

Experience from previous JICA/AAN project

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JICA Preliminary Survey Mission

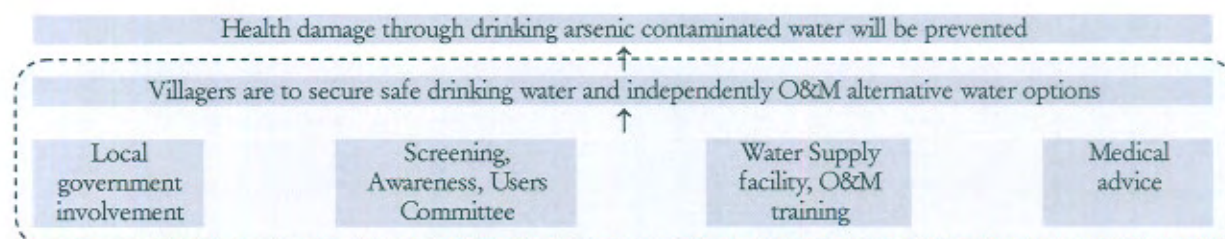
JICA started a Partnership Programme in 1999 to provide financial support to Japanese NGOs, universities and local government institutions to conduct a project at a grassroots level in developing countries. In July 2000, Asia Arsenic Network, a Japan based NGO, submitted a proposal which was accepted by JICA in September 2000.

Meanwhile, the Government of Bangladesh decided to undertake arsenic mitigation Upazila-wise with the BAMWSP, a project unit backed by the World Bank, as the key player in collaboration with some international NGOs. AAN was allocated with Sharsha upazila in Jessore district for the project named 'Integrated Approach for Mitigation of Arsenic Contamination of Drinking Water in Bangladesh' under the JICA Partnership Programme. After due deliberation with the Ministry of Local Government, Rural Development and Cooperatives the three year project was completed through January 2002 to December 2004.



JICA/AAN Partnership Project: *at a glance*

Name of the project	:	Integrated Approach for Mitigation of the Arsenic Contamination of Drinking Water in Bangladesh.						
Implementing organization	:	Asia Arsenic Network (AAN)						
Site of the project	:	Sharsha Upazila, Jessore District.						
Duration	:	Three years, January 2002 to December 2004						
Objectives of the project	:	<ol style="list-style-type: none"> 1. To identify the dimensions of arsenic contamination in terms of contaminated tubewells and arsenicosis patients. 2. To create and increase awareness on the risk of arsenic among people. 3. To secure and supply safe drinking water. 4. To build up the capacity of local government institutions among community people for the management of arsenic problem. 						
Result of Survey	:	<ol style="list-style-type: none"> 1. No. of tested tubewells : 32,441 2. No. of contaminated tubewells : 7,562 (23.3%) 3. No. of households : 75, 830 4. Patients identified by the doctors : 312 						
Safe water devices installed	:	<ol style="list-style-type: none"> 1. Pipeline Water Supply System : 1 (One) 2. Dugwell Sand Filters : 40 3. Pond Sand Filters : 13 4. Deep Tubewells : 9 						
Management of Patients	:	Patient Support Coordinator was responsible of keeping records and monitoring health condition of the listed patients, while keeping contacts with the Upazila Health Complex.						
Awareness raising activities	:	<table border="0" style="width: 100%;"> <tr> <td>Flip Chart performance</td> <td style="text-align: right;">: 2521 times (104,187people)</td> </tr> <tr> <td>Cultural programme</td> <td style="text-align: right;">: 14 times (8,670 people)</td> </tr> <tr> <td>Nutrition programme</td> <td style="text-align: right;">: 15 times (1,305 people)</td> </tr> </table>	Flip Chart performance	: 2521 times (104,187people)	Cultural programme	: 14 times (8,670 people)	Nutrition programme	: 15 times (1,305 people)
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Brain Storming Session

a. Problem Analysis

In this session all the participants were distributed into seven groups according to their professional individuality. The groups were as follows:

Central	(Joint Secretary)
District	(District level administration)
Upazia	(Upazila administration)
Union	(Union level representatives)
Ward	(Ward level representatives)
Villagers	(Users Committee members) and
Mission	(JICA and AAN representative)

At first, participants identified their own groups and introduced to each other. Then they were provided a pre-structured sheets (each group one sheet) consisted of blanks for problem analysis and probable solutions regarding safe water, health and others. They were also provided with pens and sticky cards. Then the groups were divided at seven circles in the workshop hall and members started writing their own ideas on the problems regarding safe water, health and others of arsenic contamination. After writing every idea, members affixed it at the specific place of the big sheet.

