

From sorghum to shrimp

A journey through
commodity projects



Royal Tropical Institute



From sorghum to shrimp

A JOURNEY THROUGH COMMODITY PROJECTS



Royal Tropical Institute





Royal Tropical Institute

Royal Tropical Institute (KIT)

Development Policy & Practice
PO Box 95001, 1090 HA Amsterdam, The Netherlands
development@kit.nl
www.kit.nl



Common Fund for Commodities (CFC)

PO Box 74656, 1070 BR Amsterdam, The Netherlands
managing.director@common-fund.org
www.common-fund.org

Publishing and distribution

Royal Tropical Institute (KIT)
KIT Publishers
PO Box 95001
1090 HA Amsterdam
The Netherlands
E: publishers@kit.nl
W: www.kitpublishers.nl

This publication or parts of it may be reproduced, stored in a retrieval system, or transmitted provided that copyright holders are duly acknowledged. It can be downloaded for free from www.kit.nl.

© 2011, Royal Tropical Institute (KIT) and Common Fund for Commodities (CFC)

ISBN: 978-94-6022-156-9

Correct citation Royal Tropical Institute and Common Fund for Commodities. 2011. From sorghum to shrimp: A journey through commodity projects. KIT publishers, Amsterdam.

Contributors



PROJECT MANAGERS

Cacao Research Center (CEPEC-CEPLAC), Brazil

Uilson Vanderlei Lopes



Centre for Agricultural Bioscience International (CABI), Kenya

Charles Agwanda



Centro Internacional de Agricultura Tropical (CIAT)/Latin American Fund for Irrigated Rice (FLAR), Colombia

Edward Pulver



INFOFISH, Malaysia

Tarlochan Singh



International Crops Research Institute for the Semi Arid Tropics (ICRIASAT), India

Ashok Alur



International Jute Study Group (IJSG), Bangladesh

Fazlul Huq



Naliendele Agricultural Research Institute, Tanzania

Louis Kasuga



United Nations Industrial Development Organization (UNIDO), Austria

Jürgen Martin Hierold



United Nations Office for Project Services (UNOPS), Kenya

Susan Njoroge



Wageningen University and Research Centre (WUR), The Netherlands

Jan van Dam



Infrastructure Development Bank of Zimbabwe, Zimbabwe

Patricia Tembani-Chizengeya

BOOK PRODUCTION

Coordination and facilitation

Peter Gildemacher

Suzanne Nederlof

Editors

Peter Gildemacher

Suzanne Nederlof

Paul Mundy (chief editor)

Femke van der Lee

Desktop publishing

Paul Mundy

See page 142 for contributors' contact details.

Contents

Figures	viii
Tables	ix
Boxes	x
Foreword	xii
Preface	xiii
Part 1 Analysing commodity project experiences	1
1 Introduction	3
1.1 Commodity development projects	5
1.2 Producing this book	6
1.3 Structure of this book	7
1.4 Limitations	8
2 Choices in commodity project design	11
2.1 Choice of commodity	14
2.2 Choice of single or multiple focus	15
2.3 Problem or opportunity focus?	17
2.4 Multi-country and regional projects	18
2.5 Lessons	22
3 Partnerships in commodity projects	23
3.1 Stakeholders in commodity projects	25
3.2 Project partners	27
3.3 Participation of chain actors in project decision making	34
3.4 Lessons	42

4 Flexibility in implementation	43
4.1 Why and when is flexibility needed?	46
4.2 Building flexibility into the project design	48
4.3 Lessons	53
5 Activities of commodity projects	55
5.1 Overview of commodity project activities	57
5.2 Building capacity	58
5.3 Equipment and buildings.....	60
5.4 Research and development	61
5.5 Marketing	63
5.6 Communication	63
5.7 Policy change	63
5.8 Combining activities for innovation	65
5.9 Lessons	67
6 Ensuring lasting impact	69
6.1 Sustainability.....	71
6.2 Scaling up	73
6.3 Creating conditions for sustainability and scaling up	76
6.4 Financing equipment and buildings	83
6.5 Lessons	86
7 Using market opportunities	87
7.1 Identifying market opportunities.....	90
7.2 Realizing the potential of market opportunities	96
7.3 Keeping the focus on primary actors	102
7.4 Lessons	105
8 Conclusions	107
8.1 How to design simple solutions when problems are complex?	109
8.2 How to share project responsibilities between public, private and producer organizations?	110
8.3 How to ensure stakeholder participation at the different stages of a project?	110

