

Country Name	Project for Sustainable Mitigation of Arsenic Contamination under the Integrated Local Government System
Bangladesh	

I. Project Outline

Project Cost	398 million yen	
Project Period	December, 2005 – December, 2008	
Implementing Agency	Local Government Division (LGD) of the Ministry of Local Government, Rural Development & Co-operatives (MLGRD&C)	
Cooperation Agency in Japan	Asia Arsenic Network (AAN)	
Related Projects	<p>Japan's cooperation:</p> <ul style="list-style-type: none"> The study on the ground water development of deep aquifers for safe drinking water supply to arsenic affected areas in western Bangladesh (Development Study, 1999-2002) Integrated Approach for Mitigation of the Arsenic Contamination of Drinking Water in Bangladesh (JICA Partnership Project with AAN, 2002-2004) Dispatch of individual experts in arsenic mitigation to Local Government Division (2000-2002, 2004-2007, 2008) and Department of Public Health Engineering (2004-2006) <p>Other donors' cooperation:</p> <ul style="list-style-type: none"> Japan Debt Cancellation Fund : The Project for rural water supply in south western part of Bangladesh (implemented by the Bangladesh government) World Bank: Bangladesh Arsenic Mitigation Water Supply Project (1998-2005); Bangladesh Water Supply Program Project (2004-2009) UNICEF: installation of alternative water sources in 3 districts including Jessore district (2002-); Sanitation, Hygiene Education and Water Supply in Bangladesh Project (SHEWA-B) (2007-2011) 	
Background	<p>Arsenic contamination of groundwater was a serious challenge to securing safe drinking water, especially in the rural areas of Bangladesh. About 20.2 million people in 270 out of 485 Upazilas were exposed to drinking arsenic contaminated water above 50 ppb.</p> <p>Asia Arsenic Network (AAN) carried out a project to mitigate arsenic contamination problem in Sharsha Upazila in Jessore District under a partnership program with JICA. Based on that experience, it was recognized that more peoples' awareness and coordinated support by local level public services were needed.</p> <p>Taking consideration of the severe condition of arsenic contamination and the high number of arsenicosis patients, Sharsha and Chowgacha Upazila were selected as target area, while UNICEF supported arsenic mitigation in two other Upazila in the district.</p>	
Inputs	Japanese Side	Bangladesh Side
	<ol style="list-style-type: none"> Experts: 12 persons Trainees Received: 2 persons Equipment: 16 million yen Local Cost: 136 million yen 	<ol style="list-style-type: none"> Staff allocated: 58 persons Local Cost: 150,000 taka Project offices
Project Objectives	<p>Overall goal</p> <p>(1) Health damages due to arsenic-contaminated drinking water are to be prevented/ improved in the Project Target Area.</p> <p>(2) Local Government Institutions (LGIs) capacity in implementing arsenic mitigation is strengthened in Jessore district.</p> <p>*Target area: Chowgacha Upazila and Sharsha Upazila of Jessore district.</p>	
	<p>Project Objective(s)</p> <p>Sustainable arsenic mitigation is carried out with villagers' initiatives supported by the government and LGIs.</p>	
	<p>Output(s)</p> <ul style="list-style-type: none"> Capacity of villagers in conducting arsenic mitigation measurement is improved. Arsenic mitigation activities are coordinated by Arsenic Mitigation Committees. Technical support related to installations, maintenance and operation of various alternative water devices are carried out by Department of Public Health Engineering (DPHE). Health conditions of arsenicosis patients are managed by doctors and health workers. Lessons learnt of the project are shared among stakeholders for contributing to accumulation of knowledge on effective arsenic mitigation. 	

II. Result of the Evaluation

Summary of the Evaluation
<p>In the target area of Sharsha and Chawgacha Upazilas of Jessore District, 22% tube wells (12,818 out of 56,645) were contaminated by arsenic and there were 587 arsenicosis patients around the time of the ex-ante evaluation of this project. Jessore district is a difficult area to supply safe water due to the low annual rainfall and often arsenic-contaminated deep tube wells.</p>

The project has achieved access to safe water devices (SWDs) (safe deep tube wells, pond sand filters, improved dug wells and arsenic iron removal plants) and improved health care services for arsenicosis patients (through the application of the project-established system of discovering, confirming and following-up of arsenicosis patients) for the project purpose of carrying out sustainable arsenic mitigation with villagers' initiatives supported by the government and LGIs in Sharsha and Chawgacha Upazilas, and as a result slower increase of arsenicosis patients, as well as incorporation of the project activities in the concerned organizations' current arsenic mitigation programs, for the overall goals. As for sustainability, some problems have been observed in terms of implementing agency's financial aspects due to dependence on external assistance for large repairs of SWDs to some extent and lack of concrete information on funding for other arsenic mitigation activities.

For relevance, the project has been highly relevant with Bangladesh's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

In the light of the above, this project is evaluated to be satisfactory.

1 Relevance

This project has been highly relevant with Bangladesh's development policy reflected in the National Policy for Arsenic Mitigation 2004 that promoted community's initiative supported by LGIs, technical departments and government, development needs for arsenic mitigation in Sharsha and Chawgacha Upazilas, as well as Japanese ODA Policy such as Country Assistance Program 2003 and JICA Country Assistance Program 2002, in which arsenic mitigation and providing safe drinking water was one of the priority areas. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has achieved the project purpose (sustainable arsenic mitigation in the target Upazilas) as well as the overall goal (preventing health damages due to arsenic in the target Upazilas and strengthening arsenic mitigation capacity of LGIs in Jessore District) through three components, water supply (installation of 151 safe water devices (SWDs)), health care, and coordination among government institutions and communities.

