

## **The Bangladesh Arsenic Mitigation and Water Supply Project: A Public Administration and Public Health Failure**

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### **Introduction**

The purpose of this report is to learn from a development mistake: the Bangladesh government’s institutional response to the problem of arsenic in drinking water. Important opportunities were missed. Time and money were wasted. The population, more than ten years into the crisis, still is not getting the help it needs, perhaps because of this mistake. Our role as evaluation researchers in several different arsenic related projects has allowed us to observe some of the processes leading up to the present state of affairs.

“Since tube wells became popular as a source of drinking water in Bangladesh in the 1970s, tens of millions of people have been slowly poisoned by arsenic. Exposure to arsenic from the contaminated wells is projected to double the number of cancer deaths in Bangladesh in the next two to three decades.” (van Geen et al. 2005) The affected population is estimated to be between 20 and 40 million.

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Arsenic in ground water was recognized in neighboring parts of West Bengal, India, in the mid-1980s. And by the early 1990s Bangladesh had begun to do its own water tests. Local activists got media and professional attention. Geologists, chemists, engineers, epidemiologists, and many others came from around the world to help find solutions to what was recognized as one of the greatest “mass poisoning” cases in human history. By 2000 the scale of the problem had been more or less identified. In 2004 the Ministry of Local Government published a national arsenic mitigation policy document. Some arsenic removal technologies had been tested and approved by 2004. By 2005 assessments had been done of the quality of various alternative water sources on trial during the early period: renovated dug wells, rain water harvesting units, and pond sand filters.

From 1999 until around 2003 or 2004 the whole country seemed to buzz with activity to tackle the arsenic problem. In 2009, however, the government is giving it very little attention. Recently we met with some community leaders in arsenic affected areas. They expressed frustration. Several said that the government gave them no support or guidance in dealing with arsenic related illness or identifying safe water options. The official silence four or five years after all the excitement and media attention is striking. Technical research and development has progressed, but institutional arrangements have failed.

In what follows, we will review some early aspects of the nation’s response to the arsenic problem. We will focus on the largest effort, a new governmental agency funded with loan money from the World Bank’s International Development Association (IDA). It was known as the Bangladesh Arsenic Mitigation and Water Supply Project, or BAMWSP. This review is based on a number of conversations with key individuals over the past ten years, plus our own evaluation

study findings. We have had long conversations of three of the four BAMWSP Directors (“P.D.s”), with representatives of concerned UN agencies and the World Bank, some government officers, bilateral donor representatives (foreign aid agencies of specific countries), NGO staff, researchers, and activists.

### **BAMWSP: First years**

BAMWSP was set up in 1997 and started work in 1998. It was *the* national program, the one with the most resources and the biggest responsibilities. A loan credit of U.S.\$44.4 million was approved. By the end of the project in 2006 or 2007 BAMWSP had spent approximately \$22 million.

Out of 269 sub-districts known to have groundwater arsenic problems by the end of the 1990s, BAMWSP had responsibility for water testing, patient identification, public education, and providing technical solutions (“mitigation”) in 189 of them plus 100 urban areas. Other organizations – UNICEF, Danida, SDC, World Vision, and JICA) took responsibility for the other 80 sub-districts.

The agency’s work got off to a slow start. Six seriously affected sub-districts got some dug wells, pond sand filters, and other alternative options starting in 2001. These hard-to-manage technologies were the best ideas available at the time. Screening of tubewell water was done by contracted NGOs who also were expected to do some public education. A 2004 evaluation study found that half of the NGO’s had performed satisfactorily. Four years into the project, BAMWSP had screened tubewells in only 41 of its 189 sub-districts. According to the then-P.D. 147 still remained to be screened in April 2003.

## **The institutional set-up**

The World Bank had funded this new organization on the condition that it not be placed within any existing line agency. Apparently BAMWSP was set up in this way for two reasons: (1) to avoid corruption, and also (2) to promote ongoing service provision, data management, and other functions related to the arsenic problem, instead of the usual development strategy of establishing time-limited, “projects.”

