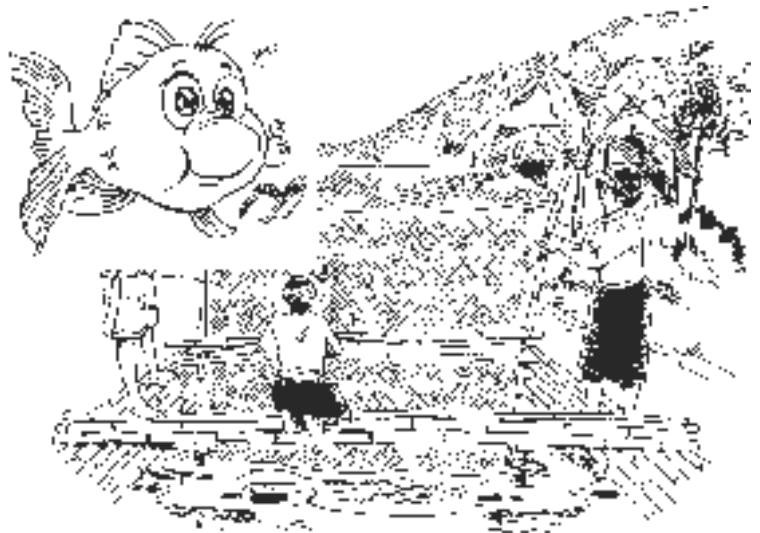


Introduction

The search for sustainable, livelihood approaches to reduce poverty continues to pose a challenge to rural development planners and practitioners. Often this is because of the very nature of poverty itself, which remains complex: the very poor are vulnerable to an interplay of a rather wide range of forces and factors. However, natural resources, especially water resources, continue to be available to poor families in many parts of the world and poor families have demonstrated that they can utilize these resources in a sustainable manner. Farmers, the landless and fishers all over the world, continue to face (and often overcome) the challenges of poverty by developing their water-based, natural-capital stocks. They often do it using human capacity and the social capital available locally. Development agencies too have attempted to add value to these efforts by undertaking research and development efforts that build on these initiatives. Success stories are abundant especially in Asia. But mistakes have also been made, resulting in the destruction of these very assets that could help alleviate poverty. New programs can benefit from these experiences as lessons are now readily available for wider sharing.

How this resource book was produced

This resource book consists of a compilation of proven experiences (from Asia) that are totally field-derived. This book is the result of the participatory workshop process conducted on September 18-28, 2000 at the International Institute of Rural Reconstruction (IIRR), Y. C. James Yen Center, Silang, Cavite, Philippines. Thirty-seven participants from 12 countries worked closely with a production team of editors, artists and desktop publishing staff.



Prior to the workshop, an initial list of topics was developed by the steering committee. A set of guidelines for developing the first draft papers was drafted and sent to the participants.

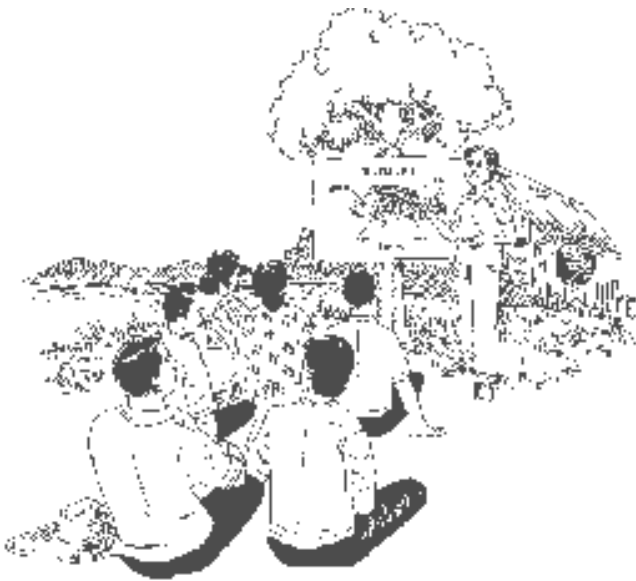
During the workshop, each participant presented his or her first draft, using overhead transparencies of each page. Copies of the draft papers were also provided to all other participants who critiqued the draft and suggested revisions.

After the first presentation, an editor-artist team helped the author revise and edit the draft and draw illustrations to accompany the text. The edited draft and artwork were then desktop published to produce a second draft.

Each participant then presented his or her revised draft to the group for the second time, also using transparencies. Again, the audience critiqued it and suggested revisions. After the presentation, the editors, artists and desktop publishing staff again helped the author revise the material and develop the third draft. At the end of the workshop, the drafts were put on display for review and sign off by the authors.

Throughout the workshop, the participants worked together in informal groups to discuss and improve the manuscripts. Although the principal authors are listed on each paper in this resource book, all the papers benefitted from a critical review by workshop participants.

