

Developing capacity for irrigation and drainage

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There is a general consensus among policy-makers in the developing world and aid agencies that lack of capacity is constraining the development and improvement of irrigated agriculture⁴ as a means of reducing poverty, increasing food security and improving livelihoods among both rural and urban populations.

But capacity development is not something new; it has been a major issue in development for many years and comes from widely acknowledged shortcomings in development assistance over the past 50 years. What is new however is the attention it is getting from the irrigation community. It is becoming an issue in its own right, rather than being a measure bolted on to try and sustain infrastructure investment projects.

It's not just about education and training

There is no doubt that the education/training sector is important, and is central to developing capacity – but it is only one component. Many senior government officials still see educating/training professionals and technicians as the solution to providing more capacity to support investment in new infrastructure. Unfortunately donors have tended to reinforce this thinking in spite of the fact that it has yielded only limited results.

Good capacity development must go beyond the education/training sector to include the building of good organisations and institutions within which individuals can work effectively. It needs a socio-economic environment that encourages rather than discourages successful irrigation development. These issues are aptly captured in figure 1. This rightly puts individuals at the centre of capacity development but it also shows the importance of the work environment, which is the foundation on which individuals stand. This environment comprises the pillars of individuals' knowledge and skills, and the organizations in which they work. If either of these is weak then it becomes difficult to support the 'weights' – good job performance and effective irrigation water management. These 'weights' are the heart of capacity development.

Developing capacity in this more comprehensive way is much more difficult and it is easy to see why people tend to fall back on the education and training of individuals and ignore the rest. But all these elements need to be in place, and simply focusing on individuals will not be enough.

Part of the development process

Many people have tried to capture the meaning of capacity development in terms of a definition, the most appropriate starting point for irrigated agriculture would seem to be the general one produced by UNDP - *Capacity development is the sum of efforts needed to nurture, enhance and utilize the skills and capabilities of people and institutions at all levels – locally, nationally, regionally and internationally - so that they can better progress towards sustainable development... It continues by saying at the basic conceptual level, developing capacity involves empowering people and organizations to solve their problems, rather than attempting to solve problems directly. When capacity development is successful, the result is more effective people and institutions better able to provide products and services on a sustainable basis.*



Figure 1. Developing capacity development

This is a very broad definition but it makes an important point – successful capacity development is heavily dependent on the approach taken to the development process itself. Until recently governments, supported by aid donors, pursued a traditional top-down approach. It is now widely accepted that this has failed to produce the capacity needed. Indeed it is usually blamed for undermining

local capacity rather than building it since it ignores local wishes and favours high profile activities. The current strategy is to replace this with approaches that work in response to local initiatives (with local ownership and leadership) and incorporate the ideas of participation and subsidiarity (decision-making at the lowest possible administrative level). This is why many people now prefer to talk about capacity development rather than capacity building. It draws attention to the importance of the process in achieving the end product.

The territory of capacity development

This definition of capacity development is fine and embodies all the development ideals that most irrigation practitioners would now subscribe to. But it does little to describe the capacity development territory of irrigated agriculture - how to assess the capacity gaps and what practical steps are needed to overcome them.

Social scientists have helped to define this territory by identifying three levels of capacity development – individuals, organizations and an enabling environment.

- Individual level. This is the most 'concrete' and familiar part of capacity development and includes the education and training of the various stakeholders, farmers and local professionals.
- Organizational level. This refers to the wide range of organizations involved in irrigation such as water user organisations, research groups, government extension agencies, private companies that share common objectives such as improved livelihoods at a farming level or improved water management or increased agricultural productivity at a national level. The capacity of an organisation is embedded in the ability of its individuals to work together within established rules and values and to interact with other organisations.
- Enabling environment. This represents the broad national and international context within which irrigated agriculture can develop. It has immense influence over what happens at the lower levels. It is

concerned with policy at the highest levels in government, the socio-economic conditions that enable or discourage irrigation development and the legal framework that provides farmers with both security of tenure for land and water, and power to seek legal redress when contracts are broken.

The levels are clearly linked together, for example, organizations of water users are shaped as much by society (laws, regulations) as by individuals (skills, leadership, relationships). But they do provide a structure that allows capacity development to be examined and analysed, as well as acting as possible entry points for donor support and technical cooperation.

The three levels can be combined with the broad activities that make up

tion and training provision unable to provide the basic human resources for the sector?

The priority given to each box on the grid will vary from place to place depending on local issues – such as the way irrigation is practised (e.g. privately-run smallholder irrigation, publicly-owned large irrigation/drainage networks, commercial farming) and the need to solve local problems (e.g. salinity and waterlogging, inadequate education facilities, irrigation management transfer).