8.4 How to engineer flexibility into the project design?	111
8.5 How to spend grant funds without creating project dependency?	111
8.6 How to ensure lasting effects of temporary activities?.....	112
8.7 How to make the best use of market opportunities?	113
8.8 How to ensure a positive impact of commodity projects on primary chain actors?.....	113
8.9 General insights	114

Part 2 Project summaries..... 115

Coconut fibreboard in the Philippines	117
Entrepreneurship in jute products in Bangladesh and India	119
Bridging the yield gap in irrigated rice in Brazil and Venezuela.....	121
Improving coffee technology in Ethiopia and Rwanda	123
Developing bamboo in Ethiopia and Kenya	125
Sorghum and pearl millet for poultry feed in India, China and Thailand.....	128
Horticulture outgrower schemes in Zimbabwe.....	131
Improving cashew in Eastern and Southern Africa.....	133
Controlling witches' broom disease in cacao in South America.....	135
Finance for small-scale coffee farmers in Kenya.....	137
Organic aquaculture in Southeast Asia	139

Contributors and references 141

Contributors' profiles	142
References	148

Figures

Figure 1. Value chain showing chain actors, chain supporters and chain context stakeholders26

Figure 2. Generalized view of project partnership27

Figure 3. Stages in a typical project cycle36

Figure 4. Types of activities in 11 commodity projects58

Tables

Table 1.	Overview of characteristics of the 11 CFC projects	9
Table 2.	Single or multiple focus?	16
Table 3.	Advantages and disadvantages of single- and multiple-focus projects	17
Table 4.	Single and multiple-country projects	19
Table 5.	Project partners involved in the 11 CFC projects	30
Table 6.	Types of participation	39
Table 7.	Types of participation used by projects with primary actors and the private sector	40
Table 8.	Hardware, software and orgware	66
Table 9.	Post-project impacts of project innovations	74
Table 10.	Investments by selected projects in equipment and buildings for project beneficiaries	84
Table 11.	Market strategy and market research of 11 CFC projects	92

Boxes

Box 1.	Sharing knowledge on bamboo and cacao.....	20
Box 2.	Working with a weak partner in organic aquaculture	21
Box 3.	Você fala o Português?	21
Box 4.	Determining roles and responsibilities.....	29
Box 5.	Every partner brings something to the table	32
Box 6.	New management, new directions in rice.....	34
Box 7.	Involving primary actors throughout the sorghum project.....	37
Box 8.	A changing situation in Zimbabwean horticulture	37
Box 9.	Problems with consultations in the coconut fibre project	38
Box 10.	Consultations in the sorghum and pearl millet project in Asia.....	41
Box 11.	Unanticipated cost increases in Latin America	47
Box 12.	A policy change disrupts work in Ethiopia	48
Box 13.	An opportunity for greater impact in Bangladesh and India	48
Box 14.	Management changes in Kenyan coffee finance project	49
Box 15.	Oops – it’s not in the budget!	49
Box 16.	Shifting priorities in the cashew project.....	50
Box 17.	Adding partners to expand markets for sorghum	50
Box 18.	Switching target markets in Zimbabwe	52
Box 19.	Lobbying for a policy change in Kenya	64
Box 20.	Fostering a conducive environment for organic aquaculture	65
Box 21.	Scaling up rice-production techniques.....	76
Box 22.	Building capacity for bamboo in East Africa.....	78
Box 23.	Banks as a scaling-up mechanism for coffee finance	80
Box 24.	Promoting government and private-sector interests in jute	81
Box 25.	Wanted: Willing entrepreneurs for coconut fibreboard.....	81
Box 26.	Building subsidized houses from bamboo.....	85
Box 27.	Credit schemes for coffee	85