After completion of writing ideas, members discussed it among themselves and duplication of ideas was fixed out. It was the first part of the brain storming session and at the end of this part leader from every group described their ideas in detail to all other participants.



b. Objective Analysis

In the second part of the session, the groups were multiplied again into circles and this time they were asked to portray their ideas regarding the solutions of those problems written in previous session. The solutions were categorized into three principles such as:

Solutions they can do by themselves,

Solutions they cannot do without external support and

Obstacles they face in implementing these solutions.

In the same way participants put their ideas on cards and described to the addressees.

The output of brain storming session is comprised in next pages.



Workshop Rules

1. Write your own ideas on a card.
2. Write only one idea per card.
3. Describe in clear and brief sentences.
4. Stick to the facts and avoid abstractions and generalizations.
5. Write your ideas on the card before discussing them.
6. Obtain consensus when removing cards from the board.



Villagers Group (USERS Committee)

Problem Analysis		Objective Analysis		
	Problems (What are the problems when you work on arsenic mitigation?)	Solutions		Obstacles to carry out the solutions
		Solutions we can do by ourselves	Solutions we cannot do only by ourselves	
Safe water	<ol style="list-style-type: none"> 1. Scarcity of water in dugwell during dry season 2. Iron above permissible level in dugwell 3. No alternative safe water options 	<ol style="list-style-type: none"> 1. Renovation of dugwell 	<ol style="list-style-type: none"> 1. Connection of dugwell with pond in dry season 2. Decrease iron by increasing the number of filter 3. Accumulate information 4. Pipeline water supply system by using river 	<ol style="list-style-type: none"> 1. Scarcity of pond water in dry season 2. Costly
Health	<ol style="list-style-type: none"> 1. Arsenic is poisonous for health 	<ol style="list-style-type: none"> 1. Intake of arsenic safe water 	<ol style="list-style-type: none"> 1. Provide trained physicians 2. Mass awareness on arsenic 	
Others	<ol style="list-style-type: none"> 1. No local arrangement for water quality test. Current facility is costly 2. Need water quality test 3. Financial problem for water quality test 	<ol style="list-style-type: none"> 1. Establish water quality test system at Upazila level 2. Collection of money through Committee 	<ol style="list-style-type: none"> 1. Water quality test 	

Ward Group (Representatives)

Problem Analysis		Objective Analysis	
	Problems (What are the problems when you work on arsenic mitigation?)	Solutions Solutions we can do by ourselves	Solutions we cannot do only by ourselves
Safe water	<ol style="list-style-type: none"> 1. Lack of awareness and money 2. Scarcity of safe water 3. Unavailability of land for options 4. No option is sustainable among 5. PSF, Dugwell and DTW 6. Scarcity of pond water in dry season 7. Huge usage of pond water 	<ol style="list-style-type: none"> 1. Awareness through meetings and seminars 2. Participation in cost 3. Donation of land and voluntary service in construction 4. Local initiatives in O&M 	<ol style="list-style-type: none"> 1. Arrange safe water options 2. Excavation of big water bodies 3. Water test 4. Financial ability for construction of safe water options
Health	<ol style="list-style-type: none"> 1. No govt. facility for treatment 2. Arsenic contaminated water is ill for health 	<ol style="list-style-type: none"> 1. Learning the treatment of arsenicosis at a primary stage 2. Provide care to the patients 3. Local assistance for the patients 4. Advise the arsenicosis patients 	<ol style="list-style-type: none"> 1. Quality treatment and medicine
Others	<ol style="list-style-type: none"> 1. Unwillingness to pay users share 2. Lack of training of the users committee members 3. No fund in Union level for arsenic mitigation 	<ol style="list-style-type: none"> 1. Enhance idea about O&M 2. Site selection for the options 3. Solve local social and religious problems through discussion 	<ol style="list-style-type: none"> 1. Large scale financial help
			Obstacles to carry out the solutions <ol style="list-style-type: none"> 1. Lack of fund 2. Unwillingness

