Communicating Agricultural and Health-Related Information in Low Literacy Communities: A Case Study of Villagers Served by the Bougoula Commune in Mali

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Abstract
When villagers in Bougoula Commune in Mali were asked to rank their preference for receiving information about problems related to water, new technologies and communications (NTCs) and mass-media channels ranked the lowest. The respondents preferred interpersonal communication channels with the chief of the village followed by meetings, Extension agents and peer farmers, which were rated equally. Both genders seemed equally concerned about disease ranking malaria as the highest concern. The study showed gender differences, however, with regard to water-related infrastructure issues. Males were more interested in dams, wells, and bridges. Females were interested in issues that affected their traditional and daily duties, such as water pumps, access to water, and pollution by pesticides. Thus, issues may need to be addressed separately, according to gender. Careful attention also needs to be paid to the channels through which the educational information is sent. The authors recommend the empowerment of opinion leaders to transmit appropriate information effectively to villagers because of referent power and their influence within their homophilic groups.

Keywords: low literacy; Mali; participatory assessment.
Introduction and Conceptual Framework

People living in the United States of America (USA) or any industrialized nation take safe drinking water for granted. However, the World Health Organization reports that more than 1.2 billion people lacked access to clean water, and more than five million die every year from contaminated water or water-related diseases (Cain & Gleick, 2005). Also, the World Bank estimated in 2004 that 1.5 billion people in the world lack quality water. There is a global water crisis, which is a serious threat to those who suffer, get sick, and die from tainted water or from water-borne disease (Cain & Gleick, 2005). Also, a growing awareness exists that the water crisis undermines economic growth in developing nations, which can cause conflicts over resources and can affect global security by worsening conditions in states already economically weak (Collier, 2007). In developing countries, because millions of people suffer or die from poor drinking water, one of the United Nations Millennium Development Goals (MDGs) is to ensure clean water for all. Absent that, it is predicted tens of millions of people will probably perish from tainted water and water-borne diseases by 2020 (World Bank, 2004; Cain & Gleick, 2005).

African researchers reported water contaminated with coliforms, excess salt, atrazine, enteroviruses, and pesticides (Du Preez et al., 2004; Ehlers, Grabow & Pavlov, 2005; Faye et al., 2004; Gasana, Morin, Ndikuyeze, & Kamoso, 2001; Kusiluka et al., 2004), including some studies in Mali. In Mali, water-borne intestinal diseases were found to be public health concerns (Plate, Strassmann, & Wilson, 2004); therefore, access to potable water has become an urgent issue. However, the knowledge and technology already exist to access clean water. So, what is important currently is to assess and understand the needs of populations lacking these opportunities, and to identify effective communication channels for disseminating appropriate information to those people who suffer from unclean water.

In rural areas of Mali, as in many developing countries, external information is notoriously hard to obtain to solve local problems. But, there was a global incentive such as the eighth MDG that encouraged regions and countries to develop global partnership strategies that included information and communication technologies (ICTs) (World Bank, 2006). Subsequently, ICTs have gained widespread adoption worldwide, including Sub-Saharan Africa (SSA). Meso, Musa, and Mbarika (2005) noted the pronounced proliferation of ICTs in SSA. In that trend, Community Learning and Information Centers (CLICs) were established in Mali to favor communication and openness to the world and provide community-based information access as well as a learning facility (USAID, 2003).

Unfortunately, many villagers do not view the CLICs as an information center, and the resources available were often poorly used (Fofana, personal communication, March 2005). Cartmell, Orr, and Keleman (2006) indicated the effective use of new information depends on the way the audience prefers to receive that information. In another study, Bardon, Hazel, and Miller (2007) found an association between the communication channels and the socio-demographic characteristics of landowners in the USA. Per Rogers (2003), those who are poor may be more localite in their choice and use of communication channels. The purpose of this study was to describe villagers’ perceptions of water-related issues and their preferences for receiving information, and to determine if villagers’ preferences were influenced by their gender.
Purpose and Objectives

The study aimed to achieve the following objectives: 1) rank the water-related problems in order of their importance as perceived by the villagers interviewed; 2) rank villagers preferences for receiving information about water and health-related issues.

Materials and Methods

To increase participation in educational programs by those for whom the programs are intended, it is imperative to collect their perspectives to develop strategies to meet their needs (Duncan & Marotz-Baden, 1999; Waters & Haskell, 1989). The methodology of data collection for this study was based on a participatory process (Girara & Abela, 1991; Gueye, 1993) developed by the researchers using focus groups. Focus groups are “small groups of 6-12 participants of similar or varied characteristics” (Duncan & Marotz-Baden, p. 2).

The study was conducted in 13 villages in Mali during 2004 to determine the preferences of villagers regarding 1) available communication channels including interpersonal channels (chief of the village, peer farmer, extension agents, and meetings) and mass media (radio, book, and CLIC); and 2) a ranking of water related issues according to their importance. The villages studied in the Commune of Bougoula included Karaco, Tadianabougou, Tamala, Falan, Safécoro, Kangole, Biron, Koren, Tadianabougou, Nianzan, and Bougoula. The villages studied in the neighboring Commune of Dialadoroba were Sanambele and Dialakoroba.

