



International Year of the
P O T A T O

Sustainable potato production

GUIDELINES FOR DEVELOPING COUNTRIES



During the International Year of the Potato, celebrated in 2008, FAO and CIP helped forge partnerships worldwide to address critical aspects of sustainable potato production. This technical guide collates that experience to review technical, socio-economic, policy and institutional factors that currently constrain increased potato production and productivity in tropical and subtropical countries. It presents Good Agriculture Practices relevant to potato production, and indicators and recommendations for action in key areas, from the utilization of potato biodiversity and improvements in seed systems, to soil management, insect pest and disease control and opportunities for value addition. It outlines a new policy and research agenda for the potato subsector that aims at making a real contribution to the eradication of hunger and poverty.

McCain





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GUIDELINES FOR DEVELOPING COUNTRIES

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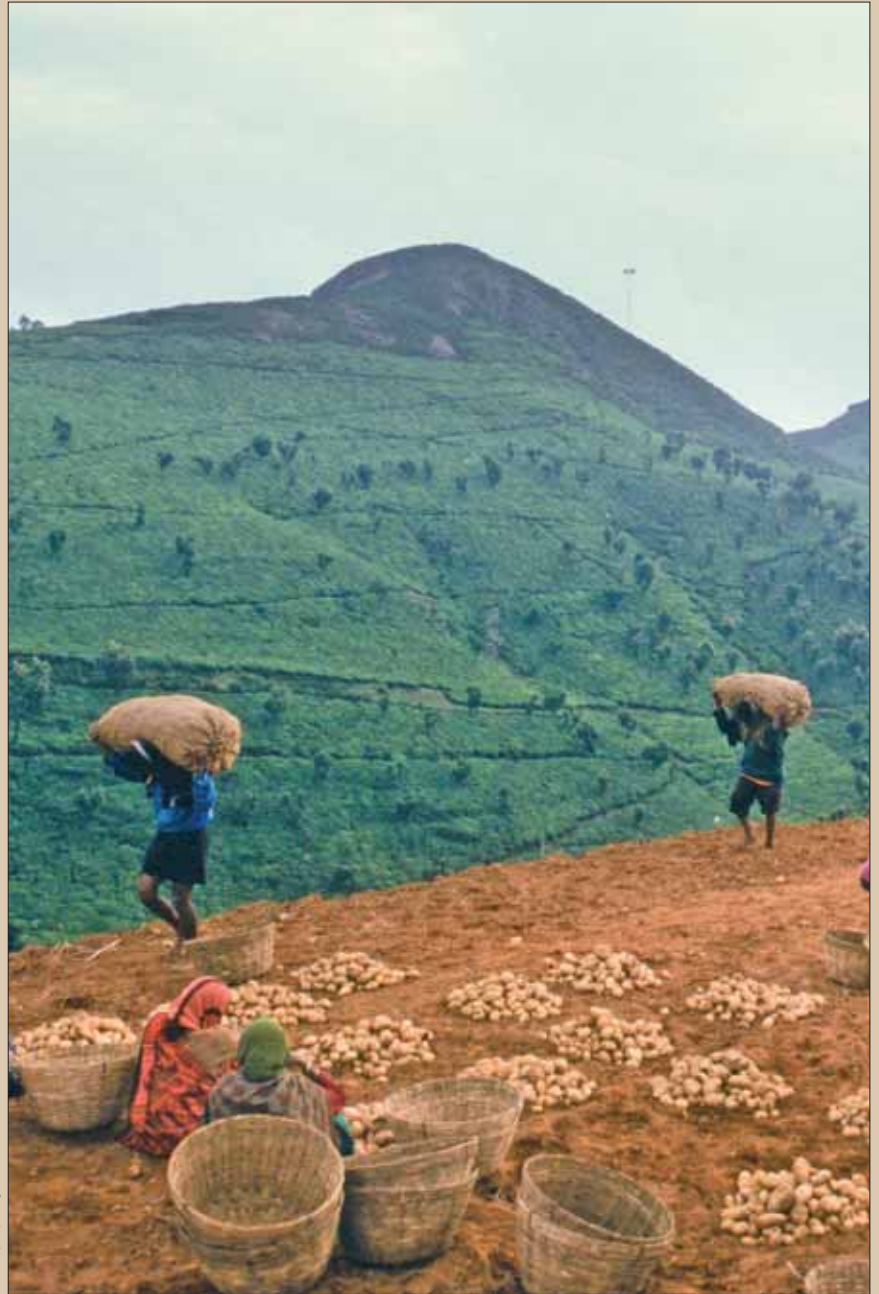
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**POTATO HARVEST
IN TAMIL NADU,
SOUTHERN INDIA**
(PHOTO: JONATHAN
KINGSTON)

Foreword

Celebrated in 2008, the United Nations International Year of the Potato (IYP) highlighted the important role of the potato in agriculture, the economy and world food security. IYP also had a very practical aim: to promote the development of sustainable potato-based systems that enhance the well-being of potato producers and consumers, especially in developing countries.

