Bakaram Jagir Primary School

One of the significant transformations of the Bakaram Jagir concerning water has been people's attitudes and behaviours regarding consumption of water. Over a period of time, there has been a thorough awareness among people about water and sanitation, and thus to use only safe and treated drinking water. Even the poor and less educated households of

the village now consider it right and just to use water treated at the RO plant rather than using pipe water for drinking purposes. One may observe the practice of separating drinking water from other regular water usage in almost all households of the village.

3.3 Bakaram Jagir RO Plant as an Efficient, Equitable and Sustainable Model

It is important to point out that the drinking water supply system at Bakaram Jagir gram panchayat has evolved as an efficient, equitable and sustainable model of water service delivery with potentials of replication at other similar situations. By renting the RO plant to a social entrepreneur from the village, panchayat has ensured a regular income in the form of rent from RO operator. It was reported that the operator pays a rent of Rs. 10,000/- per month to the panchayat. With a minimal investment on replacement of filters and other regular maintenance, the operator earns an income of around Rs. 15000/- per month by supplying filtered water to households.

By fixing the price of RO water at Rs. 5/- per every 20 litre bottle, the panchayat has been able to address the question of equity in access to safe drinking water in the village. The RO plant remains open throughout the day and provides an opportunity to everyone – irrespective of caste, class or religion – to walk in with their 20 litre bottle and collect water from the plant. While the market price for 20 litres of treated drinking water varies between Rs. 20/- to Rs. 80/- depending upon brand, the panchayat has been able to provide such services to people at a minimal price of Rs. 5/-. Further, water from the RO plant is provided free of cost to the Anganwadis and Primary School of the village. This ensures the small children of the school and anganwadi access to safe drinking water.

One of the important challenges for any development initiative is to achieve its sustainability over a period of time. By way of sharing the responsibility of the O&M of water supply system, the panchayat has ensured that services will be provided to the people on a continuous manner. Minor repairs of RO plant remains the responsibility of the operator, the panchayat has taken the responsibility of any major repairs to the RO plant. This has contributed to sustainable functioning of the system in the long run.

IV. Conclusion

What makes Bakaram Jagir stand unique amongst similar other efforts of drinking water service delivery by Gram Panchayats is its emphasis on 'safe drinking water', rather than just 'pipe water' to households. In an otherwise scenario, where many villages in rural India are yet to receive pipe water supply and are managing their daily water needs from wells and hand pumps, it is definitely a remarkable achievement by Bakaram Jagir Gram Panchayat to provide filtered RO water to its citizens for drinking as well as pipe water connection inside premises to the households for daily consumption. Some of the factors that may be considered as enabling conditions of success of Bakaram Jagir, and therefore, should be taken seriously while attempting to replicate the case in other locations are the following:

- Able leadership, strong (political) will and commitment to developmental needs of people
- Ability to mobilise outside support, especially from those who have willingness to give back to society
- Ability to mobilise the community to find solutions to their problems by themselves at their level
- An active and supporting civil society, willing to work for and with the people

- An active citizenry who is ready to participate in making decisions on matters that affect their lives
- Relative higher degree of social capital (explained in terms of trust, social norms and networks) and past history of community mobilisation and collective action
- An overall democratic environment in true sense of the term, where people can deliberate and find solutions to their problems at a public forum

We may conclude by way of invoking the idea that democratic decentralisation is not just an extension of liberal representative democracy to the lower levels, but is an endeavour to promote and practice direct and deliberative democracy at the grassroots, where people's affairs are governed by themselves with their active participation in making decisions that affect their lives most. In this sense, the experiment of Bakaram Jagir Gram Panchayat to govern its drinking water needs may truly be considered as an effort to democratise access to water. Such an initiative, if replicated at other locations of rural India with due recognition of local needs, preference and available resources, would definitely be a great step towards realising the target 6.1 of Sustainable Development Goals (SDGs) to achieve universal access to safe drinking water for all by the year 2030.

Acknowledgement

The author would like to thank National Institute of Rural Development & Panchayati Raj (NIRDPR) for its financial support to carry out the fieldwork for the case study. Due acknowledgement is also made to the support of Mr. Sudhakar Yadav and Mr. Krishna, Sarpanch and Ward Member respectively of Bakaram Jagir Gram Panchayat. The research assistance provided by Mr. Joshibabu Palle, research scholar, Department of Sociology, UoH is duly acknowledged. Usual disclaimers apply.

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