The Project Director, a high ranking governmental officer, reported to the Secretary of the Ministry of Local Government, Rural Development and Cooperatives. He got strong backing from donors when he applied for the BAMWSP leadership position. (The World Bank/WSP had wanted an open competition for the post, but the government – i.e., the Ministry – had negotiated to have only government officers apply, as it was officially a governmental organization.)

## **2003 Changes in BAMWSP**

As the World Bank’s final report states, the initial set-up had put BAMWSP “on a collision course with the DPHE.” The Chief Engineer of DPHE reportedly resented the newly independent role of his former colleague, the BAMWSP P.D., and he is said to have made common cause with a Minister to sabotage the new organization. BAMWSP depended heavily on the World Bank/WSP to get things done, arranging logistics, and so on, in its first two or three years of operation.

In 2001-2002 the tensions between the Ministry, DPHE, BAMWSP, and the World Bank reeled out of control. The first P.D. left the job. The Chief Engineer had run into some trouble himself and also was out. An institutional backlash, led by the Ministry, was occurring. The media portrayed this as being initiated by DPHE, but actually DPHE was (and is) a weak line

agency totally under the control of a punitive Ministry that had not allowed any new hires since 1985. The Ministry was leading the charge against the World Bank and negotiating with great media fanfare to re-do the institutional arrangement, setting BAMWSP inside DPHE. The Project Proforma – the legal government document describing all of the loan’s terms and conditions -- was changed in 2003, and the loan agreement was extended for the second or third time.

After four years of lack-luster performance BAMWSP was now inside the line agency, and thus presumably subject to the usual pay-offs and kick-backs despite planners’ initial intention to avoid them.

The World Bank’s published reference to this change (in the Implementation Completion Report) tried to put a positive face on it but ended on a negative note. The final report struggled to give credit for various types of “capacity building” that BAMWSP accomplished. Some attention was given to “integration of the PMU (Project Management Unit) into the DPHE,” arguing that this could possibly “enable the DPHE to replicate these approaches in the future.” The report, however, expressed uncertainty about “Whether willingness exists among senior DPHE management to follow this course,” saying this only “will be demonstrated in time.”

Soon after this change occurred BAMWSP hit a technical obstacle. For about two years, until early 2005, DPHE banned installation of deep tubewells until geological studies could be done to determine whether the asenic-free deep aquifer was protected by an impermeable layer. Other types of options (dug wells, pond sand filters, and rain water harvesting units) had not been as popular as tubewells, and they were found to require more maintenance and community organizing than this large bureaucracy could manage. Blocked from installing deep tubewells,

BAMWSP was therefore unable to offer mitigation options of any sort for around two years.

(Costs of maintaining BAMWSP, of course, continued to run during this time.)

### **Other donors come forward**

Meanwhile, As BAMWSP was moving into DPHE, other donors, especially Danida and the UK's DFID, came forward and established two small Ministry units to support governmental decision-making related to arsenic and other water quality issues. Donors had stopped expecting results from BAMWSP. A Secretaries Committee had been formed and activated. The government issued a policy paper in 2004. This move, however, also did not seem to energize public officials. A donor representative involved in the PSU, however, told me in 2004: 'I meet regularly with the Jt. Secretary and other top Ministry people. I have serious doubts about the government's seriousness about actually doing anything about arsenic mitigation. There are [17] proposals sitting with them since [September/November]. They issued the[national arsenic] policy in March but haven't done anything at all since then'.

Reflecting on the situation in a recent discussion, the first P.D. told me that, 'The government lost interest in the arsenic issue in 2003'. I asked him why that had happened. He said it was because the creation of BAMWSP had made creation of familiar types of "projects" impossible. "Projects," he explained, have P.D.'s and provide funding and status to line agencies.

