BACKGROUND

The International Commission on Irrigation and Drainage (ICID) was established as a scientific, technical and voluntary not-for-profit non-governmental international organisation. The Commission is dedicated to enhancing the worldwide supply of food and fibre for all people by improving water and land management and the productivity of irrigated and drained lands through appropriate management of water, environment and application of irrigation, drainage and flood management techniques. The Mission of ICID is to stimulate and promote the development and application of the arts, sciences and techniques of engineering, agriculture, economics, ecological and social sciences in managing water and land resources for irrigation, drainage and floods, including research and development and capacity building for achieving sustainable irrigated agriculture.

The technical activities of ICID are organised under four Strategy Themes, namely Basin, Systems, On-farm and Knowledge. The topics to be addressed under each theme are as follows (Labhsetwar, 2012):

1. Basin: (a) Policy/planning framework, economic and legal issues, institutional aspects; (b) Water and soil resources management, environment, sustainable development.

2. Systems: (a) Project management, traditional social structure, user participation, financial aspects; (b) Design, construction, rehabilitation, modernisation, regulation of collective systems.

3. On-Farm: (a) Irrigation management and techniques on farm; (b) Drainage management and techniques on farm and in the catchment

4. Knowledge: (a) Training, research, technology transfer, publications; (b) Flood management.

The duties and responsibilities of Theme Leaders are governed by ICID By-Law 3.1.3 which involve (1) “Coordinating the activities of the Workbodies coming within the ambit of the assigned strategy theme; (2) Suggesting to PCTA new items of work that may be taken up by the existing Workbodies; (3) Suggesting formation of new Workbodies to study the hitherto uncovered aspects/issues relating to the particular strategy theme; and (4) Recommending to PCTA inter-Workbody mechanisms on aspects/issues requiring joint study, and to facilitate such co-operations”.

In an e-mail dated 25 April 2012, the author of this discussion document was requested by the Secretary General of ICID to perform responsibilities as Theme Leader and to prepare a presentation with the following terms of reference: (1) appraisal of gaps; and (2) vision and future direction for the Strategy Theme “Systems”. This responsibility was accepted with full awareness that no time was available to consult with Chairpersons of Workbodies resorting under this Theme, neither will it be possible to interact with Workbody members during the meetings in Adelaide, Australia from 24 to 26 June 2012, due to parallel meetings of most Working Groups and Task Forces. This assessment is therefore compiled as a basis for discussion and refinement over the next three years.

1. Introduction

On the home page of the ICID website there are two prominent statements that encapsulate the core of the Mission: “Managing water for sustainable agriculture” and “Water for food and rural development”. In these two sentences practitioners of different disciplines such as engineering, hydrology, pedology, agronomy, meteorology, economy and sociology find justification for their participation. Contributions are made by individuals affiliated to universities, science councils, government departments and private companies. Within ICID these individuals and groups network through national committees (NCs), Workbodies (WBs), Technical Committees (TCs) and of course the International Executive Council (IEC).
Three words should be highlighted, namely water, management and agriculture: The key question is then who manages water and for whom is food produced? Instead of an inward focus on the practitioners of the disciplines (researchers, extensionists, advisors, lecturers, etc.) it is most important to have an outward focus on farmers and consumers, i.e. the people who should benefit from technical activities. The focus on these people as the main target groups or clients is essential to obtain and maintain relevance.

For this purpose a number of definitions are informative in relation to the Mission of ICID and the technical activities within the Strategy Themes: First, agriculture is an activity of people (within the food value chain) which is undertaken purposefully through crop cultivation and animal husbandry with available resources of land (water & soil), capital, labour and management (Spedding, 1988). Second, the modern understanding of development is a process of social learning involving participation of all people (Wetmore and Theron, 1998). Third, strategy involves setting objectives/goals, determining a course of action and allocating resources (expertise, time, funds) (Ferreira in Backeberg & Sanewe, 2006). Fourth, a system is a complex whole, consisting of interrelated sub-systems and components that are goal directed and interact with each other and the environment within a conceptual boundary (Backeberg and Oosthuizen, 1995; Backeberg, 2000). Fifth, management is getting things done with people.

It is also important to briefly mention that according to later developments of Complex Adaptive Systems (CAS), both multiple interacting agents (in this context farmers, water managers, officials, etc.) and systems are adaptive, giving them resilience and self-organisation (Pollard et al. 2011). These definitions assist with correctly placing the Strategy Themes of ICID within the water system and enabling a focus on the people or agents that should be served (See Figure 1). While the Strategy Themes Basin, Systems and On-farm clearly reside within a specific sub-system of the Water System, it is reasonable to argue that the Strategy Theme Knowledge is cross-cutting for any particular water system, country and society.

