



Farmer-Led Integrated Watershed Management

Trainers' Resource Book

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FARMER-LED INTEGRATED WATERSHED MANAGEMENT

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International Centre for Integrated Mountain Development (ICIMOD)
and
**Participatory Watershed Management Training in Asia (PWMTA) and Farmer-centred
Agricultural Resource Management (FARM) Programmes, FAO (UN)**

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FOREWORD

A vicious circle comprising of increased population pressure, scarcity of land resources for sustainable livelihoods of the farming communities living therein, poverty, and land degradation describes the scenario in the upland watersheds of Asia today.

Serious efforts through government interventions are being made in some of the Asian countries in order to break this chain of circumstances. However, these are mostly focussed on technological and management practices, thus they are only partially successful. A more holistic approach to participatory watershed management is needed. The cases of successful experiences of watershed management point to the need for incorporation of several social and institutional concerns into the comprehensive approach to watershed management, in which local farming communities are made equal partners.

In this respect, the lack of trained manpower is a major gap, and this resource book has been prepared in a style that facilitates a dialogue encouraging a participatory methodology in training rather than one-way communication by lecturing the trainees.

The Participatory Watershed Management Training Programme in Asia (PWMTA) (GCP/RAS/161/NET, FAO/The Netherlands) is designed to overcome this lacuna through human resources' development in participatory watershed management. It is intended to contribute to sustainable use and management of forests, soil, water, and other natural resources by improving skills and national capabilities to plan, implement, evaluate, and monitor participatory watershed rehabilitation programmes. This is being achieved by regional training, workshops, seminars, and national and regional watershed management networking.

The International Centre for Integrated Mountain Development (ICIMOD) has joined hands with the PWMTA programme of FAO to develop materials for human resources' development in this field. The purpose of preparing the present trainers' resource book is to help update the available manpower as facilitators of these programmes so that farmers can own and implement them. This resource book has been prepared by a panel of experts from ICIMOD and FAO. It was put on trial at a regional trainers' training programme, and the comments have been incorporated. This book has been brought out for wider application in human resources' development for farmer-led watershed management programmes.

We hope that the present document will be of great help to all the persons and organizations engaged in transferring skills for improved management of the watersheds of mountain and other upland areas and will contribute to developing better livelihood systems for the people that inhabit them.

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PREFACE

Upland watershed areas, consisting mainly of mountains and hills, cover more than one-fifth of the earth's landscape and are home to more than one-tenth of the world population. They are a mosaic of ecological environments inhabited by diverse farming communities representing complex socioeconomic systems. In addition, a human population of more than two billion, living downstream of these upland watershed areas, is directly or indirectly affected by the management of upland watersheds.

In the developing countries of Asia, upland watershed areas are experiencing increasing population pressures and scarcity of resources for the livelihoods of farming communities. This has led to poverty and, in turn, to the degradation of resources in these fragile upland watershed areas. This chain of circumstances is rendering the upland watersheds' agro-eco-sociocultural systems increasingly unsustainable. These trends are reflected in increasing food deficits and inequality and further marginalisation of the poor in upland societies. Furthermore, energy shortages and physical and biological degradation of the upland landscapes are widespread. Finally, this is resulting in large-scale outmigration of upland inhabitants to lowland urban areas.

Recent experiences in managing upland watersheds sustainably in Asia have had mixed results. However, there are many examples of successful indigenous efforts. The more successful cases of recent efforts based on indigenous knowledge show potentials for food security and improved quality of life for watershed inhabitants, apart from ecological stability. These successful examples highlight the fact that there may be sufficient modern and indigenous technological options. However, there is a need to make upland people equal partners in upland watershed resources' management. For this, one should look for successful institutional perspectives, innovations, and experiences which give centre stage to the stakeholders, i.e., the farmers of the upland watersheds.

As is apparent, there has been a shortage of trained manpower in participatory integrated watershed management at various levels. This is because most of the training, education, and extension work in agriculture and forestry, especially in the Hindu Kush-Himalayan region, is modelled on the lines of institutions in the plains' environment which do not give primary importance to people's participation but to technology transfer.

Therefore, the purpose of preparing the present trainers' resource book on **FARMER-LED INTEGRATED WATERSHED MANAGEMENT** is to impart skills to professionals in related fields on how to help farmers transform upland watersheds into sustainable areas. The resource book is aimed at upland watershed areas only. It introduces the 'mountain perspective' to local farming communities in order to make them equal partners in sustainable management of upland watershed resources.

The manual has eight modules covering topics ranging from the mountain perspective for watershed management to participatory processes to make watershed management programmes farmers' programmes, combining other social concerns and experiences of successful involvement of farming communities in managing upland watershed resources. This resource book is for use as reference material for those who are engaged in upland watershed development programmes.

Kathmandu
December, 1997

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ACRONYMS

CARL	Comprehensive Agrarian Reform Law
CSC	Certificate of Stewardship Contract
DD	Diagnosis and Design
DENR	Department of Environment and Natural Resources
DFO	District Forest Officer
DOF	Department of Forestry
ECOGEN	Ecology Community Organization and Gender Project, Clark University, USA
FAO	Food and Agricultural Organization
FARM	Farmer-Centred Agricultural Resources' Management Programme
FINNIDA	Finnish International Development Agency
FUG	Forest User Group
GL	Group Leader
GO	Government Organization
HFC	Hamlet Level Farmers' Organization
HKH	Hindu Kush-Himalayas
HMG/N	His Majesty's Government of Nepal
HP	Himachal Pradesh
HVC	High Value Crops
ICIMOD	International Centre for Integrated Mountain Development
IIDS	Institute for Integrated Development Studies
INGO	International Non-Government Organization
INSM	Integrated Nutrient and Soil Management
IPM	Integrated Pest Management
ISPF	Integrated Social Forestry Programme
IVT	Indigenous Village Tank
IWM	Integrated Watershed Management
JWCFG	Jalbire Women's Community Forestry Group
M & E	Monitoring and Evaluation
MBRLC	Mindanao Baptist Rural Life Centre
NFT/S	Nitrogen Fixing Trees/Shrubs
NGO	Non-Government Organisation
NWDPRA	National Watershed Development Project for Rainfed Areas
OP	Operation Plan
PFT	Plastic Film Technology
PMA	Production Marketing Association
PRA	Participatory Rural Appraisal
PWMTA	Participatory Watershed Management Training in Asia

R & D	Research & Development
RRA	Rapid Rural Appraisal
SALT	Sloping Agricultural Land Technology
SBT	Seabuckthorn
SEGA	Socio-Economic and Gender Analysis
SRSC	Sarad Rural Support Corporation
SWFO	Small Watershed Farmers' Organization
UNDP	United Nations Development Programme
USA	United States of America
VDC	Village Development Committee
WM	Watershed Management

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