Union Group (Representatives)

Problem Analysis		Objective Analysis		
Problems (What are the problems when you work on arsenic mitigation?)		Solutions		Obstacles to carry out the solutions
		Solutions we can do by ourselves	Solutions we cannot do only by ourselves	
Safe water	<ol style="list-style-type: none"> 1. Necessity of DTW 2. DTW water not always free from arsenic 3. Lack of money for safe water 4. No water testing system 5. Lack of awareness 6. Dugwell water level goes down 7. Lack of technical knowledge for O&M 8. Lack of skilled worker 	<ol style="list-style-type: none"> 1. Awareness at School, Mosque and religious schools 2. Dugwell install by local initiatives 3. Coordination with local govt. and DPHE 4. Limited usage of dugwell 5. Training of the users 6. Water testing training for the ward members 	<ol style="list-style-type: none"> 1. Installation of DTW and other options by govt. fund and foreign donations 2. Water test by govt. 3. Govt. support for O&M of options 	<ol style="list-style-type: none"> 1. Lack of necessary fund
Health	<ol style="list-style-type: none"> 1. Lack of awareness on water usage 2. Need of treatment of arsenicosis 3. Health hazards due to arsenic 4. No medical care due to financial crisis 5. Unavailability of medicine 	<ol style="list-style-type: none"> 1. Motivation on intake of arsenic safe water 2. O&M by the AMC and Users Committee 3. Hospitalization of the arsenicosis patients 	<ol style="list-style-type: none"> 1. Supply of medicine and care by Govt. 	<ol style="list-style-type: none"> 1. Social superstitions.
Others	<ol style="list-style-type: none"> 1. Unavailability of necessary materials 			

Upazila Group (Upazila Administration)

Problem Analysis		Objective Analysis		
	Problems (What are the problems when you work on arsenic mitigation?)	Solutions		Obstacles to carry out the solutions
		Solutions we can do by ourselves	Solutions we cannot do only by ourselves	
Safe water	<ol style="list-style-type: none"> 1. In some villages all the TWs are contaminated 2. Scarcity of safe water 3. Unavailability of pond for PSF 4. Unwillingness to pay cost sharing 	<ol style="list-style-type: none"> 1. Rain water harvesting 2. Motivation of users 3. Motivation to use locally invented 'Pitcher technology' 4. Pond digging in association with government 	<ol style="list-style-type: none"> 1. Introduction of low cost technology 	<ol style="list-style-type: none"> 1. Lack of Tin made houses in villages
Health	<ol style="list-style-type: none"> 1. Scarcity of medicine 2. Unavailability of health worker 3. Lack of awareness 4. Lack of experienced physician 	<ol style="list-style-type: none"> 1. Motivation 	<ol style="list-style-type: none"> 1. Imparting training to doctors and medical staff 2. Ensuring adequate supply of medicine 	<ol style="list-style-type: none"> 1. Doctors are not posted at all union sub centers
Others	<ol style="list-style-type: none"> 1. Lack of alternative safe water options 2. Social Problem 3. Lack of motivation 4. Scarcity of adequate financial and human resource allotment 5. Social superstitions 6. Unwillingness to use water other than TW 	<ol style="list-style-type: none"> 1. Awareness building through motivation 	<ol style="list-style-type: none"> 1. Making resources available 	<ol style="list-style-type: none"> 1. Limited participation of women in motivational activities

District Group (Administration)