2. Appraisal and gaps

The following Technical Workbodies of ICID have been allocated under the Strategy Theme “Systems”. With reference to the Minutes of the 62nd Meeting of the IEC and pre-council meetings of Workbodies in Tehran, Iran from 16 – 22 October 2011 (ICID, 2011), only the first three Working Groups are explicitly recorded as resorting within this specific Strategy Theme:

1. Working group on modernisation of irrigation services (WG-MIS) - Mandate: To provide a continuing focus in ICID for sustainable improvement of irrigation service delivery through progressive modernisation of infrastructure, management and organisation;

2. Working group on drainage (WG-DRG) - Mandate: (a) To promote drainage as part of integrated water resources management; and (b) To promote sustainable approaches for drainage and related project through a balanced integration of (1) environmental, (2) economic, and (3) social and cultural aspects;

3. Working group on water saving for agriculture (WG-WATS) - Mandate: To recognise proven water saving success and too identify and promote successful water conservation;

4. Working group on role of irrigation in poverty alleviation and livelihoods (WG-POVERTY) - Mandate: (a) To synthesize specific knowledge and experience from the irrigation sector, too design pro-poor actions in a wider understanding of irrigation along the whole rainfed-irrigated continuum (agriculture water management); (b) To investigate technical solutions that work within a clearly defined socioeconomic context, so that they can be mobilised in a case specific approach, etc.;

5. Working group on millennium development goals (WG-MDG) - Mandate: (a) To promote the production of rigorous (or credible) evidence of the impact of agricultural water management investments on the MDG 1 goals of reducing poverty and malnutrition, and other MDG-related social development outcomes (e.g. health and education); (b) To promote the identification off cost effective means of ensuring the maximum and equitable realisation of the benefits from agricultural water management investments;
(6) Task force on financing water for agriculture (TF-FIN) - Mandate: The focus of the TF will be too get a better understanding and insight (assessment) of (ii) the required investments and beneficiaries of those investments in agricultural water; (ii) the presently available financing mechanisms and constraints for maintaining physical irrigation capacity, etc.;

(7) Task force on water for bio-energy and food (TF-ENERGY) - Terms of Reference: Evolve "ICID’s position on water for bio-energy and food";

(8) Task force on sedimentation of reservoirs (TF-SEDIMENTATION) - Terms of Reference: To look into the aspects of sedimentation of reservoirs and to come up with recommendations for appropriate strategies.

Based on the subject and mandate of the Working Groups and Task Forces, as well as the thinking underlying the systems approach, the Workbodies are provisionally classified as follows:

(1) Theme “Systems”:
   - WG-MIS
   - WG-DRG
   - WG-WATS
   - TF-FIN

(2) Theme “On-farm”:
   - WG-POVERTY

(3) Theme “Basin”:
   - TF-ENERGY
   - TF-SEDIMENTATION

(4) Theme “Knowledge”:
   - WG-MDG

Accordingly only four of the eight Workbodies meet the strict requirements of being classified under “Systems”, understood to mean relating to some aspect of management of an irrigation scheme or district or alternatively irrigation project management. Furthermore, the appraisal of the Workbodies is summarised in Table 1:
Table 1: Appraisal of Technical Workbodies of the Strategy Theme “Systems” of ICID according to key variables of a strategy

<table>
<thead>
<tr>
<th>Workbody/Criteria</th>
<th>Objectives/goals</th>
<th>Course of action</th>
<th>Allocation of resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workplan</td>
<td>Activities</td>
<td>Participation</td>
</tr>
<tr>
<td>WG-MIS</td>
<td>Focussed</td>
<td>2007-2012</td>
<td>Occasional</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WG-DRG</td>
<td>Focussed</td>
<td>1983-2013</td>
<td>Regular Country presentation plus Int WS</td>
</tr>
<tr>
<td>WG-WAT</td>
<td>Focussed</td>
<td>1994-2013</td>
<td>Occasional</td>
</tr>
<tr>
<td>WG-HUY</td>
<td>Wide-ranging</td>
<td>2008-2013</td>
<td>Occasional</td>
</tr>
<tr>
<td>WG-MDG</td>
<td>Focussed</td>
<td>2011-2015</td>
<td>Start-up</td>
</tr>
<tr>
<td>TF-FIN</td>
<td>Wide-ranging</td>
<td>2007-2012</td>
<td>Occasional</td>
</tr>
<tr>
<td>TF-BIO</td>
<td>Wide-ranging</td>
<td>2009-2013</td>
<td>Occasional</td>
</tr>
<tr>
<td>TF-SED</td>
<td>Focussed</td>
<td>2009</td>
<td>Occasional</td>
</tr>
</tbody>
</table>

