

# **CGIAR Challenge Program on Water and Food**

## **Strategy on Capacity Building**

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### **Goal**

The goal of CPWF capacity building is to:

“Increase the ability of scientists to carry out integrated research on water and food with a basin perspective”

The underlined words in the above quote indicate the components of the CPWF capacity building initiative which distinguish it from other types of capacity building that take place in the context of international development and water resources management. The CPWF defines its niche through a focus on the needs of scientists, conducts activities which promote integrated understanding, and takes an agricultural production (food) perspective at the scale of a river basin.

### **Definitions**

Capacity-building is an ongoing process by which the abilities of an organization, group, or individual are increased so that they may more effectively formulate and achieve relevant objectives. 'Capacity-building' consists of three basic elements, (1) policy and legal frameworks; (2) institutional structures and procedures; and (3) human resources, including technical and managerial skill development. (UNDP, 1998)

### **Philosophy and Approach**

The philosophy guiding the CPWF's capacity building strategy is summarized in the quote below:

“Competent, well-trained, and committed individuals can and will always perform their tasks irrespective of policy constraints, absence of appropriate legal frameworks and unresponsive institutional settings.”

“However, even with the best policies, laws and institutions and adequate availability of funds, if the right people are not there, progress at best can only be slow and marginal.”<sup>1</sup>

In this way, CPWF focuses on building the capacity of individuals, specifically, researchers, as learners, appliers, and promoters of integrated scientific approaches to evaluating and enhancing water productivity for food production, livelihood generation, and ecosystem services.

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<sup>1</sup> Biswas, Asit K. 1996. Capacity Building for Water Management: Some Personal Thoughts *Water Resources Development*, Vol. 12, No. 4, pp. 399± 405.

# Challenge Program on Water and Food Capacity Building Strategy

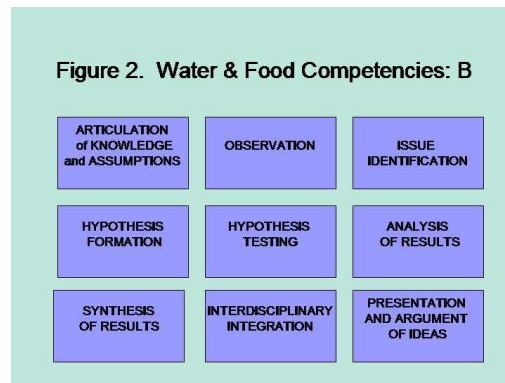
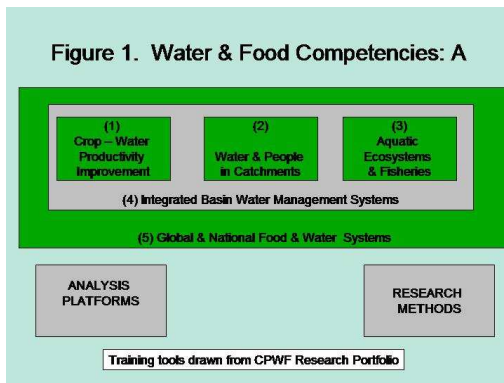
## Capacity Building for Research

The strategy focuses on educational formats that utilize field-based integrated research as a platform for capacity building. The CPWF capacity building strategy also emphasizes skill building for individuals according to project, institution, country, and basin specific needs. Learning, rather than research, is emphasized, recognizing that the needs within some research institutions, universities, and ministries in CPWF benchmark basin countries are more of a basic nature – requiring training in research approaches, field sampling, policy development, and, in some cases, working knowledge of English.

The opportunity of having a capacity building strategy in tandem with a research program, is that in addition to the capacity building within research projects, the strategy can target institutions, with few well-trained research staff, and increase skills across a range of organizations and thus enable broader participation in the CPWF.

## Subject and Content: Competencies in Water and Food Research

The research undertaken within the CPWF is complex. Even the most experienced research professionals participating in the CPWF are tasked with thinking differently about the ways that multiple systems work together. It is through this ground breaking research, that the competencies in water and food research will be defined. The capacity building strategy aims to assist in defining what constitutes both basic and advanced skill sets for water and food scientists drawing from the structure of the five CPWF research themes, and the methodologies and analytical platforms utilized by the research teams in its portfolio (Figure 1).



## Integration across scales

For the strategy to be effective, participants (both trainees and trainers) in the capacity building activities must be able to articulate the linkages between the use of water for food production at the field level (Theme 1) and how the field level affects and is affected by the use of water for food production at the catchment, ecosystem, and basin levels (Themes 2, 3, and 4); The final step in analysis is to link larger scale forces such as markets and climate change, with water and food relationships and policies at lower levels (Theme 5).

### *Integration across disciplines*

Participants will come into activities as specialists in a particular discipline, and focused at a particular scale of interaction. The capacity building strategy aims to strengthen their existing knowledge by connecting it to other levels of analysis; using integrative analysis platforms. The strategy will also empower participants with tools to incorporate this higher analytical ability in the investigations they undertake within their professional roles. At any one scale of analysis, participants will come away with a broader understanding of how their field of specialization, whether it be economics, entomology, plant breeding, hydraulic engineering, or anthropology is viewed and effected by other systems.

### *Top Level scientific mentorship*

Professional mentorship drawn from the CPWF research network will be employed to ensure excellence in training methodologies and the achievement of specific competencies in water and food research. In addition to the specifics of linking agricultural research with water productivity analysis, the CPWF capacity building activities will reinforce basic approaches to investigative science, as laid out in the diagram in Figure 2.

Proficiency of basic research skills, including the development of questions, methods for investigating those questions (such as hypothesis testing or other methods), and the articulation of research results, is the type of focused attention that CPWF capacity building can offer.

