

Water Conservation and Supply for Gautampura Municipal Area :

A successful Community driven initiative

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I. Abstract

Gautampura is a Nagar Panchayat town (Census 2001 population 13225) located 55 km from Indore in the Malwa region of Madhya Pradesh. Town has rich historic past and is known as the place of meditation for Goutam Rishi.

The town was facing very severe problems of drinking water 5 years back. The major reason behind it was absence of Water source, decreasing water table (even below 100-150 ft.) and failure of Public Health Engineering department's Water supply scheme (costing nearly rupees half a crore).

The newly elected council (year 2004) took an initiative to recharge water resources so as to improve ground water level of whole town. One km. away from the town, a stop dam-type structure was constructed to stop the flow of rain water through rainy brooks, locally available stones and secured by the Neem plantation. The Aplaning of creating pond by this means was considered as infeasible and impracticable by the engineers of PHED and irrigation dept.

The hard work by the representatives, officers and the local people translated their dreams into reality. The total cost involved in the initiative came out to be half of that estimated by the parastratal agencies.

Finally, when it rained, all these structure constructed to collect water became full with water. Within a short span of time a great rise in groundwater level was recorded. With a little more effort the Nagar Panchayat is supplying water at 110 lpcd to its citizens. The rise in the water table has been such that the town would have sufficient water till next 20 years.



II. Context

Provision of water supply to its citizens is one of the mandatory function of Urban Local body. Five years back, similar to other Municipalities in the State of Madhya Pradesh, Gautampura Nagar Panchayat was also facing acute shortage of water supply as well as shortage of funds for the provision of this service. The newly elected council came into existence in the year 2004. The council having a youth leadership analysed the overall situation of infrastructure in the town and kept water at the top priority.

But before taking any initiative for the citizens it was thought to involve all the stakeholders in decision making. Nagar Panchayat conducted a meeting with the senior citizens of the town and analysed the reasons behind shortage of water and also discussed on possible solutions. The traditional approach of water conservation and modern technologies were added together. But in the whole process the most important aspect was community participation. The local people realised the efforts of Nagar Panchayat and contributed financially ("Dhan-daan") as well as physically (Shram-daan) in the entire process.

As a result the Gautampura Nagar Panchyat succeeded in providing 110 lpcd water to its citizens and the citizens are also assisting the ULB by paying water charges regularly. It is one of the major initiative taken by a small ULB for its citizens showing success of good Governance.



III. SITUATION PRIOR TO THE INITIATIVE

In the absence of reliable water source Nagar Panchayat Gautampura was facing severe water supply problems. However, river 'Chambal' does passes 2.5kms from the town, but it is not a perennial source and it also gets faded in this part of region.

In the year 1980-81 Gautampura Nagar Panchayat was constituted, since then tube wells were started to be bored in various places to supply water to the people. In the beginning, water level being around 100 feet, water distribution system went on smoothly through pipelines from water tanks.

Gradually water level went on decreasing and the Panchayat system kept on getting deeper tube wells bored. Only after 15 years drinking water system started disfunctioning .Due to repeated boring of tube wells, water level went down upto 500 feet .All the alternative sources like wells, ponds also went dry.

For the next 10 years (1995-2004) water was supplied at an interval of 10 to 15 days and that too for 20 to 30 minutes. The people of Gautampura started considering it as the fate of the town. However due to the efforts made by the officers and the representatives, two expensive schemes were approved to overcome this problem. The first was to bring water from the famous "Banediya Pond" and the second was to bore tube wells in the neighboring villages of Gautampura.

The first scheme died premature due to opposition of local farmers and the people of Banediya. In the second scheme, tube wells were bored 5 to 8 km away and from such a large distance, work of bringing water through pipelines and by erecting pumping station was started. In this project Rs 47 lakh was spent by the Public Health Engineering Department (P.H.E.D.) of Madhya Pradesh, but water level of the tube wells went down and the expenditure in the scheme proved to be a total wastage. The pipelines remained thrusted in the ground and pumping stations got damaged. As the proverb says "A stitch in time saves nine" - finally, after all the efforts being unsuccessful, water transportation was the only option left to Gautampura Panchayant. It was not that drinking water problem continued in the summer, it also continued in the rainy and the winter seasons. Tanker zones were formed and water had to be rationed.