The criteria or key variables for this appraisal are derived from the content of a strategy: These are (a) objectives, as determined in the mandate; (b) course of action, as determined by the workplan and activities; and (c) allocation of resources, as determined by participation and reporting of members. This assessment and appraisal was mainly based on the Minutes of the last meetings held in Iran in October 2011, combined with personal observations and experience over the last four to five years. It is clearly a subjective judgment with available information and therefore important to emphasize again that it is considered as a framework for discussion, refinement and improvement, if so required. The meaning of this appraisal will become evident if the gap analysis is explained.

This gap analysis indicates that 5 of 8 Workbodies have clear and focused objectives/goals, consisting of one or two sentences. In the other 3 cases, the objectives/goals are of course formulated but quite wide-ranging and therefore more complex and possibly difficult to achieve. All Workbodies have a workplan, mostly starting in the last three to five years, with two exceptions, where beginning of activities dates back to 1983 and 1994 respectively. More concerning is that 7 of 8 Workbody members are occasionally active. Although meetings are held, there are no regular, i.e. annual workshops and/or presentations in accordance with the mandate. This regular activity is made more difficult by the fact that for the majority of 5 out of 8 Workbodies, members are not participating themselves but are represented, while for 2 Workbodies, members still have to be nominated (in one case three years after the start-up meeting). These two aspects, occasional activity (in the sense of no contributions in workshop mode) and mixed participation (by both members and representatives) probably prevent effective functioning of Workbodies. The eventual output, where activities are formally concluded, is also compromised by divergent ways of reporting, lack of clarity or undetermined format and content of document to close Workbody activities. Overall the impression is that the performance of Workbodies is not fully supporting the Mission of ICID, i.e. the reason why ICID exists.

The actual experience of the TF-FIN is a good illustration of the current relative ineffective operation: Between 2007 and 2008 no formal activity had taken place and all members had not been nominated or confirmed even up to 2011. Although workshops within the workplan, with specific themes and guidelines were planned and organised for 2009, 2010, 2011 and 2012, contributions were only made by 50% or less of members and representatives in 2009 and 2010 and had to be postponed in 2011, due to lack of interest and input by the majority of mostly inactive members. For the final workshop in 2012, only 2 out of 8 members and representatives had confirmed their participation by the target date of end March 2012. Consequently the initially conceptualised report with a comprehensive structure had to be downscaled to a report with a collection of available papers presented during the workshops. The findings of the Task Force are therefore unfortunately inconclusive but continued activity cannot be justified.
3. Vision and future direction

For the ICID Strategy Themes it is advisable that the allocation of Working Groups and Task Forces be reconsidered within the conceptual framework of Complex Adaptive Systems. This should be explicitly guided by the currently accepted content of the Strategy Theme and contributions to be made in support of the Mission of ICID. On reflection, the purpose of a Working Group is mainly sharing of knowledge and experience by member countries. For Task Forces, contributions are made on a specific subject and to accomplish a task by member countries. In first case the subject has to be relevant to the vision and mission of ICID, while similarly in the second case the interests of ICID as an organisation have to be promoted. In both cases participation is by individuals who are nominated and represent the member countries of ICID. This combination of individuals from member countries is arguably both a major strength of ICID but potentially also a debilitating weakness for performance of technical activities. The requirement for effective and successful functioning of Workbodies is therefore active involvement and participation of individuals nominated by member countries through their NCs and appointed according to the By-Laws of ICID. Responsibilities clearly rest with both the individual and the member country NC, in equal proportions.

Effective implementation of the Strategy Theme “Systems” (and all other strategy themes for that matter), must ensure strict adherence to the Workbody mandate, workplan, activities and reporting by participation of member country NCs and individuals representing the NC. The mode of operation of workshop to workshop within the workplan versus meeting to meeting, should be preferred. These are after all working groups and not sitting or talking groups. In a similar way, the mandate of Workbodies should be completed by conclusion of activities with a report, rather than re-invention and indeterminate continuation of activities.