Problem Analysis		Objective Analysis		
	Problems (What are the problems when you work on arsenic mitigation?)	Solutions we can do by ourselves	Solutions we cannot do only by ourselves	Obstacles to carry out the solutions
Safe water	<ol style="list-style-type: none"> 1. Lack of source of safe water 2. Lack of safe technology 3. Financial problem 4. Lack of trained human resource 	<ol style="list-style-type: none"> 1. Accumulating rain water 2. Excavation and re-excavation of pond 3. Dredging of occupied river and canals by voluntary service 4. Motivation of users regarding appropriate technology like rain water harvesting 5. Accumulation of money through community participation 	<ol style="list-style-type: none"> 1. Training at every level 2. Large scale fund raising 3. Arrangement of safe technology 4. Large scale water supply system 	<ol style="list-style-type: none"> 1. Lack of resources 2. Fund accumulation
Health	<ol style="list-style-type: none"> 1. Unavailability of trained physicians 2. Unavailability of medicines 3. Lack of awareness 	<ol style="list-style-type: none"> 1. It is not possible to arrange medicine and community awareness locally 	<ol style="list-style-type: none"> 1. Training of doctors 2. Supply of medicine 3. Awareness of community 4. Supply of necessary communication materials 	<ol style="list-style-type: none"> 1. Lack of resources 2. Fund accumulation
Others	<ol style="list-style-type: none"> 1. Lack of proper local motivation 2. Lack of coordination between Govt. and Non Govt. organizations 3. Lack of inter department coordination 4. Superstitious and reluctance of the community 	<ol style="list-style-type: none"> 1. Effort from every department 	<ol style="list-style-type: none"> 1. Central circular for GO-NGO coordination 2. Activate national mass media 3. Fund allocation of local divisions for awareness 	

Central Group (Deputy Secretary)

Problem Analysis		Objective Analysis		
	Problems (What are the problems when you work on arsenic mitigation?)	Solution	Solutions we cannot do only by ourselves	Obstacles to carry out the solutions
Safe water	<ol style="list-style-type: none"> 1. Need of national mass oriented planning 2. Lack of people's participation in the implementation process 3. No step to maintain the water level 4. Excessive use of underground water 	<ol style="list-style-type: none"> 1. Ensure the participation of people and stakeholders in establishment and implementation of the national policy 2. Initiatives in research and development 3. Financial assistance and decision making authority to strengthen the LGIs 4. Create awareness 	<ol style="list-style-type: none"> 1. Modern technology for resource management 2. Financial investment 	<ol style="list-style-type: none"> 1. External barrier against local initiatives
Health	<ol style="list-style-type: none"> 1. Lack of awareness 2. No local facility for medical care 3. Lack of training of the local physicians 4. Financial situation of the arsenicosis patients 5. Social fall out of arsenicosis patients 	<ol style="list-style-type: none"> 1. Training and change of mindset of the physicians 2. Income generating program for the poor patients 	<ol style="list-style-type: none"> 1. Updated information for the physicians 2. Modern treatment for the severe patients 	<ol style="list-style-type: none"> 1. Uncertainty of committed foreign donations
Others	<ol style="list-style-type: none"> 1. Lack of coordination among NGO and donor agencies 2. Interest of the NGOs in software service rather than hardware 3. Lack of local initiatives and improper use of resources 	<ol style="list-style-type: none"> 1. Coordination between Government and donors 	<ol style="list-style-type: none"> 1. Positive change of outlook of NGOs and donors 	

Mission (Japanese Group)

Problem Analysis		Objective Analysis	
Problems (What are the problems when you work on arsenic mitigation?)		Solutions we can do by ourselves	Solutions we cannot do only by ourselves
Safe water	<ol style="list-style-type: none"> 1. Lack of safe water options 2. Insufficient safe water 3. Lack of budget to construct water supply system 4. Insufficient options rather than DTW 5. Lack of knowledge of community on O&M of options 6. Lack of technical support to users committees (UC) 7. Insufficient participation of community 8. Insufficient collection of user's fee 	<ol style="list-style-type: none"> 1. Provide awareness program 2. Users should pay the monthly fee of drinking water 3. DPHE provides trainings on O&M to UC 4. UC O&M by themselves 5. DPHE provides technical support to communities 6. Install alternative water options 7. Users Committee has an initiative to construct the alternative options with DPHE's technical support 8. DPHE conduct a study and identify the suitable option for each area 9. Provide training to DPHE worker on alternative options 	<ol style="list-style-type: none"> 1. Severe flood 2. Water crisis (India block the river flow, Shortage of surface water, Ground water level goes down) 3. Over use of Irrigation
			<ol style="list-style-type: none"> 1. The government changes arsenic mitigation policy 2. Transfer of key persons and trained personnel