The masses were badly irritated and tormented by this mismanagement. Disputes over getting water from tankers became common practice. After some years when the problem became uncontrolled, people came on the streets and started agitations like hunger strike, road blockage etc. in the town. The result was corruption, mismanagment and helplessness of the ULB.



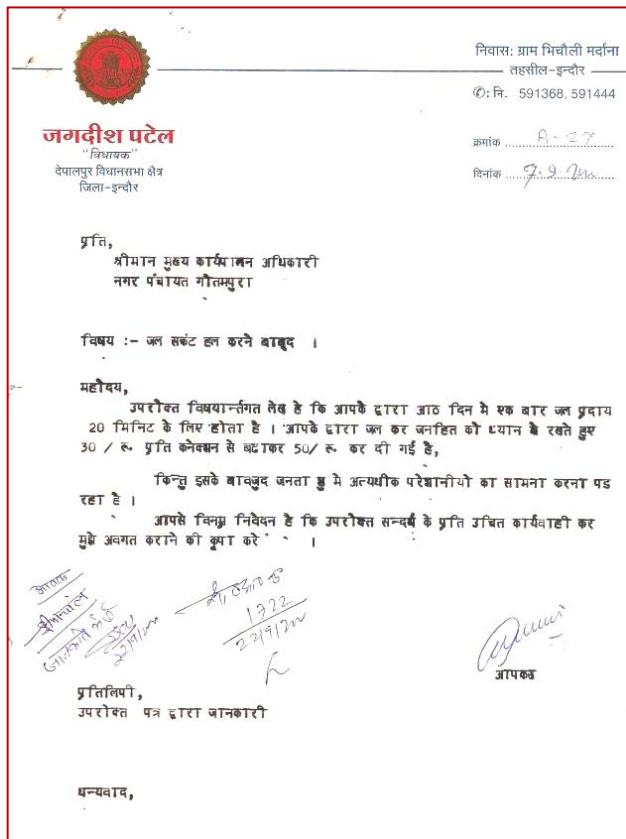


Figure 1 Year 2000 Letter to Chief Municipal Officer by MLA (asking for explanation)

Naiduniya : Year 2000



IV. Objectives

The local body elections were held November 26, 2004 and newly elected council came in to existence. The biggest challenge for the newly elected council was:

"To solve the problem of drinking water"

Accepting this challenge, the newly elected council unanimously took resolution to solve this problem. The goal was:

"To quench the thirst of the people and work in a well-planned and managed way to achieve this"

but the poor economic condition of the "Nagar Panchayat" was the biggest hurdle in achieving the goal. First of all, unchecked expenditure on tankers and transportation were restricted. Water resources were connected to water tanks through pipe line and temporary arrangement was made.

Then thoughts were directed to reach the permanent solution of this problem. The novel thoughts of young blood discerned the basic mistake that all the efforts were being made in the direction of exploiting underground water. It was only an immediate solution. Nothing was being done in terms of recharging water resources.

So one more goal was set and that was:

" to recharge water resources so as to improve underground water level of whole town"

