

One way to create common ground for dialogue.

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Introduction

People are the driving forces behind realisation of the transition from present water resources management practices to more adaptive water management strategies. A large part of the complexity in development of adaptive strategies lies in the interaction and communication between those who make decisions about, those who research and those who are affected by (changes in) the water system.

This paper presents an approach which was developed, applied and tested in the Upper East Region (UER) of Ghana, West Africa. It was developed in order to examine how exchange of stakeholders' interpretations and perceptions of a water system and its development was possible through drawings. With water-users and agricultural extension agents the researchers examined how these drawings served as a basis for common dialogue between those involved, interested and responsible for the development and use of small reservoir systems in the region.

First some background will be given of why the focus was on small reservoir systems. This will lead to a brief discussion about development of a basis for common dialogue between the stakeholders, which leads to an explanation of the approach and the results of the application of the approach in the UER. The conclusions will highlight the advantages and disadvantages of the approach and will give a brief explanation of the research that is still to be done in further development of the approach.

Background

In the Upper East Region small reservoir systems provide an opportunity for rural people to deal with inter-season rainfall variations by providing a significant quantity of water for irrigation, livestock watering, fishing, and domestic-use during the dry-season. However, a number of these systems have been identified as functioning sub-optimally and/ or are falling into disrepair. (Small Reservoirs Project Description)

In the 1950s and -60s such disrepair would have been attributed to water-user ignorance, so water-users would be taught how to carry out the maintenance activities. In the 1970s and -80s inputs were brought into the area since lack of maintenance was considered to be due to farm-level constraints. In the 1990s the cause of lack of maintenance was considered to be because the technology that was brought in was unfit for the situations at hand and so water-user participation was encouraged to enhance water-users' competence. (after Chambers, 1993) However, participatory approaches have not always been successful because the focus has been on inclusion but not on stakeholders' interests, goals and views and the manners in

which they can and actually want to be included in the development process. (Poolman, et al, 2006) The approach presented in this paper therefore, on the one hand, focuses on examination of stakeholders' interests, goals and views on development of small reservoir systems. On the other, the approach focuses on the manners in which stakeholders do, would want to and are able to interact and communicate with each other in order to develop solutions together that fit the situation. This was done through development of a basis for common dialogue between the stakeholders.

Basis for Common Dialogue

When stakeholders interact and communicate with each other there is generally a common subject about which they think they are interacting or communicating. We write *think* because it is possible to discuss about something with someone, only to realize after a while that your discussion partner has something different in mind than you, but which you both have given the same label or name.

The development of a basis for common dialogue in this research is therefore concerned with developing a basis around or about which stakeholders hold their discussions. In this case it concerns discussions about the development of small reservoir water systems. Due to this focus on interaction and communication, the approach touches upon aspects of communication theory. The basis for common dialogue is a medium with which or through which interaction and communication is made possible.

Fiske (1990) defines three types of media through which interaction and communication takes place. They are;

- presentational media (the voice, face, body)
- mechanical media (telephones, radio, television).
- representational media (writing, paintings, photographs) and

The first type of media, however, requires the presence of the communicator because he or she is the medium. The second type is subject to technological constraints. The third types of media are considered *works* of communication because they record presentational media (type 1). (Fiske, 1990) These works can form a basis for common dialogue because they can exist independently of the communicator. The described approach makes use of drawings and pictures as a basis for common dialogue between agricultural extension agents, water-users and researchers involved in development of small reservoir systems.

Examination of the means of communication most commonly used between stakeholders concerned with small reservoir development, showed that often presentational media, spoken words, was used. Sometimes the problems were voiced by the water-users to the executives (of the water associations) who then talk with the assemblymen to ask for assistance in helping the communities with solving the problems. Problems are also voiced to the agricultural extension agents. This is most often done at the reservoir sites where the extension agents are shown the problems by the water-users. Researchers and members of donor organisations, however, are not at the sites or in the region during the entire year, making it more difficult for extension agents and water-user communities to explain the varying situations to them in the limited time these groups have when they are in the region. While in some cases letters are written, previous research carried out in the region (Poolman, 2005) showed that there was little documentation to be found in the region concerning the reservoir sites and their specific problems.

It was postulated that development of pictures as a basis for common dialogue will help limit the time spent to explain the situation over and over to the more temporary stakeholders such as the researchers and members of donor or non-governmental organisations. This would then allow more time to be spent on examining and learning about how stakeholders want and can be included in the design, development and maintenance of small reservoir infrastructure. It is also hypothesized that the approach will enable stakeholders to more explicitly examine

how further development of the system can be set-up to respond to water-user demand since such a system is more likely to succeed than one which is being imposed. (Kay, 2001)

Approach

The aim of the approach is to help build up understanding by water-users, researcher and extension agents alike that there is no single answer for all problems. The research project aims to further fine-tune the approach in order to provide agricultural extension agents and water users with methods as to how to continually explore new ground (Simpson and Owen, 2002).

