



Project Well

Aqua Welfare Society

Arsenic-Safe Water



March 2010

www.projectwellusa.org

PROJECT WELL REPORT ON 25 NEW DUGWELLS CONSTRUCTED IN 2009 in North 24 Parganas, Murshidabad and Nadia, India

We want to begin by sharing the good news that Blue Planet Run Foundation and its partners have funded 50 dugwells that we are busy constructing in 2010. Meanwhile, here is a complete report of 2009.

Project Well (California, USA) together with sister NGO **Aqua Welfare Society** (based near Kolkata, West Bengal), developed a sustainable, community-based mitigation program in 2001 to provide arsenic-safe water to the villagers of the North 24 Parganas districts in West Bengal, India. Project Well dugwells are designed to reduce bacterial contamination by users in the process of its use and chlorine-based disinfectant is regularly applied to control pathogen growth. Some dugwell report below do show presence of total and fecal coliform however there have not been any report of diarrhea outbreaks related to the dugwell water. On the contrary people have been reporting about improvement in their appetite.

Between 2001 and 2008, Project Well constructed 92 dugwells in eight villages, brought on more and more sponsors, and provided clean water to an increasing number of men, women and children.

To promote transparency and efficiency, Project Well also set up a surveillance program enhanced by using Google Earth. Project Well monitors the dugwells year-round, and provides reports and pictures of all dugwells on the website. Visitors can find the exact location of each dugwell using this publicly available information, and they are welcome to visit the dugwells anytime. 2008 also saw the introduction of bore-dugwell that ensures water supply all year.

In 2009, Project Well constructed 25 more dugwells in three districts: North 24 Parganas, Nadia and Murshidabad. Twenty dugwells were placed in the Gaighata and Swarupnagar blocks of N-24 Parganas, three bore dugwells were installed in Amirabad of Murshidabad, and two in Chakdah of Nadia. Blue Planet Run Foundation (a nonprofit organization that aims to track all grassroots water projects internationally) funded twenty of the dugwells; private donors to Project Well sponsored four more dugwells, and one was donated by the University of California, Berkeley, College of Engineering, facilitated by Prof. Ashok Gadgil and his group.

Village meetings and health meetings are being organized at both new and old user communities that successfully increased the number of users at some sites.

The scheme that is ongoing to implement fifty similar community based projects are in the districts of North 24 Parganas and Nadia.

(Content below: pages 2-9 pictures and reports of 25 dugwells; pgs 10-12 report update)

Dugwell ID	PW93JHDN1
Land donated by	Dukhiram Mondol
Village	Kanaipara
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.95844 N
Location :Longitude	88.82990 E
Constructed	July 2009
Arsenic level	9 PPB
Date of Report	22 nd October, 2009
Bacteria:TC / FC	64 / 46
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	22
Beneficiary members	100
Remarks	Shallow dugwell
Sponsored by	Blue Planet Run Foundation



PW93JHDN1

Dugwell ID	PW94JHDN2
Land donated by	Narayan Mondol
Village	Gowalbathan
Panchayat / Block	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.94911 N
Location :Longitude	88.83065 E
Constructed	July 2009
Arsenic level	29 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	205 / 24
Date of Report	7 th December 2009
Physical qty of water	Clear water, excellent taste, no odor
Beneficiary families	1
Beneficiary members	4
Remarks	Dug bore well
Sponsored by	Blue Planet Run Foundation



PW94/JHDN2

Dugwell ID	PW95JHDN4
Land donated by	Nirmal Das
Village	Chaitipara
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.94311 N
Location :Longitude	88.83809 E
Constructed	July 2009
Arsenic level	1 PPB
Date of Report	22 nd October, 2009
Bacteria:TC / FC	53 / 17
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	5
Beneficiary members	23
Remarks	
Sponsored by	Blue Planet Run Foundation



PW95JHDN4



Dugwell ID	PW96JHDN3
Land donated by	Kalipada Biswas
Village	Gowalbathan
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.94769 N
Location :Longitude	88.83605 E
Constructed	July 2009
Arsenic level	4 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	18 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	15
Beneficiary members	65
Remarks	
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW97JHDN4
Land donated by	Paritosh Tarafdar
Village	Gowalbathan
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.94857 N
Location :Longitude	88.83471 E
Constructed	July 2009
Arsenic level	12 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	161 / 15
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	6
Beneficiary members	20
Remarks	
Sponsored by	Blue Planet Run Foundation