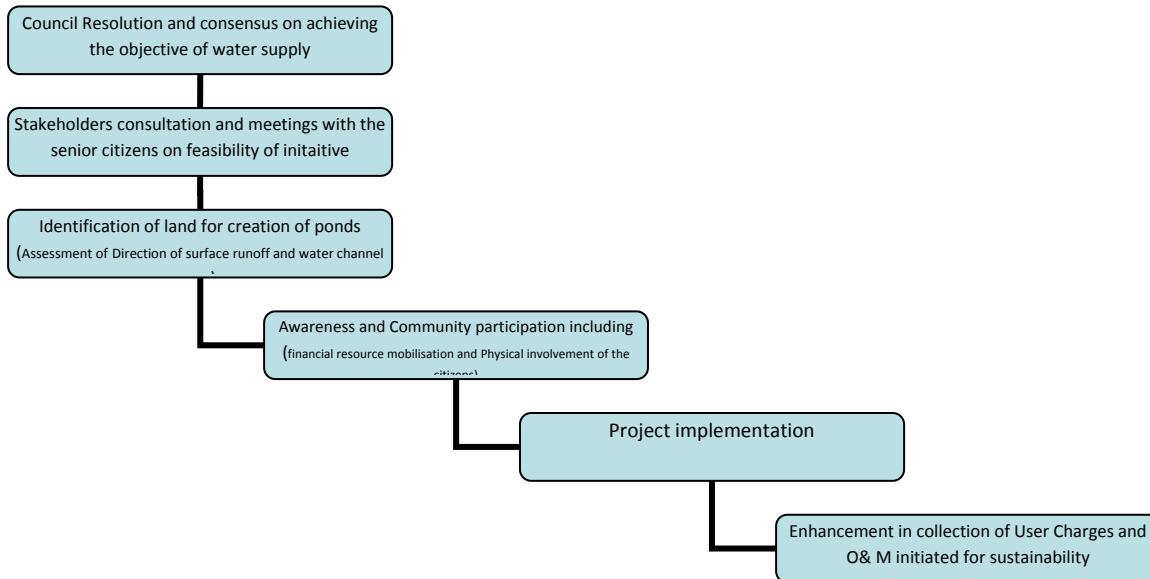
The idea was to construct ponds, lakes and stop-dams at different places. In the last 25 years, underground water level went down considerably so it was necessary to undertake redemption work of old legacy like wells, bawdis etc. The new council came to the conclusion that there was no short-cut to this. There was only one way and that was to recharge all these resources with rain water so that they can survive for whole year and sustainability could be achieved.

At the same time, it was also decided to construct new wells so that the water collected in ponds can be filtered by the earth itself and can be used as potable water. So the steps to achieve the goal were very simple – just to conserve rain water by constructing structures like ponds, stop-dams, lakes etc. so as to improve ground water level and solve the problem of water permanently.



v. Implementation process

The implementation process involved the following steps:



Creation of Water bodies

One km away from the town, a stop dam-type structure was constructed to collect the flow of rain water through rainy brooks. These rainy brooks were stopped at a place known as “Kharcha”. Soil of the surrounding area was removed and 400 meter boundary wall was constructed.

The planning of creating pond by this means was considered as infeasible and impracticable by the engineers of PHED and irrigation dept. They were of the opinion that backwater of Chambal river might damage this pond. At the same time, the construction of wells and getting the water through the same was thought to be unacceptable and imaginary, but council showed full faith in traditional knowledge and experience of the senior citizens of the town. It was decided to continue the construction work. The pond covering 2 acre area came into existence after the hard work of 3 months and at the cost of 6 lakh rupees. This pond was the proof of untiring work. Besides this pond, a 10 meter dia. and 15 meter deep well was constructed at a distance of 50 feet. The cost of this well came out around Rs 7 lacs.

Different departments estimated the cost of construction of the pond and the well between 25 and 30 lakhs, but the Nagar Panchayat got the construction work completed at the cost of Rs. 13 lakhs. The boundary of pond was strengthened by using stones of the Chambal river. Neem plantation was done in near-by area so that the back water of Chambal river could not damage the pond. At about half a km distance another pond named “Gautam Sarowar” was repaired and made ready for water recharging.

