CGIAR Challenge Program on
WATER & FOOD

EXECUTIVE SUMMARY OF ANNUAL REPORT 2004

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The first year of implementation of the Challenge Program on Water and Food (CPWF) has seen major progress in Program establishment. The core portfolio of projects around which the CPWF continues to develop and build its capacity to deliver global public goods became operational. Thirty-three projects are led by 18 different institutions (with over 150 partners), and with a total investment of USD 60 million (USD 36 million from the CPWF). The community of practice among water and food researchers became a reality, particularly at the successful project leaders' travelling workshop and in its follow-up. Meanwhile, the Program was made more visible through a wide range of scientific participation and media exposure. In terms of process and planning, the year has also been important. We presented to the new CGIAR Science Council our first medium term plan. Their comments fed into a process already underway to refine the research strategy of the CPWF. An important element of the new strategy is a set of "basin focal projects", the results of which will provide both global public goods and guide the research focus of the CPWF. Successful experiences with a broad based management team during the initial two years of program inception and implementation led us in March 2005 to the approval of a streamlined management structure more suited to the new demands of the Program, but without losing broad participation. The program has been supported in these achievements by funding from four new donors alongside the seven who supported the CPWF in 2003; we thank them all. Of particular significance in 2004 was a major new contribution from DfID. Combined, these activities have resulted in a buoyant, progressive program that is based on sound governance and management practices. This summary addresses these achievements in turn, followed by governance and management issues and selected lessons learned. Finally, a statement on financial viability is provided.

Research

The richness of experiences, ideas and results over the year have crystallised into a decision to revise our research strategy. We recognised that a clearer focus is required in order to better present what we are doing already, and in making sure that the program delivers on its ambitious promises. We have worked so far with the research agenda presented in the Full Proposal (September 2002). Now a significant investment is being made in "basin focal projects" that will use innovative methodologies and analytical tools. The projects are intended to develop a scientific framework for evaluation and scaling-up of interventions resulting from projects to evaluate their potential impact within and across basins. This is strategic research at the basin level that will significantly increase the innovativeness of the program and help add value to the project portfolio. The plan is to have a basin focal project in each of the nine CPWF benchmark basins, but to start with a subset of four: the Mekong, Volta, Karkheh and Sao Francisco. The CPWF Consortium Steering Committee (CSC) decided to develop the projects through commissioned research and invited CSIRO, IRD, IWMI and UC Davis to lead the development of each project, with involvement of the basin coordinators and other partners. A fifth project will coordinate the four basin projects and ensure compatibility of approaches and methodologies across basins. These projects will also create international public goods in terms of the profound understanding of each basin, comparison of the basins, and methodologies than can be used elsewhere for interpreting basin situations. Closer links with the Comprehensive Assessment on Water and Management in Agriculture (CA) are underway to obtain the support of an internationally recognised diagnostic process.

The first of the 33 research projects funded so far commenced implementation only in June 2004, so it is very early to show tangible results. Those we have do not yet give a picture of how projects and synthesis research are integrated in the Program as a whole. Despite this, we mention below a selection of early results from different projects as an illustration of our practical impact on the poor.

- 'Coastal resource management for improving livelihoods', led by IRRI, Philippines. Farmers in Batiaghata, Bangladesh planted Aus (dry) season rice for the first time using water stored in the on-farm canal network. The Minister of Agriculture plans to visit the project. Working with the People's Committee of Bac Lieu province in Vietnam, farmers in BacLieu can cultivate crops into the drought period due to proper sluice operation. Poor farmers producing wicker handicrafts are being encouraged to harvest seagrass, a nuisance weed in shrimp ponds, with the promise of exporting their products through interested companies in Hi Chi Minh City.
- 'Strategic innovations in dryland farming' led by the Savannah Agricultural Research Institute, Ghana. Construction of domestic rainwater reservoirs in pilot sites in Ghana is nearing completion. This will enable verification of survey results that suggest that women in farming households will use the time they save from not having to collect water to invest in vegetable farming and other health and income generating activities.
- 'Livelihood resilience in dry areas', led by ICARDA, Syria. Several options for supplemental irrigation and water harvesting have been identified;. Meanwhile, a change of farmers' attitude means that sheep manure is now viewed as a nutrient rather a waste material and water pollutant. In general, he project is promoting institutional innovation in Iran through its ability to link organisations more easily as part of a partnership focused international program.
- 'Multiple water use' led by IWMI, South Africa. The CPWF has enabled a multi partner approach to forming "learning alliances" in the Limpopo and Mekong basins, with other basins to follow. Concrete action plans are currently being implemented to identify critical requirements in establishing multiple use systems, where the same water serves for use in drinking, hygiene and small-scale horticulture..
- 'Rainwater and nutrient use efficiency' led by ICRISAT, Niger. Farmers in the Volta basin were exposed to some of the 'best bet' technologies being evaluated in pilot studies, while project partners have acquired skills in decision support tools and improved their understanding of land degradation issues.
- 'Improving productivity in salt affected areas' led by IRRI, Philippines. Germplasm exchange and distribution with NARES and other partners including elite lines with multiple tolerance to abiotic stresses has occurred, while at the same time farmers' field days have been conducted in India and training activities in Vietnam have been completed for 300 farmers. Showing their interest and commitment to the project, Egyptian partners have decided to implement the project from their own resources.