For the project purpose, the number of villagers who gained access to safe water reached 30,850 persons or 85% of the target by the time of the project completion. At the time of the ex-post evaluation, 128 out of 151 project-installed SWDs are still used and maintained by User Committees¹. In addition, DPHE installed 840 more SWDs in the two target upazilas after the project completion.

In the health care component, the project established the referral system that includes discovering, confirming and following-up of arsenicosis patients. By the end of the project, 1,165 persons were registered as arsenicosis patients, and 64% of them visited Upazila Health Complexes (UHCs; medical institutions) more than three times and had been caring for their own health by recording their health condition in the health card. At the time of the ex-post evaluation, all of the identified arsenicosis patients (1,648 persons) received health cards, and UHCs continues awareness and patient searching activities besides the treatment.

As for the coordination, mitigation planning and monitoring by Arsenic Mitigation Committees (AMCs) at each local government level (district – upazila – union) continued until the end of the follow-up and dissemination period² after the project completion (up to 2010), and were then taken over to Development Coordination Committees (DCCs).

For the overall goal, the increase in new arsenicosis patients has become slower as a result of the improved quality of water. According to UHCs of the target upazilas, the number of arsenic patients is not increasing in many unions people are now drinking arsenic free water from the safe water options including the SWDs instated by the projects.

Through such achievement, this project has established a model of collaboration among local community, LGIs and the central government agencies and the technical departments such as DPHE and Directorate General of Health Services (DGHS) for an effective and sustainable arsenic mitigation. The know-how from the project was widely disseminated through handbooks (nearly 800 copies have been distributed to the policy makers, NGOs and concerned personnel). Some of the project activities have been incorporated in on-going arsenic mitigation programs³.

Therefore, effectiveness/impact of this project is high.



A village women taking water from Arsenic Iron Removal Plant (AIRP) Fulshara Village, Chowgacha Upazila



Interviewing with medical officers at Sharsha Upazila Health Complex (UHC)

¹ Out of the 151 SWDs developed by this project, 23 SWDs were abandoned because the water level went down or the arsenic contamination was too high to remove, and 21 SWDs are used only during the rainy season due to water shortage during dry season, which is common in Bangladesh. In some cases, emergency well were installed so people did not go back to the abandoned options.

² In the follow-up project, inactive SWDs were activated, arsenic test training given to Union Parishad (UP) staff and arsenic patient management training was given to UHC staff of the remaining 6 non-target Upazillas in Jessore district, 23 SWDs were newly installed in those 6 Upazillas with LGSP (Local Government Support Project) fund.

³ For example, DPHE introduced the idea of feasibility survey to select suitable SWD and established a unit named Feasibility Study in its Head Quarter; the referral system developed by this project is utilized by DGHS; the Union-led arsenic test program (part of the referral system) was picked as a union's good practice and disseminated through Horizontal Learning Program supported by WSP-World Bank.

3 Efficiency

Although the inputs were appropriate for producing the outputs of the project, and the project period was as planned, the project cost slightly exceeded the plan (ratio against the plan: 102%) because of increasing the number of experts and trainees received. Therefore, efficiency of this project is fair.

4 Sustainability

The project has some problems in financial aspects of the implementing agency. Regarding water supply facilities, although there is no dedicated fund for maintenance of the SWDs, small maintenance cost is covered by User Committees⁴ and big repairs are covered by DPHE depending on availability of external assistance. No recent information was available on the funding situation for other arsenic mitigation activities assisted by the project, including health care and coordination.

However, no problem has been observed in policy background and structural and technical aspects of the implementing agency. In the policy background, continuing policy support is given for local initiatives in arsenic mitigation. In the structural aspects, clear roles of each stakeholder, such as central government and different levels of local governments (in water supply, health care and coordination), as well as User Committees (in water supply), are defined. DCCs at respective level took over the functions of AMCs and fulfill their roles in planning and coordinating arsenic mitigation activities. In the technical aspect, although many of the trained central and local government officers were transferred, the know-how is shared by means of the above-mentioned handbooks. Also, the field level staff shows their skills that are required (i.e., UC members and DPHE mechanics with skills of operation and maintenance of SWDs; health workers of UHC with skills in awareness and searching programs), and technical support from DPHE and AAN are available.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

The project has successfully developed a model of arsenic mitigation. The Government of Bangladesh may consider to replicate it in other arsenic contaminated areas. What made the project successful includes: The project conducted door to door awareness building campaign, ensured participation of the community in site selection, cost-sharing for installation of SWDs, and received strong support from both the LGIs and the central government administration.

Lessons learned for JICA

Awareness building and community participation is the key to any sustainable arsenic mitigation project/program as it was shown in the success of the installation and operation and maintenance of SWDs as well as use of the health care services. In this project, awareness building campaign was conducted through door to door visit, specially through courtyard meeting where female members of households could attend; besides, flipchart, rally, drama were organized to make people aware about arsenic contamination.

⁴ Most User Committees collect money from users when required (e.g. repair), while some Committees collect money monthly and deposit it at bank for maintenance.