

## Using IEC Materials for Mass Communication: Experiences of an Arsenic Mitigation Project in Bangladesh

Zabed Hossain<sup>1</sup>, Md. Quaiyum<sup>1</sup> and Md. Jakariya<sup>2</sup>

<sup>1</sup>Research Associate, <sup>2</sup>Senior Research Associate  
Research and Evaluation Division, BRAC, 75 Mohakhali,  
Dhaka 1212, Bangladesh. E-mail: research@brac.net

### ABSTRACT

Different types of IEC materials were used in BRAC's arsenic mitigation project (June 1999-December 2001). Printed IEC (Information, education, and communication) materials included posters, leaflets, stickers, booklets, carryfolders, flashcards, class routine cards, prayer time clocks, and letters. The effectiveness of these materials is assessed. Experiences gained in using them to communicate with rural people are discussed. The findings are expected to help policy makers in selecting appropriate printed IEC materials to raise awareness among the arsenic-affected people of Bangladesh.

**Key words:** Communication; IEC materials; Arsenic; Bangladesh

### INTRODUCTION

The problem of arsenic poisoning in the groundwater of Bangladesh is considered to be the largest mass scale poisoning in the country's history. Approximately 30-36 million people of Bangladesh are currently exposed to high levels of arsenic (>50 µg/l) in drinking water derived from groundwater through millions of hand-pump tubewells (1). More than 14,000 arsenicosis patients have been identified, and the figure is going up every day as the patient survey programme progresses (2). Apart from health, environmental and nutritional damage caused by arsenic poisoning,

the socioeconomic consequences for the family and community are crucial.

Both the government and non-governmental organizations have been working for the mitigation of the arsenic problem in Bangladesh. An important first step in the mitigation programme is to create popular awareness of the problem. It is assumed that once people are aware of the problem they will take the necessary steps on their own to overcome it, based on available alternatives. Awareness raising activities have involved different types of audio-visual and verbal communication, such as popular theatre, slide shows in cinema halls, and the pro-

duction and dissemination of printed materials including posters, labels, brochures, leaflets, newspapers, and newsletters. The print media convey information quickly, reach many people and encourage them to take action (3). Advantages of using printed materials are ease of use, portability, low cost, and the power of colour and graphics to portray concepts (4). BRAC, a non-profit developmental organization, used twelve different sets of printed materials for communicating to the arsenic-affected people. An assessment of the suitability and effectiveness of these materials can prove useful for policy setting in Bangladesh.

#### **USE OF PRINTED MATERIALS IN THE ARSENIC PROJECT OF BRAC**

BRAC, an indigenous NGO working to improve the quality of life of poor people in Bangladesh, has been working on arsenic mitigation in this country since 1996. It conducted an action research on community-based arsenic mitigation during June 1999 to December 2001 in Sonargaon and Jhikargachha *upazilas* (sub-districts) of Narayanganj and Jessore districts respectively (5). One of the key components of the project was raising people's awareness about the problems of arsenic poisoning and encouraging informed decision making about the use of alternative arsenic-safe drinking water sources.

BRAC concentrated on creating awareness among people at the grass-roots level, using interpersonal communication, local media, mass media, and printed materials. The Department of Public Health Engineering (DPHE) of the government of Bangladesh, UNICEF and BRAC were involved in the planning, designing and

printing of the materials; these were distributed by DPHE among the NGOs involved in the project for use at the field level. Village health workers and other community workers of BRAC played a key role in disseminating knowledge on arsenic issues. A flow-chart shows the process of communication through printed IEC (Information, education, and communication) materials used in the arsenic mitigation project of BRAC (Fig. 1).

