6 PARTNERSHIPS

6.1 Introduction

IWMI's vision for 2008 is to be a world class knowledge resource center on water, food and environment. IWMI states that it intends doing this through knowledge generation, sharing and brokerage via strategic partnerships with a set of core partners throughout Asia and Africa. The Strategic Plan 2000-2005 explicitly mentions IWMI's intention to work primarily with and through partners. The 2004-2008 Strategy puts further emphasis on the need for a collaborative working style in which partnerships form a key strategy. IWMI's Partnership Strategy (2004), gives a broad outline of why IWMI should partner and also suggests the purpose and scope for partnership in very general terms.

6.2 Partners Met and /or Contacted by the Panel

IWMI's relationships with stakeholders were assessed by the Panel through meetings held by Panel members with senior staff of several agencies, universities, and NGOs in Sri Lanka, India (Hyderabad), and South Africa. The visit to Laos was to the field sites out of Luang Prabang and thus interaction was limited to staff from IRD. Relationships between IWMI and the stakeholders met were varied, with some as in the University of Kelaniya (Sri Lanka) being only one of subcontracting out the project, to ones where staff were seconded to work directly on IWMI projects. The Panel also contacted several CGIAR Heads, bi-lateral and multi-lateral donors and spoke to a wide range of individuals who had been associated with IWMI in the past in various capacities. (See Annex IV for a list of partners/stakeholders met and /or corresponded with).

6.3 Type of Partnerships

The Panel was provided with a short paper which described IWMI's partnership strategy in very general terms. IWMI maintains that it has different sets of partners, each adding value to its work in different ways: partnerships to gain access to cutting –edge research, partnerships to build capacity for water management research in the South, partnerships to gain international influence for results of its research, and partnerships with organizations that can be downstream of IWMI and do more of the extension parts in the research-development continuum. The Panel however was given a listing of partners which highlighted some as key partners and these were simply described as those the Center had "active interaction with". The Panel found it difficult to understand whether this meant in terms of funding, frequency of meeting or some other characteristic, underscoring the fact that IWMI needs to prioritize its list of partners in a systematic way if it is to link it effectively with its partnership strategy. A look at the list given showed 76 NARS partners, 24 NGO partners, 90 academic institutions (both advanced research and universities), 6 multilateral banks and donors[39] and several CGIAR Centers.[40]

[39] Only the Swiss Development Corporation was listed as a donor!! We are assuming that the World Bank, ADB and others are sometimes partners but at other times donors.

[40] The list was not complete hence the above numbers are not accurate but still shows the numbers relative to each other.

6.4 General Perspective

IWMI, by the very broad nature of its current research mission, has expanded its traditional partner base and is now collaborating with a whole host of new partners in the areas of environment, health and sanitation. Its absorption of IBSRAM has also brought in a set of new partners in the areas of soil and land management. While most of these have been strategic, the Panel gathers that some partnerships have been more ad hoc and determined by the nature of the funding arrangements. The Panel particularly commends the partnerships in South Africa that have allowed IWMI an entry into the policy arena and influence into policy guidelines, and with the Ramsar Wetlands Convention, IUCN and the Nature Conservancy as part of the new and developing area of wetland management.[41] Other relatively new key partnerships have been in the area of health and sanitation including collaboration with IRC and the Stockholm Environment Institute. Given that IWMI had very few partners in the period before 2000, the array of current partners is impressive.

6.5 IWMI 's Decentralization and Building of Partnerships in the Regions/Countries

One of the key reasons for IWMI's research decentralization efforts has been to move researchers closer to their field activities and to be able to undertake country/region-specific research and ensure its uptake. The Panel sees this in the Africa program, with some key strategic partnering in Ethiopia, South Africa and Ghana where IWMI has made substantial investments in establishing offices. The India offices in Hyderabad and New Delhi have forged some useful partnerships though many are in a nascent stage, while the Anand office has built on the strong partnerships that already had been established by the Principal Scientist there. Indeed the partnership with the Sri Ratan Tata Trust has been key to some of the impressive work that has been done in India as documented in the CCER of IWMI-Tata Water Policy Research Program (WP94). This partnership is now in its second five year phase (2006-2010). The North-Gujurat Groundwater Initiative and the Central India Initiative are two examples within this overall partnership. The Southeast Asia office which has only recently moved from Bangkok to Penang (with the WorldFish merger) has made a few inroads into making key and strategic partnerships especially with local universities and research institutes.

The Panel feels that IWMI's intentions to decentralize its research operations is a good one and in line with the thinking of donors and others in the research and development arena worldwide. With this strategy IWMI has been able to work in a wide range of countries and within these, with a wide array of national (and regional) partners. This kind of partnering, the Panel feels, has given IWMI the opportunity to define its ground research questions more thoroughly. However the Panel feels that with a few exceptions, there needs to be more effort at developing alliances dedicated to producing upstream knowledge. Indeed the real challenge for a decentralized research structure is to produce IPGs and these can only be done if there are strategic alliances made towards these ends. IWMI has developed partnerships in this respect primarily through networks and programs, where IWMI often represents "tropical ecosystems" (or the South), i.e. the Global Water System Project of IGBP/HDGCP/Diversitas, PUB of IAHS, HELP of UNESCO as well as some partnerships in this category through the CPWF. For basin level results, IWMI has partnerships with several universities through their students. These have worked to varying degrees and not all have produced the intended results.

[41] We heard from several NARS that IWMI scientists have been instrumental in providing inputs into the reform process in South Africa on institutional issues ranging from WUA's to water laws and rights.

The South Africa partnerships as mentioned earlier are significant and strong and are cited here as the Panel was able to witness them first hand. These had the following key elements which made the partnership a positive one: 1) an appreciation by the partners of the senior IWMI staff who had stature and standing in the research field and as a consequence were included in high level agency meetings, in standing committees and for grant proposal screening; 2) an appreciation of specific disciplinary skills (in this case, social science) that IWMI brought to the partnership; 3) an appreciation of IWMI's international standing and perspective that introduced comparative views; 4) the perception that IWMI could be an 'honest broker' in situations that were contentious/sensitive (e.g. with the water allocation reforms); and
5) an appreciation that IWMI was in South Africa for the long haul.

In Hyderabad the interactions with government agencies were very cordial but not as strong though the current Head is working hard to improve the situation. It was noted that some of the NARs were not always fully aware of IWMI's research mandate, and in one situation, actually confused IWMI (the new entrant) with ICRISAT. To make the Regional Office concept work to its fullest, more effort needs to be put into developing key partnerships in country/region. But as remarked by one of the donors, IWMI tends to do better in countries where the agriculture research infrastructure is weaker. This may be the reason why true partnering with the NARS in India is somewhat harder whereas good and effective partnerships with NGOs are more evident.

6.6 Relationship with other CGIAR Centers

The Panel understands that there is a joint ICARDA/IWMI appointment in Central Asia, two WorldFish/IWMI joint appointments in Southeast Asia and another in South Asia. In addition ILRI and IWMI will appoint a joint scientist by the end of 2006. IWMI and IRRI continue to undertake the promising work on wet and dry irrigation. The relationship with WorldFish is an important and unique one and the two centers are beginning to cooperate in support services of HR, ICT and Finance. The Panel comments on this new corporate services structure in Chapter 8.

The IWMI Hyderabad office is situated in the ICRISAT campus. By coming under the ICRISAT umbrella, IWMI is somewhat inured from the rather stringent Government of India rules and regulations and is able to have an office, receive foreign funds and employ staff.

In terms of program collaboration, ICRISAT senior researchers indicated that IWMI could do much more to collaborate and that the current India Head was far more receptive than the last in doing so. They also indicated that the ICRISAT and ILRI collaboration was an especially good one and hoped that IWMI would likewise engage in more joint projects. ICRISAT pointed to the IWMI upstream work (policies/institutions, basin level) and said that useful synergies can be created with ICRISAT's downstream work in the watersheds. The Panel endorses the view of ICRISAT senior management that IWMI, working on upstream issues can more effectively partner with ICRISAT working on downstream issues, to the mutual benefit of both.

The IFPRI-IWMI relationship has been a tenuous one in the recent past. Having started off as two joint appointments (for about three years), with IWMI covering about 25% of the salaries, the appointments have now been terminated. The work – before it encountered problems in expectations from the two Centers, generated some good outputs that were co-published and /or co-attributed by IFPRI and IWMI, most notably the book, Rosegrant, Cai and Cline (2002) *World Water and Food to 2005: Dealing with Scarcity.* The book has been highly acclaimed and also

generated much media attention. The second major joint work involved the Water Impact Model – taking the IFPRI global IMPACT model of world food supply and demand and combining it with the IWMI PODIUM model. IWMI contributed the services of several scientists to work with the IFPRI researchers, with IWMI and IFPRI each responsible for a set of deliverables. Overall it seems that IWMI and IFPRI have their relative strengths (e.g. on the modeling work, IWMI is stronger on the hydrologic side while IFPRI is stronger on the economic models) but so far the collaboration has been difficult and now in fact has ceased.

In discussion the Panel learnt that many of the lessons on joint appointments are common with other CGIAR centers also, especially when such appointments involved very senior staff[42] with a strong public profile identified with one of the centers. This it seems creates problems of attribution and perceived division of labor that lead to discontent from the institution that is perceived to be secondary. It is also evident that now, far from collaboration, the two organizations seem to be in competition e.g. on work in the area of climate change. This is unfortunate because in terms of future collaboration, there seems to be real opportunity for joint work between IWMI and IFPRI in the areas of global water security and food security. There are also some areas in the past where collaboration has paid off – e.g. in water rights issues and gender (under CAPRi for example) and there have been joint events and publications. IFPRI continues to have a critical mass of researchers working in the areas of institutions, policy analysis and economic aspects of water management and it can also contribute to social science methods – all areas that are somewhat weak now at IWMI.

IWMI is actively involved and provides leadership to CGIAR system-wide programs such as the Consortium on Spatial Information, the Strategic Advisory Service on Human Resources (SAS-HR) program, the ICT-KM program, a shared Media position and the Gender and Diversity program.

Other CGIAR DGs interviewed felt that there is a large role and niche for IWMI as the "traditional" agenda of irrigation investment in terms of large public investments appears to be re-surfacing. They reiterated the fact that future development of IWMI – as is the case for many of the CGIAR centers – is to work hard to position itself on a number of limited IPGs in an environment where more and more players are competing. Almost all of them commented on the success IWMI has had in a competitive environment, in more than doubling its size financially.

6.7 IWMI's Other Partners and Stakeholders

Overall the Panel is of the view that some partners work much more closely with IWMI and as such have been able to observe and comment more objectively (and sometimes more critically) on IWMI. Others have an "arms length" approach and in our interviews were only able to give a superficial commentary. Unfortunately some of the bi-lateral donors and several of the government agencies fell into this category. Again, NGO involvement has been varied. Some like COSI in Sri Lanka have taken the lead and provide much of the staff expertise, while others are playing a minor role. Partners like the IUCN in Sri Lanka are keen to have research outcomes that they can use in their "extension" activities and spoke very positively about their collaboration.

[42] The Panel has understood that joint post-docs work more smoothly as they do not have to deal with the identity of the Center but only have to focus on the one project they are associated with.

By and large the NARS we spoke to have a favorable opinion of the Center. The situation in Sri Lanka is unique as the HQ's is situated in Colombo and the high expectations of the local NARS for involvement with IWMI are not always met and recent engagement is certainly not at the level it once was. There is the view that, as in the formative years of the Center, IWMI should be doing more field research in Sri Lanka and also making the effort to translate publications into the local languages. It has been particularly hard for the local government departments/ministries to understand the IPG nature of IWMI's work.

The Panel was struck by the limited nature of communication with the Global Water Partnership which has funding from IWMI, particularly the South Asia Regional Water Partnership which is housed in the IWMI HQ building.[43]

The Panel looked at the CGIAR PM Exercise Stakeholder Perceptions 2006: Center Report and noted that IWMI seemed to perform lower than average on most counts. Particularly striking was the score for fully and meaningfully involving its partners in important decision making and whether IWMI staff are responsive to the needs of partners and clients. In the light of IWMI's regionally decentralized structure, it was also striking that IWMI performed below average on the score for facilitating access of partners to the best available knowledge. The Panel also noted that IWMI was second from the bottom on the percentage of scientific papers per scientist that are published with developing country partners in refereed journals, conference and workshop proceedings in 2005.

In undertaking this review the issue of attribution has sometimes surfaced and it is not always clear how much of the outputs can be attributed to IWMI staff and their research and how much should be given to its partners. According to the Stakeholder Perceptions 2006 survey, IWMI was slightly below the average for the CGIAR Centers in the score for sharing credit for the success of projects with the partners involved.

IRD has a unique relationship with IWMI especially through its Southeast Asia office. IRD scientists have been deputed to work with IWMI in Laos and have taken over much of the role of IBSRAM in the previous era. The Panel was struck by the fact that: 1) IRD scientists and not IWMI staff were the majority of scientists working on the projects; 2) they were reporting to their research divisions in France, and their performance monitoring was also by IRD; 3) their research into land degradation was nothing new or exciting and raised serious methodological questions; and 4) the only social scientist attached to IRD was a post-doc working on a single independent study and social science inputs into the other research work was lacking.

This kind of partnership – as evident with IRD – also brings up serious questions of IWMI building long-term capacity in the region. IWMI is only a five-year player in the region and needs to establish itself as a serious research organization in the region. IWMI has a very able and internationally recognized soil scientist as the Head/SEA – who is also able to manage the IRD relationship well - but he needs staff and resources to help establish IWMI in the region.

In looking at the documentation (Lessons Learnt and Looking Ahead) in relation to the Global Dialogue on Water, Food and Environment, most partners felt that a lot had been achieved but that lots more could have been done. A critical review of the structure for the Dialogue revealed

[43] This applies as well to the Sri Lanka Water Partnership. The GWP Resource Center has more links perhaps because the Coordinator is paid directly by IWMI.

that most partners felt it was too complex and broad and with unclear roles and responsibilities for each partner. Most of the Dialogue partners felt that there was weak ownership of the program as a whole; different visions sometimes in contradiction to each other, added to the problems.

6.8 The CGIAR Challenge Program on Water and Food

IWMI is host to two CGIAR System-Wide Initiatives, both of which have been considered in an earlier section**.** In addition the CGIAR Challenge Program (CPWF) is hosted by IWMI and is an international, multi-institutional research initiative with a strong emphasis on north-south and south-south partnerships.

One of the major queries from partners outside IWMI has been whether there is a clear demarcation between IWMI and the CPWF. IWMI takes the view that there actually is little separation because the research question in System Priority 4, "increasing water productivity" is the same for both IWMI and the CPWF. However one clear difference is that while CPWF addresses the whole research question of how water productivity in agriculture can be increased, IWMI addresses only a select part of that broader question; for example, IWMI does not concern itself with the development of drought resistant varieties.

IWMI believes that it has a clear and well defined niche at the basin scale where it conducts most research. IWMI currently has four benchmark basins and in addition works closely in six of the CPWF's nine basins. In most cases, the IWMI research sites represent only parts of the basin, whereas the CPWF as a whole attempts to bring the results of research together at the basin scale and to monitor impacts of the knowledge generated through the program. The Panel believes this articulation of roles and responsibilities is sensible and should in theory result in complementarities and synergies, and less duplication of effort.[44] The Panel observes however, that IWMI research in other cases extended beyond a sub-basin focus. It also agrees with the comments of the SC that the Center's most recent MTP provides more clarity regarding the linkages between IWMI and the CPWF—although there is still a need to articulate more fully the exact nature of CPWF's links to IWMI's new research framework and theme structure. Whether in fact these synergies actually emerge depends on how effectively IWMI and its partners cooperate. Some partners with whom the Panel spoke felt that the approach to implement research did not always ensure integration at the basin level. This is perhaps why the CPWF launched the Basin Focal Project (BFP) initiative to fill the gaps.

IWMI uses the CPWF as a primary vehicle for working with other partners and CGIAR Centers. These partnerships have been at times difficult. Many partners are not satisfied by the way in which the CPWF calls for and manages the (time consuming) competitive grant process. They have been very critical of the CPWF process and sees that it has been a vehicle for IWMI to get most of the resources and that the changes to the Steering Committee (where the current DG IWMI is the only one from the CGIAR Centers) has worked against it being an open decision making body.[45] Partners the Panel contacted also felt that partnering was too ambitious, creating large transaction costs and inevitably getting too many people involved for whom the CPWF is

[42] However for example, the Panel understands that one of the BFP was developed by a few IWMI scientists with little consultation with others already working in the basin, thereby duplicating efforts. This BFP was further granted to IWMI with apparently no competition and its implementation caused confusion within the two original projects under implementation there.

[45] For example, the very fact that there was an anonymous letter of complaint that provoked an audit.

only a small part of what they do so that they are not as responsive in terms of narrative and financial reporting etc. There have also been a lot of "unfunded mandates" or meetings where project leaders have to attend for which they get no additional funds to cover their travel or time. As a result while the CPWF has resulted in a whole range of new partnerships, perceptions of IWMI and indeed of the CGIAR from these new partnerships have not always been positive. The latest communication from the CPWF Coordinator interrupting contract negotiations on the six winning bids – after people have revised and renegotiated with downstream partners - has now added to the strained relationships.

6.9 Host Country Relationship

The Panel understands that the overall relationship with the Sri Lanka government has had its fair share of difficulties. IWMI has also – wrongly – been the recipient of bad press in recent times. This has had more to do with the political agenda in Sri Lanka rather than with anything of IWMI's making. However the Panel wonders if IWMI management has made sufficient effort to try and redress this situation. The Panel does take note of the tsunami-related work that IWMI undertook to look at contamination of coastal aquifers and commends the support offered at a time of national disaster.

6.10 Training and Capacity Building

The Panel understands that the formal program of capacity building was launched in 2000 and included Policy Roundtables, PhD scholarship programs, NARS partnerships, a postdoctoral fellowship program, a private sector program and workshops.[46] The Capacity Building Program is administered by a Review Committee which meets three times a year for the purpose of reviewing applications for PhD support. The committee also nominates research supervisors for approved PhD students. The Panel questions the composition of the Review Committee and feels that drawing the committee from the Regional Directors does not give it the needed disciplinary breadth. Rather the Panel strongly suggests that a discipline – driven committee made up of the Principal Scientists recommended as the theme leaders (see Chapter 5), be instituted as the Review Committee.

The Center has carried out about 50 workshops per year on average on a wide variety of themes specific to the needs of its partners and its own mission. With the start of the CGIAR Global Food and Agriculture University, IWMI is involved in developing course material for distance learning at the Masters level on irrigation and water management. We note from the documentation given to us that Policy Roundtables have not happened in 2005 and 2006 and wonder if this confirms the Panel's view that less efforts are now being made on the upstream activities.

The Panel gathered from interviews with selected IWMI partners that some of the most important results in capacity building have come from informal relationships between IWMI senior staff and the institutions and networks they work with in the regions. The input of senior social scientists to the water reform process in South Africa is considered to be one such good example. A major priority for IWMI is to partner with the NARS to enable scaling up through targeted institutional capacity development. The general decline in the capacity of the NARS combined with IWMI's spread of institutional partners may have diverted attention from many

[46] These have been identified to be roundtable discussions at the highest possible level, using high-profile internationally known persons. The target is 2-3 per year.

of the NARS. In the materials presented to the Panel, only a few examples of capacity strengthening involving the NARS were noted.

The Panel has noted that in the list of IWMI–associated universities, many are second tier and regional universities. The Panel further observes that there is very little effort to get faculty to come to IWMI on a sabbatical or other short term leave. The Panel feels that the association with PhD students can sometimes work well and points to the example in Ethiopia with Cornell University.[47] However the Panel feels that not all PhD and MSc students get adequate mentoring and are often attached to an IWMI research project with little supervision.

6.11 Knowledge Center

The new thrust in the period under review is the Knowledge Center initiative. According to the Strategic Plan 2004-2008, the Knowledge Center is based on two key stated principles: first that IWMI should be in the knowledge business and second, that IWMI must make impact, performance and service central to its organizational culture.

According to IWMI the following are seen as important: knowledge generation, knowledge sharing, knowledge brokerage and knowledge application. IWMI sees its major role as being in knowledge generation but also intends to make its knowledge and the knowledge of others widely available to the larger public. IWMI also feels that it can help develop research alliances between research organizations in the north and south and develop impact pathways with appropriate partners so that research knowledge can be effectively applied. By doing this IWMI states that it hopes to better position itself along the research to development continuum and strengthen the impact of its research outputs.

In 2005, IWMI supported by the CGIAR's ICT-KM program, initiated a pilot effort to improve the impact of agricultural research development by building communication mechanisms directly into the research process. Ten CPWF and IWMI projects are involved in which project leaders are provided knowledge-sharing training programs to help them incorporate knowledge sharing into the research process.

Within its knowledge brokering role, in 2004-2005 IWMI and ICRISAT helped to broker interactions between researchers and policymakers from India and East Central Africa (ECA) to share India's experiences in agricultural water management. The Government of India has now approved a strategic partnership agreement between the Indian Council of Agricultural Research and the Association for Strengthening Agricultural Research in Eastern and Central Africa to strengthen agricultural and natural resource management research and help in building research capacity in ECA countries. IWMI has also formed alliances with World Vision in the Oilfants Basin to provide research, policy and capacity building support to the Government of South Africa, and is working with a number of NGO's in Asia and Africa such as Catholic Relief Services World Vision and International Development Enterprises to improve and make more productive use of small-scale water supplies.

The Panel has provided its assessment of the Knowledge Center initiative in Chapter 2. The Panel does however note here that IWMI has not done enough to institute a framework for measuring

[47] Since 2001, students from the south amounted to a total of 51 (with 16 being women). There have been three recruitment drives for Post-docs, in 2001, 2003 and 2005. There were 18 post doctoral scientists in 2005 of whom 12 were from the south.

impact and that this was a serious flaw that was flagged by the last review and has still not been adequately addressed.