A cheap and useful idea was thought out for the river ‘Chambal’ to remain filled for maximum days. They got iron closures for 26 pipes fitted in the “Chambal” river bridge. The cost of the closures was only rupees



86000. In the last phase of the rainy season, these closures are fitted in the pipes of the bridge so that the river is filled up with water in 4 km length. This part of the river does get dried up till the month of March-April. As a result of this, a noticeable improvement in the underground water level was recorded. Besides that, in the Eastern region i.e. Runji, people were inspired by Nagar Panchayat and another pond was constructed. Besides, a drainage which passes near the most ancient legacy “The Achaleshwar Mahadev Temple” was cleaned, a stop dam was constructed and converted into a beautiful lake.

Financial arrangements

The financial arrangements done by the Nagar Panchayat mainly included the following:

1. Restriction on Water Transportation expenditure
2. Use of locally available material like stones (Chambal river stones) etc. for construction of Ponds and wells. Neem trees were planted to safeguard the constructed wall from river backwater.
3. Runji Pond : 50% funds from public and 50% from the ULB
4. Water supply : User charges



vi. Results Achieved

Subsequent to the initiative the following results were achieved:

- In March 2001, Nagar Panchayat's expenditure per household connection was Rs.218/- and the supply of water was done @ 30 LPCD.
- In March 2010, Nagar Panchayat's expenditure per household connection is Rs.43/- and the supply of water is been done @ 105 LPCD.

Comparative analysis

Receipts

Expenditure

Situation	Month/ year	Total no. of connections	Water charge per connection	Total amount received		Boring Exp.	Transportat ion Exp.	Electricity Exp.	Salary of Employee s	Total Expenditu re
Prior to initiative	March 2001	987	50	49350		96290	53496	26360	37000	213146
Post initiative	March 2010	1465	50	73250		—	—	40180	22000	62180

- Total number of water connections has increased almost 70%, from 987 in the year 2001 to 1465 in the year 2010.
- Total revenue generation has increased 50% and the expenditure has reduced almost 50%.



Situation after Implementation

The success of this effort rested on the belief of the traditional knowledge and experience of the elderly people.

Finally when it rained, all the structures constructed by Nagar Panchayat to collect water became full with water. Within a short span of time a great rise in groundwater level was recorded .Water streams got erupted in the newly built wells near the tank in 'Kharcha' region. This was the clear Indication of rise in ground water level due to recharging of water bodies. After the arrangement of sufficient amount of water, Nagar Panchayat laid 2 km long pipe-line and started supplying water to the town. This way the problem of drinking water was solved to a great extent, still there were some hurdles in the success of these efforts. The biggest hurdle was non-availability of electricity. For this M.P.E.B.(Madhya Pradesh Electricity board) gave an estimate of Rs 3.7 Lakh for laying electric lines from the power house to the well in Kharacha region. Due to shortage of funds, this idea was dropped and Nagar Panchayat used local labour and put sincere and honest efforts that resulted in installation of a transformer and electric line. It cost only Rs 65000/- to Naagr Panchayat. Various parts of the town were connected with pipelines .It made water available to most of the parts of the town without spending money on tankers.

Gautampura Panchayat which was considered to be harshly affected by water scarcity has now become self sufficient for drinking water supply. The present supply of Water is equal to the UDPFI prescribed norms and the water table shows adequate levels.





Year
2005



Year
2006



Year 2010



VII. Sustainability

As long as there is life on earth the requirement of water will be vital. Gautampura Nagar Panchayat has emerged as an example of collecting and conserving water before exploiting it. This is the need of the day. If the rain water is conserved, the problem of water paucity will never arise.

All the water resources like stop-dam, lakes, wells etc. constructed by the Nagar Panchayat can remain useful till infinite years. Every year, by little maintenance and works like removing silt, dredging the importance of ponds will go on increasing. Transportation of water and boring tube wells are the temporary arrangements. If we want permanent solution to this problem, we will have to conserve water. Boring tube-wells and transporting water can neither solve the problem permanently nor be useful for a developing country India. It will only reduce the ground water level. The only option left is conserving water by constructing lakes, ponds etc.

Gautampura Nagar Panchayat followed the concept of revitalizing water bodies which has proved to be sustainable since ages.