The types and use of the different printed materials used in the project are shown in Table 1. The village health workers of BRAC, block supervisors of the agricultural extension division of the government, and tube-well mechanics received training on the use of some printed materials such as flashcards, carryfolders and booklets. Posters were distributed with the key messages, pictures of people suffering the effects of arsenic poisoning, and alternative safe water options. Posters were also fixed in key public places, including the offices of the Union Parishad where common people frequently go. Since local elected bodies have considerable influence over the common people, they were asked to play a key role in disseminating information. Letters about arsenic issues and possible remedies were given to local elected officers such as the Union Parishad chairmen and members. School-going children were also considered to be an important segment of the population, who could carry messages to their own households, relatives and neighbours. Messages were given to them through colourful school posters and class routine cards. Plastic-made clocks indicating prayer times, but also carrying messages about arsenic, were placed in selected mosques targeting the devotees for further dissemination.

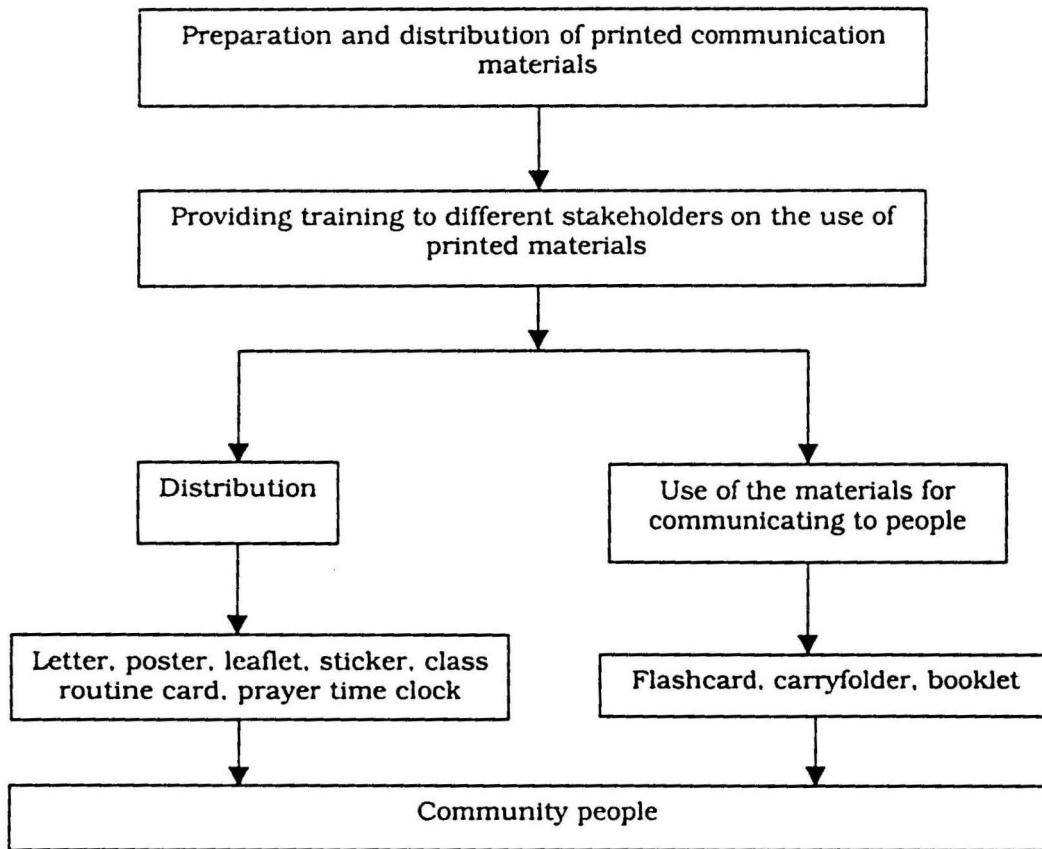


Fig. 1. A flowchart showing the process of communication through printed materials

### METHODOLOGY

The effectiveness of printed IEC materials used in the arsenic mitigation project was assessed in Jhikargachha *upazila* in June 2001. The assessment involved 29 participants from different stakeholder groups including Union Parishad (UP) chairmen and members, school teachers, health workers, tubewell mechanics, and block supervisors. All the participants took part in a daylong session in a local BRAC office. Fourteen indicators were used in assessing the effectiveness of the printed materials.