6.12 Conclusions and Recommendations

The Panel concludes that IWMI has expanded its partner base significantly in its endeavor to be more effective in its new Themes. Much of it also reflects IWMI's desire to position itself correctly in the research-to development-to-extension continuum. With the information made available and the meetings with partners, the Panel feels that IWMI has found boundary partners that complement its own expertise and has worked effectively with them. However the diversity and number of partners has made it harder to manage the relationships and include them fully in priority setting. This may be what is reflected in the low scores in the CGIAR surveys. Clearly not all partnerships have been effective and IWMI researchers would do well to assess where these have not worked.

The Panel concludes that in the first instance IWMI should prioritize its list of key partners and focus on fewer longer term collaborations, as indeed they state is their intention. This is all the more important with foundations and bilateral donors when unrestricted funds are being pursued. The Panel notes that there are certain cases where IWMI has functioned only as a conduit of funding and brings little intellectual input into the partnership but overall, feels that IWMI has sought and brought complementarities to the relationship.

The Panel recommends that IWMI prioritize its list of partners and develop a new partnership strategy that is linked to this list. IWMI must further make its decentralized research structure work in favor of improving relationships with its partners including sharing credit for outputs.

The Panel recommends IWMI make a stronger effort to link up with top-tier universities/research institutes that have a reputation in the water resources area, and develop opportunities for their staff to play an active role in IWMI, including supervising PhD students, mentoring junior staff and assisting in the development of a strengthened research program.

7 GOVERNANCE

7.1 Legal Status

The legal status of IWMI was described in detail in the previous EPMR. Since then several important events occurred but none had an impact on the legal status of the Institute:

- the Sri Lankan parliament ratified the change of the Institute's legal name from IIMI (International Irrigation Management Institute) to IWMI (International Water Management Institute) in August 2000. In practice the Center had already been operating under the new name at the time of the previous EPMR.
- IWMI opened new offices in India (ICRISAT - Hyderabad) – September 2000, South Africa – October 2000, India (Anand) – December 2000, Ghana – April 2001, Thailand – April 2001, Uzbekistan (ICARDA – Tashkent) May 2001, Ethiopia (ILRI – Addis Ababa) – February 2003, Iran – May 2003, and India (New Delhi) – August 2005.
- In 2001 IWMI took over the activities of IBSRAM. While this is commonly referred to as the "merger" of IBSRAM into IWMI (which would have required legal changes) it was a liquidation of IBSRAM by its Board and IWMI took over some of the activities and staff of the defunct IBSRAM and the donors transferred their financial contributions from IBSRAM to IWMI.

7.2 Board size and composition

According to its Charter the IWMI Board is composed of no less than 12 members and no more than 20. The current Board size (including the Director General and one host country representative who are *ex-officio* members) is 12 although a 2001 Board decision, apparently not reversed, states that it should not drop below 13. At large members are elected by the Board for a three year term renewable once. The name, gender, country of origin, area of expertise and period of service of each Board member during the review period are indicated in Table 7.1. Six of the twelve members of the current Board are from the South (i.e. 50% compared to 38% in 2001) and seven of the twelve are women (i.e. 58% vs 15% in 2001); five of these women being from the South. Not only does IWMI's Board clearly have more women and more representatives from the South than it had in 2001, but the proportion of women on its Board is higher than in most organizations, whether in the CGIAR or outside, and three of the Board's five leadership positions are held by women: vice-chair (a rotating position), chair of the Nominating Committee and chair of the Program Committee. The other two leadership positions are held by men: Board Chair (who is also Chair of the Executive and Finance Committee) and Chair of the Audit Committee. The Board Chair is elected by the Board members from within the Board. The current Board chair (formerly the Program Committee Chair for 3 years) started his tenure as Board Chair at the March 2006 Board meeting but was elected to the chairmanship more than a year before its start, thus giving him ample time to prepare for the role.

The composition of the current IWMI Board in terms of main expertise is as follows: irrigation engineering (1) civil engineering (1), sociology (1), soil science/environment (1), environment (1), ground water (1), economics (1), governance/finance (4). While other centers may not have enough Board members versed in managerial, financial and governance matters, the IWMI Board is well equipped in these areas. Several Board members have multidisciplinary experience including some whose governance/finance expertise came from experience on other Boards or in senior managerial positions rather than from their educational background. The IWMI Board also

includes three members who have served on other CGIAR center Boards (CIFOR, CYMMIT, ICARDA) and one who is currently serving on the Board of the WorldFish Center (see below).

The Panel chair and one other Panel member each attended part of the Board's March 2006 meeting and examined current and past Board documents in detail. This March 2006 meeting was held in Penang, the headquarters of the WorldFish Center, at the same time the WorldFish Board was holding one of its own meetings. As part of the cooperation efforts between IWMI and WorldFish, described in chapter 8, the two boards held several common sessions during which they exchanged views and discussed possible areas of cooperation between the two centers, including at the Board level. As a step in that direction, one of the new IWMI Board members is also a member of the WorldFish Board. This person had previously been on the Board of IWMI and therefore knows both organizations well. The IWMI Board discussed further governance collaboration between the two centers, from increasing the number of common board members up to an ultimate full merger of the two boards, but it decided to remain, for the time being, at the current level of more limited governance cooperation. The Panel notes that some donors expressed concern about a possible merger of the two boards.

The Board also discussed recent changes in the Boards of other centers, especially CIMMYT and WorldFish, both of which now have smaller boards and constituted their own science council. WorldFish, in particular, has reduced its board from 12 to 8 members but increased the frequency of its meetings to 4 per year with a correspondingly reduced role of its executive committee. The IWMI Board decided to maintain its size and frequency of meetings which the Panel feels are satisfactory. Nevertheless, the Board established an internal task force on Board restructuring which was scheduled to submit its recommendation to the Board at its October 2006 meeting, while the Panel was finalizing its report.

7.3 Board Member Orientation

The previous EPMR recommended that the Board implement an ongoing Board development program to help it meet its responsibilities for strategic planning, policy formulation and monitoring of performance. The Board sent some of its members to CGIAR-organized training, including a CGIAR Board orientation program. It also invites new Board members to attend a Board meeting as an observer prior to taking office. However, not all new members have attended the CGIAR Board orientation program and there does not seem to be a structured center–specific orientation program although the Nominating Committee, at its November 2005 meeting, suggested that the Board consider setting up such an orientation program. The Panel feels that the intent of the last EPMR's recommendation has not been fulfilled and strongly suggests that, at minimum, it be made mandatory for new members to attend CGIAR orientation (unless the member has served in the CGIAR in some capacity) and Board-specific orientation.

7.4 Board Meetings

The full Board meets twice a year. During the eleven Board meetings held between May 2001 and March 2006 there has never been more than two absentees (six meetings with one absentee and four meetings with two absentees). Six of these 14 absences were by the representative of Pakistan. As part of its policy not to renew Board members whose contributions and performance are not deemed satisfactory by the Board, the Board informed the government of Pakistan that the *ex-officio* position it enjoyed on the Board was abolished.

Like in many Boards, the agenda and discussions of the meeting were heavily influenced by the Director General. Nevertheless, the Panel feels that most Board members did not have any problem expressing their views and opinions forcefully although some board members feel that there is excessive politeness and that honest disagreements are not always encouraged. While the discussions were generally good, the Panel noted that there was at times lack of clarity as to what was decided, what was only suggested and what needed further discussion. Also, items requiring action should clearly indicate a timeline and the person responsible for the action to be undertaken.

7.5 Board Oversight, CCERs

It appears from discussions Panel members had with several Boards members and with the current and previous Board chairs that the Board clearly endorsed all major decisions significantly affecting the Center over the last few years, e.g. the research orientation, the change in themes, the governance and monitoring of the Challenge Program, the major HR change initiatives, the management team restructuring, and the non-renewal of contracts of senior scientists who reached the ten year limit for employment in IWMI (this limit predates the period under review and was also the cause of a significant number of departures in the 1995-2000 period). The Panel reassured itself with the internal auditor that the Board was active in terms of its oversight and governance roles.

In 2004 the Board discussed its fiduciary duties and examined whether it was exercising them in a responsible and best practice manner. To further inform its discussion it requested a background paper on the subject from management. This paper was discussed at the Board's May 2005 meeting. Based on CGIAR guidelines the paper clarifies for the Board what are its fiduciary duties and what are the respective roles of the Executive and Finance Committee, the Audit Committee, the External Auditor and the Internal Auditor. The Panel commends the IWMI Board for wanting to assure itself that it is exercising its fiduciary role properly.

IWMI conducted several CCERs over the review period. Those relating to programs were discussed in previous chapters; the one on HR is discussed in chapter 8. While minutes of Board meetings show that the Board discussed the results of the CCERs, the Board is not the major driver in the definition of a multi-year program of CCERs. The Panel strongly urges the Board to be more active in defining a program of CCERs as a tool for exercising its oversight and in assuring that lessons learned from the CCERs are applied by the Center.

7.6 Board Committees

Boards exercise their oversight in large part through sub-committees focusing on particular aspects of the oversight function. The IWMI Board has constituted several sub-committees similar to those found in other CGIAR boards: Executive and Finance Committee, Nominating Committee, Audit Committee, Program Committee.

The Executive and Finance Committee (EFC) is comprised of the Board Chair (also chair of the EFC), the chairs of the other Board committees, the DG and one or two other members of which one is the host country representative but it also meets as a committee of the whole Board. EFC meetings are scheduled so that, in fact, all members of the Board can attend. The EFC reviews the financial policies and condition of the Center, the budget, personnel policies and legal matters and Board rules and procedures. It also deals with issues arising in-between Board sessions. It

meets formally twice a year in conjunction with Board meetings although its terms of reference mention that it meets "at least twice a year", one of which in conjunction with the full board meeting. The ToRs should be amended to reflect reality. At each of its meetings the EFC reviews the financial situation of IWMI as well as the latest financial projections for the year.

The Nominating Committee (NC) is composed of at least three members who have been on the Board at least two years. The Director General cannot be a member, which is as it should be, but is a resource person who can attend meetings if invited by the Committee. At the March 2006 meeting the three members, all women, felt a need for more gender balance and the Board Chair was added as a fourth member. The NC meets at least once a year in conjunction with full board meetings and more often if needed and it conducts some of its business by mail or electronic communications. The NC strives to submit to the Board at least two names for each Board appointment. It obtains names of potential Board members mostly from recommendations of current Board members, members of the CGIAR, officials of IWMI's host counties, and from a CGIAR Secretariat database; it keeps a running list of persons considered for Board membership in the past. The NC looks at Board vacancies up to six years ahead and pays attention to the impact of these vacancies on the Board's diversity in terms of gender, origin and expertise and it strives to phase the vacancies so as not to have too many new members join at the same time. The NC evaluates the persons proposed for the Board along a set of criteria which were updated in 2004 to include academic or political connections. The NC also recommended that donor representatives should be considered for Board membership. To support their work, committee members receive a set of documentation, which includes detailed minutes from the Committee's previous meeting as well as the NC's Terms of Reference.

The Audit Committee (AC) was created in 2000 following a recommendation of the previous EPMR. It is composed of three members who currently all have governance/management expertise. It meets twice a year in conjunction with Board meetings. The AC is responsible for the oversight of the annual audit of the financial statement, for ensuring the financial integrity of the Center, the existence of adequate accounting, financial and internal control systems; it also ensures that the Center has a Risk Management Framework in place. As explained in Chapter 9 – Finance, the internal audit unit presents its proposed multi-year work program to the AC for endorsement and later approval by the Board. The internal auditor also submits a twice yearly report to the AC which covers, among other things, risk management. Because the joint venture IWMI/WorldFish IRSS is in its implementation phase, the AC is monitoring it as part of its risk management assessment. In view of recent problems in the bidding process of the Challenge Program, the AC should also include it as part of its risk management. As a resource for its own work and oversight, the AC is kept apprised of the Good Practice Notes prepared by the CGIAR's Internal Audit Unit.

The Program Committee (PC) is composed of the DG and at least three other Board members with backgrounds relevant to the IWMI's mandate. In practice, and as is customary in most CGIAR centers, most if not all Board members attend the PC meetings. Theme leaders and researchers are invited to attend the meetings of the PC as appropriate. The role of the PC is to ensure the relevance, suitability and quality of IWMI's research and other activities, the effectiveness of its relations with other partners and beneficiary countries, and the impact of the Institute's activities. In its self-assessment the Board was not entirely satisfied with the effectiveness of its strategic guidance to management on science and programmatic matters. At the meeting the Panel observed, Board members indicated that this was a difficult issue and that few CGIAR Boards have been satisfied with their performance in this area. Management agreed

that it had always been difficult for the PC to "get it right". To try to improve their performance in this area, some centers have opted to create their own science council, composed mostly of outside experts with limited representation of Board members, instead of having a Program Committee. IWMI has decided to keep the traditional PC format but may want to examine the pros and cons of having a center science council.

7.7 Board Support and Documentation

An important factor in a board's effectiveness is the support it gets from management and the quality and timeliness of documents received. In IWMI, the Secretary of the Board used to be the DDG-Operations. Since his departure in 2005, the function has not been performed consistently and the Panel urges management to select someone with sufficient stature to provide this support. With respect to timeliness of documentation, the Board rules are that Board documentation is to be made available on IWMI's intranet at least two weeks prior to the meetings and that the draft minutes of each meeting be sent at most one month after the meeting.

A review covering the last seven Board meetings shows that in half the cases Board documentation was sent less than two weeks in advance and in all but one case the draft minutes were not sent within a month after the meeting (in some cases they were sent up to four months after the meeting). In addition, one Board member commented in the Board self-assessment that Board decisions should be formally documented in the minutes.

The Panel found that the documentation submitted to the Board was generally of good quality, that it was well presented and that it was clear whether the documents were submitted for discussion or for decision making. However, the Board self-assessment indicated that several Board members felt that the documentation provided was only marginally informative for its purposes.

The Panel recommends that informative Board documentation be made available to Board members at the latest two weeks prior to each meeting as per Board rules, in hard copy if members so request, and that draft minutes of the meetings adequately reflect Board decisions and that they be sent at most one month after the meeting.

7.8 Evaluation of the Director General

The evaluation of the DG by the Board did not occur at the meeting the Panel members attended; it occurs at the Board's fall meeting. The evaluation process was changed in 2005. It now includes a face-to-face feedback from the whole Board to the DG in addition to the evaluation meeting the Board Chair conducts with the DG. As part of the process the DG does a self-evaluation and a 360 degree feedback exercise is conducted.

7.9 Board self assessment

The Board reviewed its self assessment process in 2005. It asked the head of IWMI's Program Office to make suggestions based on best practice for board self assessments and on current practice in the CGIAR. As a result, the Board decided to conduct one type of self assessment annually prior to its November meetings and another form of self assessment every other year or when there is a major change (i.e. new DG or Board Chair). The Panel reviewed the results of the

self assessment conducted at the November 2005 meeting. Eight of twelve Board members responded. The key areas that need Board attention are:

- ***the Board's effectiveness in giving strategic guidance on science and program policies;***
- ***the Board's knowledge of strengths and weaknesses of major programs;***
- ***the Board's discussion of the annual budget and the allocation of IWMI's resources.***

It is worth noting that on half the questions asked, at least some Board members were somewhat dissatisfied or neutral, the scale being: very satisfied / satisfied / somewhat satisfied / neutral / somewhat dissatisfied. This indicates that there is room for improvement in Board effectiveness.

The Panel recognizes that the tendency in other organizations may be for their Boards to move away from excessive program involvement and more towards governance, but, given its earlier findings with respect to the Center's vision, mission, strategy, conceptual framework, priorities and focus, and their application through the Center's research programs, the panel feels that more guidance is needed in these areas.

The Panel recommends that the Board provide more strategic guidance to management on science and programs, that it keep more abreast of the programs' major strengths and weaknesses without getting involved in routine operational matters, and that it use the budget approval process as one tool to influence focus and priorities. The Center should consider the creation of a Center Science Council or Advisory Board along the model used by other CGIAR centers.

In view of the DG's decision to leave IWMI in the next few months, the Board will have to exercise one of its most important role: the selection of a DG. The Panel hopes that its assessment and recommendations will help the Board in defining the profile and key requirements for a new DG.

Table 7.1 MEMBERS OF THE IWMI BOARD OF GOVERNORS , 2001 - 2006

NAME & FIRST YEAR		END TERM	NATIONALITY	EXPERTISE	GENDER	TYPE OF MEMBER	2001	2002	2003	2004	2005	2006
Dr. Shahrizaila Abdullah	1/1/1997	31/12/2001	Malaysia	Civil Engineering	M	Board	PC					
Dr. Benoit Lesaffire	1/1/1996	31/12/2001	France	Water Supplies	M	CGIAR	PC, EFC, AC					
Dr. Toru Mase	1/1/1996	31/12/2001	Japan	Irrigation Engineering	M	Board	PC, NC					
Dr. Klaas Jan Beek	1/1/1997	31/12/2002	Netherlands	Social Science	M	Board	C, C-EFC	C, C-EFC				
Dr. Mona El-Kady	1/1/1997	31/12/2002	Egypt	Civil Engineering	F	CGIAR	C-NC, PC, EFC	C-NC, PC, EFC				
Dr. Eugene Terry	1/1/1997	31/12/2002	Sierra Leone	Plant Pathology	M	CGIAR	PC, NC	PC				
Dr. Walter Huppert	1/1/1999	31/12/2004	Germany	Engineering	M	Board	PC	PC, EFC	PC, EFC	PC, NC		
Ms. Joan Joshi	1/1/2000	31/12/2002	USA	Intl Management	F	Board	AC, NC	AC, NC	C-NC, AC	C-NC, EFC, AC		
Mr. Remo Gautschi	1/1/1999	31/12/2004	Switzerland	Civil Engineering	M	Board	VC, VC-AC, EFC, NC	VC, C-AC, NC, EFC	C, C-EFC	C, C-EFC, PC	C, C-EFC, PC	
Dr. Asger Kej**	1/1/1997 1/1/2006	31/12/2002 31/12/2008	Denmark	Governance/ Finance	M	Board	C-PC, EFC	C-PC, EFC				PC
Appointee of Govt. of Pakistan ***	8/10/2001		Pakistan (HC)		M	Pakistan	PC	PC	PC	PC	PC	PC
Appointee of Govt. of Sri Lanka	1/8/2000		Sri Lanka (HC)		M	Sri Lanka	PC	PC	PC, EFC	PC	PC	PC
Director General (incumbent Prof. Frank Rijsberman)	1/8/2000	Ex-officio	Netherlands	Civil Engineering	M	*Ex-Officio DG*	PC, EFC	PC, EFC	PC, EFC	PC, EFC	PC, EFC	DG, PC
Prof. Nobumasa Hatcho	1/1/2002	31/12/2007	Japan	Agricultural Engineering	M	Board		PC, EFC	C-PC, EFC	C-PC, EFC	C-PC, EFC	C, C-EFC, PC, NC
Dr. U. Tan-Kim-Yong	1/1/2002	31/12/2007	Thailand	Sociology	F	Board		PC, AC	PC, NC	PC, NC	PC, EFC	VC, VC-EFC, PC

Ms. R. Daba Fall	1/1/2002	31/12/2007	Senegal	Soil Science/ Environment	F	Board		PC, EFC	C-AC, PC, EFC	C-AC, PC	VC, VC-EFC, PC, AC	C-NC, EFC, PC
Ms. Cecilia López M.	1/1/2002	31/12/2007	Colombia	Economics	F	Board			VC, PC NC	EFC, NC	PC, NC	PC, NC
Dr Rivka Kfir	1/1/2003	31/12/2008	South Africa	Governance/ Finance	F	Board			AC	PC, AC	C-AC, EFC, NC	C-PC, EFC, NC
Dr. Akiça Bahri*	1/1/2003	31/12/2005	Tunisia	Engineering	F	Board			PC, NC	VC, VC-EFC, NC	C-NC, EFC, AC	
Dr. Margaret Catley-Carlson	1/1/2004	31/12/2006	Canada	Governance/ Finance	F	Board					PC, AC	PC, EFC, AC
Dr. Sunita Narain	1/1/2005	31/12/2007	India	Environment	F	Board					PC	PC
Dr. Fatma Attia	1/1/2006	31/12/2008	Egypt	Groundwater	F	Board						PC
Dr. John Skerritt	1/1/2006	31/12/2008	Australia	Governance/ Finance	M	Board						C-AC, EFC

C - Chair
VC - Vice Chair
EFC - Executive & Finance Committee
PC - Program Committee
NC - Nominating Committee
HC - Host Country

Board Composition (Gender) 2006		
Male	Female	Total
5	7	12

Board Composition (Region) 2006						
Asia	Europe	Latin America	North America	Sub-Saharan Africa	WANA	Total
6	2	1	1	2	-	12

**Term ended in 2004 in order to accept a position as IWMI's Regional Director for Africa*
*** Rejoined the Board in 2006*
****Did not attend meetings from November 2002 to 2005*

8 MANAGEMENT AND ADMINISTRATION

8.1 Leadership and Management

Since the last EPMR, IWMI has been led by a strong and dynamic DG. With the support of his board and through his skills as fund raiser and strategist he has steered the organization through a period of significant growth which has led to a more than doubling of its budget. He has been a driving force in the creation of the Comprehensive Assessment and the Challenge Program on Food and Water. For most of the period under review the DG was assisted in its management of the center by a Director of Finance and Administration (promoted to Deputy Director General Operations in January 2004), who oversaw the non-programmatic functions, and a large team composed of the Director Research, the regional directors and theme leaders. Because of its size, this group was not functioning as a real management team and was not as effective as could have been. When the DDG Operations left for IPGRI in September 2005, IWMI was already under discussions with WorldFish with a view of creating a joint support services unit. As a result, the DDG was not replaced and, instead, a joint IWMI/WorldFish position of Director of International Research Support Services (IRSS) was created to supervise the joint services unit (see section 8.5 below) and the financial, human resources and administrative support services remaining in IWMI were placed under a Director Corporate Services.

