



A Targeting and Outscaling Decision Support Tool

The **TAGMI** web-tool facilitates targeting and scaling out of different Agricultural Water Management (AWM) technological interventions in the **Limpopo** and the **Volta** River Basins. TAGMI is an output from 3-years of research-for-development as part of the CGIAR Challenge Program's Basin Development Challenges (CWPB-BDC).

Researchers, practitioners and farmers have identified approaches to manage rainfall for agriculture in efficient and productive ways from field to basin scales. Yet successful targeting and scaling out of appropriate interventions remains a challenge.

Can an AWM intervention successfully applied in one location have a reasonable chance of success at any other location?

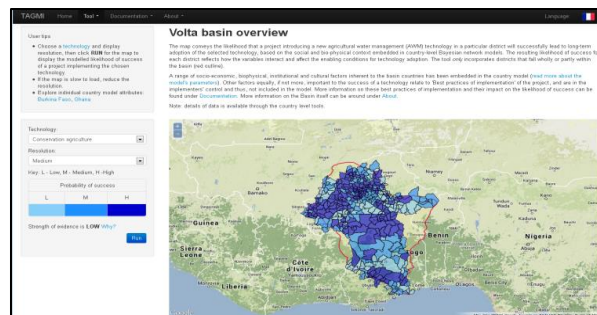
The targeting and out-scaling problem

- ✓ We want to out-scale agricultural water management (AWM) technologies for more farmers benefit
- ✓ We want to identify locations where the chances of success are high
- ✓ A good way to decide is through rapid assessment in the field at prospective sites
- ✓ But where to do the rapid assessments?

TAGMI: In Principles

The decision-support tool responds to this problem using nationally defined Bayesian network models to assess the likelihood of success based on an array of social, human, physical, financial and natural factors. TAGMI is

- ✓ interdisciplinary, capitalizing on the combined experiences of the CPWF-BDC social and natural scientists and practitioners;
- ✓ integrating data, GIS layers, and key stakeholders' knowledge and expertise
- ✓ accounting for the fact that certainty is unobtainable, but *degrees* of certainty are both obtainable and useful



Screenshot of a Basin-Scale Webtool; National-scale tools are also online, providing more detailed results.



TAGMI: In Practice

What can be explored? The maps convey the likelihood that Conservation Agriculture, Small-Scale Irrigation or Small Reservoirs can be successfully adopted at the district-level, in a Basin.

Who is the tool for? Non-expert users who want to know which parts of a region have social, human and natural conditions that will facilitate success of a planned AWM intervention.

What does it tell you? Where specific AWM technologies could be adopted with success based on Bayesian model.

The Web-tool Development Process

As the convening institution, the Stockholm Environment Institute together with partners led the development of TAGMI through a series of national and local consultations in 2011 and 2012. The Bayesian Network Model, which informs the web-tool's map display output, is a combination of local, national and regional datasets with the expert input of our Basin project partners. **The final engagements** in the region as part of this effort will take place in **August 2013**.

Volta Basin Research Partners: Institut National de l'Environnement et de Recherches Agricoles (INERA); Civil Engineering Dept. of the Kwame Nkrumah University of Science and Technology (KNUST); Savanna Agricultural Research Institute of the Council for Scientific and Industrial Research, Ghana (CSIR-SARI); Département de Géographie de l'Université de Ouagadougou

Limpopo Basin Research Partners: WaterNet; University of Witwatersrand; International Water Management Institute-South Africa

Project Co-ordinator: Dr. Jennie Barron
jennie.barron@sei-international.org
www.sei-international.org