Box 28.	Marketing opportunities for organic seafood in Asia	94
Box 29.	Problems in commercializing coconut fibreboard.....	95
Box 30.	Facilitating the organization of sorghum producers in Asia.....	97
Box 31.	Conquering Ethiopian and Kenyan markets with bamboo products.....	100
Box 32.	To patent or not to patent coconut fibreboard technology?.....	101
Box 33.	Contract farming for the sorghum alcohol industry.....	103

Foreword

EVERY PERIOD in human history is unique in its challenges and achievements. Ours is one in which an unprecedented number of people, earning steadily increasing incomes, have to become wise about the use of available resources to meet their basic needs, particularly food. Future population growth and additional demands on resources, such as agricultural land for biofuels and livestock feed, will add to this challenge.

The commodity sector has been challenged continuously, and has so far proven to be responsive. The challenge will, however, continue under further pressure of population growth, dietary change, biofuels production and climate change, floods and price fluctuations. Today's gains have longer-term costs that have to be avoided, such as biodiversity loss and the loss of forests and grasslands to agricultural production.

For two decades now, the mission of the Common Fund for Commodities (CFC) has been to leverage economic and social opportunities of the commodity sector for development. By funding interventions specifically targeting weaknesses in commodity chains, CFC has made the power of commodity markets work for development, increased incomes for small producers, and improved urban food provision and exports. Its experiences point to practical measures that are effective in widely different sectors and circumstances. By documenting and analysing these experiences CFC aspires to contribute to the design of agricultural development programmes for the future.

The publication of this book is a manifestation of the existing close collaboration between the CFC and the Royal Tropical Institute (KIT) which has been able to document, study, and present these experiences. In publishing this book, the cooperation between CFC and KIT has been productive and innovative. Both CFC and KIT believe that new ways should be explored to improve local smallholders' incomes, increase agricultural productivity, and ameliorate the provision of food for the cities of the future. Those new ways, as the evidence from this book shows, may have to be opportunistic, flexible, practical and based on human capital. Much has been achieved, but more can be done. The potential of smallholder agriculture has been underutilized by missing markets, inadequate infrastructure and inefficient institutions. By taking on these challenges, as CFC has, this potential can be realized for the benefit of all stakeholders in agricultural value chains.

As Managing Director of the Common Fund for Commodities and Director of the Department for Development Policy and Practice of KIT, we are proud of the KIT–CFC partnership, of our mutual commitment, and of the book that is in front of you. We hope the lessons presented in this book may help practitioners, policy makers and students in developing value chains elsewhere, as they may also inspire, inform, and benefit both the local producers of these commodities and the consumers of the future.

Ambassador Ali Mchumo
Managing Director
Common Fund for Commodities

Prof. Dr Ir Eric Smaling
Director, Development Policy and Practice
Royal Tropical Institute

Preface

SUPPORTING SUSTAINABLE economic development is a shared objective of the Common Fund for Commodities (CFC) and the Royal Tropical Institute (KIT). The two organizations have complementary mandates: CFC is a funding organization that finances innovative commodity projects, while KIT's Department of Development Policy and Practice documents and communicates knowledge on development issues. Joining forces enables the two organizations to achieve synergy.

Over its 20 years of existence, CFC has developed an impressive portfolio of commodity project experiences. KIT is proud of its ability to analyse such experiences and document insights that are of value to development practitioners and decision makers. This book combines the strengths of both organizations: it is based on an analysis led by KIT of a selection of CFC's project experiences.

This book is the result of a group effort. The CFC headquarters project-support team helped choose the priority questions for the book. In addition, CFC identified potential projects to include, contacted their managers and explained the importance of their participation in the writeshop.

The development and printing of the publication was co-funded by CFC and KIT. The KIT contribution to this publication is possible thanks to the core support received from the Dutch Ministry of Foreign Affairs.