Health	<ol style="list-style-type: none"> 1. Insufficient knowledge of health workers and doctors 2. Limited knowledge to arsenicosis 3. Limited knowledge on health problem caused by water 4. No money to buy medicine 	<ol style="list-style-type: none"> 1. HAS identify and monitor arsenicosis patients 2. HC doctors identify patients 3. Provide trainings to health workers and doctors 4. Provide vitamins to patients 5. Upazila health complex establishes the medical management system (identification, registration, follow-up and advice) 6. Management of data of patients at Upazila health complex 7. Use patients register book and compile patients data 	<ol style="list-style-type: none"> 1. Progress of arsenic contamination
Others	<ol style="list-style-type: none"> 1. Malnutrition 2. Uncoordinated arsenic activities 3. No whole plan in Upazila, Union and Zila 4. Limited communication between medical and water sector 5. Lack of system for sustainable arsenic mitigation 6. Less attention to water sector than medical and health sector 7. Users Committee cannot check water quality 8. Income for the field worker who will work for sustainable arsenic mitigation at the ward level 	<ol style="list-style-type: none"> 1. Activate arsenic mitigation committees (AMC) 2. Coordination of AMC 3. Share the information of arsenic problem at each level 4. Make a plan at AMCs 5. Establish water quality inspection system 6. Two water quality monitoring system should be established. One is simple test by field worker and another is detail test in laboratory 7. To support the Users Committee for sustainable arsenic mitigation Field Worker is necessary 	<ol style="list-style-type: none"> 1. AMC is abolished by the government.

Project Planning Session

In this session the solutions recommended in the previous session and lessons learned from the former JICA/AAN project were discussed and combined. Thus, the outline of the project that has been agreed by the stakeholders attended at workshop is as follows:

Project purpose	Sustainable arsenic mitigation is carried out with villagers' initiatives.	
	- Villagers operate and maintain alternative water devices with support of Line Departments and LGIs.	
	- Villagers manage their health with support of Line Departments and LGIs.	
	- Villagers gain safe water sustainable.	
Strategy 1	Villagers carry out arsenic mitigation actively.	
	- Villagers operate and maintain alternative water devices.	
	- Villagers manage their health.	
Strategy 2	AMC coordinate arsenic mitigation activities.	
Strategy 3	DPHE gives advices to installation and O&M of alternative water devices.	
Strategy 4	Doctors and HWs manage health condition of arsenicosis patients.	
Activities	1-1	Awareness activities
	1-2	Form Users Committee
	1-3	Build safe water options
	1-4	O&M training
	2-1	Training
	2-2	Hold AMC
	3-1	Training
	3-2	Site survey
	3-3	Give advices on building and O&M water options
	4-1	Training
	4-2	Identify patients
	4-3	Manage data of patients

After the workshop in Jessore, a Joint Meeting was held in Dhaka on 15 March 2005. Related parties discussed and agreed the contents of the Project shown in the Project Design Matrix (PDM).



Project Design Matrix (PDM)

Project Name: Project for Sustainable Arsenic Mitigation under the Integrated Local Government System in Jessore
Japan-side Implementing Agencies: JICA & Asia Arsenic Network
Bangladesh-side Responsible Agency: Local Government Division, MoLGRD&Co
Target Group: Villagers in the Target Area, and Line Department and Local Government Institutions (LGIs)
Target Area: Sharsha Upazila and Chowgachha Upazila, Jessore District
Duration: 3years from year 2005