They were: ease of introduction, suitability, effectiveness of messages, sequence of messages, simplicity in language, colour combination, durability, availability, visibility, continuity of supply, technical effectiveness, initial cost, social acceptability, and ease of implementation. The participants' comments on each indicator were recorded as 'high', 'medium', or 'low'. The majority response was recorded as the rank for that particular indicator. The 'high' degree indicates the highest potential in communicating the messages to rural people.

**Table 1. Printed materials used to create awareness among people**

Printed materials	Brief description	Target people/place
Letter	Multi-coloured letter bearing messages about arsenic problems and possible remedies	UP Chairmen, members, Imams, tubewell mechanics, and block supervisors
Union poster	Multi-coloured posters with pictures having common messages about the arsenic problem and possible remedies	Local elected bodies and their offices (Union Parishad)
School poster	Common messages about the arsenic problem and possible remedies	Teachers and students
Poster on safe water options	Multi-coloured poster with pictures of alternative water options	Common people
Class routine card	Multi-coloured class routine card with the common message about arsenic issues	Students
Prayer time clock	Plastic prayer time clock having messages about arsenic issues	Mosques/Muslim devotees
Flashcard	Multi-coloured cards with pictures and messages about arsenic issues	Community health workers during social mobilization
Carryfolder	Plastic bound multi-coloured folders with the messages about arsenic issues	Block supervisors and tubewell mechanics
Leaflet	Multi-coloured leaflets with pictures and messages about arsenic issues and possible remedies	Community people
General poster	Multi-coloured posters with pictures and messages about arsenic problem	Key public places; and distribution among people
Booklet	Multi-coloured booklets with pictures and the messages about the arsenic problem and possible remedies	Tubewell testers
Sticker	Multi-coloured stickers with pictures and the messages about the arsenic problem and possible remedies	Key public places

All participants in the assessment had been actively involved in the communication campaign, using the printed materials, among villagers during the previous six months. They had also been trained earlier in the

use of the materials. Although specific materials had been prepared to target different groups of stakeholders, the participants were more or less aware of all types of materials used in the project.

Although all indicators were not equally suitable for assessing the effectiveness of all the materials, all were used for assessment based on relative effectiveness compared with other materials. For example, colour combination in general may not seem to be a vital indicator for assessing a letter to elected officials, but this indicator does play a key role in drawing the attention of the recipient (4). In assessing initial cost, items receiving the highest ranking were relatively less expensive than others.

This study did not follow a standard methodology. However, it does highlight experiences with a number of kinds of printed communication materials in awareness raising during the BRAC arsenic mitigation project (6). The study aims to help those working in the field of social mobilization in arsenic-affected areas to develop appropriate IEC materials for arsenic communication.

### FINDINGS

The union poster proved to be the most effective printed material, receiving the highest ranking in 10 of the 14 indicators. The next highest rankings were given to the school poster, prayer time clock, letter, and poster on safe water options. Other printed materials did not prove their worth much (Table 2). Booklets, stickers, and flashcards were ranked least effective as they could not earn a 'high' rank in any of the indicators.

Seven of the 12 kinds of printed materials (the union poster, school poster, prayer time clock, letter, poster on safe water options, leaflet and class routine card) had high social acceptability. All items were found easy to produce into grassroots communi-

cation, with three exceptions: the posters on safe water options, class routine cards, and the general poster. However, only three (the union poster, school poster and poster on safe water options) got 'high' scores against initial cost; the leaflet received a 'low' score. None received a 'high' mark for colour combination and continuity of supply. The booklet, sticker, and flashcard got no 'high' ranking against any indicator. Both union and school posters suffered from insufficient supply and lack of availability. In fact, shortage of supply was the main problem for all types of printed materials during the communication campaign in the project area.

### DISCUSSION

Arsenic poisoning in Bangladesh has recently been identified not only as an environmental and health problem but also a developmental problem. Concerted efforts need to be given to overcome the present situation and avoid further deterioration. Social mobilization through intensive awareness-raising campaigns should be done to increase knowledge of the people and motivate them towards safe water use. Printed materials can contribute greatly in disseminating messages to raise awareness among people at the grassroots level.