The proposal for the future direction of existing Workbodies is therefore as follows: First, the activities of WG-MIS, WG-DRG, WG-WAT, WG-POV and TF-FIN should be concluded according to the mandate and workplan. Second, the TF-BIO-ENERGY and TF-SEDIMENTATION should be transferred to the Strategy Theme “Basin”. Given the high priority and actuality of the topic of water use by crops for bio-fuels, it is advisable to consider extension of the workplan of the TF-BIO-ENERGY, but with clear targets for reporting. Similarly, the WG-MDG should be transferred to the Strategy Theme “Knowledge”. Third, urgent attention should be given to activate NCs and nominate representatives to actively participate and contribute in the TF-SEDIMENTATION and WG-MDG.

Regarding the direction of new Workbodies, the proposal is to initiate Working Groups within a renamed Strategy Theme (see Conclusion) with an explicit focus on water management: (1) Irrigation management according to the Water Balance Approach – Attention should be given to a common understanding and application of “consumptive” and “non-consumptive” water use, with beneficial and non-beneficial irrigation on the one side, and recoverable and non-recoverable drainage on the other (Perry, 2007). The intention should clearly be to optimise consumptive, beneficial use as well as non-consumptive, recoverable use. (2) Irrigation water loss control – With increasing competition for water, eliminating or at least reducing water losses on distribution networks such as irrigation schemes, is a low cost target that can be achieved over a relative short period, compared to construction of a new storage capacity to increase water supply. This type of effective water saving is mainly dependent on innovative management and application of innovative technologies. (3) Irrigation rehabilitation/ revitalisation/ modernisation – Although terminology has changed over the last 25 years, the focus is still the same: Improved water management on irrigation projects with attention on appropriate technology, representative organisation and cost-effective service delivery. (4) Irrigation development and management of Water User Associations (WUAs) – With transfer of responsibility for water management to a local level, more attention has to be given to cost recovery of the service provided for water distribution. At the same time it is important to balance the budget, requiring detail analysis of the source and application of funds. In turn this makes user-based performance assessments essential and to identify irrigation performance indicators (Small & Svendsen, 1990). In all these instances, representatives of member countries of ICID will surely benefit by documenting the current state, recording progress, exchanging experiences and debating lessons learnt through participation in Workbody activities.

4. Conclusion

In order to consolidate the Strategy Theme “Systems", leadership and decisive action is required. Essentially leadership involves defining reality and creating a new reality (Senge, 1998). When developing and re-establishing a strategy, leadership involves specifying the direction (goals, action plans, allocation of resources) which provide the basis for trade-offs and the ability or conviction not to consider options which are deviating from the strategy (Porter,
2008). For ICID, both top-down and bottom-up interaction is necessary. The policy and strategy is set by the IEC, operations and reporting are managed by the PCTA, active participation and contribution depends on members of Workbodies, while responsive and co-operative NCs nominate the expert individuals from member countries, and vice versa. Without any doubt, the inputs and benefits of Working Groups and Task Forces (past and present) through networking and co-learning must be appreciated.

However, it is equally important to debate the relevance and description of the Strategy Themes. In this regard it is recommended, first to change the terms “Systems” to “Projects” or “Irrigation Schemes”. Second, all persons involved must make an effort to improve the effective operation of Workbodies, through regular contribution by members. Third, this requires the re-enforcement of the responsibility of NCs and Workbody representatives. There are definite incentives for participation, which have to be recognised, appreciated and promoted. Apart from routinely attending to meeting agendas and minutes, more emphasis should be given to workshop presentations, papers and publications and the related discussions between member country representatives and participants. This can only be done by adhering to Workbody mandates, workplans, activities and reporting. Apart from discipline and hard work, creativity and enthusiasm for the work or task to be attended to, should also generate energy and vibrancy for the activity of team members.

Finally, the proposed action plan for the renamed Strategy Theme “Projects” is briefly: 2012-2013: Conclude existing Workbody activities and re-organise Workbodies within the Complex Adaptive Water System to achieve renewed focus. 2013-2014: Discuss and obtain agreement on the priority issues to initiate new Workbodies to maintain relevance for water management according to the Strategy Theme. The challenge will be to obtain participation by NCs and contributions from nominated Workbody members. This has to lead to the establishment of the mandate with objectives/goals, course of action and expected output. 2014- and onwards: Systematically review progress and adjust to maintain focus, relevance and achieve success.

References


Labhsetwar VK (2012) Background and Introduction to report on Irrigated Agriculture Development under Drought and Water Scarcity. ICID WG-IADWS. Chairman: Nairizi S.


☆☆☆☆☆