At present, IWMI does not have a deputy-director position (compared to two such positions at the time of the previous EPMR) and the DG is supported by a reduced management team composed of the Director Research, the three regional directors and the Director Corporate Services (see Table 8.1 for IWMI's Organization Chart). This management team is fairly new but, given its reduced size, should have a better chance to evolve into a cohesive team. To help it in that direction the team attended the First Level Leadership Program (see section 8.2.4) as an intact team, for which it should be commended. The Panel is concerned, however, that the low frequency of its meetings (currently about once a month) might be an impediment to its effective functioning. Yet the cohesion and effectiveness of the team will be all the more important since the DG announced, before the main phase of the EPMR, that he would be leaving IWMI within a year. Given the absence of an experienced deputy and the concerns expressed in Chapter 5 – Research Management, and despite the management team's own confidence in this matter, the Panel is concerned about a leadership vacuum should the DG decide to leave sooner rather than later. The fact that the DG continues to be fully in charge of IWMI business while traveling or when on short leave raises the issue of delegation and it is a sign that either there is no one sufficiently groomed to stand in for him or that he doesn't feel confident that any of his direct reports has reached that stage yet. Overall, this raises the question of appropriate and timely succession planning which should be an integral part of forward looking leadership. With regard to the replacement of the DG, the Panel trusts that the Board will deal with the search of a new DG as a matter of urgency.

While the Panel has concerns, expressed earlier in this report, about the scientific direction of the center, it wishes to strongly commend the DG for having brought IWMI to the forefront in the area of Human Resources Management (see section 8.2) by promoting, among other, the One Staff concept, the Regionally Recruited Staff positions, an increased level of diversity, a leadership development program and a new performance management system. He also promoted the use of feedback instruments such as staff surveys, internal client surveys and a 360 degree feedback exercise for all managers. Indeed, the DG has been described, including by

some of his detractors, as a stimulating and challenging driver of change, full of ideas, an exceptionally bright and fast thinker and the 2005 Staff Satisfaction Survey shows a high level of satisfaction with Corporate Leadership and Corporate Culture. The Panel is puzzled, therefore, by the fact that the DG seems, at the same time, to be perceived by many as intimidating if not domineering and as having a hard time dealing with views different of his own. The Panel is concerned that this may create an environment where staff may not feel comfortable expressing themselves freely (while this item is rated fairly positively in the 2005 Staff Satisfaction Survey, it received more negative answers than most, especially from women staff – close to 30% for women researchers).

Over the last few years, and to this day, IWMI has undergone fast-paced change. There is no such thing as a "right" pace of change. It very much depends on the state of the organizations (systems, policies, procedures, delegation, etc.); on the opportunities, threats and challenges it faces; on the profile of its staff (skills, abilities, desire to change, comfort with change, capacity to absorb change); and on the leadership and charisma of its senior management. In view of the fact that a number of staff, including among the decision making group, expressed concern to the Panel about the pace of change in the organization, IWMI management may want to assess whether it has reached a breaking point, whether it is "too much too fast" as one person put it or whether it feels comfortable continuing at the same pace.

8.2 Human Resources Management

External Audit of Human Resources Management (CCER)

In 2001 IWMI commissioned a review by an external consultant "to identify the HR initiatives IWMI needed to take to complement the vision in its Strategic Plan". The consultant found that a number of areas required significant enhancements and that "some of the Institute's past practices fell well short of the expectations of a contemporary research organization". The consultant's 24 recommendations covered major and wide-ranging changes. In 2004 the same consultant conducted an Audit of Human Resources Management on behalf of, and overseen by, the CGIAR Internal Audit Unit. The audit concluded that 22 of the 24 recommendations had been acted upon and the two remaining were not significant in the overall context. In addition to these recommendations, IWMI has taken other important HR-related initiatives. In its report, the consultant stated that IWMI was "probably at the leading edge of the CGIAR practices for managing and developing people". In a recent letter to the Panel, he confirmed that "since 2001 there has been a remarkable transformation" and "[IWMI probably has] a better idea than most of where their problems lie, the scale of those problems, and where they have to concentrate their future efforts."

The panel fully concurs with the report and commends IWMI for this major turnaround. The following list illustrates the extent of changes implemented: the hiring of an expert HR manager; a new competency based job classification system; a new salary structure; a new Personnel Manual; a new reward program; a new leadership development program; a new performance management system; 360 degree feedback for managers; a new HR information system; staff surveys; customer satisfaction surveys; the one-staff concept. The Panel notes that staff satisfaction with HR services increased in the 2006 customer satisfaction survey compared to the 2003 survey (see section 8.3 for more details on customer satisfaction surveys). Positive responses were in the 70% to 90% range.

Table 8.1 IWMI Organization Chart

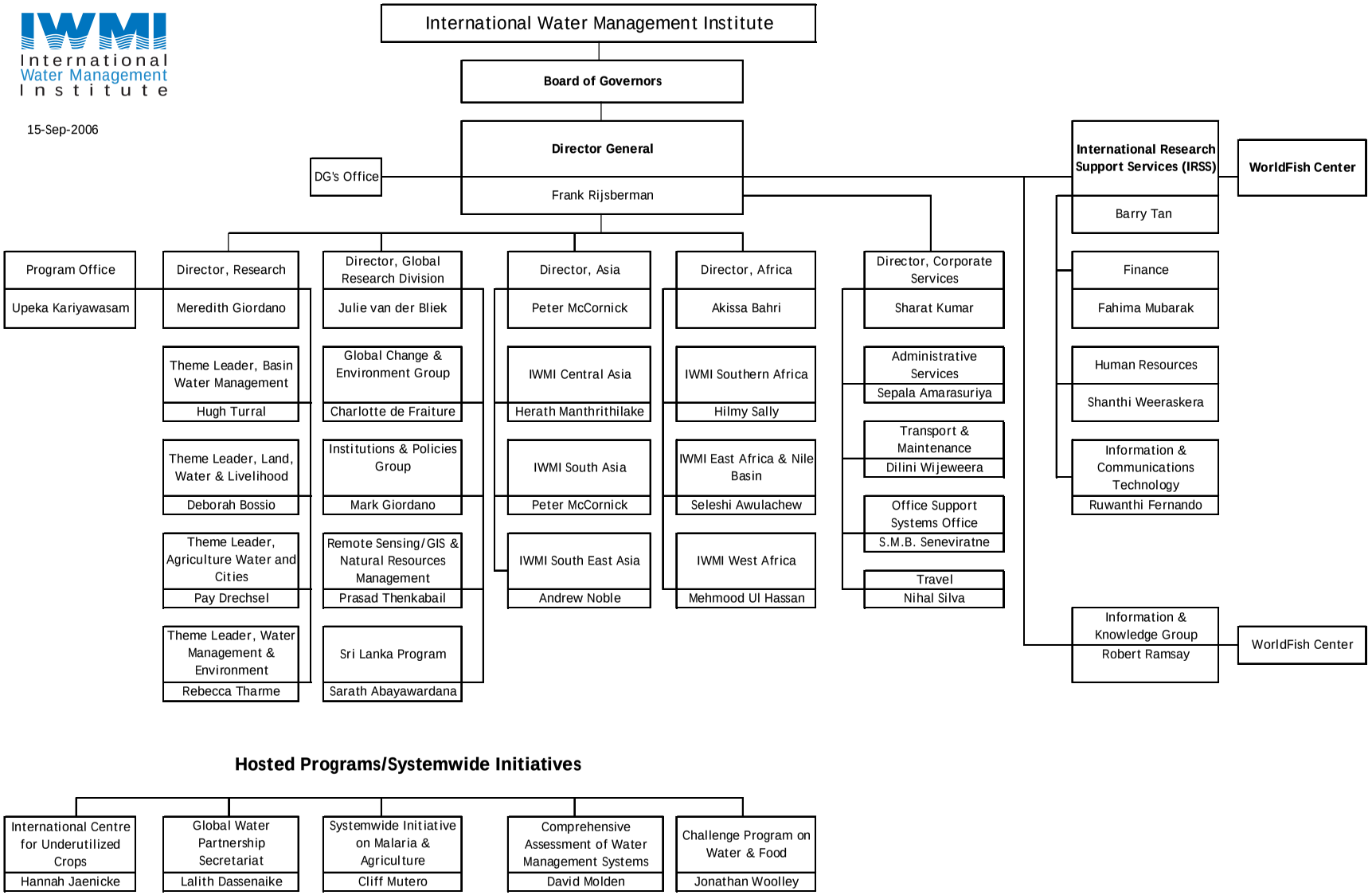

Table 8.2 Summary of Staff Movements - Arrivals and Departures during 2001-2005

Year	Total Staff by Category as of 1 Jan			Total Staff as of Jan	Total Departures during the year by Category & Turnover Rate						Total Departures during the year		Total Arrivals during the year by Category						Total Arrivals during the year		Total Staff by Category as of 31 Dec			Total Staff as of 31 Dec	% Increase over previous year
	Researchers	Research Support	Non Research		Researchers		Research Support		Non Research				Researchers		Research Support		Non Research				Researchers	Research Support	Non Research		
2001	51	61	133	245	12%	6		0	3%	4	4%	10	41%	21	18%	11	18%	24	23%	56	66	72	153	291	19%
2002	66	72	153	291	11%	7	1%	1	3%	5	4%	13	52%	34	39%	28	20%	31	32%	93	93	99	179	371	27%
2003	93	99	179	371	15%	14	20%	20	11%	19	14%	53	14%	13	17%	17	9%	17	13%	47	92	96	177	365	-2%
2004	92	96	177	365	16%	15	27%	26	14%	24	18%	65	15%	14	14%	13	12%	22	13%	49	91	83	175	349	-4%
2005	91	83	175	349	26%	24	23%	19	23%	41	24%	84	36%	33	28%	23	19%	33	26%	89	100	87	167	354	1%

Note: 1) This is an update of Table 5.9 appearing in the previous EPMR report

2) The above captures departures due to all reasons - voluntary departures, non-renewal of fixed term contracts, end of Post-doc contracts, redundancies, retirements, death, etc.

Staffing, Recruitment, Separation

Table 8.2 shows total staffing as well as departures and arrivals by major staff categories and by year from January 2001 to December 2005. Over the period total staff increased by 44%, researchers increased by 96%, research support by 43% and non-research staff by 25%. The increase occurred in 2001 and 2002. Since 2003 total staff decreased by 5%; research support and non-research staff decreased by about 9% but the number of researchers kept increasing by 10%. IRS, not shown on this table, roughly tripled during the whole period. The turnover rate (departures during the year over staff on board at January 1) increased steadily from 4% in 2001 to a high of 24% in 2005; it was low, 4%, during the two years of rapid expansion (2001 and 2002) and then increased significantly. For researchers the turnover rate was fairly steady from 2001 to 2004, between 11% and 16%, but it jumped to 26% in 2005, a level similar to what it was from 1995 to 1998. When excluding Post Docs and fixed term consultants the rate was only 7% in 2005. For research support the turnover rate was non-existent in 2001 and 2002 and then jumped to 20% to 27% over the last three years. For non-research staff there was a steady increase from 3% to 23% over the period. For researchers the turnover rate reflects a combination of the fixed-term nature of their contracts and of the short term presence of many Post Docs. For the other categories of staff the increase in the turnover rate over the last few years reflects a major staff reduction in the Pakistan office and the closure of the Bangkok office on December 31, 2005.

IWMI has filled its positions through a mix of internal promotions, internal and external open competition and headhunting; the latter for positions in the corporate services areas where traditional advertising may not have enticed candidates from the private sector to apply. The Center has organized recruitment drives where 20 to 30 applicants were invited to the Center for a full week of interviews, presentations and induction. In some cases candidates interviewed for one position were offered another one that seemed a better fit with their skills. While this mix of approaches has the advantage of speed and flexibility in filling positions, it runs the risk, when not all positions are filled on a competitive basis, of creating the impression that internal candidates may not be given a fair chance. As discussed earlier in this report, IMWI's determined pursuit of improving its diversity balance (in terms of gender and origin), as suggested by the previous EPMR, has also created the belief among some staff that these factors are taking precedence over skills and experience. It is worth noting that Recruitment was the only item in the 2006 customer satisfaction survey for HR not to have shown any improvement since 2003.

In Chapter 5-Research Management, the Panel highlighted what it felt were serious deficiencies in the overall profile of staff and the need for a systematic and long term staffing strategy. Center management acknowledged the need for a staffing strategy and mentioned that this item was one of its three HR priorities for 2004 and that it was included in the 2005 work program of the CGIAR HR Strategic Advisory Services Program (SAS_HR) in which the Center is a partner. Because of internal problems, SAS-HR failed to deliver on this area of its program in 2005 and 2006 and management has planned the development of a staffing strategy for 2007.

The Panel recommends that the Center prepare a long term staffing strategy immediately after the completion of its next strategic plan.

As already mentioned in this report, IWMI offers its researchers recruited from regional and international markets (IRS) only two year fixed term contracts not renewed beyond 10 years of service. While exceptions to this policy can be requested from the Board, the Panel underlined

the risks it sees with such a policy, i.e. losing institutional memory and the skills and experience brought by high performing senior scientists with significant experience. There is a need to maintain a sufficient cadre of senior experienced scientists.

The Panel recommends that the policy limiting employment at IWMI to ten years be replaced with a policy stating that contracts beyond ten years of employment be subject to an in-depth review by management which would take into account IWMI's long term staffing profile needs and the staff's performance.

This would replace a negative policy (no more than 10 years) with a positive one: high performing scientists who fit IWMI's long term staffing needs can stay beyond 10 years. The Panel notes that in the new joint Personnel Policy Manual shared with WorldFish, both centers will offer three year contracts to their staff. Staff who currently have indefinite contracts (e.g. non-research staff at headquarters in non-temporary positions) will continue to have these contracts.

While the Panel heard that some job candidates decided to accept offers elsewhere because the compensation package was too low, IWMI states that its compensation package is competitive and that it has not lost candidates on that basis. Yet satisfaction with compensation has decreased from the 2003 to the 2005 overall staff satisfaction survey and the level of satisfaction was lowest (and dissatisfaction highest) with staff in the Africa and Asia regions. Men in research support positions seem to be the least satisfied. The level of satisfaction among researchers is about 60% and the level of dissatisfaction about 15%. To retain its competitiveness IWMI conducts comparative salary surveys every other year for NRS staff in the various countries where it operates. For IRS compensation IWMI keeps track of where it stands in comparison to other CGIAR centers but it does not conduct international comparative compensation surveys.

One Staff Concept

One of IWMI's most significant achievements in the area of HR during the period under review has been the implementation of a One Staff concept. Like most other CGIAR centers, IWMI had two sets of policies and practices, one for IRS and one for NRS staff, which created real or perceived inequities, created discontentment among NRS, limited opportunities for NRS staff and made the management of human resources more complicated. The purpose of the One Staff concept was to bridge the gap between the two categories of staff. IWMI created a common set of rules and policies for all staff, one job classification structure, new salary bands (different by location but uniform across employment categories) designed to make equal pay for equal work a reality and more uniform benefits policies. One way to bridge the gap mentioned above was the creation of Regionally Recruited Staff positions. At the beginning of 2006 IWMI had 23 RRS staff (8 researchers, 8 senior researchers and 7 non research staff). Some RRS staff were recruited directly at that level while others were promoted from NRS to RRS. The One Staff concept has undeniably offered increased opportunities for NRS staff and has increased fairness and equity among staff. It should be noted that during the time when these major changes were developed and implemented, the HR function was reporting directly to the DG, thus underlining his direct commitment to these changes. Once the core recommendations were implemented, HR moved back under the DDG Finance and Administration.

Staff Development

To further make the One Staff concept a reality, IWMI made a major effort on staff development. The institute designed its own Leadership Development Program (LDP) geared towards high potential performers, especially women and staff from the South. The LDP is not simply a course but a program extending over a two year period and including skills development courses, development retreats, mentoring by members of the management team, secondments to different activities and close monitoring by the head of HR and the DG. Goals are set for each participant prior to the program and their progress is reviewed over time. Two programs of 12 staff each were conducted so far. A measure of the program's success is that ten of the twelve participants in the first program have been promoted to higher positions.

IWMI also has sent close to 30 managers and supervisors, including its senior management team, to attend the First Level Leadership Development Program. This is a program conducted jointly for six CGIAR centers by the Strategic Advisory Service for HR but led by IWMI's head of HR (recently promoted to Director of Corporate Services). The core module of the program is a five day residential course. Similarly to IWMI's LDP, the program uses various forms of feedback and self awareness instruments.

Apart from these two programs, a training calendar is published annually and placed on the intranet; it is based on the aggregate development needs identified in the individual performance and development plans. On average staff receive three days of training per year. While not insignificant this is still low compared to more progressive organizations which have targets of at least five days per staff per year. Nevertheless, there has been a marked improvement in the level of staff satisfaction with training and development activities from 2003 to 2006.

With regard to promotions, and in order to ensure fairness and equity, IWMI has established a promotion committee which has to approve all proposed promotions. The committee is composed of the DG, the Director of Research and the Director of Corporate Services. To be submitted to the committee promotions have to receive the endorsement of at least three managers. Merit increases, as discussed in the next section, are based on performance.

IWMI's staff development efforts have been received positively and staff are reasonably satisfied with their career opportunities, especially men in research support. Staff are less satisfied with the degree to which their supervisor identifies development needs, especially staff in Africa and women in research and in non-research positions. Some staff commented that more needs to be done now for staff levels below managers and supervisors.

Performance Management

Also as part of the implementation of the One Staff concept, IWMI introduced a new performance appraisal system which is used for all staff categories. It seems to have been accepted without significant or unusual resistance. Its application varies, of course, with the commitment of supervisors but HR has provided supervisors with training and assistance on evaluating performance objectively, giving feedback, and developing individual plans and objectives. Staff's satisfaction on that item, as expressed in the overall staff survey, has improved slightly from 2003 to 2005. In the HR customer satisfaction survey satisfaction increased significantly from 2003 to 2006. The performance appraisal is performed on an annual basis. Apart from being evaluated by their supervisor, staff perform a self appraisal. Detailed

operational objectives are agreed upon and serve as one of the measures of performance for the following year. Areas for improvement are also identified during the performance review process and are aggregated into an IWMI training plan which is made available on the intranet. The system has four performance categories: unsatisfactory, good, superior and excellent. Staff whose performance is classified as Good receive only a structural salary increase but no merit increase. Supervisors are expected to identify unsatisfactory performers and not to put all staff in the top two categories. Aggregate ratings by organizational units (divisions, regions, etc.) are put on the intranet which allows all staff and supervisors to see which supervisors might be excessively lenient and which might be excessively tough. This forces the lenient supervisors to be more realistic in their assessments and the tough supervisors to adjust their possibly excessively high expectations.

At the end of 2004 IWMI conducted its first 360 degree feedback exercise for its then 15 person management team. At the end of 2005 this same exercise was repeated and expanded to all 32 of its managers/supervisors. A new exercise is scheduled to start at the end of 2006. The questionnaire is similar to those used by other CGIAR centers and it is administered by the same outside consulting firm. The feedback is discussed between each manager and his/her supervisor and the results are used as input in the performance appraisal process.

Diversity

The previous two EPMRs suggested that IWMI improve its diversity both in terms of gender and origin. Over the review period IWMI made a conscious effort of recruiting and developing women and staff from the south. As a result, it received in December 2005 a diversity award from the CGIAR's Gender and Diversity Program. IWMI's gender balance among its IRS/RRS staff increased steadily over the recent years, from 23% women in 2002 to 34 % in 2005 compared to an average of 18% for the CGIAR in 2005. IWMI is similarly ahead of the rest of the CGIAR for other staff categories. The percentage of staff from the south among the IRS/RRS researchers has also steadily increased over the past few years. It was 25% in 2002 and 44% in 2005 compared to an average of 51% for the CGIAR as a whole in 2005. IWMI should be commended for its efforts on diversity but at the same time it needs to pay attention to the perception that diversity is taking precedence over competence and experience. IWMI annually submits a report to its Board on gender and diversity issues. See Table 8.3 for a detailed distribution of staff by gender and origin.

In the pursuit of its diversity goals IWMI works closely with the CGIAR's Gender and Diversity program and in November 2004 introduced flexible working arrangements and a spouse employment policy. The latter provides for short term appointments on specialized professional consultancies for spouses/partners of already appointed staff. In a few cases IWMI also has appointed spouses to staff positions when they had the required skills and profile. Since concerns were expressed to the Panel, the Panel suggests that IWMI pay special attention to the proper application of its spouse employment policy so as to avoid the perception of preferential treatment.

Staff Satisfaction Surveys

IWMI conducted its first Staff Satisfaction Survey in October 2003 and a similar one in December 2005. If not the only one, IWMI is certainly among the few CGIAR centers to have done such surveys and should be strongly commended for doing so. Both surveys were conducted by an outside consultant who also provided IWMI with a detailed analysis of the results according to

gender, regional locations and staff categories. The survey had 37 questions organized in 10 different categories (e.g. corporate culture, corporate leadership, relationship with supervisor, compensation, general satisfaction). The 63% response rate for the 2005 survey was lower than in 2003 (69%) but was still high and can be considered representative of staff's views. It is possible that asking for the gender, location and staff category may have discouraged some people from answering for fear of being recognized. Of some concern is the sharp drop in response rate from male staff and the low 37% response rate from staff in the Asia region compared to the 69% response rate from the staff in Sri Lanka. Respondents were asked to rate each question on a 5 point scale from "strongly agree" to "strongly disagree".