After the workshop, a semi-final draft was reviewed by the advisory committee members (Dr. Harvey Demaine, Dr. Julian F. Gonsalves, Dr. Matthias Halwart, Dr. Dilip Kumar, Dr. S. S. Tabrez Nasar, Dr. Gary F. Newkirk, Dr. Rolando Platon and Dr. Mark Prein). The publication was managed and coordinated by an IIRR team: Dr. Tabrez Nasar, Ms. Joy Caminade, Ms. Jel Montoya and Dr. Julian Gonsalves. Jel Montoya and Mr. Jeffrey Oliver coordinated the final publishing of the manuscript.



The workshop design and subsequent reviews benefited greatly from inputs from members of the advisory committee. However special mention must be made of a few individuals who provided strategic inputs during the entire process. Without their inputs this publication would not have been realized: Dr. Gary Newkirk of Dalhousie University/International Development Research Centre (IDRC), Dr. Mark Prein of International Center for Living Aquatic Resources Management (ICLARM), Dr. Matthias Halwart of Food and

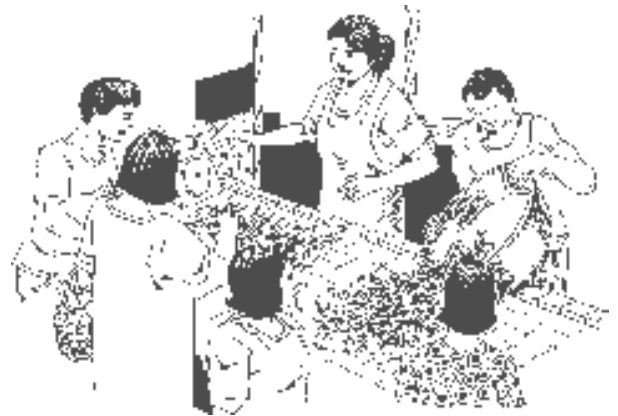
- Agriculture Organization of the United Nations (FAO), Dr. Dilip Kumar formerly of Network of Aquaculture Centers in Asia-Pacific (NACA), (now with FAO-RAPA) and Dr. Pedro Bueno (NACA).

Very special acknowledgments are due to Dr. Gary Newkirk of IDRC/Dalhousie University, Dr. John Graham, Dr. Brian Davy and Dr. Stephen Tyler of IDRC and Ms. Eva Marischen and Mr. Stephan Jansen of German Agro Action (GAA) who saw value in this effort, right at the outset. They encouraged the original proponents from IIRR, Dr. Julian Gonsalves and Dr. Tabrez Nasar through the difficult two years, when it appeared as though additional funding might not be available from other donors. Fortunately FAO, NACA and the Netherlands Embassy came in at the critical stage with the absolutely essential, supplementary- funding inputs. Special mention must be made of Ms. Elsa da Costa and Mr. Maurits ter Kuile of the Dutch Embassy who

responded positively to a request for supplementary funding, made only a few weeks prior to the initiation of the workshop. With partners like Southeast Asian Fisheries Development Center (SEAFDEC), the Asian Institute of Technology (AIT) Aquaculture Outreach Program, ICLARM, FAO and NACA, we are sure that these materials will get disseminated and used with relevant audiences.

This resource book is complementary to the publication produced in 1992 (*IIRR and ICLARM. 1992. Farmer-Proven Integrated Agriculture-Aquaculture: A Technology Information Kit*) which focused mainly on lowland freshwater systems and has been published in revised form by FAO in 2001 (FAO/ICLARM/IIRR 2001. *Integrated Aquaculture: A Primer*. FAO Fisheries Technical Paper No. 407. Rome, FAO. 149p).

Comments were made during the workshops that many aquaculture conferences and meetings do not provide enough of an opportunity for healthy and constructive critique of ideas. This publication intentionally presents a diversity of perspectives and positions. The views presented remain those of the authors (whose names appear at the end of each article). The fact that the reader is presented with a diversity of viewpoints and perspectives make portions of



this resource book of relevance to a wider range of development practitioners, local government officials and academic institutions. Addresses are provided for readers to contact the authors directly. Special consideration is given to the need for an integrated conservation-development perspective. This resource book presents, in a single compilation, information on how a wide range of aquatic ecosystems are utilized. Poor people's livelihoods, based on aquaculture are characterized by diversity and it is important therefore, to understand landscapes and sub-ecosystem linkages. The role that fresh, brackish and coastal water systems (and various other systems in between) can play in people's livelihoods in Asia is discussed (as it relates to aquaculture). Household food security, nutrition, income generation, the need for conserving the resource base and gender considerations were constantly considered during the workshop, as materials were recast and repackaged. Conflicts in resource use by various stakeholders, often engaged in different forms of water-based livelihoods are discussed by many individual authors. These are lessons from the field and are shared so future action is influenced. These perspectives show up in most articles.

The partners in this documentation effort encourage wide use of these materials. There is no copyright. Feel free to use the materials in advocacy, training, planning and field-support work. Consider using in newsletters and newspapers (including presenting the materials in serialized forms) after acknowledging the original authors and the co-publishers of the resource book. We all realize the value and need for upscaling our efforts in small scale aquaculture: this publication could potentially feature prominently in any effort to broaden the opportunities for improved

livelihoods for the poor, based on the careful use of aquatic resources.