### **Strategy**

In order to meet the goal of the CPWF Capacity Building to,

“Increase the ability of scientists to carry out integrated research  
on Water and Food with a basin perspective,”

the capacity building strategy will incorporate the following components:

#### 1. Long term view.

The activities developed within the context of CPWF capacity building will be multilayered, in order to build a broad base of research competence across the nine basins in which its research program is active. The individuals brought into the activities either as “trainees or trainers” will have opportunities to further develop and apply skills, and to disseminate their learning to broader audiences.

### 2. Context relevance

The capacity building strategy recognizes the importance of aligning the needs of individual basins, countries, national institutions and donors with the goals of the CPWF initiative. This alignment is crucial if the impacts of capacity building activities are to be sustained, adapted, and expanded upon by our partners.

The CPWF will undertake needs assessments in each of its nine benchmark basins, to evaluate, for each country and region, where, who, and how to target capacity aimed at the research community in order to have the most impact. The strategy will thus provide a range of activities each suited for specific audiences, depending on the needs of the countries and the basins in which it is active.

### 3. Application Orientation

The CPWF capacity building strategy will employ an application orientation drawing closer linkages between farmers and the service organizations which work most effectively with them and on their behalf. The strategy will target scientists, loosely defined as stakeholders that are charged with the generation or utilization of research. Thus capacity building activities will improve the skills of a range of practitioners who can benefit in their work through improved understanding of application of research techniques, through a field based understanding of the interrelatedness of other sectors and fields, by participation in hands-on learning activities.

### 4. Existing Structures

In support of the larger CPWF research portfolio, the capacity building office will catalogue the training activities within the competitive call projects and basin focal projects and will serve as a resource to identify and facilitate cross-basin and cross-project opportunities.

To ensure sustainable impact, training conducted outside of the CPWF research portfolio, will utilize existing training programs and institutions within the basins preferentially over sources from outside, capitalizing on existing expertise and bolstering expertise where resources are needed. Thus CPWF capacity building activities and initiatives will be developed jointly with “lead” institutional partners, who have the primary responsibility for the design, implementation, and administration of activities. The role of the CPWF will be to provide this strategy as a framing document for initiatives, and to participate in the design of curricula, sourcing of expertise, and monitoring and evaluation.

### 5. Adaptive Management

The strategy will continue to evolve through “trial and error” as programs are developed, implemented, monitored and evaluated; as new partners, and information on other capacity building programs come in and out; and as new opportunities arise.

### ***Four mechanisms for CPWF Capacity Building***

In order to provide a range of opportunities to meet the needs of both the students and professionals the CPWF the capacity building strategy will provide short term and long term training in applied and integrative formats. Four of the mechanisms for water and food capacity building currently under development are described below.

#### **1. Interdisciplinary Post Graduate Cohorts**

This mechanism will increase the number of students obtaining water productivity and integrated water resource management related degrees in benchmark basins of the CPWF. The completion of their degrees will be based upon concepts central to the objectives of the Challenge Program itself: north-south, south-south interdisciplinary and multicultural partnerships.

Two cohorts of five masters students each, will be recruited from different countries and in various disciplines, and will attend a single institution or institutions located within the same city or very near to one another. Their academic residence will be supported through interaction with one another, with CPWF researchers, and through participation in three workshops to strengthen their integrative research, synthesis, and collaboration skills. One PhD student will be supported and will be given mentoring and project management responsibilities.

Prior to the onset of their first academic term, the students will participate in a field course in water productivity analysis to work with one another as a team of social, physical, and biological scientists to observe the water use through an agricultural system at different scales. The water productivity analysis course will utilize field research methods to analyze the food production, livelihoods, and environmental relationships associated with the use of water within a catchment

This field course will be followed by a first workshop, held at the beginning of the academic term, when the students will work with their major professors, CPWF researchers and with one another, to develop their research plans. The goals of each individual research plan will be linked to one another within the framework of a Challenge Program theme. The cohorts will meet for a second time to participate in activities related to the synthesis of their results and once again following the completion of the first set of masters' degrees, to work on the presentation and dissemination of their results.

#### **2. CPWF Research Theme Applied Field Courses:**

Water productivity training modules, designed collectively by CGIAR Centers, supporting universities in the North, and implementation partners in the south, offer field based training drawing on the lessons learned by the research projects of the CPWF and the Comprehensive Assessment of Water in Agriculture (CA). Participants (instructors and

attendees) are recruited from agriculture and water sectors, representing both biophysical and socioeconomic backgrounds. Research undertaken as part of the course can be tied to institutional research needs of participant institutions. Modules can also be offered as distance learning courses through the supporting university program.

### 3. Internships:

a. *Research internships* will be designed to provide research experience to participants who have completed post-graduate degrees through the cohort program, or who have completed a Professional Field Research training. The intern will receive mentored experience on an actual research project, and the institution providing the internship (ideally an NGO or other service institution) will benefit from additional manpower.

The CPWF will monitor the learning of the intern, and provide additional mentorship and training as appropriate, and when possible, in association with existing training initiatives in projects or outside of projects.

b. *Program officer internships*

These opportunities are designed to promote the skills of individuals selected from NARES or universities in the areas of interdisciplinary program development, coordination, and evaluation. The idea behind these internships to mentor participants in skills that are necessary to continue the collaboration among disciplines in water and food research from within their own institutions. Individuals selected for these internships will come from institutions with a demonstrated commitment to interdisciplinary, cross-sectoral research collaboration

### 4. Advanced Training Opportunities

Advanced training opportunities will be targeted activities developed to provide specialized training in more advanced methodologies, drawn from the CPWF research portfolio. This mechanism will ensure opportunities for cross-basin learning and for amplifying the impact of research projects with especially innovative or successful training programs.