### **The achievements of BAMWSP**

Over the years BAMWSP accomplished some things with its \$22 million, but not much relative to the funds expended. Some government doctors were trained in patient identification. Some government laboratories were refurbished. A national database was established with

information on locations of arsenic-contaminated wells and numbers of people with possible arsenicosis symptoms.

The project eventually provided “mitigation” services in a total of 58 out of its 189 sub-districts. Most of the earliest water options provided -- dug wells, pond sand filters, and rain water harvesting units -- were no longer in use after a while. Some apparently were never installed at all. Some 9700 deep tubewells, providing arsenic-safe water, were installed at the very end of the project. These do represent an important benefit to the population, but some of them were installed in private locations; and poor people tended not to have sufficient access. The BAMWSP plan to sponsor research studies was never carried out. In only one out of its 100 identified urban areas BAMWSP repaired and extended water supply pipelines.

We got involved at the very end of the BAMWSP project, when we contracted with the World Bank to do a final evaluation study, which they referred to as a “beneficiary assessment.” We found union council chairmen (local government officials) finishing up some rushed DTW installations, as the organization was trying to spend down remaining funds. World Bank representatives were visibly embarrassed by the BAMWSP experience and drawing attention to their new, grant-funded rural piped supply project (BWSPP), which was (is) *not* specifically targeting areas with arsenic problems. It is located in the same office and has many of the same staff members. The BAMWSP credit had been extended four times during the seven or eight year duration of the project.

### **What went wrong, and what was lost?**

According to a couple of our sources, at first BAMWSP was a very good project, supported by the donors (World Bank and DFID). But, as they put it in a recent conversation,

“The arrangements went to some people who were not that much dedicated. In fact, each of the three successive P.D.s was less qualified and had a less positive attitude than his predecessor. The last one was the worst.” The circumstances of BAMWSP’s creation had a number of unanticipated effects.

#### **A. Wasted time**

Creating a new governmental agency cost a lot of money and took a lot of time. It distracted attention away from problem solving as various stakeholders (line agencies, the Ministry, NGO’s) sought to position themselves in the new agency or win contracts.

An expatriate researcher, making it clear that he was speaking to me “off the record” in 2000, expressed the view that the World Bank’s focus on improving governance is in error. Meddling with local government structure, he said, caused more harm than good by “destroying any sense of agency.” “Donors don’t realize the harm they do.” This new department is being established with a World Bank loan that must be repaid someday. So the externally-driven change is not only time consuming. It is also expensive, he pointed out.

#### **B. A lack of direction**

There was no clear vision or strategy driving the new organization’s work. One prominent Bangladeshi researcher, who participated in many planning discussions and the first BAMWSP Steering Committee, told me in 2006: “As BAMWSP was starting up, I saw it as ‘a project with no idea what to do’, and I said so. They objected, saying they would learn from experience.”

Another well-known Bangladeshi researcher in 1999 told me: The “DPHE-World Bank” program cannot possibly succeed.... How can you do “action research” in 4000 villages?....The money has had a bad influence, making some people greedy.

Even at the end of the project the self-protective tendencies of the World Bank prevailed. Findings of our study and analysis of problems were placed in a remote website and difficult to find.

### **C. A lack of genuine involvement on the part of decision-makers**

The strong conceptual leadership role of the World Bank, backed by ample loan monies, had the unintended effect of discouraging governmental decision-makers and others from developing (or using) home-grown institutions to tackle the arsenic problem in their own way.

When I first met him in 2005 BAMWSP’s first Project Director, who had retired from government service in 2001, expressed the view that the government was not sufficiently interested in solving the arsenic problem. If the intention is there, we can achieve miracles, he said. But willingness to actually do things, however, is not “coming from the heart.” He did not blame the World Bank for this problem. Rather, his complaint was against his own former employer, the Ministry of Local Government Rural Development and Cooperatives.

A Bangladeshi researcher, however, did blame the Bank. World Bank programs, he said in a 2006 conversation, are always very complicated. You can’t get things done. Once they develop a vision of the future, they won’t deviate. They don’t use opinions of local experts. Referring to another project (Jamuna Multi-purpose Bridge Project) that had been implemented in a more participatory/broad-based way, he said, ‘It was supposed to be the model for BAMWSP, but it was not’.