Most thanks, however, go to the 11 managers of current and past projects in Asia, Africa, Europe and South America who participated in the writeshop in Nairobi, Kenya. It is their experiences that form the solid basis for the book. We thank them for the time and effort they put into the book. They are listed on pages, iii–iv and their contact details are given on pages 142–7. In addition we gratefully acknowledge their employers who made them available to attend the writeshop.

Finally, we would like to thank Floris van der Pol, Fred Zaal and Mark Lundy for the detailed comments and suggestions they provided as peer reviewers. Their comments have greatly assisted the editors in improving the focus of the book.

As you read this book, we hope that you will often find yourself nodding in agreement. But you may also at times raise your eyebrows as you are provoked by parts of the analysis. Ultimately we hope that the book will enrich your thinking about commodity projects as an instrument for sustainable economic development. We hope that you enjoy reading the book and that it assists you in designing and implementing better and more effective commodity projects with a lasting impact on poverty.

The editors



Part 1

Analysing commodity project experiences



Testing non-indigenous bamboo species introduced by the project in Ethiopia

Bamboo project, Ethiopia
Photo: Jürgen Hierold

1

Introduction



**Harvesting organic freshwater prawns
from Arsha Thar farm, Myanmar**

Aquaculture project, Myanmar
Photo: U Hla Win

1

Introduction

AGRICULTURAL COMMODITIES are the backbone of most developing countries' economies. Not only do they generate an important part of foreign revenues; more importantly, they play a dominant role in the national and local economies, both formal and informal. Improving commodity sub-sectors thus forms an important entry point for initiatives aiming at local and national economic development.

This is by no means a new insight. Agriculture has always been an important entry point for development efforts, though the amount of attention devoted to it has fluctuated. Agricultural development initiatives focus not only on food security and production, but also increasingly on income generation, local economic development, value addition and value chain development.

A major question is how development initiatives can trigger agriculture-based economic development. There is much optimism about the role of private investment in agricultural development ("trade **not** aid"). Still, it is clear that public investments are seen as essential to support private-sector-driven economic development ("trade **and** aid") (Roberts 2006). Public resources for agriculture-based economic development are available through national and local governments, donor agencies and international organizations. The question is how such resources can best be used to stimulate, complement and support private entrepreneurship in agriculture.

1.1 COMMODITY DEVELOPMENT PROJECTS

One common form of intervention is a **commodity development project** – the subject of this book. Commodity projects have a limited lifespan, during which they use grant funds to try to bring about lasting positive impacts on a commodity sector. They aim to increase the revenues that the intended beneficiaries gain from their engagement in the commodity chain.

Value chain development is an approach that seeks to build relationships of active support among chain actors (KIT et al. 2006). Commodity projects often, but not always, have value chain development as part of their approach.

Commodity projects are an important and potentially valuable mode of stimulating agricultural development. They are much-debated and prone to criticism. But so too are alternative models of investing public resources in agricultural development: production subsidies, agribusiness subsidies, budget and sector programme support. None of these modes of intervention is a "silver bullet" with guaranteed success.

Commodity projects are often complicated to design and implement. Much criticism of such projects relates to their design and their failure to deliver what was initially promised in terms of sustainable economic development.

The basic question this book investigates is **how the public resources available through grant projects can be deployed to support agricultural commodity chains for local economic development**, with a specific objective of poverty alleviation. This book describes some of the practical dilemmas that project designers and implementers face. It is intended for development professionals and students, as well as donors that want to increase the likelihood of project success. It aims to help project designers, implementers and evaluators make pragmatic, realistic decisions in designing and implementing commodity development projects.

1.2 PRODUCING THIS BOOK

This book presents the insights and experiences of designers and implementers of projects supported by the Common Fund for Commodities (CFC). CFC has two decades of experience in supporting development through commodity-focused, market-driven interventions. The 185 regular projects that CFC had funded by July 2010 (CFC personal communication) have accumulated a wealth of experience in commodity development. This book synthesizes lessons from 11 of these projects on supporting competitive smallholder agriculture.

