



Strengthening potato value chains

TECHNICAL AND POLICY OPTIONS FOR DEVELOPING COUNTRIES





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Coordinated by

Nicolaus Cromme

*Common Fund for Commodities
Amsterdam, The Netherlands*

Adam B. Prakash

*Trade and Markets Division
FAO, Rome, Italy*

NeBambi Lutaladio

*Plant Production and Protection Division
FAO, Rome, Italy*

Fernando Ezeta

*International Potato Center
Lima, Peru*

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managing.director@common-fund.org
Common Fund for Commodities
Stadhouderskade 55
1072 AB Amsterdam
The Netherlands

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Food and Agriculture Organisation of the United Nations
Viale delle Terme di Caracalla
00153 Rome
Italy
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Table of contents

Acknowledgements	5
Acronyms	6
Foreword by FAO: The International Year of the Potato	9
Foreword by CFC: Potato and Commodity Development	12
Introduction: The role of the potato in developing country food systems	14
<i>Section 1</i> Adding value: Structure, coordination and support of links in the chain	25
Value chain theory and application	27
The potato value chain in West Africa	33
The potato value chain in sub-Saharan Africa with case study on Eastern Africa	43
The potato value chain in Bhutan	55
Constraints of potato seed production in developing countries	61
Terminal markets as the fundamental driver for seed potato	71
Post-harvest research to respond to constraints in the potato value chain: the experience of Papa Andina, Peru	77
Potato system diagnosis in East Africa: An innovation system analysis	85
Linking potato farmers with markets in Indonesia through participatory market chain approach	93
The role of the Common Fund for Commodities in supporting potato in developing countries	103
The role of FAO in supporting potato in developing countries	109
What policy-makers can do to strengthen the potato value chain: sharing Bhutanese experiences	115
The international value chain: Exporting potato seed to developing countries	119
Potato developments: The Dutch experience	125
<i>Section 2</i> The way forward: Mechanisms and recommendations for producers and policy-makers	133
Potato in the Global Economy	135
Synthesizing key issues and recommendations for producers and policy-makers	141



Acknowledgements

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The workshop was designed to review the current state of potato value chains in developing countries and identify the key constraints to a better functioning value chain, especially the role of the seed sector in providing the chain with a consistent quality product. It also provided a forum for discussing opportunities to re-engineer value chains to enhance food security and rural development, to counter cereal price inflation and to identify how development agencies, national authorities and the private sector can support value chain activities. The valuable contributions made at this forum by many individual participants are very much acknowledged. Their inputs and discussions were fundamental in developing a series of technical and policy options that will

now help lay the foundation for sustainable potato-based systems and value chains.

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Abbreviations and acronyms

ACIAR	Australian Centre for International Agricultural Research
AGP	Plant Production and Protection Division (FAO)
APHIS	Animal Plant and Health Inspection Service (USA)
ARM	<i>L'Agence de Régulation des Marchés</i> (Senegal)
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
AUMN	<i>L'Association des Unions Maraîchères des Niayes</i> (Senegal)
CAPAC	<i>Cadenas Productivas Agrícolas de Calidad en el Perú</i>
CET	Common external tariff
CFC	Common Fund for Commodities
CIP	International Potato Center
CIPC	chlorpropham
CNY	Chinese yuan
COMESA	Common Market for Eastern and Southern Africa
CPRI	Central Potato Research Institute (India)
CSO	Civil society organization
EIAR	Ethiopian Institute of Agricultural Research
EU	European Union
EUCORD	European Cooperative for Rural Development
FAO	Food and Agriculture Organization of the UN
FAPA	District agropastoral farms (Guinea)
FFS	Farmer Field School
FIGG	FAO Intergovernmental Group on Grains
FPFD	Farmer Federation of Fouta-Djallon (Guinea)
FYM	Farmyard manure
GTZ	German Technical Cooperation
ICB	International commodity body
IGG	Intergovernmental Group (FAO)
INCOPA	Innovation and Competitiveness of Peru's Potato Sector Project
IPM	Integrated pest management
IRR	Internal rate of return
IS	Innovation system
IYP	International Year of the Potato
KARI	Kenya Agricultural Resource Institute
KR2	Kennedy Round II
LC	Life cycle
LDC	Least-developed country

LIBOR	London Interbank Offered Rate
MASL	Metres above sea level
MoA	Ministry of Agriculture
NARO	National Agricultural Research Organisation of Uganda
NGO	Non-governmental organization
NPV	Net present value
PMCA	Participatory market chain approach
RGoB	Royal Government of Bhutan
R&D	Research and development
RMB	Renminbi (Chinese yuan)
SDC	Swiss Agency for Development Cooperation
SME	Small- and medium-sized enterprises
SNPV	National Service for Vegetable Protection (Guinea)
SPOMAC	Sweet Potato Market Chains Club (Uganda)
SSA	Sub-Saharan Africa
SWOT	Strengths, weaknesses, opportunities and threats analysis
TCP	Technical Cooperation Programme (FAO)
UNCTAD	UN Conference on Trade and Development
UNDP	UN Development Programme
UNCDF	UN Capital Development Fund
UNIDO	UN Industrial Development Organization
UPOV	International Union for the Protection of New Varieties of Plants
USDA	US Department of Agriculture
USPB	United States Potato Board
WFP	World Food Programme
WTO	World Trade Organization