The approach was applied in order to examine the water-users' perceptions and visions of the situation at the small reservoir sites and to use this as the basis for common dialogue concerning:

- the present situation (and its problems),
- the envisioned/desired future situation,
- how to reach that future from the present (what is needed, who can provide it).

The applied approach includes aspects of participatory approaches such as transect walks, community mapping, household sketches, base mapping and community meetings. These aspects come from combining field tools such as those prescribed by the FAO (Food and Agriculture Organisation of the United Nations) in their Resource CD-ROM (2004) and by the IRC, International Water and Sanitation Centre (2001). The approach, furthermore, takes into account the concepts of Participatory Rapid Appraisals as prescribed by International Institute for Sustainable Development (Rennie and Singh, 1995), the "warnings" given by Cornwall (2002) and van Heck (2003) concerning application of participatory approaches and from Müller et al. (2005) on motivating people to share their knowledge with others.

The water-user communities and researchers took part in a group discussion at 12 sites in the UER. The water-users were first asked a number of questions concerning exchange of information about issues at the reservoir sites with other stakeholders and were then asked to draw the present small reservoir site. This meant that various community members would come up to a large piece of paper to draw the reservoir, the dam, the irrigation system, trees, cows, irrigation plots, grass, etc. See Figure 1 for an example of a water-user drawing. A number of pre-made pieces of the dam wall, trees, cows, plots with or without crops, and houses were also available in case people preferred not to draw.



Fig. 1: Woman water-user drawing and discussing with other water-users.

The water-users were then asked to indicate where the problems at the sites were by circling these areas on the drawings. From this the discussion led to the water-users' description of their envisioned or desired future situation of the reservoir system. See figure 2 for an example. The envisioned future situations were sometimes so different from the present situation that new drawings were made to show this desired situation. See figure 3 for an example.

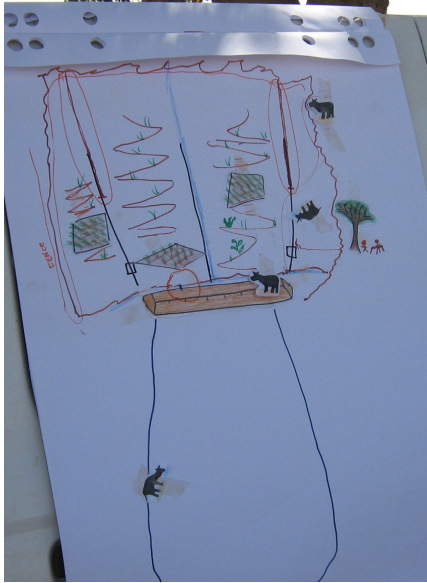


Fig. 2: Drawing of small reservoir system, with problem areas circled (valve at dam wall, irrigation canals and fencing).



Fig. 3: Present and desired future situation of small reservoir system, as drawn by water-users at Kaadi.

The next step was to draw the materials and resources that would be needed to go from the present situation to the envisioned future situation. In most cases the water-users did not feel comfortable to draw these, and instead told the researchers what to draw. Materials and resources ranged from trees to money, from chain-saws to bulldozers and from community-

labour to buckets for carrying the water needed for mixing cement. The water-users were then asked to circle which of the materials they felt their community could contribute.

During the group discussions that followed, the water-users and researchers discussed which other stakeholders should be and could be responsible for the supply of materials and resources. The results from this discussion will be given below.

The drawings were then taken to semi-structured interviews held with the agricultural extension agents. The extension agents were first asked to identify which problems they know or feel are at the small reservoir sites for which they are “responsible.” The drawings were then used to discuss the issues that were identified by the water-users and the differences and similarities between the communities’ identified problems and those which the extension agents had identified. The aim of the talks with the agricultural extension agents was to discuss the use of the drawing approach as well as to discuss the limiting and enabling factors to problem solving at the small reservoir sites.

After the drawing activities, the water-users were asked for their reflections about the approach and whether they thought it was useful for future communication with the other stakeholders. The same was asked of the agricultural extension agents because it was considered that the agricultural agents and water-users would have to work together to help solve or lessen the existing problems. The results will be described below.

Results

Application of the approach demonstrated how information can be obtained through drawings and how this helps gain a clearer picture of the natural resources system and its problems as the water-users view it. The after action reviews with the stakeholders showed that the drawings help serve as common ground for dialogue with and between the stakeholders since they help eliminate some free interpretation.

The drawings became basis for common dialogue within stakeholder groups at many reservoir sites where the water-users “remembered” problems which had not been stated in response to the initial questions. Also, by looking at what had already been drawn, the entire group could see and let it be known if aspects had been left out and needed to be added. The water-users would also correct or comment on those who were drawing.

