

This briefing note synthesizes the presentations made by the AgWater Solutions Project team and discussions that followed with the workshop participants.

## Introduction

The AgWater Solutions project is helping to unlock the potential of smallholder farming through agricultural water management (AWM) solutions. This includes technologies and approaches, such as soil moisture management, drip irrigation and water harvesting techniques, as well as the supporting policies, institutions and business models. Partnerships are key to the success of the project. As such, the project promotes collaboration at all levels with, and between, a range of stakeholder groups including researchers, policymakers, investors, farmers and implementers.

The National Consultation Workshop was an opportunity for such engagement and for participants to share their opinions on AWM solutions that would be appropriate for Burkina Faso and could be out-scaled. This briefing note provides a short summary of the discussions held during the Workshop and the AWM solutions that were prioritized. For more information on all the AWM solutions currently being used in Burkina Faso the reader is referred to the Situation Analysis Briefing Note, which will be available on the website.

The National Consultation, which was held on May 4-6, 2010, in Ouagadougou, brought together more than 50 stakeholders from various organizations. It helped identify the small-scale AWM solutions best suited to the different agro-climatic and socioeconomic contexts, which were consistent with national policy. This event was made up of three distinct sessions: (a) presentation, discussion and amendment of the AWM Situation Analysis report; (b) presentation and discussion of results of the Small Reservoir Project; and (c) mapping of livelihood domains and zones with high AWM potential in Burkina Faso.

**“Smallholders constitute the majority of those living in extreme poverty in sub-Saharan Africa. Investments in irrigation and agricultural water management have a strong potential to reduce poverty and improve farmers’ income”.**

Dr. Charlotte de Fraiture (IWMI)

## Discussing the AWM Situation Analysis

Small-scale AWM options are numerous and encompass water storage; water distribution and application systems; soil management techniques; and techniques for improvement of inland valleys or “bas-fonds”.

The National Consultation, which followed four regional consultations (in the Central, West-Central, North-Central and

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the Northern regions), agreed on a preliminary list of technologies and approaches relevant to smallholders:

- Low-cost pumps: motorized and manual pumps (e.g., treadle pumps).
- Micro-irrigation technologies such as drip irrigation.
- Technologies to capture surface water (e.g., small reservoirs and rainwater harvesting) and groundwater use (e.g., wells and boreholes).
- Soil and water conservation (SWC) technologies.
- Low-pressure (semi-Californian) pipe networks.

The following accompanying measures were also proposed: training and organization of users, strengthening of extension and technical support services, promoting the availability and marketing of irrigation equipment, and watershed management.

## Results of the Small Reservoirs Project

In Burkina Faso there are over 1,300 reservoirs used for various purposes including: irrigation, drinking water supply, livestock watering and fisheries. In addition, there is a large public demand for such infrastructure. This irrigation “model” was developed after the droughts of the 1970s, under the impetus of international donors in close collaboration with the government. However, there are several constraints associated with small reservoirs:

- The generation and accumulation of knowledge on small reservoirs are inadequate.
- The development of small reservoirs should be better adapted to the multiple realities and objectives of local populations.
- Investment choices (high cost, maintenance requirements) are not always appropriate.
- Current approaches to management of small reservoirs at local level (water user or irrigation associations, local water committees) are ineffective and are unable to address technical challenges (sedimentation, evaporation) and reconcile multiple uses of water (irrigation, livestock, fishery).
- Although small reservoirs are central to food security in Burkina Faso they also have negative health, environmental

(sedimentation) and social impacts (conflict). To respond to these concerns, the participants recommended that changes be made to the design and management of small reservoirs, including the coordination of the activities of users around these reservoirs.

Small dams are of central importance in Burkina Faso but individual interventions (such as motor pumps) also represent opportunities that have the added advantage of a high degree of control and smaller initial investment costs compared to collective systems.

## Mapping Livelihoods Domains

In the third part of the workshop the participants were asked to identify the potential of different “development domains” in Burkina Faso. This was done in a two-step process. In the first step, the participants were presented with the nine areas defined in the United States Agency for International Development (USAID) Famine Early Warning System (FEWSNET) program, as well as a series of thematic maps prepared by the Food and Agriculture Organization of the United Nations (FAO) describing the different biophysical and socioeconomic characteristics of these areas (Table 1).

**Table 1: Information contained in the thematic maps presented by FAO**

Socioeconomic Aspects	Biophysical Aspects
<ul style="list-style-type: none"> <li>- The distribution of major crops (maize, sorghum, millet, etc.)</li> <li>- The distribution of livestock</li> <li>- Market access</li> <li>- The density of the rural population</li> </ul>	<ul style="list-style-type: none"> <li>- Ground cover</li> <li>- Topography</li> <li>- Irrigation schemes</li> <li>- The hydrographic network</li> <li>- The agroecological zones (periods of crop growth)</li> </ul>

**Figure 1: Development domains (draft)**



Using this information, the participants were asked to characterize the areas based on the availability and potential for capture and storage of water resources, access to markets, the investment cost of water mobilization, the local crops, level of local ability and technical resources. This process of participatory mapping resulted in the delineation of 16 “AWM development domains.”

In the second step, the participants were asked to consider the AWM solutions that had been discussed in the previous sessions and to give their opinions as to whether each solution had very high, high, medium or low relevance for each of the 16 zones. A summary of these opinions is given in Table 2.

After the workshop, FAO developed a draft map of the 16 AWM development domains (Figure 1).

**Table 2: Relevance of AWM solutions**

AWM solutions	National importance	Relevance of the solutions in the 16 development domains			
		VH	H	M	L
Training and extension	High	0	16	0	0
Users' organization	High	0	16	0	0
Pumps (diesel, gasoline)	High	0	15	1	0
Equipment availability	High	0	15	1	0
Inland valleys 'bas-fonds'	High	0	14	1	1
Marketing	Medium	0	12	4	0
Drip irrigation	Medium	0	12	4	0
Semi-California irrigation	Medium	0	12	4	0
Large-diameter wells	Medium	0	12	3	1
Small reservoirs	Medium	0	8	1	3
Shallow wells	Medium	0	6	0	6
Solar pumps	Medium	0	8	7	1
Supplementary irrigation	Medium	0	8	6	2
Canals	Medium	0	8	1	7
Rivers/streams	Low	0	7	4	5
Treadle pumps	Low	0	3	9	4
Lakes	Low	0	2	1	13
Manual dug-wells	Low	0	1	2	13
Water sales (to irrigators)	Low	0	1	0	15
Sprinklers	Low	0	1	0	15
Bucket irrigation	Low	0	1	0	15

## Next Steps

The suggestions raised in the workshop are being taken forward in the choice and design of the in-depth case studies and in the ongoing stakeholder dialogue process.

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