Dugwell ID	PW98JHDN5
Land donated by	Late Gurupada Biswas
Village	Gowalbathan
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.94880 N
Location :Longitude	88.83365 E
Constructed	July 2009
Arsenic level	14 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	49 / 1
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	10
Beneficiary members	40
Remarks	
Sponsored by	Blue Planet Run Foundation





Dugwell ID	PW99JHDN6
Land donated by	Hazarilal Biswas
Village	Gowalbathan
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.95108 N
Location :Longitude	88.83486 E
Constructed	July 2009
Arsenic level	3 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	5
Beneficiary members	20
Remarks	
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW100JHDN7
Land donated by	Atul Tarafdar
Village	Khaldharpara
Panchayat	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.95433 N
Location :Longitude	88.83276 E
Constructed	July 2009
Arsenic level	6 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	5
Beneficiary members	28
Remarks	
Sponsored by	Blue Planet Run Foundation



Dugwell ID	PW101JHDN8
Land donated by	Jayanta Biswas
Village	Gowalbathan
Panchayat/Block	Jhowdanga / Gaighata
District	N 24 Parganas
Location :Latitude	22.95081 N
Location :Longitude	88.83307 E
Constructed	July 2009
Arsenic level	65 PPB retest
Date of Report	22 nd October, 2009
Bacteria:TC/FC	9 / 2
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	0
Beneficiary members	0
Remarks	AS is high, need to retest
Sponsored by	Blue Planet Run Foundation



Dugwell ID	PW102CGT1
Land donated by	Sirajul Islam
Village	Patua
Panchayat	Charghat / Swarupnagar
District	N 24 Parganas
Location :Latitude	22.83608 N
Location :Longitude	88.81487 E
Constructed	July 2009
Arsenic level	18 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	128 / 23
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	16
Beneficiary members	68
Remarks	The recycled board will be changed to stone plaque.
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW103CGT2
Land donated by	Rajjak Mondol
Village	Patua
Panchayat	Charghat / Swarupnagar
District	N 24 Parganas
Location :Latitude	22.833151 N
Location :Longitude	88.81651 E
Constructed	July 2009
Arsenic level	20 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	27 / 0
Date of Report	7 th December 2009
Physical qty of water	Water has bad odor.
Beneficiary families	0
Beneficiary members	0
Remarks	need to introduce mawtka filter
Sponsored by	Blue Planet Run Foundation



Dugwell ID	PW104ICPR1
Land donated by	Sudhangshu Ghosh
Village	Bora
Panchayat/Block	Ichhapur II / Gaighata
District	N 24 Parganas
Location :Latitude	22.91194 N
Location :Longitude	88.7739 E
Constructed	July 2009
Arsenic level	16 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	1208 / 27
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	10
Beneficiary members	54
Remarks	
Sponsored by	Blue Planet Run Foundation





Dugwell ID	PW105ICPR2
Land donated by	Ramesh Chandra Roy
Village	Bora
Panchayat	Ichhapur II / Gaighata
District	N 24 Parganas
Location :Latitude	22.9158 N
Location :Longitude	88.77299 E
Constructed	July 2009
Arsenic level	6 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	1140 / 488
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	0
Beneficiary members	0
Remarks	High FC not used yet
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW106FLS1
Land donated by	Sukumar Biswas
Village	BM Pally
Panchayat/Block	Fulshara / Gaighata
District	N 24 Parganas
Location :Latitude	22.97129 N
Location :Longitude	88.77253 E
Constructed	July 2009
Arsenic level	10 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	5
Beneficiary members	20
Remarks	Not used???
Sponsored by	Blue Planet Run Foundation



Dugwell ID	PW107SML4
Land donated by	Monoranjan Bhowmick
Village	Ramchandrapur Mathpara
Panchayat	Simulpur / Gaighata
District	N 24 Parganas
Location :Latitude	22.94657 N
Location :Longitude	88.80242 E
Constructed	July 2009
Arsenic level	7 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	pending
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	8
Beneficiary members	34
Remarks	
Sponsored by	Blue Planet Run Foundation



PW108SML5

Dugwell ID	PW108SML5
Land donated by	Santosh Chakraborty
Village	Singjol
Panchayat	Simulpur / Gaighata
District	N 24 Parganas
Location :Latitude	22.94657 N
Location :Longitude	88.80242 E
Constructed	July 2009
Arsenic level	5 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	8
Beneficiary members	36
Remarks	
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW109SU20
Land donated by	Bistu Das
Village	Bishnupur
Panchayat/Block	Sutia / Gaighata
District	N 24 Parganas
Location :Latitude	22.90336 N
Location :Longitude	88.79103 E
Constructed	July 2009
Arsenic level	7 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	Pending
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	0
Beneficiary members	0
Remarks	Technical problem, being addressed
Sponsored by	Blue Planet Run Foundation