Table 8.3 IWMI Diversity at Different Organizational Levels

	Male			**Female**			
Board of Trustees	**North**	**South**	**Sub-total**	**North**	**South**	**Sub-total**	**Total**
	3 27%	**1** 9%	**4** **36%**	**1** 9%	**6** 55%	**7** **64%**	**11** **100%**
Management Team	**2** 33%	**1** 17%	**3** **50%**	**2** 33%	**1** 17%	**3** **50%**	**6** **100%**
Researchers	**32** 27%	**50** 42%	**82** **69%**	**23** 19%	**13** 11%	**36** **31%**	**118** **100%**
Breakup of Researchers							
Principal Researcher - I	11	7	**18**	4	1	**5**	**23**
Senior Researcher - I	7	7	**14**	5	0	**5**	**19**
Senior Researcher - R	0	6	**6**	0	2	**2**	**8**
Researcher - I	11	5	**16**	7	3	**10**	**26**
Researcher - R	1	3	**4**	1	3	**4**	**8**
Researcher - N	0	16	**16**	0	2	**2**	**18**
AE's/Post Doc's	2	6	**8**	6	2	**8**	**16**
Sub Total	32	50	**82**	23	13	**36**	**118**
Research Support (NRS)	0 0%	57 72%	**57** **72%**	0 0%	22 28%	**22** **28%**	**79** **100%**
Non-Research Staff	0 0%	94 57%	**94** **57%**	4 2%	68 41%	**72** **43%**	**166** **100%**
Breakup of Non Res. Staff							
IRS	0	2	**2**	3	3	**6**	**8**
RRS	0	2	**2**	0	5	**5**	**7**
NRS	0	90	**90**	1	60	**61**	**151**
Sub Total :	0	94	**94**	4	68	**72**	**166**
Total IWMI Staff	32	201	**233**	27	103	**130**	**363**

The overall results are very good. Staff expressed a very high level of general satisfaction (90%); 96% are proud to be a member of the IWMI team; 92 % are satisfied working with IWMI; and 86% would recommend it to others as a good place to work. Of the 37 questions none has less than 54% positive responses and only four have less than 60%. No item has more than 20% negative responses and about half of the items have less than 10% negative responses. However, on some specific items some categories of staff have up to 40% negative responses which means that there remain areas for improvement even though the 2005 results are significantly better than in 2003. The majority of items saw an increase in the level of satisfaction and all items saw a decrease, often significant, in the level of dissatisfaction. The highest rated categories (above 80% positive responses) were: General Satisfaction, Corporate Culture, Relationship with Supervisor and Corporate Leadership. The lowest rated categories (between 10 and 20% negative responses) were: Compensation (the only category to have decreased since 2003), Career Development, Communication, and Quality of Supervision.

Overall there was significant improvement from 2003 to 2006, both in increased satisfaction and decreased dissatisfaction. Nevertheless, IWMI needs to move ahead and understand and work on the fact that women, especially women researchers, had lower levels of satisfaction and higher levels of dissatisfaction on almost all 37 items. IWMI also needs to address the fact that its staff in Africa are significantly less satisfied and more dissatisfied than their peers. In some cases so are the staff in the Asia region.

HR Information System

During the period under review IWMI created its "HR Online" site on its intranet. The site offers an extensive range of HR related information. The systematic posting of rules, policies, procedures, training plans, aggregate performance results, etc, on the site has significantly increased the level of transparency in the area of human resources management.

IWMI is now developing with CIFOR and WorldFish a more elaborate HR system called HR4U. The system is in its final stages of development and should be launched in early 2007. IPGRI, ILRI and ICRAF have expressed interest in using the same system.

Staff Association

The Panel notes that IWMI currently has no functioning staff association to represent staff's interests. In the implementation of its many change projects IWMI management relied on *ad hoc* task forces and committees. While this is a good solution the Panel feels that this does not replace a staff association which could, for example, have a role in the resolution of staff grievances. The Panel urges IWMI management to create the appropriate environment for such an association to emerge and it urges staff to take the initiative in the creation of an association representing them.

8.3 Customer Satisfaction Surveys

In late 2003 and early 2006 IWMI conducted detailed internal customer satisfaction surveys for 10 of its support functions. Staff were asked to rate their level of satisfaction with a number of items specific to each service function, e.g. 9 items for HR and 12 items for Information, Communication and Technology. Despite the number of surveys that each staff was asked to fill the response rates were generally high. Each service unit was provided with an analysis of the responses by region, a comparison of the results between 2003 and 2006, and with suggestions for

improvement. This gave each unit a good indication of how well they were serving their clients in each region and of what they needed to focus on to improve. To the Panel's knowledge no other CGIAR center has conducted such internal customer satisfaction surveys and IWMI should be commended for this effort in improving the quality of its internal services.

8.4 Corporate Services

The Panel could not devote much time to an examination of other corporate services but noted that:

- The Information and Communication Technology unit (ICT) is now part of the joint IWMI-WorldFish International Research Support Services (IRSS). It provides support for *SAP*, HR, eLibrary, ePublishing and other business solutions and deals with network and communications, hardware, software development, helpdesk and ICT strategy. The unit has developed a set of detailed policies and procedures in collaboration with other CGIAR centers (WorldFish, CIMMYT and ICARDA) and is in the process of developing a business continuity plan. The unit's ratings in the 2006 customer satisfaction survey were generally high, mostly in the 80 to 90% range, which represents an improvement over already high results in 2003.
- In the area of procurement, purchases of less than US$1,000 can be made directly by approved managers, purchases from US$1,000 to US$5,000 require two quotations and purchases from US$5,000 to US$25,000 require three quotations. Other purchases require competitive bidding. Major exceptions are computing equipment, for which there is a coordinated policy of buying directly from Hewlett-Packard in Singapore, and vehicles which are bought directly from Toyota Lanka at prices lower than those offered by suppliers on the UN list. IWMI is also harmonizing its purchasing policies and procedures with WorldFish.
- While some services are already outsourced, e.g. cafeteria, travel, janitorial services, IWMI should periodically examine the cost/benefit of outsourcing others, e.g. printing.

8.5 Joint Venture with WorldFish

IWMI and WorldFish have initiated a cooperation that goes further than any other CGIAR centers have done. In 2005 the management of the two centers met to examine areas for possible synergies in corporate services. As a result of their discussions, the two centers prepared a joint venture agreement, which is in the process of being approved by their respective boards, for the creation of an International Research Support Services (IRSS). The agreement was reviewed by legal staff at the World Bank. The IRSS is hosted by IWMI. It does not have separate legal entity. It is headed by a director selected by the Steering Committee. The DGs of IWMI and WorldFish and the director of the IRSS constitute the joint venture's Steering Committee. The IRSS is structured so as to be able in the future to (a) accept other centers as partners and (b) sell its services to other non-CGIAR research organizations. Discussions have been held with ILRI and ICRAF which are also developing their cooperation in the corporate services area.

A well structured business plan explains the objectives of the IRSS, as well as the key success areas, the costs, benefits and risks of such a venture, the proposed structure, and the implementation plan. The IRSS' four objectives are to:

- offer better value through cost effectiveness;
- offer better quality services than the centers could offer on their own;
- develop new and innovative services and delivery tools and mechanisms;

- facilitate synergies between member organizations through alignment of business systems and processes.

The IRSS started with the harmonization of policies and procedures between IWMI and WorldFish in the areas of Finance, HR and Information Technology services. As of this writing staff from the respective units concerned in IWMI and WorldFish physically remained in their location but their reporting relationship has (in the case of IWMI) or will shortly (in the case of WorldFish) switch to the Director of the IRSS. These service units are now operating as service providers to IWMI just as an outsourced service provider would. IWMI has retained one senior staff in HR and one in Finance to be their interface with the IRSS and the managers of the service contract with the IRSS. IWMI's regionally based Finance remain with IWMI for the time being. Whether or not they will join the IRSS at a later point remains to be decided. Service Level Agreements will be signed later between IRSS and IWMI to define the type and level of service expected as well as the performance criteria. One performance criterion would be that future customer satisfaction surveys would show satisfaction levels at least equal to those in the most recent survey.

While the potential benefits of such a joint venture are clear and are stated in the above objectives (possible cost reductions, better services, innovation, synergies), the risks may be less obvious but are well highlighted in the business plan. They could be, for example: a major disruption in service; an added layer to the process; services too far removed from the beneficiaries; the IRSS does not provide the expected benefits; it might be difficult to reconstitute the services in house if the joint venture were dissolved; the IRSS might neglect its current clients for the benefit of other better paying customers; it might increase its costs beyond what IWMI would find cost-effective; IWMI's strategic priorities in these vital areas of Finance, HR and ICT might be ignored; IWMI might not be adequately protected and its liabilities expanded. If the model is cost neutral the joint venture would still be worthwhile if services are improved over what each center could do separately. A careful crafting of the joint agreement and of the service agreements between IWMI and the IRSS and a careful oversight by the two founding partners should limit those risks.

At their March 2006 board meetings held concurrently in Penang, the two centers also started more systematic contacts between their boards (see chapter on Governance for more detail) and they also started a process to increase the programmatic cooperation between the centers. As explained earlier in the report, a group of scientists from both centers met to start a bottom-up effort to identify areas for programmatic cooperation. The IWMI DG mentioned that there was a natural cooperation between the water and fisheries groups in FAO and that a similar cooperation should be possible between IWMI and WorldFish. With respect to communication, information sharing and knowledge management, the two centers are sharing views and experience and have recently hired a staff on a joint position to further develop that aspect of the cooperation. This area of cooperation does not fall under the IRSS.

Should this joint venture model of cooperation succeed, the benefits should be in better systems and higher quality services offered to the participating centers without each of them having to "reinvent the wheel". From a cost perspective, the expected savings might be offset by the creation of additional positions (e.g. the IRSS Director of Corporate Services).

The Panel wishes to commend both centers for their innovative efforts at cooperation within the CGIAR and suggests that IWMI monitor the situation closely during the initial period of

implementation. The Panel understands that the Board has requested a risk analysis from IWMI management.

8.6 Management and Governance of Challenge Program on Water and Food

The Challenge Program on Water and Food (CP) is an unincorporated joint venture of 19 partner organizations which signed a common agreement. IWMI is the leading partner of the CP and hosts its secretariat. The oversight body of the CP is a Steering Committee composed of 19 persons who represent the 19 partner organizations. IWMI, as the lead institution, nominates the coordinator who is appointed by the Steering Committee. The Steering Committee also appoints the 5 CP theme leaders and the 9 basin coordinators. The Steering Committee met twice a year for the first two years but currently meets only once a year although it holds virtual meetings during the year. It approves the work plan and budget. While the Panel did not observe the Steering Committee in action it believes that, by virtue of its size, it cannot offer the degree of guidance, oversight and monitoring similar even to that of CGIAR Center Boards. From what the Panel could observe, the IWMI Board oversees only that part of the CP for which IWMI is the implementing agency but it does not provide oversight of the whole CP. The Panel suggests that, since the CP is an unincorporated joint venture, the IWMI Board should examine its own role and responsibilities in terms of CP oversight especially in view of recent issues raised with respect to the CP's bidding process. It should also examine who is accountable in case of problem since all CP funds transit through IWMI and the extent to which the CP is drawing away time and resources from other activities in IWMI.

The CP is managed by a coordinator supported by a management team which used to be composed of all theme leaders and basin coordinators. The management team is currently composed of only 6 people: the coordinator, a program manager based at IWMI, a representative of the theme leaders, a representative of the basin coordinators, a representative of the North and a representative of the South. The management team runs the CP on a day-to-day basis. The CP operates on a project basis. Project proposals are prepared for which funding is then sought and the management team makes calls for competitive proposals for which various organizations (IWMI, other CGIAR centers, ARIS, NARS, the private sector or various combinations of those) can bid. The management team identifies independent reviewers to review the bids; the names of the potential reviewers are sent to a scientific panel which ratifies the process but not the actual selection.

By contract each implementing organization is responsible for the execution of its part of the project and carries the corresponding liability. IWMI's liability is limited to those projects for which it is the implementing agency. IWMI's liability and financial risk for the projects executed by other organizations is limited. IWMI, however, as the lead agency, carries a reputational risk should anything go wrong in the CP.

An audit of the CP carried out in 2005/2006, and submitted in September 2006, by the CGIAR Internal Auditing Unit made recommendations with respect to the number and skills of CP staff, the follow-up of outstanding annual audited financial statements, the requirements for project audits, the type of contracts with partners, the need for service level agreements with IWMI and/or the IRSS and the CP financial monitoring. While the audit considered the day-to-day CP controls as operating satisfactorily, the Panel is concerned by the limited financial, budgetary and operational reporting within the CP. The audit did not make any recommendation with respect to the CP's bidding process which later became the subject of a complaint by one of the bidders.

Another audit was then commissioned to review the bidding process. While this second audit found no basis for the allegations of conflict of interest and undue influence by IWMI, and while it found many positive attributes in the control environment within the CP, it nevertheless found the controls over the process of awarding competitive grants to be unsatisfactory and made a number of recommendations in that respect, including the cancellation of the first call for bids and the deferment of the second call. These unfortunate circumstances underline the possible financial risks and most certainly the reputational risks carried by IWMI as the lead institution of the CP. This reinforces the Panel's view that the IWMI Board needs to be very diligent in its oversight of IWMI's roles and responsibilities in the CP and it needs to satisfy itself that appropriate monitoring and control policies and procedures are in place.

In terms of budgetary presentation it is not always clear where the IWMI budget ends and where the CP budget starts. The fact that all CP monies flow through IWMI doesn't facilitate matters. Nevertheless, the Panel feels that in all its presentations and documentation, whether budget, staffing, etc., IWMI should always clearly distinguish what is IMWI and what is CP. This will facilitate monitoring and follow-up by management, the Board, donors and the CGIAR. It would also allow for easier comparisons with other CGIAR centers. The Panel understands that there were differing views within the CGIAR as to how centers should report Challenge Program expenditures. For the first few years of the CPWF, IWMI did indeed include the CPWF expenditures in the IWMI financial report (making it harder to distinguish). For the last two years IWMI has reported "non-IWMI CPWF expenditures" in a separate line, and starting with the financial report for 2006 there will be a completely separate financial report for the CPWF and IWMI.

In terms of project identification and implementation, the Panel feels that there is not always a clear differentiation between IWMI projects and CP projects. In fact, some CGIAR Centers and organizations participating in the CP feel that IWMI is using the CP to fund some of its core projects as opposed to IWMI participating in core CP projects. As one interviewee put it, "IWMI tries to pay its researchers with CP money".

While IWMI has undoubtedly been in the forefront of the development of the Water and Food Challenge Program, it needs to more clearly distinguish it from its own programs, it needs to improve the CP's policies, procedures and monitoring systems and in order to maintain good working relations with its partners it needs to avoid being perceived as funding its own programs with CP money.

The Panel understands that an external review of the Challenge Program will be carried out in 2007 and it endorses that decision.

9 FINANCE

9.1 Funding

IWMI's unrestricted and restricted donor funding for the years 2000 to 2005 is shown in Table 9.1. Unrestricted funding as a percentage of total core funding, excluding non IWMI Challenge program, has varied between 32 and 45% over the years 2000 to 2005. While it declined as a percentage of total core funding (from 45% in 2000 to 33% in 2005), it increased in nominal US dollars from US$ 3.9 million in 2000 to US$ 7.9 million in 2005 (an increase of 104%).

On the other hand, restricted funding as a percentage of total funding has varied between 55 and 68% over the years 2000 to 2005. The restricted funding has not only increased by 13% of total donor funding but also increased in nominal US dollars from US$ 4.8 million in 2000 to US$ 16.0 million in 2005 (an increase of 231%).

Overall, donor funding almost tripled during the period under review: from US$ 8.7 million in 2000 to US$ 24.0 million in 2005 (+ 174%). Since 2002 the major donors to IWMI (US$ 1 million or more of combined restricted and unrestricted funds during at least one of the years) were: ADB, Canada, FAO, France, Netherlands, Sweden, Switzerland, United Kingdom, USAID, World Bank.

Table 9.1 Unrestricted and Restricted donor funding trends for 2000 to 2005.(US$ million)

Year	Unrestricted		Restricted Core		Total Core	Of which IWMI CP	Non-IWMI CP	Total IWMI
2000	3.908	45%	4.855	55%	8.763	-	-	8.763
2001	4.887	44%	6.121	56%	11.008	-	-	11.008
2002	6.593	32%	14.310	68%	20.903	.632	-	20.903
2003	6.825	35%	12.759	65%	19.584	2.542	2.588	22.172
2004	7.227	35%	13.712	65%	20.939	1.671	2.106	23.045
2005	7.963	33%	16.075	67%	24.038	1.595	5.603	29.641

9.2 Revenue and Expenditure

IWMI's revenues, which include other revenue in addition to Donor funding, and expenditure for the years 2000 to 2005 are shown in Table 9.2. The Center ended the years with a surplus with the exception of 2003, in which there was a deficit of US$ 0.72 million. The Center had a surplus of US$ 0.74 million and US$ 0.43 million for the years 2004 and 2005 respectively. This was possible because since the beginning of 2005 IWMI had already built in its operating budget US$0.5 million in each year to improve the level of reserve.

Table 9.2. Revenue and Expenditure trend 2000 to 2005

(US$ million)

	2000	2001	2002	2003	2004	2005
Revenue						
Unrestricted	3.908	4.887	6.593	6.825	7.227	7.963
Other revenues*	0.352	0.530	0.186	0.180	0.170	0.455
Sub total	4.260	5.417	6.779	7.005	7.397	8.418
Restricted	4.855	6.121	14.310	12.759	13.712	16.075
Total Revenue	**9.115**	**11.538**	**21.089**	**19.764**	**21.109**	**24.493**
Expenditure						
Unrestricted	3.940	5.322	6.676	7.729	6.657	7.985
Restricted	4.855	6.121	14.310	12.759	13.712	16.075
Total Expenditure	**8.795**	**11.443**	**20.986**	**20.488**	**20.369**	**24.060**
Surplus/(Deficit)	**0.320**	**0.095**	**0.103**	**(0.724)**	**0.740**	**0.433**

**Other revenues include investment income, bank interest, exchange gains and sundry income.*
The above figures exclude non IWMI Challenge program.

9.3 Program and Non-Program Expenditure

IWMI's expenditure showed an increase of 174% which was in line with the increase in donor funding for the period 2000 to 2005. However, the non-program expenditure showed an increase of 38% only (from US$ 2.7m in 2000 to US$ 3.8m in 2005), leaving more funds for program related activities which increased by 216% (from US$ 6.7m in 2000 to US$ 21.2m in 2005). The break down of program and non-program expenditure is shown in Table 9.3.

Table 9.3 Expenditure broken down into program, non-program and total for 2000 to 2005 and Budget 2006. (US$ '000)

OPERATING	2,000	2001	2002	2003	2004	2005	Budget 2006
Program							
Admin Budgets - Base Projects	152	652	465	623	602	258	239
Irrigated Water Management Agriculture (IWMA)	1,225	3,237	2,286	2,487	2,248		
Basin Water Management (BWM) Theme 1						5,156	5,193
Sustain Smallholder Land & Water Mgt. (SSLWMS)	1,562	1,664	1,872	2,417	2,844		
Land, Water and Livelihoods (LWL) Theme 2						3,136	4,606
Sustainable Groundwater Mgt (SGM)	2,046	540	695	748	627		
Agriculture, Water and Cities (AWC) Theme 3						978	1,291
Water Resources Ins. & Policies (WRIP)	1,024	1,980	6,567	2,500	2,419		
Water Management and Environment (WME) Theme 4						1,077	969
Water Health & Environment (WHE)	559	1,210	1,139	1,327	1,340		
Systemwide Initiative on Malaria & Agriculture (SIMA)			493	339	520	420	116
IN-KIND & Cash Grants *						2,722	424
Comprehensive Assessment			1,691	2,689	2,551	1,649	1,420
Dialogue Secretariat			652	558	335	5	-
Other Hosted Activities						113	390
Challenge Program			632	5,130	3,777	7,198	10,409
Less: Non-IWMI Challenge Program				(2,588)	(2,106)	(5,603)	(8,208)
Global Water Partnership			575	517	426	923	736
Regional Office Operational Costs			1,784	1,207	1,477	2,236	3,227
Capacity Building & Training				244	342	314	385
EPMR	163						110
General				350	365	683	480
Sub - Total	**6,731**	**9,283**	**18,851**	**18,548**	**17,767**	**21,265**	**21,787**
Non - Program							
Governing Board	203	247	250	253	319	254	177
Finance and Administration	839	860	1,100	1,001	1,225	1,314	1,642
Office of DG	472	386	451	509	630	565	638
Communications & DR Office	559	508	631	737	670	745	781
General operations	191	195	202	260	261	467	266
Depreciation	488	450	432	465	447	455	550
Sub – Total	**2,752**	**2,646**	**3,066**	**3,225**	**3,552**	**3,800**	**4,054**
Indirect Cost Recovery	(688)	(486)	(931)	(1,285)	(950)	(1,005)	(925)
GRAND TOTAL	**8,795**	**11,443**	**20,986**	**20,488**	**20,369**	**24,060**	**24,916**

** Prior to 2005 these amounts were reported under Sustain Smallholder Land & Water Mgt. (SSLWMS)*

9.4 Expenditure by Natural Classification

IWMI's personnel cost increased by 150% during the period from 2000 to 2005 which is less than the overall increase in expenditure of 174 % for the same period. The personnel cost as a percentage of the total expenditure decreased from 62% in 2000 to 57% in 2005.

Table 9.4 Expenditure by Natural Classification for 2000 to 2005 (US$ '000)

	2000	2001	2002	2003	2004	2005
Personnel Cost	5,458	7,189	10,726	11,672	12,590	13,642
Supplies and Services*	1,935	2,828	8,180	4,117	3,222	4,161
Travel**	914	976	1,648	2,037	2,144	2,002
Collaborations - Partnerships	-	-	-	2,197	1,966	3,763
Depreciation	488	450	432	465	447	492
Total	**8,795**	**11,443**	**20,986**	**20,488**	**20,369**	**24,060**

**Water Dome expenditure of US$ 4.3m included in 2002.*
*** Increase after 2002 are mainly due to IWMI-Challenge Program activities.*

9.5 Resource Allocation by Developing Region (%)

IWMI's percentage resource allocation by developing region is shown in Table 9.5. The proportion going to Sub Saharan Africa grew significantly from 9% to 38 % during the period 2001 to 2005. The allocation for Latin America grew from 5% to 11% and the allocation for West and North Africa grew only by a modest 2%. Asia saw its allocation decrease almost by half, from 80% to 43%.