This technical guide is a contribution to achievement of the International Year's broader development objective. Today, potato production and consumption is booming worldwide, with ever greater quantities being processed for the convenience food and snack industries, while its importance as a subsistence crop continues to expand. Many developing countries wish to enter lucrative emerging markets for potatoes and potato products, but to do so need to make major improvements in the productivity, profitability and sustainability of their potato subsectors. For example, potato yields in the developing world average around 10 to 15 tonnes per hectare, less than half of average yields achieved by farmers in Western Europe and North America.

The present guide builds on experience gained through partnerships forged during IYP implementation to address critical aspects of sustainable potato production. It represents the first inter-partner effort, post-2008, aimed at producing technical guidelines that can be used by decision makers in developing countries to improve the sustainability of potato production and

boost the potato subsector's contribution to social and economic development.

The guide presents a summary review of factors that constrain the potato subsector in tropical and subtropical countries, principles of Good Agriculture Practices, and GAPs relevant to potato production. It provides indicators and recommendations for action in key areas – from the conservation and utilization of potato biodiversity and improvements in seed systems, to management of soil fertility, insect pest and diseases, water use, the importance of storage, and the opportunities created by value addition. It also provides “snapshots” of selected best practices and examples of successful approaches in developing countries. It concludes with a series of useful fact sheets on key issues in potato development.

While aimed primarily at decision makers at institutional level, the guide will also be of use to technicians, potato growers and processors. We trust that it will help further IYP's goal of helping to realize the potato's full potential as a “food of the future”.

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PRODUCTION**

Abbreviations and acronyms

CIP	International Potato Center
DLS	Diffuse light stores
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practices
FFS	Farmers' Field Schools
ICM	Integrated Crop Management
IDM	Integrated Disease Management
IPM	Integrated Pest Management
IPPM	Integrated Potato Pest Management
NGO	Non-Governmental Organizations
NSI	Nutrient Supplementation Index
PMCA	Participatory Market Chain Approach
PRSP	Poverty Reduction Strategy Papers

Acknowledgements

Development of this guide was initiated as part of the International Year of the Potato 2008, which was facilitated by FAO's Plant Production and Protection Division (AGP), in partnership with the International Potato Center (CIP). The International Year helped raise awareness of the potato subsector and support for its development, and served as a catalyst for the initiatives aimed at overcoming policy constraints to potato development.

This manual was conceived, initiated, guided and edited by NeBambi Lutaladio of AGP. He benefited from the collaboration of colleagues in partner institutions, in particular the International Potato Center (CIP), Wageningen University Research Center (WUR) and McCain Foods Ltd of Canada.

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AT A POTATO
SORTING FACTORY
IN THE NILE DELTA,
EGYPT.
(PHOTO:
MOSTAFA MOFTAH)

Introduction

The potato is the world's most important root and tuber crop worldwide. It is grown in more than 125 countries and consumed almost daily by more than a billion people. Hundreds of millions of people in developing countries depend on potatoes for their survival. Potato cultivation is expanding strongly in the developing world, where the potato's ease of cultivation and nutritive content have made it a valuable food security and cash crop for millions of farmers. Developing countries are now the world's biggest producers – and importers – of potatoes and potato products.

Once harvested, potatoes can be used for a variety of purposes: as a fresh vegetable for cooking at home, as raw material for processing into food products, food ingredients, starch and alcohol, as feed for animals, and as seed tubers for growing the next season's crop.

Around the world, consumer demand is shifting from fresh tubers to processed products and ever greater quantities of potatoes are being processed to meet rising demand for convenience food and snacks. The major drivers behind this trend include expanding urban populations, rising incomes, diversification of diets, and lifestyles that leave less time for preparing the fresh product for consumption.

The development of a vibrant, profitable and sustainable potato subsector in developing countries depends on measures to overcome a number of persistent constraints. Those measures include

improvements in the quality of planting material, potato varieties that have reduced water needs, greater resistance to insect pests and diseases, and resilience in the face of climate changes, and farming systems that make more sustainable use of natural resources. Not least, potato development – and agricultural development in general – requires empowerment of small farmers through improved access to production inputs, credit and markets.

These guidelines present a compilation of potato management practices in use in tropical and subtropical developing countries that have helped increase potato production and productivity. They can be refined to address particular conditions in specific locations. The publication provides indicators of sustainability, and highlights potential areas of improvement for potato development. While aimed primarily at decision makers, the manual tries as much as possible to use language familiar to farmers.

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