The drawings served as a basis for common dialogue between stakeholder groups during interaction between researchers and the water-users at the reservoir sites and between researchers and the agricultural extension agents. At the reservoir sites the stakeholders were able to use the drawings to discuss the issues at hand. From this it became clear that the true problem lies in the fact that stakeholders do not necessarily know where to start due to limited resources available to them. Of all the materials and resources that were listed, most communities were able to contribute communal labour, sometimes small stones and sand needed for construction, sometimes vetiver grass, trees and very “small small” amounts of money, see figure 4 for an example.



Fig. 4: Materials water-users at Kaadi-site feel they need to get from present to desired future situation. Materials to which water-users have access are circled.

The water-users indicated that the other stakeholders who, in their opinion, should help in supplying the other materials would be the ministry of food and agriculture. They felt that it was the ministry's duty to help them. However, they also indicated that they wished the District Assembly and non-governmental organisations (NGOs) would also help them in supply of materials and resources. At some sites the water-users had already appealed to the district assembly and NGOs for assistance, yet they hadn't heard a response yet.

Also, the drawings served well in the discussion between researchers and agricultural extension agents. Here they served as a basis for common dialogue in determining whether the groups were actually discussing the same reservoir site. Such vagueness exists because the ministry of food and agriculture, researchers and the water-users all give the reservoirs different names. The drawings helped clarify which site the researchers had been to.

The agricultural extension agents also indicated that some of the issues circled on the drawings were issues which they had not heard the water users discuss recently. Some issues were discussed previously, but apparently the water-users did not discuss them anymore with the extension agents.

In general the drawing approach was reviewed positively by the water-users and the agricultural extension agents. They appreciated the fact that drawings could be saved and shown to visitors in the future and to demonstrate ideas more readily, thus saving time. However, both groups stressed that a story would need to be told to further explain to others what was being represented in the drawings; it could not stand on its own. Also, some issues do not lend themselves easily to be drawn. For example, a drawing of a plant disease was not considered successful by the water users at one of the sites. It was considered too difficult to draw a sick plant, and instead the water-users considered that taking pictures would have been more useful.

In the review of the approach, however, extension agents and water-users also indicated that access to materials to draw on or with is also limited. The materials used for making the drawings are available in the district capitals. Yet, they are deemed rather expensive by water-user communities and extension agents alike.

Conclusions

The research not only gave insight in the exchange of interpretations and perceptions between stakeholders involved, interested and responsible for the development and use of small reservoir systems in the Upper East Region of Ghana. The results also showed that this exchange is, to some extent, possible through visual representation such as drawings, which then serve as a basis for dialogue between the stakeholders. During the review of the approach the water-user communities indicated that the advantages of the drawings were that they:

- help make clear what aspects of the small reservoir systems stakeholders are talking about;
- stimulate water-users to remember which problems they had forgotten to bring up in earlier discussion;
- enable groups to collectively see whether aspects which they consider important have been left out of discussion and needed to be added.

Also, the water-users thought that, in the future, the drawings would help limit the time spent explaining the situation to others not from the area.

According to the agricultural extension agents, the advantages of the drawings were that they:

- help clarify which site locations of reservoir systems stakeholders are discussing;
- show some of the issues which the water-user communities do not discuss with the agricultural extension agents (anymore).

However, the reviews also indicated that the drawings require that a story be told to further explain what is actually represented in them. Also, some issues, such as plant diseases, do not lend themselves for this approach since they require too much intricate detail which is difficult to draw, using photographs was considered a better visualisation medium. However, one large threshold to adoption of this approach by water-users and extension agents is that access to materials to draw on or with is limited due to lack of financial means to acquire them.

Concerning the earlier identified sub-optimal functioning and falling into disrepair of the small reservoir systems, the drawings showed that the water-users were very aware of possible solutions to repair the infrastructure of the system. They were also aware of the materials and resources that would be necessary to carry out the repairs or maintenance in general.

However, the circling of the materials and resources to which the water-users had access showed that the biggest limitation to carrying out repairs and maintenance is the water-users communities' access to the identified materials and resources.

Further analysis of the drawings and interviews showed that the problems identified by water-users focused more technical and infrastructural issues, while a number of the agricultural extension agents of these reservoirs generally focused more on social or institutional problems at the reservoir sites. This difference in focus will have implications on further dissemination of information between stakeholders when it comes to understanding of and carrying out of maintenance, repair and management at these small reservoir sites.

Based on the results, further work will be done to further define with the water-user communities and agricultural extension agents, new possible maintenance activities which are feasible for water-users to carry out themselves with the materials and resources that are available to them. In this manner the research team aims to support stakeholders in being able to act upon their role as the driving forces behind realisation of more adaptive water management strategies.

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