Table 9.5 IWMI Resource Allocation by Developing Region (%)

Region	2001	2002	2003	2004	2005
Sub-saharan Africa	9%	13%	19%	28%	38%
Asia	80%	76%	70%	63%	43%
Latin-America (LAC)	5%	4%	5%	4%	11%
West Africa and North Africa	6%	6%	6%	5%	8%
TOTAL	100%	100%	100%	100%	100%

Source: CGIAR document for Panel briefing on CGIAR Finance

9.6 Financial Indicators

Long term financial stability is measured by the *adequacy of reserve indicator* (unrestricted net assets less net fixed assets over operating expenses per day). IWMI had an adequacy of reserve indicator of 65 days and 71 days at the end of 2004 and 2005 respectively. This is slightly short of the CGIAR recommended level of 75 to 90 days and well below the CGIAR average of 145 days and 137 days for 2004 and 2005 respectively. IWMI is aware of this situation and beginning in 2005 built in its operating budget an amount of US$0.5 million each year to improve the level of reserve.

Liquidity is measured by the *working capital* (current assets including long term investments less current liabilities over operating expenses per day excluding depreciation). IWMI had a working capital of 91days and 96 days at the end of 2004 and 2005 respectively. This is just within the CGIAR norms of 90 to 120 days and well below the CGIAR average of 170 days and 163 days for 2004 and 2005 respectively.

The *current ratio* (current assets over current liabilities) was 1.46 at the end of 2004 and 2005. This was considerably lower than the healthy current ratio of 2.91 and 2.28 for 2000 and 2001 respectively.

The efficiency of operations is measured by the *indirect cost ratio* (management and general administration expenses over program related expenses; the lower the ratio the better). IWMI's indirect cost ratio was 22% in 2004 and 2005, about the CGIAR average.

9.7 Financial Administration

IWMI's Finance Department had 13 staff in 2005 as against 9 in 2000. This was necessitated by the overall increase in the budgeted expenditure during this period. Its expenditure was US$ 0.22m in 2005 compared to US$ 0.09m in 2000, which was 0.93% of total expenditure in 2005 and 1.00% of total expenditure in 2000. Apart from the headquarter-based Finance function being "outsourced" to the IRSS, as explained in the previous chapter, there has also been a restructuring in the Finance function: some staff were made redundant while others, with a different profile, were hired. Not all IWMI staff understood the rationale for hiring financial staff after others had been let go.

9.8 Budget Planning and Control

The Budget planning exercise for the subsequent year begins in August of the current year. Project leaders, Theme leaders, Regional Directors, Program office, Budget officer, Head of Finance, Research Director and Director General are involved in different stages of the process. The proposed budget is presented to the Board's Executive and Finance Committee for their deliberation and recommendation to the Board for approval. The entire budget planning process is sound and flexible enough to adjust internally at a given point of time to reflect any increase or decrease in actual grant revenue. There are continuous discussions on budgetary control between Program office, Budget office and Project leaders to adhere to restricted Donor grant agreement. The Budget office is also eager to look for scope for improvement while migrating to SAP. The panel commends the entire team involved in the Budget planning exercise at IWMI.

9.9 Financial Accounting and Treasury

Cash flow and investments

IWMI's investments are handled by its Treasury unit in Finance and IWMI's excess funds are placed by its bank in interest bearing investments so as to generate better returns. It is important for management to periodically review cash flow statements because they not only provide the opportunity to better invest the Institute's excess funds but they also allow management to better monitor the status of grant receipts and thus avoid potentially lengthy delays. Hence the panel suggests that an investment committee consisting of DG, Director Corporate Services and Head of Finance meet on a weekly or bimonthly basis to review the cash flow statement as well as the status of donors' grant receivable/payable status. This will enhance the cash position and strengthen donor relations through early and appropriate follow up.

Foreign currency translations

IWMI is following the practice of using the month beginning exchange rate for translating and recording into U.S. Dollars its transactions in other currencies. Even though this is an acceptable practice, it may not be the most beneficial for IWMI, especially for grant receipts which are usually high in value. *The panel suggests* that IWMI record the amount based on actual exchange rate on the date of grant receipt rather than using the month beginning exchange rate.

Staff cost accruals

Staff costs, other than the salary and allowances which are paid out on a monthly basis, are accrued to reflect the actual or estimated cost to be charged to projects/cost centers and create an equal amount as liability. Currently IWMI is accruing staff cost either annually or biannually. *The Panel suggests* that the staff costs be accrued on a monthly basis in order to reflect the true cost of the projects at any given point of time.

Safe keeping of financial data

After IWMI lost substantial accounting data due to hard disk failure in their regional office in Pakistan, the external auditors recommended in 2002 that backup copies of financial data be stored at a location away from the main office at regular intervals so as to avoid data loss in case of a catastrophe. The volume of transactions will determine the frequency at which back up data need to be stored at the offsite location. IWMI's management responded: "*Agreed. Procedures were in place but not adhered to by staff* ". However, at the time of the Panel's visit in June 2006, the backup files of headquarters were not safeguarded at another location. *The Panel urges* the management to take action.

Monthly financial reports

It is essential that the monthly financial reports prepared by the Finance department be accurate, informative and timely so that end users can make meaningful use of the information. It helps the researchers and managers to keep abreast of their project expenditure and to have mistakes rectified quickly. The panel noted that the first financial report covering the period January to April 2006 was sent to users only by the end of May 2006. Some of the researchers the Panel spoke to were very unhappy with this delay and some of them have maintained their own records to keep track of how much they are spending on their projects. This could result in project managers "managing in the dark", making decisions with little, no or inaccurate information. Apart from this specific problem, the 2006 Customer Satisfaction Survey for Finance showed a low (and decreasing compared to 2003) level of satisfaction and a high (and increasing

when compared to 2003) level of dissatisfaction with all items relating to project expenditure reporting. It is expected that the implementation of SAP (at headquarters in 2006 and in the regions in 2007) will resolve this situation since it will essentially provide managers and project leaders with live information.

Contents of Financial reports

The Panel noticed that there is scope for improvement in IWMI's financial reports. The Statement of Expenditure sent to users does not provide for current month budget and year-to-date budget figures for comparison to actual expenditure. The Panel checked that this feature is now provided in SAP. Financial Reports are sent biannually to the Audit Committee and Executive and Finance Committee of the Board. Six months is a long gap to undo the wrong, if any. *The Panel suggests* that the reports be sent to these Board committees on a quarterly basis. This corresponds to a suggestion made by the IWMI Board itself at its May 2001 meeting. The Panel is surprised, therefore, that reports are only sent biannually to the Board.

9.10 Financial System

IWMI uses the EPICOR software package for its financial accounting and reporting functions. There were problems with the current system, including the delay in releasing the first financial report in 2006, and it generated a very high level of dissatisfaction in the 2006 Customer Satisfaction Survey for Finance. To resolve this situation, and as part of moving its Finance function to the IRSS, IWMI was in the process of migrating to SAP at the time of this EPMR review and it adapted WorldFish's financial reports for its own needs. The Panel noticed that the WorldFish's sample report shown (Statement of Center-wide Operating Results) did not have the current month budget and current month actual figures. IWMI is confident that these will be addressed in SAP. IWMI should make sure that the new system is flexible enough to address the add-on information based on user requirements.

9.11 External Auditors

CGIAR Financial Guideline Series No.3 "CGIAR Auditing Guideline" which governs the selection of external auditors for CGIAR Centers strongly recommends that centers should have a formal policy of rotation of external auditors every 5 to 7 years. IWMI has finally adhered to the above Guideline by changing their external auditors to Ernst & Young at the beginning of the 2005 financial year after having Price Waterhouse Coopers (PwC) as external auditor for over fifteen years. The External Auditors conduct the audit in accordance with the International Standards on Auditing. The Board's Audit Committee ensures that accounts and financial statements are properly audited by the External Auditors and reviews and recommends for Board approval the external audit plan and objectives for the subsequent year. The quality of external audit and the communication between the External Auditors and the Audit Committee of the Board were found to be satisfactory.

9.12 Internal Auditors

IWMI has obtained internal audit coverage from a combination of services provided by the CGIAR Internal Audit Unit (IAU) since 2002 and by the local representatives of one of the "Big 4" audit firms. The IAU undertakes the more complex audit assignments requiring a more strategic view, in particular those requiring a good knowledge of the CGIAR System and good practice among the centers, and can draw on various internationally experienced personnel for

these assignments. IAU audits are not limited to financial audits but deal with all issues that impact the center. The local audit firm (KPMG till 2005 and PwC from 2006) provides more cost effective sourcing of routine assurance assignments and those requiring a good knowledge of the local environment.

IAU, in consultation with the DG, prepares a comprehensive work plan and submits it to the Audit Committee of the Board for their deliberation and further approval by the Board. The medium term internal audit plan for 2006-2008 was approved in November 2005. IAU provides periodical status reports to the DG and the Audit Committee on audit work program assigned for the year. The Center's management indicated that it was very well served by the IAU. The Panel confirms that IWMI's internal audit is in the hands of competent professionals at IAU and well supplemented by the local audit firm.

9.13 Outsourcing to International Research Support Services (IRSS)

As described in the previous chapter Management and Administration, IWMI has outsourced its Finance function to the IRSS. This need not be covered in any more detail here.

9.14 Risk Management

IWMI has put in place a well documented Risk Management Policy and Framework. The Framework sets out the methodology for risk analysis across a broad range of internal and external risk categories. Major and Principal risks including foreign exchange risk, IT risk, fraud/embezzlement risk etc., were identified. IWMI's management completed, with facilitation by the CGIAR Internal Audit Unit (IAU), a detailed risk assessment matrix at the Institute level in March 2005. Along with a summary of major and principal risks arising from the analysis, this assessment was shared with the Audit Committee of the Board in order to enable the Audit Committee and management to develop a shared awareness of these risks. This supported the preparation of the Board Statement on Risk Management adopted by the Board at its May 2005 meeting. As part of its monitoring of potential risks for IWMI, the IAU has indicated to the Panel that it will specifically monitor the implications of the outsourcing of IWMI's Finance function to the IRSS.

10 OVERALL ASSESSMENT

10.1 Achievements and Outcomes

Since the 2nd EPMR in 2000, IWMI has undergone a substantial growth in funding and an expansion in its mission. Not only has land been added to its portfolio but its definition of what can be included in water has expanded. IWMI, and especially the Director General, are to be commended for more than doubling the Center's budget and for the substantial increase in research staff, both of which are critical for fulfilling its research mission. In increasing its staff, IWMI has also significantly increased the number of women and the share from the South.

Based on IWMI's past research efforts and the emerging results of the Comprehensive Assessment of Water Management in Agriculture, IWMI is using the water-food-environment nexus as the key to its vision. IWMI has entered into new research areas such as urban and peri-urban agriculture and is looking across the hydrologic-cycle at blue, green and grey water. IWMI has begun to look at multiple water uses and to assess potential trade offs between agricultural productivity, human health and the environment. The Panel commends IWMI for recognizing the need to consider water management in a holistic manner, with the overarching mission to "improve the management of land and water resources for food, livelihoods and nature." IWMI's river basin concept, with some refinement, has turned out to be an important unit of analysis and has grounded much of the field research. During this period, IWMI has also taken major responsibility for the CGIAR Challenge Program of Water and Food, with implications for managing research projects across several benchmark basins.

At the international level IWMI research projects have led to some important outcomes over the last five years. These include the Hyderabad Declaration on Wastewater Use in Agriculture, the revision of WHO Guidelines as influenced by IWMI's work on the safe and productive use of waste water, and the Copenhagen Consuensus in which it was accepted that small scale water technologies for livelihoods, and research on water productivity in food production provide important opportunities for achieving Millenium Development Goals (MDG). IWMI has also become the Fifth International Organization Partner of the Ramsar Convention.

During the period under review, IWMI has substantially increased its regional programs and with it, has shifted nearly 40% of its program and staff to Africa, and 20% to new areas in Asia. Both of these changes are significant and have resulted in some very effective programs and partnerships. The Panel notes with satisfaction that IWMI has kept abreast of other research and development organizations in becoming a globally dispersed organization that is able to respond to regional and global challenges.

As a result of this significant growth and decentralization to the regions, IWMI has been able to work with an array of institutional partners. The Panel noted the efforts of the regional offices in engaging their partners and enhancing synergies at the regional and sub regional levels. At the same time, IWMI has been conscious of the need to make a clear distinction in its activities and in the way they are managed and funded in support of national/downstream activities and those that provide IPGs.

The transformation that has taken place in programs is backed by the impressive managerial changes that have been instituted. With the dynamic leadership of the Director General, IWMI has done a remarkable turnaround in the area of human resources management. From an

institute where, as indicated in the CCER on HR, "past practices fell well short of the expectations of a contemporary research organization", IWMI has moved on to one that is "probably at the leading edge of the CGIAR practices for managing and developing people". Some of the significant changes are the implementation of a One Staff concept, the creation of Regionally Recruited Staff positions, an increased level of diversity, the introduction of a leadership development program and of a new performance management system, the use of feedback instruments such as staff surveys, internal client surveys and 360 degree feedback for all managers.

IWMI has developed an extensive cooperation with the WorldFish Center to a level not yet seen in the CGIAR. This has resulted in a joint venture agreement for the creation of an International Research Support Services (IRSS) to which the two centers are in the process of outsourcing some of their services, (e.g. Human Resources, Finance, and Information and Communication Technology). The IWMI / WorldFish cooperation is now extending to the Board level and to programs. Since the IRSS is a recent creation it is too early to judge how effective this innovative (for the CGIAR) approach to inter-center cooperation will be but the Panel commends the Director General on trying to stay ahead in a competitive research environment.

10.2 Remaining Weaknesses and Future Challenges

The Panel has taken note of the significant and positive changes in IWMI since the last EPMR. The Panel feels that it is opportune now to assess the challenges that face IWMI and suggest ways to move forward. The Panel feels that several priority actions need to be put in motion and these have been summed up in the recommendations of the report.

The Panel feels that IWMI is well served by its holistic and comprehensive approach to water resources management. However, much like the last EPMR, and more so now given the size of the Center today, the Panel is concerned with the breadth of IWMI's expanded mission and vision, and the tendency this has caused for IWMI to overextend itself in areas where it has no comparative advantage. The Panel recognizes the value of the Strategic Plan and the Medium Plan documents but believes that the Center needs a clearly articulated strategy that defines its priorities, and that resources are thereafter applied stringently towards addressing them. IWMI must continue to focus on the critical issues involved, sharply define and prioritize the research questions and thereafter ensure that these are periodically reviewed. In particular, the Panel feels that there is need for clearer delineation of research topics/questions within the themes and their specific application to filling the knowledge gaps.

One of the strong recommendations of the last EPMR was the need for IWMI to adopt a more formal process for priority setting and impact assessment. IWMI has not done enough in this regard. The Panel feels that IWMI must with some urgency address this issue both by hiring dedicated staff and cooperating with other CGIAR Centers in systematic impact assessment.

The Panel has noted the strides made towards interdisciplinary research and especially the ability of IWMI researchers to work at the interstices of the water-food-environment nexus. At the same time, the Panel feels that the rigor required in some disciplines has been diluted. The Panel has also raised the issue of focus and encourages IWMI to address the concern of overstretching with too few researchers in too many regions.

The Panel has concerns about the relatively inexperienced overall staff profile, the absence of a relatively senior second tier management, an absence of a strategic staffing strategy and about a possible leadership void after the departure of the current Director General. The Panel feels strongly that there should be a better staffing balance and that the Center should recruit a Deputy Director General-Research, and senior discipline-based professionals so that IWMI by providing quality research leadership, can solidify its reputation.

The Panel finds that IWMI, starting from a low base in 2000, has increased its publication rate considerably. However, IWMI is still below what other CGIAR Centers have achieved. This is an area that IWMI needs to continue to work on by focusing on publishing more by researcher and in more high quality international journals. IWMI has done a great deal in training and capacity development but it could develop longer-term relationships with some key universities working in the area of water resources.

The Center has an excellent leadership training program that brings staff together across the organization. This appears to have had very positive effects in building the organization's program management skills and general morale. However the Panel has expressed its concerns about the current Management Team and the need for senior discipline-based researchers to elevate its profile.

Partnerships have become increasingly important for IMWI with its new push to become a world class knowledge center. This requires expanded efforts in knowledge sharing, brokering, and application. This would not be possible without shifting sizable parts of IWMI's research budget to this outreach effort while increasing partnering with other organizations to do much of the knowledge extension. The Panel commends the Center for its bold new vision but cautions it against overstepping its primary research mandate.

The last EPMR stated that the Board needed to run a "tighter ship with clear delineation of responsibilities between the Board and Management". It is the Panel's judgment that this has occurred in some areas, particularly with regard to finance. The Panel notes that the Board has done a good job of monitoring HR and other major initiatives suggested by the Director General, but feels that the Board still needs to provide more program oversight, and suggests a Science Council reporting to the Board to improve due diligence.

In conclusion, the Panel believes the scarcity of land and water for food production, particularly water, will increase in the decades to come. IWMI is very well placed to research the many dimensions of global water scarcity by bringing new insights into the broader water-food-environment challenge. The Panel strongly believes the new Director General will have a solid base on which to build.

Annex 1
IWMI 3rd EPMR Panel Composition and Biodata

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EASTER, Kenneth, W. (USA)

Position: Professor, College of Food, Agricultural and Natural Resource Sciences, Department of Applied Economics, University of Minnesota.

Expertise: Resource economics and development, irrigation and water management.

Education: Ph.D. Michigan State University, USA (1966); M.S/B.S., University of California-Davis.

Experience: Dr. Easter has been on the faculty of the University of Minnesota since 1970 and Director of the Center for International Food and Agricultural Policy from July 1999 to June 2003. During 1991-93 he worked with the World Bank and was senior author of their Water Resources Management Policy. He has been a consultant to FAO, USAID, The Ford Foundation and The World Bank. He is a member of the American Agricultural Economics Association, 1961-present; Member of the American Economics Association; member of Association of Environmental and Resource Economists; and Program leader for natural resources and the environment in the Center for International Food and Agricultural Policy, 1987-1991, and 1993-present. He is author of over 200 publications, many of them journal articles and has co-authored, edited, or co-edited 12 books dealing with a range of natural resources and environmental economics issues, but with a focus on water resources. One of his more recent efforts is an edited volume on the Economics of Water Resources: Institutions, Instruments and Policies for Managing Scarcity.

ABEYRATNE, Shyamala (SRI LANKA)

Position: Independent consultant.

Expertise: Rural & agricultural development, water supply & sanitation, irrigation management.

Education: PhD, Development Sociology, Cornell University, USA, 1990; MSc, Development Sociology, Cornell University, 1982; BA (Honors), Sociology, York University, Canada, 1976

Experience Currently Senior Associate, Winrock International, USA and Member of the Board of Governors for Winrock International India and Winrock Philippines. Previous positions: 1999-2003 President, Winrock International India; 1997-99 India Country Director , Winrock International; 1996-97 Consultant Socio-Economist, Hofman Anderson and Partners, Denmark, and Institutional Specialist to the World Bank, COWI Consult, Denmark; 1992-1996 Chief Adviser, Danish Ministry of Foreign Affairs; 1990-92 Monitoring and Evaluation Advisor, Danish Ministry of Foreign Affairs; 1986-1987 Research Fellow, International Irrigation Management Institute, Sri Lanka; and 1976-1986 Research and Training Officer, Agrarian Research and Training Institute, Sri Lanka, Dr Abeyratne has worked in several countries and been a consultant to the World Bank, Cornell University, CIDA, FAO, WHO, ADB and USAID, among others. She is a member of the National Honor Society of Agriculture (Cornell Chapter), USA; Fellow of the India Water Resources society; and Member of the Rural Sociology Association, USA.

BENNETT, Jeff (AUSTRALIA)

Position: Professor, Crawford School of Economics and Government, Australian National University.

Expertise: Environmental Economics, Natural Resource Economics, Agricultural Economics and Applied Micro-Economics.

Education: PhD, Environmental Economics, Australian National University, 1982.; BAgEc (Hons), Agricultural Economics, University of New England, 1976.

Experience: Professor and Director (Environmental Management Program), Crawford School of Economics and Government, Australian National University. Previous positions: Senior Lecturer and subsequently Associate Professor, Department of Economics and Management, The University of New South Wales (ADFA), 1986-2000; Henry Schapper Visiting Fellow, Department of Agricultural and Resource Economics, University of Western Australia, 1999; Visiting Professor, Institut fur Volkswirtschaftlehre, Universitat der Bundeswehr, Munchen, Germany, 1993; Research Officer, Australian Bureau of Agricultural and Resource Economics, 1976-78: project evaluation; Research Assistant, Center for Resource and Environmental Studies, ANU, 1980: Gordon River Scheme Assessment. Science and Information Board member, New South Wales Department of Natural Resources; President of the Australian Agricultural and Resource Economics Society, 2004; pro-bono Director of Wetland Care Australia, 2000-04; and, Principal of the consulting group Environmental & Resource Economics.

MAILLAT, Jean-Yves (FRANCE)

Position: Independent Management Consultant and Executive Coach.

Expertise: Management, management consulting and executive coaching in the international, public, private and non-profit sectors, strategic planning, organization development, executive development.

Education: Master in Business Administration, New-York University, 1972.; Master in Economics, Université de Nancy, France, 1969.

Experience Current position since 2000 - Independent Management Consultant and Executive Coach; Management audit of international agricultural research centers; One-on-One coaching of managers at the World Bank, International Monetary Fund, Inter-American Development Bank, ICRAF and private clients. Between 1983 and 1999 held different positions at the World Bank, Washington DC: Senior Internal Management Consultant; Manager, Internal Management Consulting Unit; Manager, Economics and Sector Training Programs, Manager of a major service unit; Previous positions: Senior Management Consultant with Booz.Allen & Hamilton International based in Algeria and Egypt; Independent Management Consultant working for small and medium size French companies, for Booz.Allen & Hamilton International and for Qatar Petrochemical Company. Co-founder and first manager of a small consumer cooperative, Cofac, France. Participated in project appraisal, supervision and evaluation missions for the World Bank to assess/evaluate the effectiveness of proposed/actual organization structures, policies, systems and procedures of public sector organizations in Burkina Faso, Burundi, Colombia, Egypt, India, Ivory Coast, Kenya, Mauritania, Mexico, Peru, Senegal,Tanzania, Vietnam. Participated in the EPMRs of four CGIAR centers: CIAT, ICRISAT, CIP, WARDA.