Staff from CFC and the Royal Tropical Institute (KIT) discussed the major dilemmas faced by designers and managers of commodity projects. They summarized these into the eight most urgent questions:

1. How to design simple solutions when problems are complex?
2. How to share project responsibilities between public, private and producer organizations?
3. How to ensure stakeholder participation at the different stages of a project?
4. How to engineer flexibility into the project design?
5. How to spend grant funds without creating project dependency?
6. How to ensure lasting effects of temporary activities?
7. How to make the best use of market opportunities?
8. How to ensure a positive impact of commodity projects on primary chain actors?

These questions were sent to 15 managers of recent CFC-sponsored projects in Africa, Asia and Latin America, representing a mix of agricultural commodities and different project approaches. A range of projects was chosen to seek generic insights rather than lessons applicable only in a specific context. Each project manager was asked to answer the questions above, describing his or her experiences in a few paragraphs. Finally, 11 projects that provided a positive response and whose direct managers were available were selected as contributors to this book (see Table 1 and Part 2). As a result, the book contains information based on true field experiences of practitioners, rather than distant stories from someone less directly involved.

KIT drafted chapters addressing each question based on the answers from the participants and detailed case descriptions written by the participating project managers. Then all the participants came together in a “writeshop” in Kenya in September 2010 to document and analyse their experiences, using the draft chapters as a starting point for discussion. A writeshop is a participatory and highly intensive process which bring together authors and editors to produce a publication in a relatively short time. Writeshops are particularly useful to help practitioners document their experiences and make field-based evidence more widely available (Gonsalves and Armonia 2010). During the writeshop for this book, the contributors discussed each of the questions in turn,

Extension agents and farmer discussing a cashew disease

Cashew project, East Africa
Photo: Louis Kasuga



exchanging experiences and drawing conclusions across the 11 projects. They also wrote short vignettes to illustrate how they dealt with specific issues (these are presented in boxes and bulleted points throughout the book). Further rewriting and editing was done after the writeshop by KIT, supported by an editor, consulting the participants where required. The draft also benefited greatly from the constructive comments of three peer reviewers.

1.3 STRUCTURE OF THIS BOOK

This book is divided into two Parts. **Part 1** discusses the eight questions above by analysing experience from the 11 projects, with additional inputs from KIT.

- **Chapter 2** addresses **Question 1, “How to design simple solutions when problems are complex?”** It deals with making choices about the boundaries of project intervention. On one hand, problems are complex and require many different actions, while on the other hand, focus is required for a project to be effective. This chapter deals with four choices: the type of commodity to be covered, a focus on a single or on multiple issues, whether to address a problem or an opportunity, and whether to operate in one or in multiple countries.
- **Chapter 3** discusses **Question 2, “How to share project responsibilities between public, private and producer organizations?”** and **Question 3, “How to ensure stakeholder participation at the different stages of a project?”** It first goes into the roles of different stakeholders and partners in commodity projects, including the project management. It then discusses participation in decision making by stakeholders at different stages in the project cycle.
- **Chapter 4** looks at **Question 4, “How to engineer flexibility into the project design?”** It discusses why flexibility is needed in commodity projects and how this can best be built into the project’s design and implementation. Flexibility is needed to respond to newly discovered or emerging opportunities and constraints.
- **Chapter 5** discusses **Question 5, “How to spend grant funds without creating project dependency?”** It discusses the type of activities that commodity projects can implement

and how this leads to innovation. It addresses issues of capacity building so that the actors involved can continue the project initiatives into the future.