A set of pictures representing the main issues and various communication channels was laid out for voting by two groups that were divided based on gender. The list of the issues was proposed by researchers and the villagers were invited to add or remove items from the list according to their perceptions of the relevance of the items. Stones were used to indicate a group’s vote; the villagers placed more stones in front of the issues about which they were more concerned, fewer stones in front of issues attracting less concern, and none if the issue was not a concern. Bardon, Hazel, and Miller (2007) used a similar method when asking participants to rank their perceptions for information delivery methods.

In the water-related issues portion of the study, the female and male groups were interviewed separately. Then, the males and females were brought together and given the 23 stones for water-related diseases to vote as a village. For infrastructure questions, 14 stones were used for voting. Males and females negotiated according to the importance of the issues for both genders and decided the number of stones to be assigned to each issue presented. In the negotiation process, each gender group tried to convince the other group. Regarding villagers’ perceptions on communication channels, the villagers were given 20 stones with which to vote.

Findings/Discussion

The study addressed two major issues important to villagers in Mali. Each issue was examined as it pertained to male, female, and mixed gender consensus groups in each village. The results presented are a composite of the 13 villages studied.

Villagers’ Water-Related Problems

The study revealed problems related to water infrastructure, diseases related to water, and hunger as caused by drought. When examining male and female villagers’ responses to water-related problems, gender differences became even more apparent. Both groups had the same three primary concerns: the toilet, the pump, and the dam. However, females saw the pump, the day-to-day source of water for drinking, cooking and washing, as the primary issues (Figure 1).
The males were most concerned with the dam (Figure 2). Regarding health and other-water related problems, the male and female villagers demonstrated the most similar responses in the area of health-related problems. In both groups, the five top ranking problems were, in descending order, malaria, hunger, diarrhea, cough and eye infections (Figure 3).

Figure 1. Main problems encountered by female villagers related to water infrastructure.

Figure 2. Main problems encountered by male villagers related to water infrastructure.
When considered overall, the response patterns of male and female villagers were relatively similar except with regard to the CLIC, which males ranked second as a preferred method of receiving information. However, it received the fewest votes from the females in the study. Among the villages studied, female villagers showed more consistent patterns of response than male villagers with the chief of village and meetings being their preferred methods of disseminating information. Males in the villages studied were more variable in their responses. Of the female villagers studied, especially those from Tadianabougou, Dialakoroba, Falan, and Safekoro, showed more consistent patterns of response than male villagers with the chief of village and meeting being the preferred methods for disseminating information. Although the males studied were more variable in their responses, the chief of village and meeting were both among the top three preferred information methods. When considered overall the response patterns of male and female villagers were relatively similar except with regard to the CLIC, which for males ranked second as a method of receiving information (Figure 5); however, it received the fewest votes from the females in the study (Figure 4). The findings of the study showed both males and females preferred interpersonal communications channels more than mass media. Although, radio is a popular communication channel to receive news in developing countries (Siemering, 2007), the villagers interviewed preferred to receive information about water-related problems through their chief of village. The CLIC, which is a cluster of ICTs, did not meet the villagers’ expectations for the receipt of information. Because interpersonal communications were more preferred, the researchers concluded that the perceived value of oral communication is deeply embedded in the culture of many Malians. This was supported by Kanté (2007), in a case study in Mali, when she collected female groups’ perceptions on their preference for training methods. From their responses, Kanté recommended that training programs should use visual-aids, with an emphasis on interpersonal methods. She also concluded that the involvement of community leaders in the innovation dissemination process, based on their social position in the community, was very important. Rogers (2003) explained that community leaders are frequently viewed as opinion leaders.
Opinion leaders, because of their referent power and informal influence on communities, should be well-informed to provide correct and timely information to their followers.

Figure 4. Female villagers preferred methods of receiving information on their most important problems.

Figure 5. Male villagers preferred methods of receiving information on their most important problems.

**Educational Importance**

The issues of major concern for females and of less interest to males—disease, potable water, and pesticide pollution (which may occur in both water and food)—were those that affected tasks that traditionally are conducted by females: gathering and preparing food; caring for the sick. Thus, issues seen as problems that affected females more dramatically than males may need to be addressed separately from issues viewed as important by males and females.
alike. So, extension and other development assistance providers should consider gender differences when prioritizing, planning, and delivering assistance to the villages studied as well as similar villages in Mali.

Conclusions, Recommendations, and Implications

When examining male and female villagers’ responses to problems related to water infrastructure and communication channels, gender differences become apparent. Issues may need to be addressed separately, according to gender group. But, specific health issues were perceived as holding the same level of importance by both genders. Regarding villagers’ preferences for receiving information, interpersonal communication channels were preferred except for the CLIC, which male participants ranked second. Overall, the chief of the village was the villagers’ traditional communication channel, which can be explained by the cultural obligations of community leaders in Mali.

The authors recommend the empowerment of opinion leaders to transmit appropriate information effectively to villagers because of their referent power and the influence they hold within their homophilic groups (Rogers, 2003). Careful attention also needs to be paid to the channels through which the educational information is sent. For the CLICs to be more useful to villagers, including small scale subsistence farmers, it may be necessary to engage the village chief and elders in a discussion of what would be most appropriate, especially culturally. The CLIC’s building may appear irrelevant to many villagers with no opportunities for oral communication, which is the information venue most valued traditionally by rural Malians. If CLICs are to be encouraged as significant information sources, ways of demonstrating their usefulness to females will need to be explored further.

References