WALTER, Michael (USA)

Position: Professor, Biological and Environmental Engineering, Cornell University.

Education: PhD in Water Resource Engineering, University of Wisconsin, Madison.

Expertise: Civil engineering, agricultural engineering, water management.

Experience: A specialist in water management, Walter joined Cornell University in 1974 after completing his graduate studies. His prior experience includes work as a civil engineer for the Bureau of Water Resources of the Illinois Division of Waterways. At Cornell he has served on the Faculty Council of Representatives and the University Council. He teaches hydrology, watershed engineering, and soil and water conservation engineering. Walter is a member of the American Society of Civil Engineers, American Society of Agricultural and Biological Engineers, and the Soil Conservation Society of America. Selected research projects: Non-Point Source Pollution Control for Animal Agriculture , Variable Area Hydrology in NY City Water Supply, Irrigation Support Project for Asia and the Near East ; Hill Area Land and Water Development Project-India); Diversified Cropping-Philippines ; Private Tube Well Development-Pakistan ; Transport Pathways and Fate of Cryptosporidium parrum Oocryps from Infected Dairy Wastes. He has served as the BEE department chair since 1994.

Annex 2
Terms of Reference
for External Program and Management Reviews
of CGIAR Centers

BACKGROUND

Context

The Consultative Group on International Agricultural Research (CGIAR) is an informal association of over 50 members that supports a network of 16 international research centers in agriculture, forestry and fisheries. The CGIAR aims, through its support to the Centers, to contribute to promoting sustainable agriculture for food security in developing countries. Because the Centers constitute the core of the CGIAR, the effectiveness of each Center is crucial to the continued success of the CGIAR (as a System).

Each Center is an autonomous institution operating within the mandate assigned to it by the CGIAR, and is governed by a legally constituted Board that has full fiduciary responsibility for managing the Center. To ensure accountability in an essentially decentralized system, each Center is expected to be responsive to the CGIAR, which provides financial support for its work.

The CGIAR has established a tradition of External Program and Management Reviews (EPMRs) to provide a mechanism of transparency and accountability to the Members and other stakeholders of the CGIAR System. EPMRs are the joint responsibility of SC and the CGIAR Secretariat, and are conducted for each Center approximately every five years. As each Center is autonomous, EPMRs provide a measure of central oversight and serve as an essential component of the CGIAR's accountability system.

Integrated System of Reviews of Each Center

Besides the EPMRs, Center Commissioned External Reviews (CCERs) are undertaken at each Center. These CCERs are commissioned by the Center Boards to periodically assess the quality and effectiveness of particular aspects of a Center's work. The terms of reference (ToRs) for each CCER are determined by the Center, based on broad principles endorsed by the CGIAR at ICW95 (ref. document entitled Improving the Quality and Consistency of CGIAR's External Center Reviews, dated October 24, 1995).

EPMRs complement the CCERs by providing a CGIAR-commissioned and comprehensive external assessment of the Center's program and management, especially its future directions and the quality and relevance of its research. The ToRs for the EPMRs (which update the "standard ToRs" endorsed by the CGIAR at MTM95) are provided below. Guidelines for undertaking the reviews are issued separately.

TERMS OF REFERENCE

Objectives and Scope

EPMRs seek to inform CGIAR members that their investment is sound, or recommend measures to make it so. Members of the CGIAR and other stakeholders can be informed whether the Center is doing its work effectively and efficiently. EPMRs are both retrospective and prospective; and help ensure the Centers' excellence, relevance and continued viability, and the CGIAR System's coherence. Each review is expected to be strategic in orientation and as comprehensive as the situation warrants.

The broad objectives of EPMRs are to: a) provide CGIAR members with an independent and rigorous assessment of the institutional health and contribution of a Center they are supporting; and b) to provide the Center and its collaborators with assessment information that complements or validates their own evaluation efforts, including the CCERs.
The EPMR panel is specifically charged to assess the following:
The Center 's mission, strategy and priorities in the context of the CGIAR's priorities and strategies;
The quality and relevance of the science undertaken, including the effectiveness and potential impact of the Center's completed and ongoing research;
The effectiveness and efficiency of management, including the mechanisms and processes for ensuring quality; and
The accomplishments and impact of the Center's research and related activities.

The topics expected to be covered by the EPMRs are listed below.

TOPICS TO BE COVERED

A. Mission, Strategy and Priorities

The continuing appropriateness of the Center's mission in light of important changes in the Center and its external environment since the previous external review.
The policies, strategies, and priorities of the Center, their coherence with the CGIAR's goals (of poverty alleviation, natural resources management, and sustainable food security), and relevance to beneficiaries, especially rural women.
The appropriateness of the roles of relevant partners in the formulation and implementation of the Center's strategy and priorities, considering alternative sources of supply and the benefits of partnerships with others.

B. Quality and Relevance

The quality and relevance of the science practiced at the Center.
The effectiveness of the Center's processes for planning, priority setting, quality management (e.g. CCERs, peer reviews and other quality and relevance assurance mechanisms), and impact assessment.

C. Effectiveness and Efficiency of Management

The performance of the Center's Board in governing the Center, the effectiveness of leadership throughout the Center, and the suitability of the organization's culture to its mission.
The adequacy of the Center's organizational structure and the mechanisms in place to manage, coordinate and ensure the excellence of the research programs and related activities.
The adequacy of resources (financial, human, physical and information) available and the effectiveness and efficiency of their management.
The effectiveness of the Center's relationships with relevant research partners and other stakeholders of the CGIAR System.

D. Accomplishments and Impact

Recent achievements of the Center in research and other areas.
The effectiveness of the Center's programs in terms of their impact and contribution to the achievement of the mission and goals of the CGIAR.

E. List of Strategic Issues Identified by the Science Council to be Addressed by the 3rd IWMI EPMR Panel as a Supplement to the Standard EPMR ToRs

1. What is the IPG nature of IWMI research? Is there sufficient consideration ex-ante of constraints and options for uptake of the foreseen results of the research?
2. Does IWMI have an appropriate strategic alliance with partners for IPG research? Does the large number of partners give added value to the IPG research? At what cost are the large transaction costs for the partnerships?
3. What strategic changes, if any, should IWMI make to respond to the new System priorities? What areas of research do not fit the Systemwide priorities (i.e. the 20 percent); what research has IWMI forgone in response to the new system priorities?
4. What is the demarcation between the CP water and Food and IWMI programs?
5. Assess where the comparative advantage of the Center lies in the context of the CGIAR System priorities. How has IWMI developed a niche on water issues?
6. Is there an appropriate mix of social versus biological and related sciences considerations? What role does social science have in the research program (e.g. in investigating allocation and access issues, water markets)?
7. How will natural resources and environment be considered and dealt with in the IWMI research agenda? Has IWMI suitably involved other centers such as WorldFish and World Agroforestry in the planning of its research at the catchment and landscape scale?
8. How successful has IWMI been in integrating the International Board for Soil Research and Management (IBSRAM) into its program? To what extent has soil related research been integrated with water research?
9. Does IWMI Board have in place an independent and effective CCER program; how can the IWMI CCER system be improved to streamline the next EPMR?
10. IWMI is implementing a strategy to become an international knowledge Center on water, food and the environment. Is the Knowledge Center approach an appropriate vehicle to re-orient the role of IWMI as an international research center vis-à-vis its partners?
11. In the context of its recent growth and expansion (from US$8.6M (1999) to US$22M (2005), has the Center maintained an appropriate balance between research and other activities (facilitation, coordination, knowledge sharing), between the global and national programs, and between strategic and applied research?
12. Does IWMI's work focus sufficiently on the relationship between poverty, gender and access to water and incorporate these concerns explicitly in research design?
13. How has the Health and Environment Program evolved since the last review? Has the scope been defined appropriately as research on the environment and health topics that are endogenous to irrigation? Has IWMI given high priority to work in the area of irrigation related health issues relating to the provision of safe water for the poor?

Annex 3
Itinerary of the EPMR Panel

Schedule:	6-9 March, 2006:	Bill Easter and Jean Yves Maillat attend the IWMI Board Meeting in Penang, Malaysia (incl. joint sessions with WorldFish Center Board).
	8-15 June, 2006:	Initial phase: entire Panel, including panel consultant, visit IWMI headquarters in Colombo, Sri Lanka.
	16-19 June, 2006:	Bill Easter, Jeff Bennett and Mike Walter visit field sites and IWMI (ICRISAT HQ) office in Hyderabad, India.
	24-26 July, 2006:	Shyamala Abeyratne visits field site and IWMI office in Hyderabad, India.
	29-31 July 2006:	Mike Walter and Shyamala Abeyratne visit field sites and IWMI/IRD office in Luang Phrabang, Laos.
	15-18 Oct. 2006:	Bill Easter, Mike Walter, Shyamala Abeyratne, Jeff Bennett visit field sites and IWMI office in South Africa.
	19-31 Oct. 2006:	Main Phase: entire Panel visited IWMI headquarters in Colombo.

Annex 4
People Contacted/Interviewed by the Panel

Government/Ministry

Sri Lanka

T M Abayawickrama, Secretary, Ministry of Agriculture, Irrigation and Mahaweli Development, Colombo
K A U S Imbulana, Director, Water Resources Division, Ministry of Agriculture, Irrigation and Mahaweli Development, Colombo
J. A. S. A. Jayasinghe, Executive Director, River Basin Planning and Management, Mahaweli Authority
N. C. M. Navaratne, Project Director, Uda Walawa Left Bank Project, Mahaweli Authority
B.M. Samasekera, Director General, Irrigation and Water Management, Dept of Irrigation, Colombo
H. M. Jayatilleke, Director, Irrigation and Water Management, Dept of Irrigation, Colombo
Karunasena Hettiarachchi, Chairman, Central Environmental Authority, Colombo

India

S P Tucker, Principal Secretary to the Govt. of AP, Irrigation and Command Area Development, Hyderabad, A.P.
Sanjay Gupta, Addl. Commissioner, Command Area Development Authority, Ministry of Irrigation, Hyderabad, A.P.
S Narasing Rao, Commissioner, Rural Development, Hyderabad, A.P.
Subba Rao, Secretary, Ministry of Health, Hyderabad, A.P.
Vengala Reddy, Head of Social Development, Andhra Pradesh Urban Services for the Poor (APUSP)
Gayathri Ramachandran, Environment Protection Training and Research Institute, Hyderabad, A.P
R.C. Jain, Superintending Hydrogeologist, Ministry of Water Resources, New Delhi
S.K. Sinha, Sr, Scientist, Ministry of Water Resources, Haryana
Chinmaya Kumar Acharya, Project Mgt Specialist, USAID, New Delhi
S. Chandra, Principal Scientist and Vice President, ISWAM, Indian Ag. Res. Inst., New Delhi
S.K. Kamra, Principal Scientist, ICAR, Central Soil Salinity Research Institute, Haryana
Ashwani Kumar, Director, ICAR, Water Technology Center for Eastern Region, Bhubaneswar

South Africa

Francois Van Der Merwe, Water and Forestry
Ashwin Seetal, Water and Forestry
Barbara Schreiner and staff, Dept of Water Affairs, Pretoria
Gerahard Backberg, Water Research Commission
Sizwe Mkhize, Chief Director: Engineering Services and Resource Management, Dept of Agriculture
R.J. Sebola, Director, Dept of Agriculture
Ashwin Seetal, Director, Water Allocation, Department of Water Affairs
Francois van der Merwe, Senior Specialist Engineer, Department of Water Affairs

NARS

Ratna Reddy, Center for Social and Economic Studies, Hyderabad, A.P.
B Ramamurty, Program Director, Environment Protection and Training Institute, Hyderabad, A.P.
K V Raju, Institute for Economic and Social Change, Bangalore, India

Mishack Molope, Group Executive, Agricultural Research Council, South Africa
Lindiwe Sibanda and Douglas Merrey, FANRPAN, South Africa

Advanced Research Institutes

Alain Pierret, Management of Soil Erosion Consortium, IWMI/IRD Team, Laos
Hoanh Chu Thai, Management of Soil Erosion Consortium, IWMI/IRD Team, Laos
Olga Vigiak, Management of Soil Erosion Consortium, IWMI/IRD Team, Laos
Stefano Farolfi, University of Pretoria/CIRAD, South Africa

Ernest Letsoalo, Rearcher, University of Limpopo (UL)
Graham Jewitt, Associate Professor, University of Kwazulu Natal, South Africa
Jean Marie Fritsch, Professor, Institut de Recherche pour le Development, South Africa
Janitha Liyanage, University of Kelaniya, Sri Lanka
Margreet Zwarteween, Waganingen University, The Netherlands
Henri Vidal, CEMAGREF, France
Patrice Garin, UMR G-EAU, CEMAGREF, France
K. Palanisami, Director, CARDS, Tamil Nadu Agricultural University, Tamil Nadu, India
K.K. Singh, Professor, G.B. Pant University of Agriculture and Technology, Pant Nagar, India
Sylvana Y. Li, Agricultural Research Advisor, USDA, Washington, D.C., USA
Rivka Kfir, Water Research Commission (WRC)
Gerhard Backeberg, Director: Water Utilisation in Agriculture

NGOs

Anshuman Saikia (and staff), Program Coordinator, IUCN, Colombo
Channa Bambaradeniya, IUCN, Colombo
Palitha Jayaweera, COSI, Sri Lanka
Arun Pandhi, IWMI – Sir Ratan Tata Trust Partnership, Gujarat
Kinsuk Mitra, Winrock International, India
Bob Yoder, Consultant, IDE, Colorado (also ex-IWMI staff)
Stephen Mcfarlane, World Vision, South Africa
Kusum Athukorale, Sri Lanka Water Partnership
Niyangoda, Sri Lanka Water Partnerhip
I.P. Abrol, Director, CASA, New Delhi, India

CGIAR Center Staff

Joachim von Braun, DG, IFPRI
Ruth Meinzen-Dick, IFPRI
Mark Rosegrant, IFPRI
Claudia Ringler, IFPRI
Carlos Sere, DG, ILRI
Michael Blummel, ILRI-IWMI collaboration
Steve Hall, DG, WorldFish Center
Patrick Dugan, WorldFish
William Dar, DG ICRISAT
Cynthia Bantilan, ICRISAT
V Balaji, ICRISAT
Barry Shapiro, ICRISAT
Suhas Wani, ICRISAT
Dyno Keatinge, ICRISAT
Jonathan Wooley, Diretor, CPWF
Massoud Shaker, Coordinator, CPWF Limpopo Benchmark Basin Coordinator
Bob Ziegler, DG, IRRI

Dennis Garrity, DG, ICRAF
Brent Swallow, Theme Leader, Principal Scientist, ICRAF
Kanayo Nwanze, DG, WARDA
Mahmoud Sohl, DG, ICARDA
Emile Frison, DG, IPGRI
Joachim Voss, DG, CIAT
Pamela Anderson, DG, CIP
Peter Hartmann, DG, IITA
David Kaimowitz, DG, CIFOR
Masaru Iwanaga, DG, CIMMYT
John Fitzsimon, Head, Internal Audit Unit, CGIAR
Vicki Wilde, Gender & Diversity Program Leader, CGIAR
Manny Lantin, Secretariat, CGIAR
Namita Datta, Governance Adviser, CGIAR Secretariat
Shey Tata, Finance Adviser, CGIAR Secretariat

IWMI Board

Nobusama Hatcho, current Board chair
Remo Gautschi, former Board chair
Rivka Kfir, current Board member
Margaret Catley-Carlson, current Board member
Akiça Bahri, former board member

Ex-IWMI staff

Randy Barker,
Michael Devlin,
Patrick Fuller,
David Governey,
Ania Grobicki,
Initizar Hussein,
Ian Makin,
Douglas Merrey,
Francois Molle,
Hammond Murray-Rust,
Gerry O'Donaghue,
Frits Penning de Vries,
Chris J. Perry,
R. Sakthivadivel,
Chris Scott,
Douglas Vermillion

Donors

Theo Van de Sande, Netherlands
Eija Pehu, Advisor, Agriculture and Rural Development Department, World Bank
Salah Darghouth, Senior Water Advisor, Agriculture and Rural Development, World Bank
Ariel Dinar, World Bank
Preeta Lal, Swiss Development Corporation, India
Sommer, Swiss Development Cooperation

Wouter Arriens, Asian Development Bank, Manila
Robert Bertram, USAID
Scott Bode, Natural Resources Advisor, Office of Environment and Science Policy, USAID
Timothy Miller, USAID
Jean-François Giovannetti, Direction générale de la coopération et du développement, Ministère des Affaires Etrangères, France
Harry Palmier, IRD, France

Other Stakeholders

Carlos Garces, IPTRID, FAO, Rome Italy
Robert Herdt, ex-Rockefeller Foundation
Jack Keller, Utah State University
Mark Svendsen, Consultant, Oregon, USA
Saberwal Vasant, the Ford Foundation, India
Per Pinstrup Andersen, Chair, CGIAR Science Council
Gil Levine, Prof. Emeritus, Cornell University, Ithaca, N.Y. USA
Aasiri Gunasekera, Partner, Ernst & Young, Sri Lanka
Philip Merry, consultant, Philip Merry Consulting Group Pte Ltd, Singapore

Annex 5
List of Documents Reviewed by the Panel

1. ToR and Guidelines for External Program and Management Reviews of CGIAR Centers.
2. Report of the Second External Program and Management Review of ILRI.
3. Summary of actions taken in response to the last EPMR.
4. CGIAR research Priorities 2005-2015.
5. The latest Board-approved Strategic Plan of the Center: Strategic Plan 2004-2008.
1. Medium-Term Plans of the Center for the period of the review.
2. SC commentaries of the Center's Medium-Term Plans.
3. Center Commissioned External Review Reports:
   - CCER of IWMI Theme Agriculture Water Management - Theme 1.
   - CCER of IWMI-Tata Water Policy Research Program.
   - CCER of Human Resources (2001 and update 2004).
   - CCER of IWMI 2003 (Consolidated Report).
   - Africa Regional Office.
   - SE Asia Regional Office.
   - South Asia Regional Office and HQ.
   - CCER of Water Health and Environment.
4. List of achievements/outputs: publications (peer-review and other):
   - IWMI Performance Indicators 2003, 2004 and 2005.
   - IWMI Publications 2000 – 2006.
   - Results and synthesis of IWMI research 1996-2005.
   - Project (Theme) and Systemwide Program Syntheses (research question; project objectives, methods used, brief abstract of key results, outputs, staff).
5. A paper prepared by Center management and Board on:
   - main issues of current concern;
   - vision of clients needs in intermediate (5 years) and long (10 years) term;
   - vision on CGIAR and donor status in intermediate and long term;
   - state of the relevant science in intermediate and long term;
   - plan of action reflecting these vision statements: IWMI Vision Document (March 2006, revised May 2006).
6. Toward a New Visions and Strategy for the CGIAR.
7. New Monitoring and Evaluation System for the CGIAR Centers.
8. Recent EPMR reports of CGIAR Centers.
9. The CGIAR Charter.
10. IWMI Annual Report 2004/2005.
11. The latest annual funding request: funding request for 2006.
12. List of professional staff with short CVs including standard set of information as instructed by the SC Secretariat (publications, key memberships, invited lectures, prizes/awards; students supervised).
13. The current organization chart, with a brief description of the Center's internal management structure, including the composition and terms of reference of each major committee.
14. List of reports of major planning conferences, internal reviews, expert meetings, etc. which have had a major influence on the direction of specific Center programs:
   - Consultative Committee Meeting Minutes: South Africa (4), Iran(1), Sri Lanka (7)
   - Regional Planning Workshops (Africa, Iran, India, Sri Lanka)
   - Annual Research Meeting 2005
15. List of the agreements for cooperative activities with other Centers and institutions.
16. List of ongoing and recently completed contracted projects for Themes.
17. Most recent CGIAR financial guidelines and manual:

18. Reference Guides for CGIAR International Agricultural Research Centers and their Boards of Trustees
19. IWMI Charter and other basic documents establishing the Center:
20. Composition of the Board over the last five years
21. Board handbook:
    - The IWMI Board of Governors
    - Responsibilities of the Board of Governors
    - About IWMI
    - Documents of Governance
    - The CGIAR System
22. IWMI Board Self-Evaluation Questionnaire
23. IWMI DG's feedback instruments (e.g. results of 360 degree feedback)
24. Gender & Diversity Report to the IWMI Board of Trustees
25. Allowances, benefits, and salary ranges for each category of staff
26. Personal data on professional staff
27. Staff turnover
28. List of international staff vacancies
29. Minutes of Board and Board committee meetings since the last External Review
30. Staff Manuals (Personnel Policies for IRS and NRS):
31. Local compensation survey reports: Sri Lanka, Ghana, South Africa, Tashkent)
32. Annual Reports of external auditors for (2000-2005)
33. Most recent internal audit reports
    - CGIAR Internal Audits (2002-2005)
    - IWMI Quality Management System (2002 – 2005)
    - KPMG Ford, Rhodes, Thornton & Co (2000 – 2005)
34. Audit reports of the Challenge Program on Water and Food
35. IWMI Financial Authorization Limits
36. Staff Satisfaction Surveys (2003; 2005)
37. IWMI internal customer satisfaction surveys
38. CGIAR's SAS-HR Good Practice brochures and documents, e.g. "The One Staff Approach, IWMI's Journey"
39. SAS-HR Summary of Work Plan
40. Sri Lanka Program – Results Based Management framework July 2005)
41. International Public Goods and the CGIAR Niche
42. Key Questions for the IWMI EPMR
43. Center Response to list of strategic issues identified by the SC for 3rd IWMI EPMR
44. Key IWMI Partners (2003/2004 list; 2004/2005 list)
45. IWMI Partnership Strategy Document.

