Key words
Capacity building, institutional development, education and training, irrigation and drainage

Capacity Building in Water Management
Capacity building refers to developing the skills, knowledge and means to define, plan and implement integrated water resources development for agriculture. Capacity building is required for organisations in order to manage the complicated issue of water management with all its stakeholders. Management of irrigation and drainage systems entails a context of human resources, water control works, appropriate policies, legal frameworks and institutions to support irrigators and farmer organisations, markets, supply chains for irrigation technologies and support services for farmers. This requires an enabling social and economic environment in which these crucial elements can be developed through human and institutional capacity building.

Capacity building activities examples are human resource development, training courses, reforms to regulatory and legal frameworks, new institutional structures, changes in administrative procedures, new channels of information and communication and changes in the education system.

IWRM’s approach to Capacity Building
Capacity building is a central element in IWRM’s approach. During its almost 50 years of existence, the international research institute Alterra and the predecessors of the IWRM Team have developed a solid approach of training, applied research and supporting activities, assisting numerous individuals and countries in their efforts to best use irrigation and drainage potential. In all countries where IWRM works it teams up with local institutions. IWRM’s focus and core business developed over time from very practical and technical drainage oriented, towards a broader oriented institute for water management for food production as part of Wageningen UR.
### IWRM’s Capacity Building activities in irrigation and drainage

#### Examples of IWRM activities in Capacity Building

**Assistance to policy formulation**

- **Advisory Panel Programme (APP), Egypt**
  IWRM facilitates the interaction between Egyptian and Dutch policy makers through the APP Panel, a partnership programme since 1976. The Egyptian-Dutch APP advises the Ministry of Water Resources and Irrigation in managing Egypt’s water resources more efficiently and effectively through technical support and identifying and advising on policy issues. IWRM plays a defining role in the Advisory Panel as it provides the Panel with the means to make well-informed decisions.

- **National Drainage Programme (NDP), Pakistan**
  In the NDP programme the focus is on research advisory services to the government of Pakistan. IWRM was involved in the support to the development of a research advisory committee consisting of all stakeholders, the formulation of the direction of research, implementation of research, assistance to the formulation and implementation of PhD research, and other assistance to research institutions and universities involved.

**Partnerships with research institutes**

Experience at IWRM has shown that long-term collaboration contribute to fruitful capacity building:

- **Indo-Dutch Network Programme, India**
  IWRM, together with the Central Soil Salinity Research Institute (CSSRI) and four Indian State Universities work together in a network programme, with the objective to strengthen the research capacity and increase awareness on drainage and related water management for the control of waterlogging and soil salinity at State and National level.

- **Sustainable Management of Peat Lands in the Humid Tropics, Malaysia**
  Site specific knowledge combined with global experiences have resulted in a project to the formulation of preliminary guidelines on water management of peat lands, which will be tested under local conditions where local research capacity will be strengthened. Recommendations on institutional framework requirements for peat research and development in Sarawak will be formulated.

#### Training courses & Human Resource Development

Capacity building through training courses is for the last 40 years an aspect of importance to IWRM. Various courses have been developed and presented (International Course on Land Drainage; International Course on Institutions in Water Management, etc.), and also tailor-made Training is possible