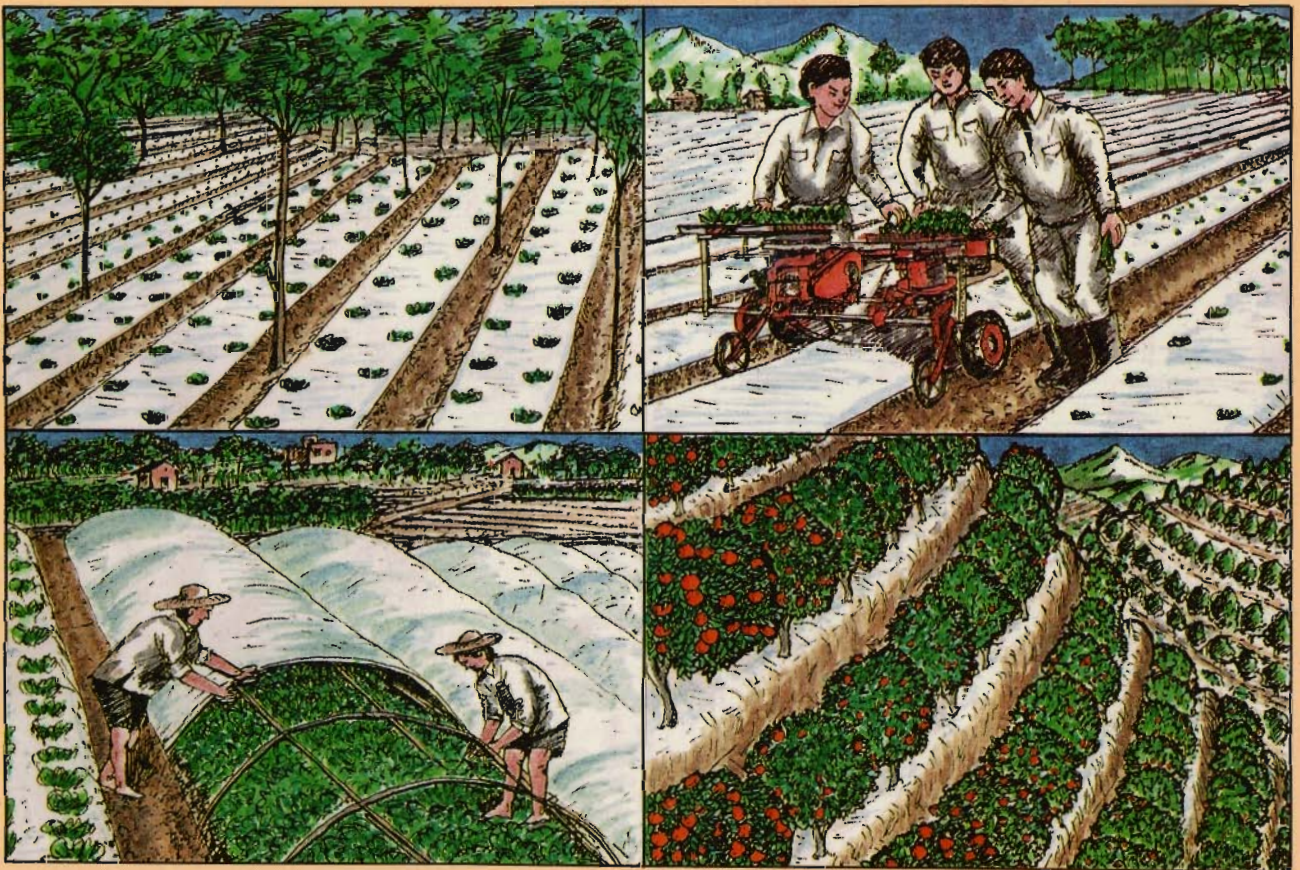


THE APPLICATION OF PLASTIC FILM TECHNOLOGY IN CHINA



Lu Rongsen

Kathmandu, NEPAL
1994

FOREWORD

The International Centre for Integrated Mountain Development (ICIMOD) was established in 1983 to promote an ecologically sound development process in the Hindu Kush-Himalayan region. An important mandate of the Centre is identification, documentation, and information exchange on promising technologies for sustainable mountain development.

Traditionally mulches of straw, leaves, ashes, and other agricultural residues have been used throughout mankind's agricultural history to modify the growing environment of food crops and other agricultural and horticultural crops. In more recent times, greenhouses have enabled farmers to advance and shorten the growing season of many crops.

The relatively new plastics and polythene industry has made a modern version of a traditional technology possible. The 1960s saw the introduction of the use of plastic film into agriculture. It was soon found that use of this new material helped to increase temperatures, retain moisture, and promote seed germination and growth of young seedlings. It was also found to accelerate not only the growth and development of roots, but also of the whole plant, achieving high yields and good crop qualities. In short, a synthetic material was provided that was able to improve the results achievable with traditional mulches. Polythene film also reduces the need for large amounts of organic material for mulching.

In 1976, plastic film technology was first introduced into China and, at present, this technology is used in 29 provinces, autonomous regions, and municipalities, including its application in a wide range of climatic and soil/terrain conditions.

A technical study on the climatic growing conditions of food and other crops in the mountain regions of the Hindu Kush-Himalayan region, showing the potential and limitations of production, was conducted by a team of Chinese and foreign scientists in the early 1980s. The study was conducted by the Chinese Academy of Sciences and the International Centre for Integrated Mountain Development (ICIMOD) to demonstrate the applicability of this technology.

THE APPLICATION OF PLASTIC FILM TECHNOLOGY (PFT) IN CHINA

Lu Rongsen

**Published by
International Centre for Integrated Mountain Development
Kathmandu, Nepal**

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Published by

International Centre for Integrated Mountain Development
G.P.O. Box 3226,
Kathmandu, Nepal

ISBN 92-9115-189-0

Typesetting at ICIMOD Publications' Unit

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In 1978, plastic film technology was first introduced into China and, at present, the technology is used in 29 municipalities, provinces, and autonomous regions, indicating its application in a wide range of climatic and soil/terrain conditions.

A technology that can modify the microclimatic growing conditions of food and other crops is highly relevant to the farming systems of the Hindu Kush-Himalayan Region where extreme weather conditions put severe limitations on producing adequate supplies of food. It is hoped that the present document will be a stimulus and incentive for agricultural research scientists and development workers in the other Regional Member Countries of ICIMOD to test and demonstrate the replicability of this technology.

Professor Lu Rongsen has gathered together Chinese experiences in the application of plastic film technology. It is a commendable piece of work and I gratefully acknowledge the commitment and technical analysis that has made this information available to a readership outside China.

Egbert Pelinck
Director General

Acknowledgements

I would like to express my sincere appreciation to Dr. N.S. Jodha, the former Division Head of the Mountain Farming Systems' Division of ICIMOD and Dr Tej Partap of the Mountain Farming Systems' Division for their help and encouragement. I also appreciate the valuable comments and information given by Senior Agronomist, Hu Zhaoling, Secretary-general of the China Agricultural Plastic Association.

Grateful thanks are also due to all the technical reviewers who carefully appraised the document and made useful suggestions for its improvement.

Lu Rongsen

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