The study revealed that posters carefully planned and culture-sensitive can be very effective in information dissemination. Posters prepared for the common people should contain large and eye-catching words and simple language. There is also a good potential for disseminating messages through prayer time clocks in the community. These items should be available in continuous supply to meet

the local demands during awareness raising campaign.

All the printed IEC materials used in the project suffered from lack of optimum colour combination. However, colour has been found to be closely related to learning from visual materials. The demand for colour combination varies with different age groups. Perhaps today's students are becoming less tolerant of black and white visuals because colour is so widely used (4). Communicators need to ensure that printed materials draw the attention of the audience.

Printed materials can conveniently be carried to remote areas. Rural people showed their interest in the posters. Posters are a traditional medium for disseminating messages during election campaigns in the villages.

Posters with pictures on the health effects of arsenic poisoning were found to be very effective in attracting people. Thus, they can play a vital role in creating consciousness among people of different strata. If chosen carefully, the pictures of symptoms will not frighten target audiences. In addition, posters showing the symptoms of arsenicosis can help community health workers identify patients.

Since there are a number of alternative safe water options, most of them unknown to the rural people, posters showing pictures of these options can play a vital role in introducing these options.

There are some disadvantages with printed materials as well. On an average, about half the rural people of Bangladesh cannot read the printed messages. The present adult literacy rate in rural Bangladesh is only 37.5%

(7). Besides, printed materials exposed to sunlight and rain cannot last long. They become fade and washed out.

## CONCLUSION

Although each kind of printed material has some limitations, all can play a great role in creating awareness among the people of the arsenic-affected areas. A single item alone cannot disseminate messages well to the entire community. A variety of printed materials together can be effective. The most effective and popular items should be made available during the communication campaign period. The appropriateness of a particular printed material depends on the specific situation and particular audience. Special attention should be given to the vast segment of illiterate people when designing any poster or other printed material. Printed communication materials should be prepared targeting individual strata of the population in a community rather than using one common item for all.

## ACKNOWLEDGEMENTS

The study was supported by BRAC. The authors are thankful to the villagers who took part in the study by giving their valuable opinion and time. Thanks are also due to Syed Masud Ahmed and Abdullahel Hadi, Research Coordinators, Research and Evaluation Division, BRAC for their critical review of the manuscript.

## REFERENCES

1. Groundwater studies for arsenic contamination in Bangladesh: main report. Dhaka: Government of Bangladesh, 1999.
2. Chowdhury MA. Impact of arsenic on the rural poor in Bangladesh. In: Ahmed MF, Tanveer SA, Badruzzaman ABM (Editors). Bangladesh Environment 2002 (Vol 1). Dhaka: Bangladesh Paribesh Andolon. 2002 Dec:154-60.
3. Safe water systems for the developing world: a handbook for implementing household-based water treatment and safe water



coverage projects. Department of Health and Human Services. Centers for Disease Control and Prevention. 2000. Website: [www.cdc.gov/safewaer/manual/1\\_toc.htm](http://www.cdc.gov/safewaer/manual/1_toc.htm). Accessed on 17 April 2003.

Simonson/Volker. Media planning and production. Columbus: Merrill Publishing Company, 1984.

Chowdhury AMR, Hossain MZ, Nickson R, Rahman M, Jakariya M, Shamimuddin M. Combating a deadly menace: early experiences with a community-based arsenic mitigation project in Bangladesh. Dhaka:

BRAC, 2000. 116p. (Research monograph series no. 16)

6. Hossain. MZ, Mahmood SN, Jakariya M. Experiences gained in tackling the arsenic disaster: final report on arsenic mitigation project in Sonargaon and Jhikargachha. Dhaka: BRAC, 2002. (Unpublished report)
7. Chowdhury AMR, Nath SR, Choudhury RK, Ahmed M. Renewed hope daunting challenges: state of primary education in Bangladesh. Dhaka: Campaign for Popular Education and University Press Limited, 2002:47-51.