PW109SU20

Dugwell ID	PW110SU21
Land donated by	Sankar Paik
Village	Bishnupur
Panchayat/Block	Sutia / Gaighata
District	N 24 Parganas
Location :Latitude	22.90395 N
Location :Longitude	88.7887 E
Constructed	July 2009
Arsenic level	6 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	21
Beneficiary members	88
Remarks	
Sponsored by	Blue Planet Run Foundation



PW110SU21



PW111SU22

Dugwell ID	PW111SU22
Land donated by	Sachidulal Sarkar
Village	North Bishnupur
Panchayat/Block	Sutia / Gaighata
District	N 24 Parganas
Location :Latitude	22.92132 N
Location :Longitude	88.80188 E
Constructed	July 2009
Arsenic level	29 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	42 / 29
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	2
Beneficiary members	3
Remarks	Awareness program
Sponsored by	Blue Planet Run Foundation

Dugwell ID	PW112SU23
Land donated by	Narayan Das
Village	Bishnupur
Panchayat/Block	Sutia / Gaighata
District	N 24 Parganas
Location :Latitude	22.90379 N
Location :Longitude	88.78871 E
Constructed	July 2009
Arsenic level	13 PPB
Date of Report	22 nd October, 2009
Bacteria:TC/FC	0 / 0
Date of Report	7 th December 2009
Physical qty of water	Clear water, no odor, normal
Beneficiary families	24
Beneficiary members	85
Remarks	
Sponsored by	Blue Planet Run Foundation



PW112SU23

Dugwell ID	PW113NGR1
Land donated by	Johuddin Sheik
Village	Dewanpara
Panchayat/Block	Raninagar 2 / Raninagar 2
District	Murshidabad
Location :Latitude	24.22933 N
Location :Longitude	88.50346 E
Constructed	January 2010 (delayed)
Arsenic level	<5 PPB
Date of Report	
Bacteria:TC/FC	Pending
Date of Report	
Physical qty of water	Clear water, no odor, normal
Beneficiary families	0
Beneficiary members	0 (dry in summer)
Remarks	Arsenic test by field kit 'quick test'
Sponsored by	Project Well



PW113NGR1



Dugwell ID	PW114RNGR2
Land donated by	Amirabad High Madrasa
Village	Amirabad
Panchayat/Block	Amirabad / Raninagar 2
District	Murshidabad
Location :Latitude	24.26485 N
Location :Longitude	88.48584 E
Constructed	January 2010
Arsenic level	< 5 PPB
Date of Report	
Bacteria:TC/FC	pending
Date of Report	
Physical qty of water	Clear water, no odor, normal
Beneficiary students	More than 2000 students but water
Beneficiariers	in summer water for only 40 teachers
Remarks	Arsenic test by field kit 'quick test'
Sponsored by	Engg. dept of University of CA, Berkeley

Dugwell ID	PW115RNGR3
Land donated by	Ajam Mondol
Village	Aeermari
Panchayat/Block	Malibari2 / Raninagar 2
District	Murshdidabad
Location :Latitude	24.22164 N
Location :Longitude	88.50074 E
Constructed	January 2010
Arsenic level	< 5 PPB
Date of Report	
Bacteria:TC/FC	Pending
Date of Report	
Physical qty of water	Clear water, no odor, normal
Beneficiary families	50
Beneficiary members	250 (data over phone from cbg)
Remarks	Arsenic test by field kit 'quick test'
Sponsored by	Project Well



Dugwell ID	PW116GTGC1
Land donated by	Ranjeet Ghosh
Village	Gotrabazar
Panchayat/Block	Ghetugachi / Chakdah 1
District	Nadia
Location :Latitude	23.02739 N
Location :Longitude	88.58378 E
Constructed	January 2010
Arsenic level	< 5 PPB
Date of Report	
Bacteria:TC/FC	pending
Date of Report	
Physical qty of water	Was clear water, no odor, normal
Beneficiary families	7
Beneficiary members	28
Remarks	Arsenic test by field kit 'quick test'
Sponsored by	Oor Wullie, Scotland