Foreword by FAO

The International Year of the Potato

NeBambi Lutaladio

Senior Officer and Secretary of the International Year of the Potato
Plant Production and Protection Division, FAO

Given the upheaval in international food markets throughout much of 2008, the arrival of the year could not have been timelier. Although there had been increasing awareness of the importance of potato as a source of food, employment and income, the International Year of the Potato encouraged policy-makers, agronomists and economists to re-evaluate the potato in its role as an ideal crop to sustain food security through crisis. After all, potato prices are determined mainly by local production costs and can constitute an effective substitute for costly grain imports. All

of this contributed to shifting the perception of the potato from that of an ordinary food for the poor to one that recognizes the tuber's solid nutritional benefits and its role in counteracting the effects of cereal price inflation.

This also led to growing awareness that realizing the full potential of the potato depends on a renewed commitment to potato research. In November of the International Year, the Common Fund for Commodities (CFC) and FAO co-sponsored a workshop, "Strengthening Potato Value Chains in Developing Countries", at FAO headquarters in Rome. Hailed as one of the International Year's major events, CFC and FAO used it as an opportunity to launch a new research agenda for potato in the developing world, targeted towards providing critical improvements along the potato value chain.

Workshop participants recognized that efforts to enhance the potato value chain will be successful only if there are substantial levels of public and private investment in the sector. This includes supporting breeding programmes for delivering clean and high quality potato seed tuber, good agricultural practices, infrastructural improvements and initiatives to support and coordinate activities along the chain.



The International Year of the Potato gave impetus to this effort. It raised awareness of the need for a coalition of stakeholders and for increased scientific support to work toward improving the productivity, profitability and sustainability of potato-based systems, and encouraged a renewed sense of responsibility on the part of the international community for agriculture and rural development. It also provided opportunities to report on the current status of potato value chains, on the key constraints to better functioning potato value chains, and on how value chains can be re-designed to enhance rural development, improve livelihoods and counter food price inflation in developing countries.

Above all, this global recognition of the importance of the potato presented a unique opportunity for all stakeholders along the value chain to work together toward a shared goal. By spreading awareness, the overall success of the International Year was to catalyze potato development programmes beyond 2008, to make a real and sustained contribution to the fight against hunger and poverty. A publication elaborating on best practices for sustainable potato production was released in 2009. This publication presents the work of those who participated in the workshop and contributed to raising awareness about the important role of potato.

FAO and the International Year of the Potato

As the United Nation's lead agency for agriculture and rural development and for the International Year of the Potato, FAO was a key partner in the year's activities – advising on policies and strategies to modernize the potato sector, sharing its extensive knowledge of potato-based systems, promoting appropriate technologies for sustainable intensification of production, and forging links among decision-makers, producers, processors and marketing chains. This type of support is essential, if potato sectors are to thrive in developing countries.



Foreword by CFC

Potato and Commodity Development

Guy Sneyers

CFC Chief Operations Officer

Worldwide more than 320 million tonnes of potatoes are being cultivated annually on 20 million hectares of land. This ranks the potato at number four among the worlds' most important staple food crops. However, the pace of expansion in global potato cultivation – production of which has doubled in the past 20 years – far exceeds that of higher ranked crops such as maize and wheat. At the same time potato production in the traditional potato growing regions of Europe has been steadily declining, but this decline has been more than offset by simultaneous rapid growth in Asia, Africa and Latin America. Today, more than one half of global potato production originates from Developing and Least Developed Countries, up from a share of just 11 percent in 1960.

Despite these impressive increases in total production, potato yields in non-traditional potato producing countries are still far below their agro-ecological potential. Crop husbandry is still poor, because farmers are not fully aware of good agricultural practices for this newly introduced crop. Potato yields also suffer severely due to the use of inappropriate varieties and post-harvest losses. Since potatoes are usually cultivated from earlier generation seed potatoes, crop diseases are passed on from one year to another and from one region to another.

A functioning supply system for healthy seed potatoes rarely exists, as it requires a high level of organization amongst various supply chain actors.

Until recently, in many Developing and Least Developed Countries, the potato was relatively unknown and mostly regarded as a subsistence crop. However, today the market is expanding rapidly as potatoes are increasingly popular as a source of affordable food for growing urban populations. In addition, a more affluent middleclass has developed a preference for potatoes in processed forms such as fries and crisps. This growing domestic market presents a valuable opportunity for smallholder farmers. Planting potatoes is in many ways attractive to farmers with little resources and limited means to manage risk: given the right agro-ecological conditions, the plant has a short growth cycle and can be easily integrated into existing agricultural systems. Potatoes have a high per area production potential, can be stored relatively easily and, most importantly, can both be used as a staple food crop for household consumption and food security or sold as a cash crop. Thus, the twin role of potato provides a path out of subsistence farming and poverty with little risk exposure to farmers.