A key feature of the CPWF is to add value to project results through synthesis of these and other relevant research results. This highlights and strengthens the international public goods content of the research. Reports by theme leaders and basin coordinators feed into a consolidated report, of which the first, reflecting the baseline situation in 2004 has now been drafted. Synthesis research has already produced several state-of-the-art papers and in refereed journals and elsewhere, including two special journal issues dedicated to CPWF papers. The topics include integration and scale issues in water productivity; fisheries and environment in the Indo-gangetic basin; the genetics of drought resistance; water productivity in livestock systems; and new forecasting technologies for improving water productivity.

A gap analysis of the current portfolio was concluded leading to a revised set of research priorities. Other research activities include travel grants to young scientists; facilitation of interactions between NARES and advanced research institutes; networks of researchers formed in basins to facilitate dialogue on environmental and other research issues; refinements of basin profiles; and continued dialogue with the global environmental change community. An expert mission visited the Yellow River Basin in September

2004 to provide an integrated view of water resource management in the basin and suggestions for the future role of CPWF. Theme leaders and basin coordinators participated in inception workshops of CPWF projects and began their project monitoring responsibilities with assessment of quarterly reports. Theme leaders participated in a number of international conferences relevant to their theme responsibilities that contributed to state-of-the-art publications including some coordinated by CPWF. Basin coordinators contributed to regional workshops and to developing understanding of their local network of stakeholders. An important example where both contributed was in a meeting with the Technical Advisory Committee of the Nile Basin Initiative.

Partnerships

The diversity among project researchers is pleasing. For example, 17 of 33 project leaders are nationals of developing countries, nine are women, and six are based in national institutions. In an effort to meld this diversity and promote sharing of information, the first project leaders' workshop was held in South Africa in November 2004. It started with a three day field trip to project sites and a range of water management challenges in the Limpopo Basin. Representatives of 28 projects participated, together with theme leaders and basin coordinators. It was the first major opportunity since the 2003 Baseline Conference to bring together representatives of the whole CPWF community of practice. Participants commented favourably on the quality of technical and practical process workshops, as well as the personal interactions in building the community across complementary projects and topics. Meanwhile, the community of practice continues to develop. For instance, the value of a CPWF workshop on basin water productivity organised by one project was increased by the participation of other project leaders, theme leaders and basin coordinators, who also conducted their own regular meetings. At the same time they participated in a meeting on water productivity organised by the Comprehensive Assessment on Water Management in Agriculture, a CGIAR system wide program.

Partnerships are fundamental to our work. Our key hypothesis is not only that they lead to broad 'buy-in' to research and development, but also to unexpected information and ideas as a precondition to 'good science'. We are seeing early examples of the effectiveness of the CPWF in interactions with our Consortium NARES partners and projects. At another level, the four CPs continue to explore collaborative opportunities; the three that were underway in 2004 shared activities, including workshops on intellectual property and phenotypes for stress tolerance. The CPWF also participated in workshops and knowledge management projects of the ICT-KM program of the CGIAR and is developing initiatives in knowledge management. In order to share our research results and related data as global public goods, the CPWF continues to support the development of the Integrated Data and Information System (IDIS).

Communications

The CPWF community is appreciative of our efforts to keep them informed, with very positive feedback received on the CPWF monthly newsletter. The distribution list is growing fast (presently 1,400). Hard and soft copies are distributed. We also actively seek opportunities to reach the wider public at events organised by the CPWF and others. Press conferences were held to launch the CPWF in several basins: in Johannesburg to announce the CPWF to the South African media, in conjunction with our project leaders' meeting; in Colombia in association with an international seminar organised by CONDESAN; in Bangkok for the Mekong basin; in the Volta with the presence of three Ghanaian ministers; and with EMBRAPA, Brazil for the Sao Francisco Basin. Three CPWF basins organised sessions at the Stockholm Water Week – Andean, Indo-Gangetic, and Yellow River - while our media coordinator organised press coverage. A second CPWF video was prepared that includes footage on projects in the field. In the spirit of broad partnerships and support to our NARES and CGIAR colleagues, we co-supported a proposal writing

workshop in Pretoria in November. While our theme leaders and basin coordinators represented the CPWF at many international events, the program œordinator and others also 'presented and represented' the program in diverse international meetings, including the Congress of the International Federation of Agricultural Producers and the meeting of IARCs with USAID Scientific Liaison Officers. Our communications coordinator also ensured a steady supply of high demand caps and T shirts, updated brochures, posters and other written materials for display booths at various events.