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Health damages due to arsenic-contaminated drinking water are to be prevented/improved in the Project Target Area. Local Government Institutions (LGIs) capacity in implementing arsenic mitigation is strengthened.</p>	<p>The symptoms of arsenicosis patients are improved. The number of new arsenicosis patients caused by arsenic is decreased. The number of own arsenic mitigation activities are increased.</p>	<p>Medical record of Upazila Health Complex Business record at LGIs</p>	<p>Medical record of Upazila Health Complex Business record at LGIs</p>	<p>Arsenic exposures apart from arsenic-contaminated drinking water do not occur. Arsenic concentration does not increase drastically. Government of Bangladesh policies for local autonomy is not changed.</p>
<p>Project Purpose</p> <p>Sustainable arsenic mitigation is carried out with villagers initiatives.</p>	<p>80% of the alternative water devices installed by the Project are maintained and operated by villagers. Ratio of arsenicosis patients who manage their own health increases by 50%.</p>	<p>Baseline/Follow-up surveys by the Project Participatory workshops with villagers Interview with villagers Interview with relevant institutions</p>	<p>Baseline/Follow-up surveys by the Project Participatory workshops with villagers Interview with villagers Interview with relevant institutions</p>	<p>Arsenic exposures apart from arsenic-contaminated drinking water do not occur. Arsenic concentration does not increase drastically. Government of Bangladesh policies for local autonomy is not changed.</p>
<p>Outputs</p> <ol style="list-style-type: none"> Conditions for arsenic mitigation carried by villagers are prepared. 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 DPHE. Health condition of arsenicosis patients are managed by doctors and health workers. The outcome of the Project is disseminated. 	<ol style="list-style-type: none"> The number of villagers who drink safe water is increased. Villagers understand health effect due to arsenic. All sites and options of alternative water devices are decided by Arsenic Mitigation Committees. All installed alternative water devices are constructed with technical support from DPHE. Technical responses requested from villagers are increased. The number of arsenicosis patients who have received guidance on health care from medical personnel is increased. The number of stakeholders aware of the outcome of the Project is increased. 	<p>Survey by the Project (Interview/Questionnaire with stakeholders) Minutes of Arsenic Mitigation Committees, Interview/Questionnaire with Line Department and LGIs Business record at DPHE, Jessore and DPHE Upazila offices Interview with relevant institutions (DPHE and Users Committees) Health management data and interview with relevant persons (medical personnel and arsenicosis patients) Survey by the Project (Interview/Questionnaire with stakeholders)</p>	<p>Survey by the Project (Interview/Questionnaire with stakeholders) Minutes of Arsenic Mitigation Committees, Interview/Questionnaire with Line Department and LGIs Business record at DPHE, Jessore and DPHE Upazila offices Interview with relevant institutions (DPHE and Users Committees) Health management data and interview with relevant persons (medical personnel and arsenicosis patients) Survey by the Project (Interview/Questionnaire with stakeholders)</p>	<p>Economic crisis does not occur. Serious drought does not occur. Most of trained personnel in the field of arsenic mitigation are not transferred.</p>
<p>Activities</p> <ol style="list-style-type: none"> Produce guidelines on participatory arsenic mitigation. Conduct awareness activities. Form Users Committees. Establish an application-approval system for install & repair of alternative water devices. Install alternative water devices. Provide training on maintenance and operation of alternative water devices to villagers. Provide trainings to AMCs at District, Upazila, Union and Ward levels. Hold Arsenic Mitigation Committees at District, Upazila, Union and Ward levels. Make a framework of planning & coordination for AM activities in their jurisdiction. Provide training to DPHE officers on alternative water devices. Conduct preliminary survey on alternative water device installation. Provide with appropriate guidance for alternative water device installation. Provide training to doctors and health workers. Identify arsenicosis patients. Manage data on arsenicosis patients at Upazila Health Complex. Provide arsenicosis patients with appropriate guidance. Holds a JCC meeting hosted by LGD once a year. Produce and distributes report(s) to stakeholders. Introduce the outcome of the Project at workshops. 	<p>Japanese side</p> <ol style="list-style-type: none"> Dispatch of Experts Project Manager Coordinator Coordination of LGIs Community participation/Awareness Installation of alternative water devices Public health Others Provision of equipment Overseas Trainings Operational costs in Bangladesh 	<p>Bangladeshi side</p> <ol style="list-style-type: none"> Arrangement of counterpart Provision of land, building and facilities Local costs Taxes 	<p>Government of Bangladesh policies for arsenic mitigation are not changed. Considerable natural disaster, deterioration of peace and order, and political disorders do not take place. Quality of water resource is not outstandingly deteriorated.</p>	<p>Pre-conditions</p> <p>The District Office, Upazila Office, Union Parishad, DPHE, DGHS and Arsenic Mitigation Committees at District, Upazila, Union and Ward levels participate in the Project.</p>