VIII. POTENTIAL FOR REPLICATION

The places facing shortage of water and those having ample amount of water should be connected so that the future generations would not struggle for water. Someone has rightly said that wherever the water runs it should be walked and wherever it walks should be stopped.

The success of this 'Novel Experiment' of collecting water by Gautampura Nagar Panchayat has become exemplary. Such experiments are being thought to be done by other Panchayats also. This model of Gautampura has been appreciated by the Principal Secretary, Urban Administration and Development Department and a letter has been issued to all the Nagar Panchayats of Madhya Pradesh to adopt the same model.



Figure 3 Dainik Bhaskar 2010

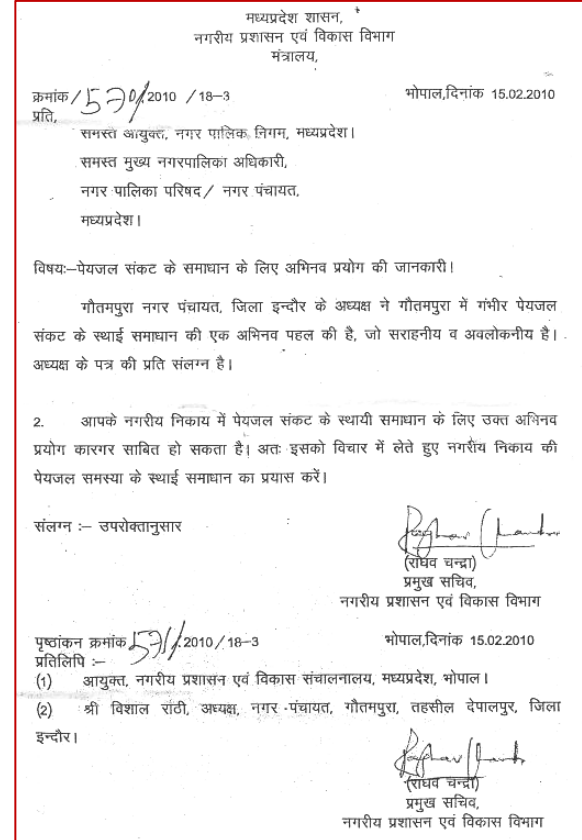


Figure 2 Principal Secretary ,UADD instructions for replication



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District : Indore

State : Madhya Pradesh



At City's Ukala Temple situated malodorous place converted into a beautiful lake





Well construction work started in year 2005-2006



Vertical boring done in well wall



Present situation of well





Previously Chambal river completely dried up in the month of December.



पाताल जाते पानी को मिली ताल, अब राहत

गौतम ऋषि के आंगन में पानी ही पानी



गौतमपुर में चेकडैम बनाकर पानी रोका गया है जिससे पास के कुएं में पानी आ गया।

भारकर संवर्धना, महु

प्रदेश में पानी को लेकर हाहाकार मचा हुआ है लेकिन गौतमपुर ग्रहण को सांस ले रहा है। जोरा, जखे और जुनुन में किए गए प्रयासों का नतीजा है कि गौतम ऋषि की नगरी पानी के मामले में समृद्ध हो गई है। पांच साल पहले गौतमपुर के क्षेत्र का जलस्तर 500 फीट से भी नीचे चला गया था। यहां 52 लाख की लागत से पाइप लाइन, सम्पनेल और पंपिंग स्टेशन बनाए गए लेकिन समस्या फिर भी कम नहीं हुई। लोगों को पीने के पानी के लिए बर्तन लेकर दो से तीन किमी दूर तक भटकना पड़ता था।

ऐसे चली सुखद बयार

चंबल नदी के तट पर सात लाख रुपए की लागत से 30 फीट चौड़ा और 55 फीट गहरा कुआ खोदा गया। यह कुआं नगर से डेढ़ किमी दूर था इसलिए पानी सस्लाय के लिए टंकी तक तकरीबन डेढ़ किमी तक पाइप लाइन बिछाई गई। जब गमी बढी तो यह कुआं सूखने लगा। कुएं की पानीदार बनाने के लिए बारिश का जो पानी नाले के द्वारा बहकर चंबल नदी में जाता था। इस नाले को रोककर उसके समीप एक तालाब भरकर कुएं को रिचार्ज करने की योजना बनाई गई। ...शेष पेज 13 पर