We also appeared in print for another very positive reason – a formal statement released by the White House appeared on their web page as part of the G8 action plan for sub-Saharan Africa. Special reference was made to the need to 'encourage CGIAR to increase its efforts in Africa, and increase funding for the Challenge Program on Water and Food and those others which benefit Africa'. A second important endorsement was reported in "The Economist" (and elsewhere) in June; thanks to the work of the CSC Chair as chapter author in the area of water and sanitation, 'research on water productivity' was ranked as a good opportunity for investment in development by the Copenhagen Consensus. This was particularly remarkable since it was the only research opportunity included in the 17 that the panel of Nobel economics laureates reviewed.

Process

At its meeting in March 2004, the CSC decided to meet in person once per year, and otherwise virtually, to keep transaction costs down and to respond at moments when strategic and policy decisions are needed. An analysis of its own operation by the CPWF management team (CPMT) concluded that, while a large, inclusive CPMT had served the CPWF well during the early Program stages, theme leaders and basin coordinators now spent too much time on administration and not enough on their scientific role. The part time appointment of some CPMT members also restricted their timely responsiveness; and there were difficulties in reconciling their own theme and basin mandates and the broad benefits and needs of the CPWF as a whole. A streamlined management structure was therefore approved by the CSC in March 2005. Theme Leaders and Basin Coordinators now interact as working groups with an increased technical focus.

Lessons learnt

Attached (Annex 1), because we consider them still highly relevant, are "lessons learnt" compiled from a mid year consultation with all CPMT members. An additional important lesson to come out of our Science Council interactions is a need to understand how results from basins link into international public goods, including the perspective of advanced research institutes. As mentioned earlier, this has been a critical motivation in the design of "basin focal projects". Lessons on management structure are mentioned above.

Finances

The broad base of funding has moved from seven to eleven agencies and countries in the last year. All of this we consider an important vote of confidence in the CPWF. France, DfID UK, IFAD and IFS join Denmark, Germany, Netherlands, Norway, Sweden, Switzerland and the World Bank. Total funds received were US$9.39m while total expenditures were US$5.82, leaving a balance of US$4.34m taken into 2005.

Annex 1. Lessons learnt (compiled by the CPWF Management team, July 2004)

How to get the best science from a broad CP community

- Our CP may be dealing with many of the same science questions as IARCs have done before, with NARES support. However, the breadth of partnership, and giving more leadership responsibility to non-CG partners, may change the way the science questions are handled.
- A CP with broad partnerships shares research information much sooner than researchers typically would in an IARC, where individual scientists or teams may report to other stakeholders, including their supervisors, at quite a late stage.
- "When new partnerships form, new paradigms, and even science, emerge that could never have been achieved by the individuals alone. It is 'trans-disciplinarity', much more than simply having people of different disciplines working together. Completely unexpected information and understanding have emerged when diverse CPWF participants meet, leaving behind their pre-conceived disciplinary or institutional notions, biases and knowledge" (information from a CPWF project leader).
- It is therefore a strength for the CPWF that it depends partly on the research contributions and proposals that arise unexpectedly from the broad partnership of researchers. The program is and should be partly "open-ended" and we cannot predict exactly which research projects will be funded, or which synthesis research will need doing in the future.
- The Science Council has also adopted an open-ended style in its relationship with the CPs (for example, by adding in May 2004 the requirement that they should submit an MTP in July 2004). We consider it beneficial that both CPWF and Science Council continue to allow for evolution by both in their relationship and the processes it uses.
- In a complex new CP, as much time may need to be spent on process and team building as in definition of the science. This reflects the fact that CPs change the way of doing things among people as much as they change the science.
- Make sure that the information reaches those in the science community as well as others that can produce and use science for development; identify ground-breaking pioneers in research and development and share new knowledge with them.

How to achieve broad partnerships

- Transparency in CP processes helps partnership formation.
- Personal face to face contact is important, especially for interaction where pre-conceived notions are left behind (see third bullet above); communication tools such as a regular newsletter can back this up to help people identify with a community of practice.
- In the specific case of the CPWF, targeting research within specific basins is effective in forming broad, effective institutional partnerships.
- Other suitable methods for the CPWF include partnering with other basin-level initiatives and other international water-related research networks.
- Members of national and international institutions within a CP team can guide each other about the characteristics and needs of other partners.

Building a cross-cultural, cross-institutional management team

- It takes time to consolidate a team that is dispersed and that has representatives from different cultures and institutions. Problems are overcome when there is the will to do it. Patience is required at times.
- Efficiency and inclusiveness in discussion/decision making are potentially conflicting needs. Team members from different institutional and national cultures (even among different IARC staff, for example) may have different expectations about what time investment is valid.
- The investment is, however, worth it because of the greater breadth of understanding achieved.

