

Workshop Brief

# **Shallow Groundwater Irrigation in the Atankwidi and Anayere Basins: Research Results and Policy Options**

**April 20-21 2010, Bolgatanga, UER, Ghana**

CP-Project 65: Contribution of informal shallow groundwater irrigation to livelihoods security and poverty reduction in the White Volta Basin: current extent and future sustainability

Organised by the Center for Development Research (ZEF), University of Bonn, Germany in cooperation with the White Volta Basin Office of the Ghana Water Resources Commission (WRC) and the International Water Management Institute (IMWI)

**Wolfram Laube**



## Workshop Brief:

The Challenge program 'Water and Food' has awarded a research grant to a consortium of international and national research institutions to carry out research on the **'Contribution of informal shallow groundwater irrigation to livelihoods security and poverty reduction in the White Volta Basin: current extent and future sustainability.'** Interdisciplinary research was carried out in the Anayere and Atankwidi river basins in the Kassena Nankana (E+W), Bongo and Bolgatanga districts in the Upper East Region of Ghana and in neighbouring Burkina Faso.

The main objective of the CP-Project 65 was to provide scientific results that can help to reduce poverty and the vulnerability of small-scale farmers in the Volta Basin. A primary reason for significant poverty and insecure livelihoods in the White Volta basin is heavy reliance on risky and low productivity rain-fed agriculture. Currently small-scale farmers try to reduce poverty and improve livelihoods through the expansion of shallow groundwater irrigation for the production of vegetables for the national market.

As this is farmer-driven irrigation expansion, little was known with regard to the socio-economic and environmental impact of this development. The goal of CP Project 65 was, therefore, to arrive at an improved understanding of the characteristics and current spatial extent of shallow groundwater use and to devise of recommendations for improved management practices that will help to raise the productivity, increase the economic benefits, and ensure the sustainability of shallow groundwater irrigation.

In order to establish a dialogue between the various stakeholders, farmers and relevant officials, the project organized a two-day workshop with a field excursion in November 2008. The initial stakeholder workshop provided the opportunity to engage in stakeholder dialogue, introduce project objectives, formulate research questions in a participatory manner and share knowledge (local as well as expert) via discussions and a field excursion. A workshop report was published and sent to all workshop participants.

After two years the project is coming to an end and project scientists wanted to fulfil their promise to share their findings with the regional and local partners, discuss the research findings and possible policy implications and possibilities for implementation. As ZEF had agreed to run the stakeholder dialogue and knowledge exchange component of the project, it organized the final stakeholder workshop, in cooperation with the White Volta Basin Office of the WRC and IMWI.

The workshop, which was held at Bolgatanga, the regional capitol of the Upper East Region of Ghana, was attended by a mixed audience. In order to bring the full variety of stakeholders on board irrigation farmers, representatives of relevant regional and district government agencies as well as NGOs were invited. The workshop was attended by approximately 50 participants, among them 10 farmer representatives, officials regional offices of the Water Resources Commission (WRC), the Irrigation Development Agency (IDA), representatives of the District Administration as well as the Ministry for Food and Agriculture (MOFA) offices of the Kasena Nanakana East and West, Bolgatanga, Bawku West and Garu Tampane Districts. The 4 NGOs present were Care International, Rural Aid as well as two local NGOs (BACHH and MASLOC). On the day before the workshop a pre-workshop farmer meeting had been organised. During the meeting the objectives and the modalities of the workshop were explained to the farmers and their active participation in discussions was encouraged. This helped to ensure their lively participation during the workshop.

After a short introduction by Dr. Wolfram Laube, who summarized the research activities and explained the purpose of the workshop, the morning session was devoted to the presentation and discussion of the results and recommendations of natural scientists:

- ❖ B. Kortatsi (Water Research Institute, WRI): Mapping: Shallow Groundwater in the Antakwidi Basin
- ❖ B. Barry (International Water Management Institute, IMWI): Spatial Extent and Water Availability of Shallow Groundwater Irrigation
- ❖ Jan Talsma (University of Delft): Exploring shallow groundwater irrigation: the open challenge of anticipating local groundwater availability
- ❖ C. Gordon/ F. Collison/ J. Aidoo (Center for African Wetlands): Environmental Impacts of Shallow Groundwater Irrigation

Each presentation was followed by discussions. The workshop participants were particularly interested in the issues such as water availability, groundwater mapping and the possibilities of SGI expansion. The issue of environmental impacts, wetland conservation and the overall sustainability of SGI sparked a lively debate.

The afternoon session of the workshop was devoted to the presentation and discussion of the cultural embedding, socio-economic basis and impact and political economy of SGI:

- ❖ Wolfram Laube (Center for Development Research, ZEF): Social Embedding and Socio Economic Impact of Shallow Groundwater Irrigation - Results and Policy Implications
- ❖ Martha Awo (Center for Development Research, ZEF): The Patterns of Tomato Marketing in the UER: Problems and Options
- ❖ Joseph Awuni (University of Development Studies, UDS): Socio-Economic Impact of SGI

Like in the morning, presentations were followed by discussions. The cultural embedding of SGI, especially practices of land and knowledge sharing, as well as local environmental knowledge, sparked a lively debate on farmer innovativeness and the ways to integrate local values and knowledge into possible development interventions. Of special interest was also the presentation on the highly problematic tomato marketing. Farmer representatives and NGOs lamented the lack of political support for peasant and the disincentives posed by the current terms of international, regional as well as national trade.

The presentations were followed by a final plenary discussion. The topics were further discussed:

- ❖ Environmental impacts and the future expansion of SGI
- ❖ Policy support and development options

There was a general consensus that given the rich availability of shallow groundwater and the efficient water use by farmers there is further room for SGI expansion. Scientific support could be provided through the provision of groundwater maps. However, certain environmental precautions need to be taken. While the level of use of fertilizer and agro-chemicals seems not problematic the farming in close proximity to the riverbeds is of environmental concern. It may lead to erosion and siltation of riverbeds. Therefore, the WRC suggested a buffer zone policy.

Patterns of vegetable marketing continue to be a major concern for SGI-farmers. Subsidization of vegetable production in neighbouring Burkina Faso makes results in strong regional competition. An import quota system and the tying of governmental trader credits to local purchase were discussed but need to be seen in the wider ECOWAS framework. Tomato processing in the northern Ghana has proved to be rather a political gimmick during election campaigns than a viable economic option. The importation of large amounts of subsidized tomato products from mainly Europe makes it unprofitable. The need to subsidize farming in Ghana efficiently (really targeting peasants) was discussed. Furthermore, the general question of import tariffs and protective measures was debated, but, however, has to be seen in the context of the WTO framework and the conditionality of donor credits and grants.

SGI-farmers could be supported by a variety of measures that could reduce the considerable workload this form of farming entails. The lining of wells or the provision of tubewells could reduce the workload of farmers considerably. But possible interventions must be well adapted to the diversified interests of the local communities. Enhanced infrastructure could otherwise easily provide a disincentive to land sharing and increase the risk of a commercialization of land tenure. Especially, poor farmers, which highly depend on such forms of social reciprocity, could easily lose access to land.

The provision of drip irrigation kits and the training of farmers in their use was also mentioned as a possible measure to support farmer to reduce their workload and to enhance the sustainability of SGI.

In general farmers, NGOs but also representatives of MOFA lamented the lack of political and development focus on African small-scale farmers and called for the revision of some of the international and national agricultural policies. However, it was also made clear that farmers cannot solely rely on external support, but will have to continue to be innovative.