Dugwell ID	PW117GTGC2
Land donated by	Sujam Mondol
Village	Bonomalipara
Panchayat/Block	Ghetugachi / Chakdah 2
District	Nadia
Location :Latitude	23.06633 N
Location :Longitude	88.5973 E
Constructed	January 2010
Arsenic level	< 5 PPB
Date of Report	
Bacteria:TC/FC	pending
Date of Report	
Physical qty of water	Clear water, no odor, normal
Beneficiary families	0
Beneficiary members	0
Remarks	Arsenic test by field kit 'quick test'
Sponsored by	Project Well

As seen in the pictures below these kind of cheap earthen pots are available in the local bazaars and the field workers fit in the locally available ceramic filters (candles) before handing them over to the beneficiary family who pay 25% for the 'mawtka' filter. More than 40 such earthen filters were distributed to test if the quality of the filtered water would be improved in areas where the water contained either organic or chlorine odor and was turbid. A survey was done after distribution, assessment of which is still pending.



Update and Lessons learned in 2009:

Murshidabad: Three dugwells were constructed in the Amirabad area of Raninagar Block, in the district of Murshidabad. As per telephone report of March 31st 2010, the 30-foot bore-dugwell was dry and the people were back to using tubewell water and water from the old traditional dugwell that was 60-70 foot deep. The beneficiaries have been informed that due to the location and shallowness of the modern 30-foot bore-dugwells, there would be scarce water in the summer months and water would only be available from mid-June to February. Similarly, a dugwell (PW114) that was

constructed in a school was also far away from water bodies, and in the summer months water is available only for about 40 persons (*used by the teachers; the school children are supposedly drinking water from the contaminated tubewell*). Apparently, there is a traditional deep rope-and-bucket dugwell located within two minutes walking distance from the school, which contains water throughout the year.

There are more than 20 such deep traditional dugwells in the village that can be converted to 'modern' dugwells by attaching a hand pump and the flexible tube and Project Well can arrange to train the communities to maintain the dugwells. If funds are available Project Well can plan to implement Dugwell-Revival Projects next year.

The third bore-dugwell, PW115, was constructed at the same time as these other bore-dugwells. According to a March report by Mr. Shajahan Ali, the contact person of the community, it contains plenty of water and caters to about 50 families and more than 250 people.

In 2009, twenty bore-dugwells and five modern dugwells (traditional dugwell with hand pump attached) have been constructed; out of these, the status as of March 2010 is: 12 dugwells are being used (86 families and 317 people + 250 users of PW115), 5 dugwells are dry and 8 dugwells are not being used. The reasons for non-use are: a) psychological, as the villagers are of a mindset that drinking water tapped from nearby water bodies is dirty, or b) the organic odor. There are many communities that are using the dugwell water despite organic odors. And to remove odors and turbidity, if any, arrangements have been made to distribute mawtka filters to villagers, provided the community-based groups (CBGs) will use the dugwell water.

Dimensions of PVC pipe to be changed: The dimensions of the PVC pipe were 20 feet in length, 8 inches in diameter and 6 mm in thickness. This resulted in two problems: (1) scarcity of water in summer in some locations and (2) there was a technical issue: during the monsoon of 2009 when the flexible pipes of four dugwells got stuck inside the inserted tube. We speculated that the pipe was compressed by the hydraulic force of the water since the pipe was thin (6 mm). Hence, to solve these issues in 2010, we are using larger pipes of 10 inches (N=30) and 8 inches (N=20) in diameter and 8 mm thickness, of length 20 foot for bore-dugwells (N=40) and 30 foot for bore-wells (N=10). The cost of pipes of increased dimension is double that of the previously used dimension (INR 9,185 vs. INR 19,500 & 12,400 of 10" and 8" diameter respectively for 20 foot pipes). Fifty bore-dugwells are under construction. Blue Planet Run Foundation is funding 45 dugwells and five will be funded by private donors to Project Well.

Please visit the following website for the status of this ongoing project:
< http://peerwater.org/apps/218/show_projects >

Sponsors 2009:

Blue Planet Run Foundation (20)
Project Well Private Donors (3)
University of California, Ashok Gadgil and group (1)
Oor Wullie, Scotland (1)



Dugwell construction using local manual labor and raw materials.



Awareness Program at Bishnupur High School in Gaighata



Partner NGO, Aqua Welfare Society sharing the knowhow of the project in Kolkata, India

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To donate, please write checks to: Project Well, 2211 Braemar Road, Oakland, CA 94601