Foreword

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Reviewing the chapters of this book has allowed me to revisit the activities that brought me into contact with the authors. I find great satisfaction in seeing that action-research initiated in Nepal to explore innovative interventions in farmer-managed irrigation systems (FMIS) in the mid-1980s has received sustained attention for over two decades. Imperfect as action-research often is in setting a solid baseline for time series analysis, investigation subsequent to the completion of the 'project' has added much to the lessons gleaned from the 'action' part of the research. The 'action' effort was to bring emerging information about FMIS into activities endeavoring to improve water use and expand the area irrigated. The focus was to enable the irrigation users to gain formal recognition as Water User Associations (WUAs) and to stay in control of system operation and maintenance as well as the planning and implementation of future initiatives.

Studies of FMIS in Nepal in the 1970s (Bihari Krishna Shrestha) and early 1980s (Prachanda Pradhan, Edward Martin, and Robert Yoder) spawned field investigation of FMIS by numerous additional scholars over the next decades. Some of Nepal's FMIS are hundreds of years old and were built by feudal landholders, religious trusts, and the local community of the farmers. A tradition of local governance was established where water management was the responsibility of the users with no interference by the king's court or by the state governing machinery. The early success of locally managed irrigation prompted farmers all over Nepal, as in many other countries around the world, to organize collective action to build, operate, and maintain additional systems. Decade by decade, new diversions and canals were constructed so that by the end of the nineteenth century, FMIS had spontaneously evolved in most areas where both water and land are accessible in Nepal.

The early research provided insights that exposed unheralded resources. Foremost among these was that multitudes of locally built and governed stream diversion irrigation systems are successfully irrigating many thousands of hectares of crops in both the hill and *terai* areas of Nepal. Another finding was that cropping systems have evolved from one crop to two and three crops per year depending upon altitude. Also, that the food produced by these irrigation systems is essential in supporting a significant percentage of Nepal's population.

In addition to the technical sophistication of aligning canals that wind around mountains and cross sheer rock cliffs, sometimes threaded through tunnels – almost exclusively built by local labor and tools – it was determined that FMIS success is based upon indigenous governance systems that evolved as the systems were planned and constructed. The studies highlighted the ability of water users to devise, continually adjust and enforce the roles and rules by which their systems are operated and maintained. They concluded that the ability to craft institutions that fit local conditions is a valuable and underutilized resource. Capturing this largely invisible resource as a driver for irrigation development became the challenge that emerged from the FMIS field studies.

The Water and Energy Commission Secretariat (WECS) and newly renamed International Water Management Institute (IWMI) determined to use information from the field studies to investigate ways of addressing the escalating cost and disappointing performance of hardware-based irrigation development. With support from the Ford Foundation, they developed an action-research activity to look at ways to incorporate FMIS resources into Nepal's push to expand irrigated agriculture. The action-research was an experiment in using physical construction activities to strengthen self-governing and self-supporting irrigation institutions at the user-community level.

The authors of this book looked at the action-research project results in the late 1980s and incorporated the project irrigation systems into their ongoing global research on local resource management. They found ways to revisit and review what happened to the systems over the 20-year period following the WECS/IIMI intervention. This book provides an excellent summary of the action-research experiment but goes much further by reporting on observation and analysis of the project impact spanning the two-decade, post-project

period. This adds a new dimension to ‘action-research’ and gives information about the dynamics, benefits, and limitations of local governance. The insights obtained from the longitudinal study provide a guide for refining the process of supporting the growth and expansion of FMIS and input to be used in updating intervention strategies for all types of community-based resource management.

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