Annex 6
2nd IWMI EPMR Recommendations: IWMI's Response and Panel Comments

Recommendation 1: The Panel recommends that IWMI add crop physiology expertise to the IWR program in order to facilitate incorporating or adapting components of complex plant growth models and to communicate better with other institutes that have this expertise.

IWMI's 2000 Response: IWMI agrees with the Panel that crop physiology expertise is essential for a full understanding of crop water productivity. However, this kind of expertise is available in other CGIAR centers as well as universities and research institutes around the world including many of our NARS partners. We do have an excellent crop modeler on our staff. But IWMI has no real comparative advantage in the highly specialized area of crop physiology. Therefore IWMI will respond positively to this recommendation by strengthening our cooperation with interested CGIAR centers, specialized university departments and research institutes, and NARS having crop physiology expertise. We may also use top scientists on regularly scheduled short term assignments as Fellows. The planned workshop on crop water productivity under SWIM later in 2000 will also provide the opportunity to establish these partnerships.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. A SWIM Workshop on water productivity was held and a key reference book on water productivity was produced (Kijne et al., 2003). Crop physiology is a major component in both the Comprehensive Assessment (SWIM2) and the Challenge Program on Water and Food – through the contribution of other CGIAR centers and partners. The Challenge Program on Water and Food mobilizes the crop physiology expertise from other centers (e.g. to develop drought resistant varieties of a range of key crops such as rice, wheat, maize and barley), and IWMI collaborates where relevant.

Panel's Comments: IWMI has adequately addressed the recommendation as per their original response.

Recommendation 2 The Panel recommends that the IWR program should increase its emphasis on the groundwater depletion problem.

IWMI's 2000 Response: IWMI agrees with the recommendation to increase its emphasis on groundwater depletion issues. In fact we are pleased the Panel has highlighted this issue. In mid-1999 the Institute recruited Dr. Tushar Shah, a leading expert in groundwater, to the staff. The Institute is leading a special session on groundwater at the World Water Forum meetings in March 2000, and has during the past year been seeking additional financial support for this work. As part of the priority setting exercise to be carried out later in 2000 we anticipate that groundwater depletion will emerge as a major thrust.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. Groundwater was one of IWMI's major themes from 2000-2005 and IWMI has produced a major body of work on groundwater management. The key reason for this special attention was practical, i.e. to give special attention to groundwater. At the same time it was always felt that as surface and groundwater are inextricably linked, the appropriate approach from a research perspective is a basin-wide approach that encompasses both surface and groundwater. In the latest revision of IWMI's themes, it was felt that by now the management of groundwater had become sufficiently developed that it could be combined into the first theme, Basin Water Management for Agriculture, where all water in the hydrological cycle is included in an integrated approach.

Panel's Comments: IWMI did address this by leading a special session at the WWF in The Hague in 2000, developed a body of literature on groundwater management to raise awareness of this problem. However, the Panel does not believe that "by now the management of groundwater had become sufficient developed" such that it no longer needed special attention. The Panel agrees that groundwater is an intrinsic part of ht hydrologic cycle and needs to be addressed in the context of a basin-wide approach.

Recommendation 3 The Panel recommends that IWMI staff should examine what further role PIM should have, if any, in IMT issues, particularly how much attention should be given to new and emerging problems often associated with IMT, such as equity in access to water, capacity of the private sector to manage water resources, and evaluation of turnover programs and policies that have failed.

IWMI's 2000 Response: IWMI agrees with this recommendation. IWMI does not intend to invest further in irrigation management transfer (IMT) case studies on impacts and processes, of the kind carried out during the late 1980s and early 1990s. However, having built up a corpus of case studies, IWMI does intend to make modest investments in synthesizing the lessons through comparative analysis. Many countries are still designing new management transfer programs despite the pitfalls. IWMI believes that carefully targeted investment in examining programs with innovative approaches, such as private sector involvement in water management, may have high pay-off in terms of both impacts and new knowledge. As the Panel notes, countries which have implemented IMT policies are facing new "second generation" problems. These include inequitable access to water, management capacity and financial viability of local water users' associations, and sustainability of physical infrastructure. Further, "irrigation management transfer" is only a part of a larger package of institutional reforms. These include such questions as: 1) how to design and implement effective river basin management policies and institutions; 2) where do local water management organizations fit into these larger basin-level institutions; 3) how can countries provide a supportive environment for these new local water management institutions and specifically for locally managed irrigation by small farmers; 4) how to encourage productive use of water while also achieving equity in access to water; and 5) how to design and enforce water rights regimes. IWMI will not be able to address all of these issues itself, but will focus on those which are judged to have the highest potential impact.

IWMI's 2006 Updated Response: IWMI has developed a large body of literature, totaling over 250 publications, on Irrigation Management Transfer. The literature ranges from initial assessments of IMT as a method to improve the management of agricultural water resources, to gender analysis and the impact of IMT on poverty, to evaluations and assessments of past IMT experiences and from that related implementation and policy recommendations. IWMI has recently synthesized the impacts of IWMI's past work on IMT. In addition, IWMI maintains a limited capacity on IMT to continue to build on the lessons learned from past IWMI research on IMT, with an active IMT-related project in one sub-region, i.e. the IWRM in the Ferghana Valley project in Central Asia. In other regions IWMI primarily retains a capacity for advice and comparative research on experience with IMT in a variety of settings (through Dr Madar Samad in India and Mehmood ul-Hassan in Ghana).

Panel's Comments: Given the large public investment in irrigation infrastructure that is needed for rehabilitation in Asia and interest in Africa for expansion of irrigation, and the growing dependence on local management of irrigation, IWMI should probably revisit its work on water users associations and opportunities for local irrigation management. This would directly involve policy, institution and management related work and could focus on why some turnover policies have failed.

Recommendation 4 The Panel recommends that IWMI's work on poverty, with special emphasis on its relationship with gender, be pursued in two directions; namely (i) investigating more precisely the

relationship between poverty, gender and access to water and, (ii) incorporating more explicitly poverty and gender concerns in the design and conduct of research activities in programs other than PIM; and consider the implications of research results for the poor.

IWMI's 2000 Response: IWMI agrees with the recommendation. Indeed, the Institute has already made considerable progress in both directions identified by the Panel. For example, with regard to poverty-water linkages, IWMI has recently been exploring these linkages for both large-scale and small-scale irrigation in different agro-ecologies. Two broad patterns seem important: in regions— such as the Ganga-Jumna-Meghna-Brahmputra basin— where 500million of the world's poor live, improving poor women's and men's access to groundwater for irrigation can improve livelihoods significantly. IWMI is initiating work with India's Planning Commission on how best to do this. With regard to incorporating poverty and gender concerns more explicitly, poverty reduction has already become the central concern of research in other IWMI programs in addition to the Policies, Institutions and Management Program. For example, the Irrigation and Water Resources and PIM Programs are collaborating on three donor-supported projects in India and several African countries specifically addressing how poverty can be reduced through small-scale irrigation. A proposed new donor-funded project in 15 Asian countries on "Pro-Poor Irrigation Investments" will also entail collaboration between these two programs. The Applied Information and Modeling Systems Program is helping to developing a poverty-map of South Africa.

IWMI's 2006 Updated Response: Research on water and poverty has been a major component of IWMI's work ever since the 2000 EPMR. Much of this work was concentrated in the ADB-funded project on Pro-poor Irrigation in Asia, completed in 2005. Water and poverty related research has also been mainstreamed in many other IWMI's projects, however, and is the driving force behind Theme 2, that focuses on livelihoods. As of 2005, IWMI has initiated work in several of its benchmark basins (notably the Krishna, Karkheh and Syr Daria) on a new concept developed at IWMI, water poverty mapping. Much of IWMI's poverty research has a special emphasis on gender issues. The former small "gender program" (in essence one researcher with, at times, one or more associate experts) has been mainstreamed, in the sense that rather than doing separate gender studies, the gender researchers play a key role as social scientists with a gender-specialization in IWMI's water and poverty research. The number of social scientists with a gender specialization has increased to one Principal Researcher (Dr B van Koppen, Pretoria), one Researcher (Dr D Joshi, Hyderabad), one Post-Doc (Dr M Ebato, Addis Abbeba) and several more junior researchers and scientists with a "livelihoods" specialization (including gender issues).

Panel's Comments: IWMI has continued its work on poverty with the focus being on developing and refining the concept of water poverty mapping. The ADB Pro-Poor Intervention Strategies in Irrigated Agriculture project was completed in 2005 but several peer reviewed outputs are delayed. The gender work has not been mainstreamed adequately.

Recommendation 5. Given the limited number of professional staff and finances available for achieving the broad mission of the PIM program, the Panel recommends that careful attention be given to planning future PIM activities, based on a more formal, and more transparent, priority setting process.

IWMI's 2000 Response: IWMI is aware of the gap between the limited human and financial resources and the broad mission of the Policies, Institutions and Management (PIM) Program. The Institute agrees with the recommendation that IWMI should pay careful attention to planning future PIM activities following a more formal and transparent process. The latter will be done as part of a broader priority-setting exercise (see the response to Recommendation 9). For most developing countries, getting their policies right and designing and strengthening their institutions to formulate and

implement policy is the crux of the problem they face. The issues are enormously complex and there is an urgent need to strengthen IWMI's effort in this field. Therefore, as part of the planning and priority-setting process, IWMI will explore ways to enhance the capacity of the Institute and its partners to address these complex issues. We will continue to expand our partnerships with other institutions having specific capacities in policy and institutional research, and as part of a larger effort to strengthen IWMI's capacity building efforts, put more emphasis on supporting Ph.D. and post-doctoral research. If funding permits, IWMI in the future will also further strengthen the senior staff in this Program.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. The institute's program and capacity, as well as its capacity building, has expanded considerably and allowed increased focus on policies and institutions – as a separate theme in the period 2000-2005, and integrated in a more problem-oriented and less disciplinary approach to priority setting in the new thematic structure. The PIM activities were developed as part of a transparent priority setting process through the 2000-2005 and 2004-2008 Strategic Plan development and consultation processes, as well as the IWMI-wide CCER conducted in preparation for the 2004-208 Strategic Plan.

Panel's Comments: The Panel takes a slightly different view. It feels that priority setting is necessary but that the emphasis should be on strengthening research capacity in the policy and institutions area, and in developing strong links with centers that have strong social science staff such as IFPRI.

Recommendation 6. The Panel recommends that IWMI should retain the research component dealing with irrigation-related health issues.

IWMI's 2000 Response: IWMI agrees with this recommendation, which is an endorsement of the current irrigation related health work. The Institute is pleased that the Panel has recognized the importance of this work. IWMI will continue to address irrigation-health related issues with a small interdisciplinary team of researchers, making use of associate experts, interns and students wherever possible. An effort will be made to obtain funding for research in Africa on controlling *schistosomiasis* through water management and on health impacts of small scale irrigation projects.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. It is noted here that in 2001 IWMI, on request of CDC, convened a Systemwide Initiative on Malaria and Agriculture (SIMA). In its November 2005 meeting the IWMI Board decided to respond positively to suggestions from African national partners to pass on the responsibility for the SIMA network to one or more African national or regional partners. The CDC (now AE) responded positively to this suggestion at its meeting in Marrakech in December 2005. Discussions are ongoing with NEPAD. The year 2006 is a transition year; by the end of 2006 IWMI will have transferred SIMA and it will no longer be a CGIAR Systemwide initiative. In the reorganization of IWMI's research themes from a more disciplinary to a more problem oriented focus, IWMI no longer has "health and environment" as a research theme, but it is a cross-cutting issue wherever health is important (similar to "policies and institutions", or "poverty", or "gender", all of which have been themes or programs in the past and are now cutting across the themes – still important but not organized as free-standing programs). Health and environment research is important for all themes, but particularly for theme 3, which deals with the re-use of wastewater for agriculture.

Panel's Comments: IWMI is phasing out SIMA though an institutional home has still not been found for the program to continue. The anticipated work on *schistosomiasis* also did not materialize. IWMI under its Theme 3 on Water, Cities and Agriculture has been addressing health concerns especially as they relate to wastewater use.

Recommendation 7. The Panel recommends that IWMI should increase its capacity to develop a research effort on the effects of irrigation on downstream water resources by recruiting appropriate expertise in water quality and associated natural resource management.

IWMI's 2000 Response: IWMI agrees with this recommendation. The Institute has so far found it difficult to raise sufficient funds to expand its work on environmental issues. However, IWMI agrees that more expertise on water quality and other environmental issues is needed to be able to be more successful in fund raising activities and in the building of a significant research effort on the effects of irrigation on downstream water resources. The Institute will also develop strong partnerships with interested universities and research institutes specialized in water-related environmental issues. Recruitment of expertise and the positioning of the environment work within IWMI will be addressed as part of the priority-setting exercise (see Recommendation 9).

IWMI's 2006 Updated Response: IWMI's work on environmental issues has increased very significantly over the last five years, as IWMI has prioritized work on the overall water-food-environment nexus, specifically targeting the interfaces between the core agriculture / food-production system with the 2 key systems with which this interfaces: 1) cities, with a strong focus on water quality, pollution and health and environmental impacts of wastewater reuse; and 2) ecosystems, with a strong focus on the impact of irrigation on the environment, agriculture-wetland interactions, and environmental flows to maintain ecosystem services, i.e. balance between food and environment. IWMI has strengthened its capacity in this area both in terms of ecology and eco-hydrology, has developed key partnerships with environmental organizations (and is now the only CGIAR center that is formally a member of IUCN, the World Conservation Union). In late 2005 IWMI's contribution in this field was recognized by the Conference of the Parties of the RAMSAR Conventions (on wetlands) when it adopted a resolution to recognize IWMI as the fifth International Organization Partner of the Convention.

Panel's Comments: The Panel concurs that IWMI has addressed this recommendation, as this has been an area of significant growth over the past five years, with significant expertise added in environmental science / ecology. The approach taken by IWMI has assured that the environment will be a major consideration of any water-food program. Recognition of IWMI's contribution to wetlands at the RAMSAR conventions was testimonial to the work done on this critically important topic in the past five years. However, less significant is the capacity of IWMI to explore economic aspects.

Recommendation 8. The Panel endorses the investment in researching the use of relevant information technology, remote sensing and modeling for use in irrigation and water management and recommends that this work should continue and, with respect to various modeling systems, that IWMI should continue to follow its current position of being a user, tester and adapter of existing models rather than being a primary developer.

IWMI's 2000 Response: The Panel's endorsement of our investments in applications of information technology,
remote sensing and modeling in irrigation water resources is welcome. IWMI's objective is to continue to play a leading role in the application of appropriate techniques. IWMI will integrate new techniques into its work in collaboration with recognized leaders in the relevant disciplines.

IWMI's 2006 Updated Response: IWMI has strengthened this area of its work and believes it is now internationally recognized as a center of excellence on Remote Sensing and GIS as related to water resources management. IWMI maintains its position that it should not be a "model developer", certainly not in basic hydraulic and hydrologic or climate models (all of which require major investment and are available from various sources), although IWMI has developed a water-food-

economics model (WaterSim, with IFPRI) where it has unique strengths. The focus of the RS/GIS work is the development of water-related applications for development, generally for data-sparse tropical environments, focusing on: (a) mapping irrigated areas; (b) mapping water productivity at basin scale; (c) mapping wetlands (and wetland-agriculture interaction). IWMI has also served as the coordinator of the CGIAR's Consortium on Spatial Information – in essence a knowledge sharing network - for the past 3 years.

Panel's Comments: IWMI has addressed this recommendation fully.

Recommendation 9. The Panel recommends that IWMI adopt more formal procedures for priority-setting and impact assessment.

IWMI's 2000 Response: Recommendation 5 (above) makes a similar recommendation with respect to the Policies, Institutions and Management Program. IWMI agrees with this recommendation and will review how best to make its priority-setting more transparent and its impact assessment procedures more systematic. The Institute has struggled with these twin issues of procedures for priority-setting and for impact assessment since its inception without finding a satisfactory solution. With the arrival of a new Director General later in 2000, IWMI will be reviewing its entire program and strategy. Setting priorities in a transparent manner and assessing impact will be a central component of this review. The starting point for this exercise will be IWMI's mission statement and its underlying logic. The goals to which IWMI's work contributes are food security and poverty eradication. IWMI contributes to achieving these goals through achieving its objective of fostering sustainable increases in the productivity of water. Better management of irrigation and other water uses in river basins is the means to achieve the objective. In Recommendation 4, the Panel recommends that IWMI should investigate more precisely the relationship between poverty, gender and access to water, and incorporate poverty and gender concerns more explicitly into the design and conduct of the Institute's research. The analysis IWMI will carry out, to respond fully to this recommendation, will form a major basis for setting the Institute's priorities more transparently.

With regard to impact assessment, the complexity of water management systems and the intangible form of our primary products make most of IWMI's impacts "invisible." These impacts largely occur through the stimulus of new research-based ideas and concepts, which lead to changed behavior among policy makers, donors, other scientists, and water managers. There is generally a long time-lag, and a large number of intervening variables, between the stimulus and the outcome. IWMI seeks to achieve a reasonable balance between long-term strategic research, and applied research involving testing interventions in field situations. For the latter, impacts are more directly measurable; for strategic research the measures are indirect and imprecise; but we would argue, more substantial. The priority-setting exercise that we will undertake later in 2000 will include specific attention to how we propose to assess impact in future. IWMI is looking forward to learning new ways of doing this through its participation in the Workshop in May on "The Future of Impact Assessment in CGIAR: Needs, Constraints and Options," organized by the Standing Panel on Impact Assessment of TAC.

IWMI's 2006 Updated Response: IWMI believes it has, over the past 6 years, developed and implemented an effective approach to priority setting. The center piece of the longer term priority setting process has been the 2000-2005 and 2004-2008 Strategic Plans. These plans served to focus the institute's attention on the long term issues and have had a major impact on priority setting. For the medium term the Institute has started to use the MTPs as the primary tool for priority setting, sharpening the research agenda and helping to shape the impact pathway from output to outcome to impact. We believe the MTPs have gradually improved and taken on a more useful function within the institute's work, from a largely "external / administrative" document to a realistic tool that serves to link short term project goals to medium term institute goals. In addition, IWMI has undergone

several Center Commissioned External Reviews (CCERs) of its Themes (MTP Projects) to assist the Institute with its priority setting. These CCERs include reviews of the following MTP Projects:

- 2002: Water, Health and Environment, former MTP Project 5
- 2003: Center-wide Program review in conjunction with Strategic Planning process
- 2004: IWMI-Tata Water Policy Program, within the former Groundwater Management MTP Project 3
- 2005: Agricultural Water Management, former MTP Project 1

In terms of impact assessment, IWMI did not have an effective program of impact assessment at the time of the 2nd EPMR. Over the past five years, IWMI has tried to build up its expertise in NRM impact assessment by networking with other NRM centers and organizations, becoming involved in the recent set of SPIA sponsored NRM impact assessment case studies, undertaking a series of pilot studies on impact/outcome assessment, and directly incorporating impact assessment into the research lifecycle. More recently, in 2005 IWMI started to develop a collaborative relationship with CIFOR and WorldFish on impact assessment that aims to develop a single NRM impact assessment function shared by the three centers. IWMI is also participating in efforts to develop complementary approaches to economic cost benefit analysis as the basis for impact assessment of "upstream" policy research. It has taken an active interest in the use of alternative methodologies, particularly "Outcome Mapping" (as developed by IDRC) and methods such as Most Significant Change and Impact (or Adoption) Pathways. Several staff members have attended training courses, several projects are implementing the new approaches on a pilot basis and IWMI expects to introduce these approaches on a larger scale in coming years.

Finally, complementing the impact assessment work, IWMI has embraced the idea of "knowledge management" or "knowledge sharing" (through its Strategic Plan objective to become a world class knowledge center on water, food and environment). This is contributing to increased reflection on the ways and means through which knowledge is shared, and used, from the very start of the research project cycle. We believe that the increasing emphasis on developing a "knowledge culture" at IWMI will also contribute to improved definition of impact pathways and impact assessment. To further strengthen the synergies between impact assessment and knowledge management, IWMI is currently in the process of recruiting a post doctoral fellow who will contribute to Knowledge Sharing in Research initiative and the IWMI-WorldFish-CIFOR impact assessment alliance. While more work is clearly required, we believe that the steps taken thus far have established a stronger foundation, network and overall impact culture at IWMI, which in turn will help the Institute in its efforts to establish a robust NRM impact assessment program with CIFOR and WorldFish.

Panel's Comments: The issue of impact assessment, especially as it relates to research planning is considered in Chapters 2 and 5. The Panel concludes that IWMI's efforts to date in this area have not been sufficient given its importance to the Centers' future, and have recommended that IWMI invest in the employment of their own professional staff in this field. This would not exclude cooperation with other centers but would rather enhance IWMI's capacity to interact. The Panel also makes a recommendation regarding the use of CCERs. While IWMI is praised for commissioning CCERs, the Panel recommends regular and rigorous CCERs across all Themes.

Recommendation 10. The Panel recommends that the Board formulate and implement an ongoing Board development program aimed at ensuring the Board meets, in particular, its responsibilities for strategic planning, policy formulation and monitoring of performance.