एक हाथ में सुजन, दुसरे में हम प्रलय लिये चलते हैं,
सभी किर्तिज्ज्वाला में जलते, हम अधिचारे में जलते हैं।
आसों में वैभव के सपने, पग में तुफानों की गति हो,
राष्ट्र भक्ति का ज्वार न रुकता, आए जिस-जिस की हिम्मत हो।

राष्ट्रभक्ति



भागीरथी प्रयास से सहेजा पानी, नवनिर्मित कुआं

राष्ट्रीय स्तर पर मिली मान्यता एवं प्रशंसा
दैनिक भारकर राष्ट्रीय परिशिष्ट में प्रथम पृष्ठ पर
प्रकाशित समाचार दिनांक 04.03.2009 तार गुरुत्वार

पेज एक का शेष

पाताल जाते पानी...

यहां तालाब तैयार किया गया। नाले का पानी तालाब में पहुंचा और भूकलस्तर बढ़ने से कुआ लबालब हो गया। इस तरह गौतमपुर का जलसंकट दूर हो गया।
वह चंबल में तैयार कला पड़ा चेकडैम : चंबल से बहने वाले पानी को रोकने का एक और तरीका ढूंढ लिया गया। 85 हजार खर्च कर पांच-पांच फीट के 26 लोहे के डबकन बनवाए गए। इनसे नदी की पुलिया को बंद दिया गया। इससे बाईं किमी दूर तक पानी भर गया। पानी रोककर पाप द्वारा उसे तालाब तक ले जाया गया। इससे आसपास

के क्षेत्र का जलस्तर बढ़ गया।

...जकि ग्रहण में भी न डटके संकट : नगर पंचायत अध्यक्ष विशाल यादी ने बताया सिंचाई विभाग ने उस जगह को तकनीकी रूप से करारा और कुएं के लिए उपयुक्त नहीं बताया था जहां अभी उनका निर्माण किया गया है। विभाग ने यहां निर्माण करने की लागत लगभग 20 लाख बताई थी लेकिन यह कार्य महज 13 लाख रुपए में पूरा किया गया। कुएं में चार आडे होल बनाए गए हैं इनमें एक होल 70 फीट का तथा तीन होल 35 फीट गहरे हैं। नगर पंचायत ने एक और कुआं निर्माण कराने की योजना तैयार की है।

Figure 4 Released in "Naiduniya" News Paper dated on 26 Apr 2010



नईदुनिया

नागरिकों की बात

मोहनदास बैरागी का कहना है कि हर वार्ड में हैंडपंप की व्यवस्था है।

पानी मिलने से अधिक परेशानी नहीं आएगी। नगर पंचायत पेयजल आपूर्ति व्यवस्था सुचारू बनाने के प्रति गंभीर है।

पवन चौधरी के अनुसार नगर पंचायत ने पेयजल आपूर्ति का अच्छा इंतजाम किया है। पहले कभी दस से ग्यारह दिनों में नलों से पानी मिला करता था। अब यह स्थिति नहीं है। मंजू राठौड़ का कहना है कि फिलहाल तो व्यवस्था ठीक है। गर्मी के तेवर तेज होने से जलसंकट गहराता है तो महिलाएँ परेशान होंगी।

शिरीन ओटलावाला का कहना है कि करीब दस साल पहले भीषण जलसंकट से हर कोई परेशान था। महँगे दामों पर टैंकर से पानी खरीदना मजबूरी था। अब पेयजल व्यवस्था सराहनीय है।



मोहनदास बैरागी



पवन चौधरी



मंजू राठौड़



शिरीन