Putting concepts into practice

To date most capacity development ‘strategies’ have tended to be ‘bolt-ons’ to protect and sustain infrastructure development and have been of minor importance compared to investment in the construction activities. These

workshops to ensure that the widest range of views are taken into account to answer the questions – *where do we want to go? and how do we get there?* A strategy can then be developed to reach the desired goals.

Any discussion about capacity development rapidly leads on to funding, aid and technical assistance. Most developing countries will look for aid support and it is vital that an appropriate balance is achieved between external support and the internal nature of capacity development. The current approach is to place greatest emphasis on internal activities but there is an acceptance that the process can be supported and accelerated by outside help. Long-term partnerships are now seen as the essence of good collaboration between donors and recipients and not the more traditional north-south dialogue. Such relationships can influence the process positively as trust and effective working relationships develop over time. For some however, any external support will always be viewed as evidence of a lack of sustainability. When one party is seen to be giving and one is receiving, getting the balance right is the greatest challenge.

Capacity levels	Irrigated agriculture activities						
	Research	Education/ Training	Planning	Design	Construction	O&M	Networks
III Enabling environment							
II Organization							
I Individual							

Guiding principles: subsidiarity and participation

The C.D. ‘grid’ maps out the irrigation territory for capacity development – a useful start-point for discussions

a well-functioning irrigation sector, in a GRID format (fig.2) that maps out the territory where capacity development may be needed. The grid not only represents the operational activities of planning, design, construction and O&M, but also the more strategic activities of research, education and training and networking. The capacity to undertake research, to educate the next generation of practitioners and to set up and operate networks are all seen as important to completing the picture.

Guiding principles of subsidiarity and participation are added to demonstrate the move away from the traditional top-down approach to development.

The ‘grid’ provides a useful starting-point for questions and discussions between all stakeholders in identifying capacity development needs. In talks with donors it can add clarity in identifying constraints and what needs to be done. - Where are the capacity gaps? Are more individuals needed and if so which? Are the constraints mainly in operation and maintenance on farms or in support organisations provided by government or the private sector? Does the socio-economic environment discourage irrigation or is the educa-

tion strategies have often been limited in scope, poorly defined and developed with minimal stakeholder consultation. A new approach, now being developed by IPTRID, FAO and ICID, is to use strategic planning methods to plan and implement capacity development in much the same way as is done for infrastructure development. The aim is to put capacity development at the forefront of the planning process. Clearly infrastructure would feature in the strategy but its emphasis would change. If capacity development is the central issue, the question then becomes – what infrastructure is needed to support the desired capacity development? – rather than what capacity development is needed to support new infrastructure?

IPTRID has set out a strategy that proposes an initial needs assessment at regional, national and sub-national levels to look at the present situation and identify the priority technical issues (in terms of water conservation, water productivity, land degradation, salinity, etc.) and the existing institutional capacity and weaknesses at strategic and operational levels. Full participation of all the stakeholders is anticipated through roundtable conferences and

The next step

Many countries are beginning to recognise the importance of capacity development in the wider context. But currently there is no guidance available on how to assess needs nor on how to plan ways of developing capacity. Detailed attention is needed for other issues such as the relationship between capacity development and formal education and training, developing effective organisations, monitoring and evaluating capacity development, costs and values of capacity development programmes and approaches to capacity development.

The next step is to develop guidelines for planning capacity development to illustrate current good practice and this is a topic that IPTRID is pursuing with its partners and the international irrigation community at the ICID meeting in Moscow in September 2004. IPTRID is also carrying out fieldwork to investigate constraints and needs in representative situations.

References

- FAO (2004) Capacity Development in Irrigation and Drainage Issues, Challenges and the Way Ahead. Proceedings of a workshop Capacity Building in Irrigation, Drainage and Flood Control organised by ICID and FAO in association with Alterra-ILRI and other supporting agencies. Montpellier. Sept 2003.
- Alterra-ILRI (2004) Proceedings 9th International Drainage Workshop, September 10-13, 2003, Utrecht, The Netherlands (<http://www.alterra.wur.nl/UK/ilri/Drainage+Workshop/>)

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⁴The term *irrigated agriculture* is used to define all the ways of controlling and managing water for agriculture in an environmentally responsible manner. It is about water control technologies and practices (for the irrigation of crops), water harvesting, drainage (to dispose of surplus and saline water) and flood mitigation (to protect people and land against water damage).