As a reflection of the increasing popularity of the potato in Developing and Least Developed

Countries, the Common Fund for Commodities has registered steadfast growth in its potato project portfolio. The overarching objective of all CFC interventions is to address the formidable challenge of establishing a functioning and efficient potato value chain, which requires the collaborative interaction of all stakeholders - from tissue culture laboratories, to seed multipliers, to producers, to processors and finally to the end users. CFC projects share a common design element in piloting initiatives to demonstrate that integrated potato sector development can have a significant poverty impact.

The workshop presentations summarized in this publication are mostly based on experiences made in CFC potato sector development projects. In line with our policy to disseminate the information generated by CFC financed projects as widely as possible, it is our expectation that this publication will be instrumental to make impressive results and experiences of CFC pilot projects in the potato sector available to a wider audience. We hope that extension workers, researchers, policy makers and others involved in the development of the potato sector will find this document most useful and relevant.

Introduction

The role of potato in developing country food systems

Adam Prakash

Economist

Trade and Markets Division, FAO

Potato and food price inflation

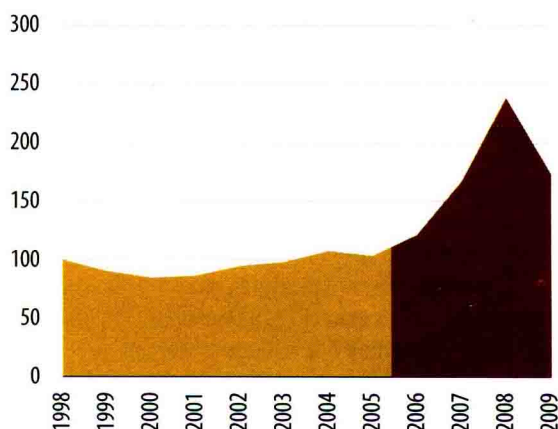
Commodity prices soared to all time highs between 2007 and 2008, brought about by intense competition for reduced international supplies of cereals and other agricultural commodities. However, by mid-2008, those same prices had fallen back sharply.

This type of volatility in commodity pricing brings with it food security risks and social unrest, particularly in low-income countries.

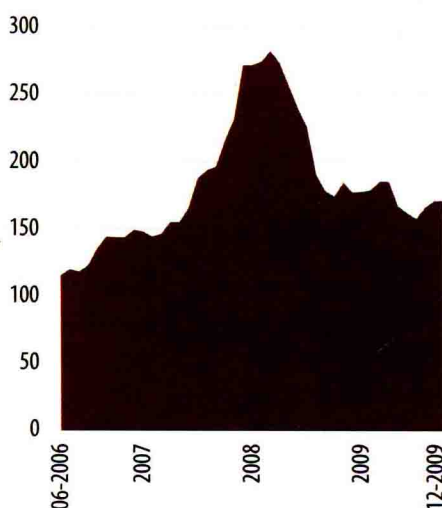
Overcoming such risks requires adopting both short- and long-term strategies. For example, diversifying the crop base to focus on nutritious and versatile staple foods which are less susceptible to the temperament of international markets is a long-term strategy that could ease the strain of food price inflation and import dependence. The potato is one such staple food.

At the height of the price spikes, FAO surveyed the depth and breadth of food

FAO cereal price index 1998-2009



Monthly FAO cereal price index (Sept. 06-Oct. 09)



price inflation in more than 70 of the most vulnerable countries in the world. It found price inflation was higher and more widespread for cereals than for potato and other root crops. This is because the potato is insulated from international shocks.

Unlike major cereal commodities, potato is thinly traded in global markets. Only a fraction of its total production enters foreign trade. Potato prices are determined by local demand and supply conditions, not the vagaries of international markets. In addition, since potato is absent in major international commodity exchanges, it is not at risk of the ill-effects of speculative activity. Consequently, potato is a highly dependable food security crop that can help ease future turmoil in world food supply and demand.

Global potato economy

Production

Potato is the world's number one non-grain food commodity. It is cultivated on almost 20 million ha, producing 320 million tonnes in 2007. However, the world potato sector is undergoing major changes.

Until the early 1990s, most potatoes were grown and consumed in Europe, North America and countries of the former Soviet Union. Since then, there has been a dramatic increase in potato production and demand in Asia, Africa and Latin America where their combined output rose from less than 30 million tonnes in the early 1960s to more than 165 million tonnes in 2007. This rapid growth in potato production was in sharp

contrast to slowing rates of expansion of other major food crops, such as maize and wheat.

According to FAO, the developing world's potato production exceeded that of the developed world for the first time in 2005. Emerging countries have recently realized potato's potential in food security. In fact, almost a third of all the world's potatoes are harvested in China and India. In China, the world's biggest potato producer, authorities are reviewing proposals for potato to become the country's major food crop to alleviate poverty. In India, authorities are considering plans to double potato output by 2015. Worldwide potato production is projected to expand 2–3 percent annually during the next decade, with developing countries, especially those situated in sub-Saharan Africa, as the main engines of growth.

Top potato producers, 2007