### **C. Corruption**

The World Bank was unsuccessful in its effort to create an organization that was outside the normal channels for siphoning off a portion of aid funds. A former BAMWSP staff member told us recently: BAMWSP was entirely about corruption. If the first PD had stayed, BAMWSP never would have been ruined. The regional portfolio officers have become millionaires....I filed three petitions with the Anti-Corruption Commission, he said, but none of them had any result. Another insider blamed Ministry corruption for the decline of BAMWSP -- "Ministry people seeking to get money from the BAMWSP pot," as he put it.

One Bangladeshi organization head told me in 2005: There is no dearth of "capacity" or policy-implementation ability in the government. "Governance" is the problem. Political leadership is source of all these problems. Our government is "rotten." ... [Good] "governance" is accountability, above all.

We do not have direct evidence of corruption, but (1) we have reviewed the organization's records. They were a mess – not at all what one would expect to find in a large, modern governmental agency. Getting clear numbers of alternative water options installed was impossible. This, at least, was one clear indication of irregularity. And (2) in 2006 some local government (union council) chairmen complained to us that BAMWSP's bribes were excessive, but they could not complain publicly for fear of their unions being deprived of future benefits.

### **Conclusions**

Most of this history is common knowledge among those concerned with the arsenic problem in Bangladesh. There is considerable reluctance even now to criticize BAMWSP openly, though we have heard plenty of "off the record" criticisms. It represents a painful, somewhat

embarrassing, and very expensive episode in the country's development history. In its failings it is strikingly different from the same Ministry's current successful and self-initiated sanitation campaign that is a source of national pride.

It is possible, we suggest, to learn from the mistakes of the past and start working anew on the arsenic problem. Decision-makers can tackle institutional challenges directly. Funds are very limited, but there are more technical and information resources than there were ten years ago. Other, more effective Ministry efforts can serve as models. The sanitation campaign, for example, has more satisfactory institutional arrangements. We have recommended some new steps the government could take. The potential for improvement is still good.

- Coordinate and utilize the expertise of local government and non-governmental organizations already working in arsenic-affected areas.
- Try out various approaches in different areas. The arsenic problem varies regionally in terms of both chemistry and social factors.
- Set up water quality testing services that are convenient and affordable.
- Monitor distribution of privately manufactured arsenic removal filters and protect public safety with public regulations that ensure maintenance of quality standards.
- Educate, Motivate, and Mobilize local people. Encourage them to devise solutions and recognize their achievements.
- Establish reliable information centers in affected areas, to support the population's efforts to improve water safety.
- Coordinate with Ministry of Health to make sure that people with arsenic related illnesses can get medical services and access to safe water.

- Make use of existing databases to monitor results and modify program approaches as needed.

Weakness in “governance” caused the institutional problems we have discussed. An addiction to temporary “projects” is one important obstacle to positive change, because a project is just a temporary fix. Mis-use of the World Bank’s substantial influence was another obstacle in the BAMWSP case. “Governance” in Bangladesh is not entirely in the hands of government. Although government alone has the legal authority to take on a World Bank loan obligation. But donors and other powerful individuals or organizations influence key decisions about management and deployment of resources. Personal authority and party loyalty can (& often do) prevail over public service or public administration objectives. The World Bank’s attempt to improve governance while also solving the arsenic problem was a well-intended but naive exercise of what Eric Wolf might have called “structural power.”

In the end, BAMWSP, despite its architects’ good intentions, was just another project. It used up so much donor money, that very little outside funding will be available for this purpose in the future. Perhaps that is a good thing, as the government this time around can set its own terms and create its own action plan, as it has done for sanitation. If the authorities allow some flexibility in use of available “water and sanitation” funds – that is, if they allow some to go toward provision of safe *water* as well as safe sanitation – there could be good results.

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