IWMI's 2000 Response: IWMI agrees with this recommendation. As noted in the report, the Board invited the Management Advisor from the CGIAR Secretariat to attend a 1997 Board meeting to facilitate a discussion on Board roles and responsibilities and sent two members to the workshop

that followed ICW99. We discussed at the meeting just concluded plans to orient new members in a more structured way, including briefings by Program Leaders, the Board Chair, and an experienced Board member who will be asked to act as a mentor. We will continue the practice of inviting new members to attend a meeting as an observer prior to taking office. We also initiated discussion at the recent meeting of ways in which the agendas of Board and Committee meetings might be restructured to ensure better oversight of program and finance and experimented with a self-assessment methodology. In the interim before our next gathering, we will look at useful procedures developed at other Centers.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. IWMI has participated in the Center Board Chair led board induction programs and is regularly revisiting its self-assessment tools. The IWMI Board has emphasized a careful nomination process and as a result is now composed of a well-balanced group of very experienced individuals – many of whom have come from outside the CGIAR – and with ample experience in finance and governance (through their careers in senior management and other board positions, rather than their educational backgrounds). The IWMI Board shares (or has shared) a board member with four other CGIAR centers (ICARDA, Maggie Catley Carlson through May 2006; CIFOR, Sunita Narain; CIMMYT, Uraivan Tan-Kim-Yong through March 2006; and WorldFish, Asger Kej) and has agreed with the WorldFish Board to attempt to identify candidates for additional joint Board positions.

Panel's Comments: The Panel agrees with IWMI's comments on the use of a revised self-assessment tool and the quality of its nomination process and of its current Board members. However, the Panel found the participation of new Board members in the orientation process wanting. There also doesn't seem to be a Board development program.

Recommendation 11. The Panel recommends that the Board should establish an Audit Committee with responsibilities for audit matters of both a financial and operational nature.

IWMI's 2000 Response: IWMI agrees with this recommendation and took action at the meeting just concluded to establish an Audit Committee and to appoint a chair and membership. New terms of reference will be prepared, drawing from the audit functions previously included in the terms of reference of the Executive and Finance Committee. As has been our usual practice, the full Board met with the Institute's External Auditors, in the absence of management staff, to discuss the current year's audit and plans for 2000 and will continue to retain this aspect of audit responsibility.

IWMI's 2006 Updated Response: Implemented as foreseen in 2000. IWMI has joined the CGIAR's Internal Audit service and this has resulted in an active program of internal audits of both a financial and operational nature.

Panel's Comments: Implemented by IWMI as indicated.

Recommendation 12. The Panel recommends that the Board's Terms of Reference, Rules and Procedures and the terms of Reference for its Chair, standing committees and Secretary should be reviewed and revised to more clearly specify responsibilities.

IWMI's 2000 Response: IWMI agrees as well with this recommendation. In the next months, we will systematically review the full set of documents that specify the responsibilities of the Board and its Committees and, as indicated above, will reconsider meeting and other procedures. Noting a comment in the EPMR report, we also took action to appoint a Vice Chair of the Board and will retain this position in the future.

IWMI's 2006 Updated Response: The ToRs have been updated regularly. In light of recent developments and recommendations in the CGIAR on board structure and functioning (notably the recommendations of the CIMMYT EPMR and the Africa Task Force), and in light of the rapidly evolving strategic alliance with WorldFish, the IWMI Board has established a Task Force on Board Restructuring that will evaluate all elements of the Boards charter, terms of reference, structure and functioning, and report back to the Board later in 2006.

Panel's Comments: The Task Force was scheduled to present its conclusions at the October 2006 Board meeting. The Panel doesn't know the results of that work.

Recommendation 13. The Panel recommends that the Board should meet twice a year and that at each of these meetings of the Board there be meetings of its standing committees.

IWMI's 2000 Response: IWMI agrees with the importance of having two Board meetings each year. Since 1998, as a cost saving measure, the Executive and Finance Committee, rather than the full Board, met in the autumn following our Spring Annual Meeting. However, we take the point made by the Panel and agree that the expenditure involved in a full meeting is justified. We had already decided to have two Board meetings in 2000 and will continue this practice.

IWMI's 2006 Updated Response: Implemented as foreseen.

Panel's Comments: Implemented as indicated.

Annex 7
Review of the Comprehensive Assessment (CA) of Water Management in Agriculture

So far, three books and eleven research reports published by IWMI are the primary visible output of CA. The research reports cover a range of topics from virtual water trading to integrated water management and intersectoral water transfers. Some of the reports seem clearly to fill research gaps, such as Research Report 7 on the "Impacts of Irrigation on Inland Fisheries: Appraisals in Laos and Sri Lanka" by Sophia Nguyen-Khoa et al. (2005), while others seem to be designed to promote an approach, or review past research, such as "Integrated Land and Water Management for Food and Environment Security" by F. W. T. Penning de Vries et al. (2003), Research Report #1.

Penning de Vries et al. provides a good statement of the problems involved in an integrated approach to land and water management to meet our food and environmental objectives. The research issues that are selected by Penning de Vries et al. for future research first appear to be very broad but the accompanying discussion provides clearer identification of potential research topics. The discussion lists a number of interesting topics, some of which don't seem to belong under a particular heading. For example, under the poverty reduction heading you find "what are the most appropriate water-allocation procedures within river basins and within irrigation systems that encourage sustainable land and water-conservation practices?" This just illustrates the problem of grouping research issues under five very broad headings. It also tends to hide a number of important sets of issues that have not been included. One of these sets is research dealing with institutions and policies that influence water use and management. The legal framework is only one small part of this important area.

Research Report #2, "Taking into Account Environmental Water Requirements in Global-scale Water Resources Assessments," is a natural extension of the first report and focuses on environmental water requirements. It provides an overview of the general problem of how much water to reserve for the environment. The authors point out that one threshold figure is not adequate without considering frequency and assurance of water flow. One strength of the report is the list of several important research topics that were left out of the first report, such as policy and institutional constraints and challenges, and the need to coordinate institutions and water policies among countries with international rivers.

Research Report 3# by Giordano et al. (2004), "Water Management in the Yellow River Basin: Background, Current Critical Issues and Future Research Needs," provides readers with an overview of the complex issues facing the managers of the Yellow River with its wide variation in rainfall and runoff (spatially and temporally). Almost half of the paper discusses the early development of the Yellow River, highlighting why it is named the Yellow River (at times there is as much soil flowing in the river as water). The authors see the report as background information for both researchers and policy makers. They argue that past successes in managing the river have reduced flooding enough so that new issues have moved to the top of the management agenda. These new issues include water scarcity, soil conservation, water quality, and environmental damage. There also was a change in approach to water development and management, during the 1990s as the Ministry of Water Resources moved away from engineering dominant strategies to one based more on demand management and the value of water resources. Even so, basin management continues to have overlapping authority, unclear responsibilities, and competing interests. How management copes with these overlapping responsibilities is a major unanswered question, as it implements new allocation policies designed to cause the least disruption to farmers, particularly low income farmers, and agricultural output.

This is a country-specific study that may have some value to other countries as a prototype. Clearly in basin management we need the types of information discussed in the study. In addition, all basins will face the institutional gap they highlight, that "The natural unit for administration is usually...the river basin while the actual units of governance have other boundaries" (p. 35). Still their historical analysis would have been more useful if they had evaluated, in some detail, the effectiveness of past institutional arrangements in the basin.

Research Report #4, "Does International Cereal Trade Save Water? The Impact of Virtual Water Trade on Global Water Use," does a review of what impact past cereal trade has had on water use. It makes the point that there is a wide difference in the amount of water used to produce a ton of cereal. Water use can be reduced by producing more grain in areas that use less water. However, they find that water "savings" through trade is more strongly correlated with water productivity than with water scarcity. Because of data limitations, they feel this topic deserves a separate study that goes beyond the scope of the report.

Research Report #5, "Evolution of Irrigation in South and Southeast Asia" by Barker and Molle (2004), provides a long-term, broad overview of how irrigation has evolved over the past century and a half. They argue that in recent years the benefits of irrigation development have gone largely to consumers. Yet they fail to point out that there are many small farmers in south and Southeast Asia who are also consumers, as are landless agricultural labor. They also argue that the main emphasis is now on improved water management to increase water productivity and diversify production. In addition, the role of the state in planning, managing, and investing in irrigation has diminished as use of groundwater has accelerated. Yet the state may become more important as water scarcity increases and water must be reallocated among sectors and users. The strength of this report is that it provides an excellent history of irrigation development. Where it is weak, is in its suggestions for the future. They provide a long list of old reasons why economic incentives (pricing and markets) have not worked well in the past. This is nothing new but they go on to argue that since economic incentives haven't worked in the past, they will not work in the future. What they should have done is challenge the research community to determine what actions need to be taken to make economic incentives more effective in this region. As part of such research they may find that in some cases the transaction cost of making the necessary changes is too high, while in others they may be quite modest.

Research Report 6, "Macro Policies and Investment Priorities for Irrigated Agriculture in Vietnam" by Bocker et al. (2004), is a very comprehensive report on investments in Vietnam where water is only one of the investments. They argue that private sector investment in wells and pumps was the most important single factor affecting water resources in Asia during the past decade (1990s). They do an excellent job of estimating irrigation's contribution to gross agricultural output in Vietnam. Although the report is country focused, it can be a useful guide for similar case studies in other countries to help them better establish water investment and research priorities. IWMI can also use studies such as this to help them set research priorities. For example, this report clearly indicates that IWMI should consider devoting more time and money to conduct research on a range of groundwater problems.

Research Report #7 (2005), as indicated above, appears to be directed at one of the research gaps, although it is specifically focused on assessing the impact of irrigation on fisheries and income in Laos and Sri Lanka. The problem with the report is that it provides little detail about the surveys that were used to collect the data. The analysis was based on surveys and workshops but the report leaves the reader in the dark concerning the data and analysis. Given this lack of detail, the report cannot serve as a useful guide to do similar studies in other countries.

Research Report #8 by Joshi et al. (2005), "Meta-Analysis to Assess Impact of Watershed Program and People's Participation," provides an excellent overview and assessment of watershed projects in India.

They use a meta-analysis of 311 case studies of watershed programs in India to assess the benefits in terms of efficiency, sustainability, and employment. The mean benefit cost ratio was 2.14, and it was higher in low income watersheds, ones with rainfall between 700-1,000 mm and where people's participation was high. They argue that past watershed projects have tended to only involve large and influential farmers in the process of assessing stakeholders' needs. These projects also have not been sensitive to the needs of women and the landless. One of the key steps to correct these problems is to develop institutional arrangements that assure a broad-based level of participation by all stakeholders. Equally important is the need to train stakeholders and to develop mechanisms for sharing benefits in accordance with costs incurred. Although this is a country-specific study, the authors provide enough information about the methodology and data so that it can be used by other countries or regions to conduct similar studies. Hopefully, such studies will go beyond this report and identify local institutions that have facilitated participation by a wide range of stakeholders and institutional arrangements that improve the distribution of project costs and benefits.

Research Report #9 by Courcier et al., "Historical Transformations of the Lower Jordan River Basin (in Jordan): Changes in Water Use and Projections (1950-2025)," is basically a hydrology report that looks at the water balance over time. They make projections to 2025 based on projects that are started, accepted, or very likely to be accepted. They argue that you can't depend on demand management to reduce water use in agriculture; therefore, the only way to meet future water needs is by desalinizing water or importing water from other basins. The strength of the paper is its historical discussions of the changes in water use over time, which highlight the over commitment of surface water and the over drafting of groundwater. The main weakness is that the authors fail to understand how demand management can play a helping role in meeting future water demands.

Research Report #10 by Molle and Berkoff, "Cities Versus Agriculture: Revisiting Intersector Water Transfers, Potential Gains and Conflicts" (2006), provides a very good historical review of past water transfers. It seems to make a number of generalizations from only a few case studies. The paper basically is developed around the "strawman" that a large number of people think urban growth is being held back by agriculture's wasteful use of water. Consequently, these same people believe a lot of water must be taken away from agriculture. The authors also have a strong view that economic incentives will surely fail to help reduce water use. Yet, in their conclusion, they do make one good point that water shortages in urban areas are due to the lack of political will to make the necessary investments for clean water and sewage systems, and are not due to the cities' inability to get water from agriculture.

The Resource Report #11, "Prospects for Productive Use of Saline Water in West Asia and North Africa" by J. Stenhouse and J. W. Kijne, focuses on the potential for using saline water to irrigate land in Egypt, Syria, Jordan, and Tunisia. It begins by highlighting the water scarcity problem in North Africa and Asia and the extensive salinity problems in irrigated areas of the world. Approximately 20 percent of irrigated land and about 3% of the dry land agricultural areas are affected by salinity. The paper goes on to discuss the primary and secondary causes of salinization and the effects of salinity. They also include a discussion of economic incentives to help reduce salinization but rather quickly conclude that most economic mechanisms can't be used because of measurement problems. However, they fail to recognize that this situation is beginning to change in a number of developing countries as water scarcity increases and low cost measurement devices become readily available. They use four brief case studies from Egypt, Tunisia, Jordan, and Syria, given during a two-day workshop conducted at ICBA in Dubai, June 2004, to illustrate the need for saline irrigation. Yet, their idea that saline irrigation will require larger farms seems to contradict their hope that saline water use will help poor farmers.

The last major section on the rural poor draws heavily from the FAO report by Dixon et al. (2001) on Farming Systems and Poverty. They argue that West Asia and North Africa (WANA) should focus its efforts on introducing saline irrigation in areas with mixed irrigation and with mixed rainfed farming systems. This might work best in areas in the four case study countries where the demand for forage is greater than the supply at reasonable prices. Finally, the authors recommend that optimal use of saline water should be part of long-term government drought management policies. However, as pointed out in the conclusion, someone needs to do a careful economic analysis to determine what options, if any, offer reasonable economic returns without damaging the soil. Another problem, which the authors highlight, is that it is unlikely all the conditions they list as necessary for successful induction of biosaline agriculture systems can be satisfied anywhere. Still the report is a good overview of the technical feasibility of saline irrigation and it attempts to indicate how it might help reduce poverty.

The first book in the comprehensive assessment (CA) series is *Water Productivity in Agricultural: Limits and Opportunities for Improvement* edited by Kijne, Barker and Molden. The focus of the book is on what is known about increasing the productivity of water in agriculture. The book discusses concepts, constraints and methodologies concerning water productivity from different disciplinary perspectives and then uses country examples from around the world to explore water productivity in specific countries. Individual chapters consider water productivity in different settings such as rice cultivation, cropping under saline conditions, and rainfed agriculture. Several chapters look at the possibilities for plant breeding to improve water productivity under both rainfed and irrigated conditions. The last nine chapters are case studies illustrating issues discussed in the earlier chapters. Several chapters look at different strategies for improving water management to improve water productivity: one focuses on the importance of an integrated farm-resource management approach while another emphasizes the benefits of integrated watershed management to improve the use of rainwater. Others consider specific crops or tree planting including agroforestry, drought-resistant potato varieties, and wheat-rice production systems. In a chapter on Thailand the author wastes considerable space arguing against the use of economic incentives. One of the more interesting chapters in the book is the final chapter which looks at the use of deficit irrigation. This is an area that has been neglected for many years and deserves more in-depth research to determine its real potential for increasing water productivity.

Overall this book is a good addition to the literature, particularly on the physical and technical side of water productivity, including such things as plant breeding and water use under different crops, and cropping systems. If there is a gap in the book's coverage, it is on the socio-economic side. Improvements in water productivity eventually have to be done by people in the irrigated or rainfed areas. The brief discussion of socio-economic concerns in a few of the chapters focuses primarily on the appropriate measures of water productivity. The somewhat limited discussions regarding economic incentives and farmer response are based on very large Asian systems that are poorly managed and lack key infrastructure. None of the papers looks at how economic incentives have worked effectively when the appropriate institutions, including water rights, are in place. It would have been more helpful if someone had asked why economic incentives have not worked or have not been tried in the past, and what changes in institutions, infrastructure, and organization are needed to make them effective management tools in the future? With water scarcity increasing, transaction costs are not an excuse for doing nothing. When water becomes scarce, it pays to invest in new institutions and organizational arrangements to better allocate and manage water.

The second book in the CA series edited by Hoanh et al. (2006), *Environmental and Livelihoods in Tropical Coastal Zones: Managing Agriculture-Fishery-Aquaculture Conflicts*, focuses on an area that has largely been ignored by those working on irrigation and agriculture. The book is written to help planners, resource managers, and donors make better investment decisions regarding the use and

development of coastal zones, as well as taking into account how actions upstream impact coastal zones. The coastal zones contain 40% of the world's population and are an important source of the world's food production. This is also a zone of very rapid change with both development and environmental degradation. A key land-use change in the coastal zone is the rapid growth in shrimp aquaculture and the resulting clearing and converting of mangrove forests and salt marshes. This has been pushed by strong global demand and lack of government policies regarding the conversion of those lands. Yet the clearing of mangroves is also the result of their exploitation for timber, fuel-wood, and other forest products. The major problem is that the coastal zone supports three resource-dependent enterprises: agriculture, shrimp farming, and fishing. These have been very competitive enterprises with externalities from one impacting the other.

The book also explores the social and environmental impact of shrimp farming, which is a major export industry. It is not as labor intensive as rice cultivation in the local area but overall rice production (compared to shrimp production) doesn't require as much employment of ancillary activities. Problems created by pollution from shrimp production have caused conflicts in both India and Bangladesh while there seems to be somewhat less conflict in Vietnam. Still the problem is that farmers have not experienced appropriate signals regarding the external costs associated with their private investment decisions. Yet the book finds that no one approach will solve the problems caused by increased use of the coastal zone. The options considered range from government regulation of effluent levels and design standards to the promotion of best management practices and coastal zone management with its focus of improving our use of coastal zones. This book seems to fill an important gap in our knowledge about water management in Asia. As the book argues, these issues will become more important as the population grows and water is used more intensively both upstream and downstream. It is critical in the future that river basin management explicitly include the coastal zone. It has been ignored in the past, which has caused serious problems for coastal communities and fisheries all over the world.

In 2002 the book edited by Bouman et al., *Water-wise Rice Production*, was published and is listed as a CA publication, although it is based on a workshop held in IRRI in the Philippines. The objectives were to present and discuss the development, dissemination, and adoption of the latest water-saving technologies in rice production from the field to the irrigation system. Therefore, most of the chapters are country specific or even system specific. The reason they focus on rice is that more than three quarters of Asian rice production comes from 79 million ha. of irrigated land. In addition, it takes 3,000 - 5,000 liters of water to production 1 kg of rice, but this is 2 to 3 times more water than is required to produce other cereals such as wheat or maize. The hope is that the workshop and publication will help enhance a more coherent research program on water savings approaches for rice-based cropping systems in Asia. This book is a good first step in such a process although it would have been good to have a concluding chapter that highlighted some of the key findings of the workshop.

Annex 8
Acronyms

AC	Audit Committee
ACIAR	Australian Center for International Agricultural Research
ADB	Asian Development Bank
AGM	Annual General Meeting of the CGIAR
AWC	Agriculture, Water and Cities
BFP	Basin Focal Project
BWM	Basin Water Management
CA	Comprehensive Assessment of Water Management in Agriculture
CABI	CAB International
CAPRi	Collective Action and Property Rights (CGIAR Systemwide Program)
CCER	Center Commissioned External Review
CDC	Center Directors' Committee of the CGIAR
CIAT	International Center for Tropical Agriculture
CIDA	Canadian International Development Agency
CIFOR	Center for International Forestry Research
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo
CInI	Central India Initiative
CoP	Community of Practice
COSI	Foundation for Technical Cooperation, Sri Lanka
CGIAR centers	CGIAR centers
CPWF	World Food Challenge Program
CSD	Convention on Sustainable Development
DANIDA	Danish International Development Agency
ECA	East Central Africa
EFC	Executive and Finance Committee
EPA	Environmental Protection Agency
EPMR	External Program and Management Review
FAO	Food and Agriculture Organization of the United Nations
IAASTD	Int'l Assessment on Agricultural Science & Technology for Development
IAHS	International Association of Hydrological Sciences
IAU	Internal Audit Unit
IBSRAM	International Board for Soil Research and Management
ICARDA	International Center for Research on Dry Areas
ICRAF	World Agroforestry Center
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology
IDE	International Development Enterprises
IDRC	International Development Research Center
IFPRI	International Crops Research Institute for the Semi-Arid Tropics
IIMI	International Irrigation Management Institute
IITA	International Institute for Tropical Agriculture
ILRI	International Livestock Research Institute
IMT	Irrigation management transfer
IPG	International Public Goods
IPGRI	International Plant Genetic Resource Institute
IRC	International Water and Sanitation Center
IRD	Institut de recherche pour le développement
IRRI	International Rice Research Institute

IRS	Internationally Recruited Research Scientists
IRSS	International Research Support Services
ISNAR	International Service for National Agricultural Research
ITP	IWMI-Tata Program
IUCN	The World Conservation Union
IWMA	Irrigated Water Management Agriculture
IWMI	International Water Management Institute
IWRM	Integrated Water and Resources Management
LAC	Latin-America and the Caribbean
LDP	Leadership Development Program
LWL	Land, Water and Livelihoods
MoU	Memorandum of Understanding
MSEC	Management of Soil Erosion Consortium
MTP	Medium-Term Plan
NAFRI	National Agriculture and Forestry Research Institute
NARS	National Agricultural Research Systems
NC	Nominating Committee
NEPAD	New Partnership for Africa's Development
NGOs	Non-governmental Organizations
NRM	Natural Resources Management
NRS	Nationally Recruited Scientists
PC	Program Committee
PDF	Post Doctoral Fellows
PIM	Policy, Institutions and Management
PwC	Price Waterhouse Coopers
R&D	Research and Development
RRS	Regionally Recruited Scientists
RWAF	The Resource Center on Urban Agriculture and Forestry Network
SC	Science Council
SEA	South-East Asia
SGM	Sustainable Groundwater Management
SIDA	Swedish International Development Cooperation Agency
SIMA	System-wide Initiative on Malaria & Agriculture
SPIA	Standing Panel on Impact Assessment
SSLWMS	Sustainable Smallholder Land and Water Management Systems
SWAT	Soil and Water Assessment Tool
SWIM	Systemwide Initiative on Irrigation Management
SWP	Systemwide Program
TAC	Technical Advisory Committee
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WARDA	Africa Rice Center
WASPA	Wastewater Agriculture and Sanitation for Poverty Alleviation in Asia
WHE	Water, Health and Environment
WHO	World Health Organization
WME	Water Management and Environment
WRIP	Water Resources Institutions and Policies

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