

Taking Organized Drinking Water to the Last Mile

User Managed Piped Water Supply Scheme at Noamundi, West Singhbhum

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7/9/2012

Noamundi is a Mining block sitting in on a table land in the heart of Saranda Forest and hot spot of Left Wing Extremism in recent times. State Water & Sanitation Mission under drinking Water & Sanitation Department ,Government of Jharkhand is closely working with the peoples institutions to create model of user Managed Piped Water Supply to ensure sustenance and enhancement of life and livelihood supporting activities in the furthest corner of the State.

Abbreviation

ARWSP	Accelerated Rural Water Supply Program
CD	Community Development
CSR	Corporate Social Responsibility
DC	District Coordinator
DWSD	Drinking Water & Sanitation Department
EE	Executive Engineer
NBA	Nirmal Bharat Abhiyan
NRDWP	National Rural Drinking Water Program
PHED	Public Health & Engineering Department
SWSM	State Water & Sanitation Mission
TISCO	Tata Iron & Steel Company Limited
TSC	Total Sanitation Campaign
TSRDS	Tata Steel Rural Development Society
VWSC	Village Water Security Committee

Resource Persons

Name	Location	Designation	Reference Office	Contact Number
Kailash Ram	Noamundi	SDO	Chaibasa EE	9204220106
Gaurang Lohar	Noamundi	Secretary	Noamundi JE	9234276862
Mahendra P. Singh	Chaibasa	JE,TWS	Chaibasa EE	NA
Harendra Mishra	Chaibasa	EE	Chaibasa EE	9006610826
Ritu Sah	Chaibasa	DC	Chaibasa EE	9693718703
Sisir Kumar Soren	Saraikela	EE	Saraikela EE	9661809092
Balram Panday	Noamundi	BC	Noamundi JE	8797733805
Bikash Kr Singh	Saraikela	DC	Saraikela EE	9621999919
Sunil Kumar	Haat Gamharia	JE	Chaibasa EE	9431647758
A Shandilya	Noamundi	PO	TSRDS	NA

Back Ground Information

Introduction to Noamundi Block: Noamundi is a CD block under West Singhbhum District of Jharkhand. The block is situated at a distance of 250 KM from the State capital. The block is located between 22°00'N to 22° 24'N and 85°12'E to 85°40'E at the heart of Saranda Forest. Topographically, Noamundi is situated on a table land with distinct ridges. Average height is 487 MSL. According to RGNDWP HGMap ground water potential for most part of the block is <10 LPM with layers available at a depth of 80 Meter or more, prospects being limited to valley zones only. Annual average rainfall of the area is 1422 mm (Chaibasa.nic.in). The block is marked by presence of tribal population (55% ST & 8% SC), forest cover, and Iron-Manganese ore reserves. BPL list put up in district website identifies 21965 families of Noamundi block as BPL. The area is considered as one of the hotspot of Left Wing Extremism in various literatures.



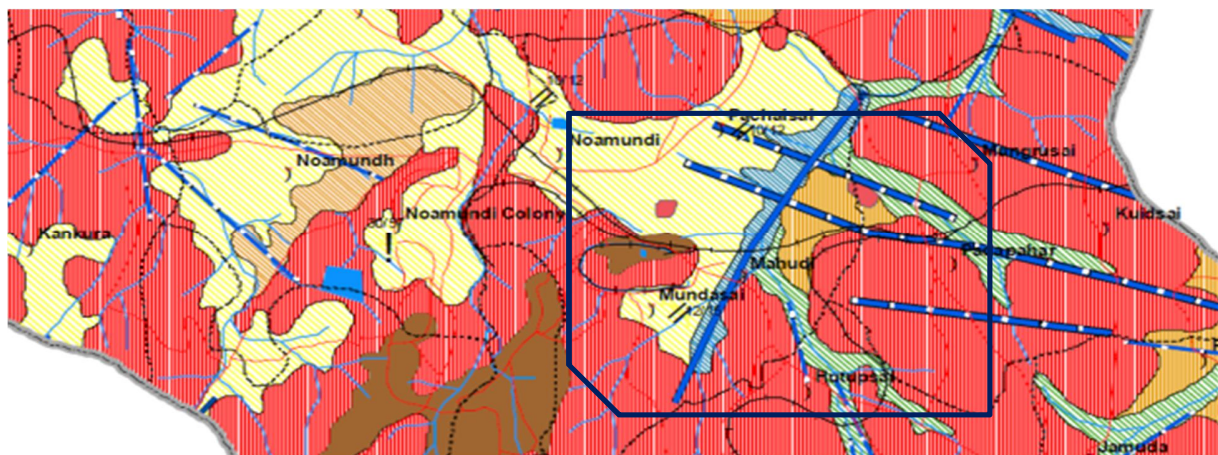
Fig: Panchayat Map of Noamundi Block (without forest Block) showing location of Mahudi Panchayat