- In complex inter-institutional teams, it also takes time to define and implement roles and responsibilities.
- Obtaining balance (of disciplinary experience, gender, etc) can be difficult in a group where each institution nominates its own representative (subject only to no-objection by the other members).
- Good coordination and leadership is key for effective team work and realization of goals.
- Discipline and accepted team standards in responding in a timely manner (especially through virtual communication) are difficult areas to achieve.
- Team members mature fast in avoiding conflict of interest between the needs of the management team and those of their institution. However, transparency must also be clear to the outside world.

Designing and running an effective steering committee

- A good Chair is essential.
- Clarity is needed on when to delegate (analysis, decisions, etc) to a management team. The appropriate division of responsibilities among steering committee, management team, secretariat and individual management team members, may change as both the CP and its members mature.
- The participation of all members is important to give broad support and understanding for decisions, even though some members may speak much less than others.
- The frequency of face-to-face meetings can decrease once processes are reliably established; virtual meetings can replace some of them.
- A science advisory committee may be more effective in some guidance and supervision roles than a steering committee.
- In our diverse steering committee, opinions differed about whether sub-committee mechanisms were a suitable process to use.

Designing and running competitive processes

- Competitive processes are very effective in "opening up" the research agenda to new suppliers and stimulating new partnerships.
- They are less effective, if used alone, in covering in a balanced way a large set of priorities, research themes, geographical target areas, types of lead institution, etc. (note also that introduction of any "quota" system effectively limits competition by merit).
- A battery of process tools with different levels of competition, from direct commissioning, through competitive tendering, to open competition, may be required to address research areas with different availability of research providers.
- CGIAR centres may react less favourably to CP competitive processes than other institutions, apparently because of perceptions that (a) the CP funds "ought to be redistributed" among the CG centres or were "diverted" from centre budgets (which is not the case - see below) or (b) because CP administration is perceived as more accessible to protests than donor funding mechanisms would be.
- Need to be absolutely clear about the rules of the game before launching the competition. Cannot afford too many changes when the process has officially started. Indicate what will not be accepted.
- Proposals need to be clearly based on the program priorities and not look for links with those priorities afterwards.
- The results of any peer review processes are likely to be unacceptable to some proponents. The greater the level of specialization of the research proposals and the broader the total range of science covered by the competitive call, the more likely it is that proponents will be dissatisfied.
- Relatively broad priorities may be useful in establishing broad participation in the first call of a CP competitive process; refinement and focusing of priorities, combined with use of a range of selection mechanisms (see above) may be better as the program matures.
- Many researchers, including those in IARCs, are not accustomed to estimating the cost of their research time. In processes that require costed proposals to be presented (competitive or not) accusations of "bureaucracy" may arise because researchers are disconcerted by this need for greater accountability.

Funding and cost

- CPs can offer a reliable selection and management process for specialist proposals (water and food research in our case), thus saving time and investment for individual donors who do not then need to run their own specialist process.
- Individual donor preferences for regions, research themes and approaches can be handled within a broader range of program research priorities, without necessarily running separate calls for each donor. Whatever method is used, consistent rules should be applied in order to ensure transparency.
- Providing a portfolio of approved projects is a useful mechanism to stimulate donor interest and to allow those who prefer to contribute restricted funds to choose projects.
- It is necessary to find an acceptable balance between more modest funding limits per proposal (disadvantage – each proposal is more limited in the breadth of institutional participation it can attempt) and higher funding limits per proposal (disadvantage – fewer proposals can be funded and therefore more groups of proponents may be excluded)
- To keep CP secretariat costs to a minimum, it is particularly important for CPs that CGIAR donor members accept as sufficient for their purposes the reports provided to the CGIAR ExCo.
- The CPWF was able to attract new funding from donors.

Building and managing a complex program

- One of the hypotheses about CPs is that their complexity is a potential virtue worth testing – particularly the benefits of directly linking CGIAR research with a wide range of other institutions.
- The process of building each CP therefore requires time because of this desirable complexity. The CPWF is particularly complex. Each part of our structure - basins, themes and institutional arrangements - is in itself complex.
- In a complex CP, design is iterative and we should be happy to learn from our mistakes
- In a new CP, we need to strike the balance between sufficient simplicity to get started and sufficient complexity so as to experience the special characteristics of a CP.
- Although our CP is complex, we should strive wherever possible to simplify its processes
- Global problems need global scope; yet moving forward on so many broad fronts can be slow and may dilute progress in any one. As yet, there is no clear definition of how this long-term development will proceed.
- On account of the complex social and political issues involved in the process, the time frame and the assumptions for achieving impact should be set realistically.