Editorial

Globalisation of water management

Water, it is said, will be the oil of the twenty-first century. Successful water management will be the key to future economic growth and social wealth in both developed, and developing countries. With this in prospect, who better than Dr. Herman Bouwer to foresee how water management will be integrated into the agricultural, industrial, environmental and social developments of the second millennium. Read on . . .

Dr. Bouwer has made a life-long commitment to the study of water and irrigation. He is currently a research engineer at the US Water Conservation Laboratory of the USDA in Phoenix, Arizona, where he was formerly the Director. Also, he is the joint editor-in-chief of this journal. Dr. Bouwer is eagerly sought after around the world as a speaker on water-related issues. The following paper on ‘Integrated Water Management’ is a distillation of his current thinking and some prognoses that have been derived from his many talks.

Traditionally, agriculture has viewed water management from the demand side in terms of irrigation, or from the surplus perspective with regard to drainage. The resource in itself, or the role of competitive users, has been little considered. Our journal Agricultural Water Management has reflected this traditional bias. During the green revolution of the late twentieth century crop-production concerns were paramount. Irrigation schemes and drainage plans were designed to meet the demands of the plant.

However, we need to be smarter in this new millennium. We need to address squarely the off-site impacts of agricultural water management, and we need to consider integration of agricultural water management with the demands and surpluses of other users and stakeholders. Our journal will, through a subtle but significant change in scope and direction, increasingly publish research and technology associated with the downstream impacts of agricultural water management, and of its integration into economic and social planning. As well as publishing papers on managing agriculture’s demand for water, we will also consider research that addresses both the environmental and human dimension.

As Dr. Bouwer has discussed in his review article, scientists and engineers need to use their current tools and extant knowledge to mitigate the deleterious impacts of irrigation and drainage. The list of these is long — non-point source pollution, salinisation, degradation of groundwater quality, loss of surface water quantity, sodicity, and inter alia rising water tables. Furthermore, we need new understanding so that agricultural water management is sustainable and durable.

The key point that Dr. Bouwer makes in his review is that agricultural water management needs to be more closely integrated with the exigencies and requirements of the other users, and the various stakeholders in the water realm.
Increasingly we will see tactical management in agriculture of reuse water, and greater advantage will be taken of aquifer storage and groundwater ‘banking’. Through coordinated globalisation, possibly through a food equivalent of OPEC, Dr. Bouwer suggests there could even be trading in virtual water.

Dr. Bouwer’s insights and perceptions, hard-won through years of innovative research and R&D management, make for interesting and thought-provoking reading. In his review, Dr. Bouwer raises many critical issues and challenges concerned with integrating agricultural water usage into globally coordinated schemes for water management. These threats and opportunities need to be addressed. As Dr. Bouwer notes, science and technology provide the means for achieving this. Our journal of Agricultural Water Management will be a key forum in which will be published research and development that is focussed on how agriculture performs as a prime element in integrated water management. Read on . . .