Water Scenario in Noamundi: Understanding Challenges

The block Noamundi consists of 18 Panchayets apart from town area settled by TISCO for Mining operation. The resident villagers here traditionally used localized water harvesting structures and surface flows as source. It was sufficient to sustain slow paced subsistence economy with limited population growth. However, situation changed during last 20-30 years once large scale mining operation initiated. Rapid increase in economic activity necessitated assured water and supplementary resource.



The above figure shows General Topography of Noamundi Area. Habitation occupies table lands rich with iron manganese reserves and is at a distant location from surface flows. Villages bordering the TISCO town were mostly affected by these changes. With increasing population pressure (estimated to be more than 20% in the last decade), uncertain rainfall behavior (reportedly 5 draughts like situation) and proven incidence of iron (Fe more than the permissible level is reported in almost all the 40 sources tested by TSC) make it difficult for resident villagers to access safe and potable water for household uses. While TISCO organized for safe water supply to the town area, due to paucity of perennial surface flows surrounding habitations in Noamundi started exploring dug wells and tube wells with very limited success.



Study of Hydrogeological Map (above) developed under Rajiv Gandhi National Drinking Water Mission (RGDNWM) by NRSC; Hyderabad in association with JSAC shows availability of limited ground water prospect zones in Noamundi and surrounding except the fracture zones marked in blue.

The Story of Mahudi & Kolhan Hatin

Mahudi Sahri Panchayat consists of 13 hamlets and is home to 14389 populations (as per DDWS information available with NRDWP section in ddws.Gov.in). The Panchayat is located in the flank of TISCO Township. Block level office of government departments, main market place for TISCO as well as the whole block and a number of emergency facilities comes under the jurisdiction of the Panchayat. Considered as life line of Noamundi, Mahudi was badly in need of organized water supply.

The Scheme: The issue was taken up by local peoples' representatives in association with community members. Exposure to water supply system at TISCO motivated them to explore possibilities of piped



water supply scheme with Government assistance. Kolhan Hatin scheme was developed by DWSD under Swajaldhara Program for the locations surrounding TISCO Mines area in 2005-06 with capacity of 1, 30000 Liter through deep boring and around 3 KM of pipeline supports. The scheme was inaugurated in February 2005, based on a single deep bore. After wards two more boring points were connected to the supply tank (shown beside). With growing need, another one new boring has been done by local residents

.Water from the Kolhan Hatin scheme is being supplied to nearby hamlets of Lakhan Sai, Block Colony, Tondetopa and Bangalipara on regular basis. While for the last 5 years the scheme was functioning under departmental control, Grameen Jalapurti Samiti, an 11 members committee representing the users took charge of affairs since 2010.

The People: Since it took charge, Grameen Jala Purti Samiti at Kolhan Hatin issued 270 paid connections under the project. Each household pay a charge of INR 100 per month for repair and maintenance. The overhead tank with 130000 Liter capacity is filled in 3times a day, there by supplying 390000 Liter per Day of Water to the users. During the last one year the water supply did not suffer for a single day. With spontaneous contribution from the users, the Kolhan Hatin user group has been successfully created a corpus of around 2.65 Lakh Rupees to take care of operation and maintenance. For their significant contribution and



demonstrative work Kolhan Hatin water user group was honored by Government of Jharkhand during the Foundation Day celebration last year. The experience of user managed PWS at Kolhan Hatin clearly points out to the benefit of participatory management in water domain.

Figures: The Kolhan Hatin Scheme Water Tank with 130000 Liter capacity and leaders behind the initiative, Mr. Gaurang Lohar, secretary of grameen Jalapurti Samiti in center with Block Coordinator and Junior Engineer from State Water and Sanitation Mission explaining the developments.

Outcome & Impact

Outcome: In discussion with the author, Secretary of the Samiti, Mr. Gaurang Lohar pointed out advantage of user managed operation and Maintenance over Government controlled operations sharing and highlighting some obvious but less recalled principles with facts and figures;

Particulars of Progress	Performance (2005-10)	Performance (2010-June,2012)
User Connection	95	270 (60 more awaited)
User Charges (Rs.) Estimated	63	100
Average Non-Supply Days /year	15-20	0
Number of Source	1	4 (Addl. 3)
Differential Rate for household & Commercial use	Could not be taken up	Presently being considered
User Interactions	Low and irregular	High and regular (Around 6 Meetings)
Water Budgeting	Not in priority	Central to their functioning

Impact: With these achievements Kolhan Hatin user group stands at a new height and seem to be the best available role model around for the VWSCs in the state. Appreciating the challenge and exploring the scientific options with technically competent agencies had been the Key to success of the Villagers in Mahudi Panchayet to mitigate water crisis in the local area. Looking at them, other groups have started generating demand and shared their willingness to be part of this initiative.

Started with Kolhan Hatin in the year 2005-06, Drinking Water and Sanitation Department went on developing a number of user managed piped water schemes based on ground water source. Known by the name of the Samitis these rural water supply programs significantly addressed drinking water issues for the resident villagers in Mahudi. TSRDS, CSR wing of TISCO played a pivotal role in Initial social mobilization and facility development. Reportedly 7 different PWS has been created by DWSD, in which TSRDS actively associated in developing and implementation of 3 PWS. As per the latest DDWS report, as on 31st March Mahudi Panchayat is endowed with 7 PWS covering 47 sources and 60 Delivery points (<http://indiawater.gov.in/IMISReports> accessed on 9th July, 2012). This partially serves need of 25 habitations.



Way Forward

Learning from the success of Kolhan Hatin user Group Noamundi Bazar Samiti scheme was developed with peoples' participation from the planning phase. Presently, the scheme is supplying 50000 Liter per day of water to 170 users in Noamundi Bazar Area (Figure above). When asked about the future plans and learnings one should take home from their experience, the young and old patrons of PWS in Mahudi reiterated their faith on democratic processes and highlight the following issues and agenda at hand;

- ▶ Presently the Samities are functioning in a need based manner, both in physical and financial terms. Procedural improvement in terms of participation and meeting regularization, enhancing connection and regularizing audit process is necessary.
- ▶ The Samities were formed before Panchayet Election in Jharkhand. Since the PRI election took place, VWSC is authorized body in Panchayet area to make decisions on water uses. Being established before PRI election these Samities can perform as independent entities &/or co-opt Village Mukhia as member leader of the samities. A decision in this regard needs to be made
- ▶ Crisis of potable water can only be mitigated by pre-calculated utilization and recharging. Present supply is much higher than stipulated supply as envisaged in national programs. The Samiti will arrange to put meters to measure and regulate water uses. TISCO has created model water harvesting park. Samiti wish to approach government for developing micro water harvesting structure in this line.
- ▶ Iron contamination is a concern in the Mahudi and surrounding Noamundi area. While there are few visible effects, the committee members wish to carry out testing and supply iron free water to the area. They also expect SWSM to take up Distribution of iron filters among the mine workers on priority basis.
- ▶ Public-Private-People partnership model has fared well at Noamundi for Drinking water and sanitation. The model can still drive the operation under NRDWP and TSC. Collaborative rehabilitation program by CSR, State line department and VWSC shall open up new opportunities in this dimension.

The document was prepared based on a two days field visit by Kallol Saha State coordinator (Hydrogeology), SWSM, DWSD, GoJ on 6th and 7th of July, 2012 in West Singhbhum district.