- **Chapter 6** discusses **Question 6, “How to ensure lasting effects of temporary activities?”** A lasting impact implies both a sustainable effect on the livelihoods of the intended beneficiaries, as well as expanding the impact beyond those initially involved. This chapter offers insights into different aspects that impact upon sustainability and scaling up.
- **Chapter 7** focuses on how project interventions can build on market opportunities and ensure the participation of the private sector, thus addressing **Question 7, “How to make the best use of market opportunities?”** It also covers how to keep the project’s focus on those who are meant to benefit, the small-scale farmers, traders and processors at the start of the value chain, so covering **Question 8, “How to ensure a positive impact of commodity projects on primary chain actors?”**
- **Chapter 8** offers some **general conclusions** from the preceding chapters and revisits the eight questions.

Part 2 contains brief descriptions of the 11 CFC-funded projects on which the analysis is based. The 11 projects are summarized in Table 1.

Contact details and brief descriptions of the contributors are given at the end of the book.

1.4 LIMITATIONS

Much has been written about agricultural commodities (Gibbon 2001, Fitter and Kaplinsky 2001, Clay et al. 2005). For the purpose of this book we define agriculture as “the production, processing, marketing, and use of foods, fibres and by-products from plant crops and animals” (www.wikipedia.org). This means that we consider not only production, but all other economic activities related to the agricultural product as well.

The book focuses on agricultural commodity projects using grant funds as a tool for economic development. This should not be interpreted as a non-acknowledgement of the importance of other intervention methods using public funds.

The book draws on the experiences from the 11 sample projects and the wider experience of the contributors. The methodology used enabled a detailed analysis of these cases, but this book cannot claim to be the result of a rigorous scientific study. Rather, it is a synthesis of the joint experience of the contributors.

The book draws generic lessons from projects executed in widely different contexts. This may at times do insufficient justice to the enormous heterogeneity that exists between continents, countries and regions, let alone between different types of commodities. This is deliberate: we have been looking for commonalities, rather than aiming at comparing approaches used in different contexts. The book should be read as a discussion of dilemmas and lessons derived from practice, rather than as a guidebook for project design and implementation. The book adds a discussion from a practitioner viewpoint to the literature on commodity development projects. In the introductions of the different chapters, we refer to other resources that provide insights in the same field.

Finally, the book does not aim to help project managers in their day-to-day management. It does not provide project management, monitoring and evaluation tools. Rather, it focuses on providing development professionals with a discussion of practical experiences from the complex reality of commodity project design and implementation.

Table 1. Overview of characteristics of the 11 CFC projects

Project title	Core opportunity	Countries	Project leader	Commodity innovation activities				
				Technical research	Product development	Marketing	Organization building	Improving stakeholder interaction
Coconut fibre Philippines	Coconut fibre board production	Philippines	National research centre (WUR)	•		•		
Jute South Asia	Local processing	Bangladesh, India	Intergovernmental body (IJSG)		•	•	•	•
Rice South America	Increase yield	Brazil, Venezuela	International producer organization (FLAR)					•
Coffee technology East Africa	Innovate processing	Ethiopia, Rwanda	International development organization (CABI)	•	•		•	•
Bamboo East Africa	Promote the use of bamboo	Ethiopia, Kenya	International development organization (UNIDO)	•	•	•	•	•
Sorghum and pearl millet Asia	Improve quantity, quality and market	India, China, Thailand	International research centre (ICRISAT)	•	•	•	•	•
Horticulture Zimbabwe	Market development	Zimbabwe	National development bank (IDBZ)				•	•
Cashew East and Southern Africa	Improve quantity and quality	Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Tanzania, Uganda	National research institute (NARI)	•			•	•
Cocoa South America	Restocking with disease-resistant variety	Brazil, Ecuador, Peru	National commodity commission (CEPLAC)	•				
Coffee finance Kenya	Innovating credit services	Kenya	International development organization (UNOPS)	•	•			•
Aquaculture Southeast Asia	Organic aquaculture	Malaysia, Myanmar, Thailand	Intergovernmental organization (INFOFISH)	•	•	•		•

2

Choices in commodity project design



Production of semi-washed Arabica coffee in Ethiopia: Smallholder coffee farmers in Oromia using a hand pulper

Coffee technology project, Ethiopia
Photo: Charles Agwanda

2

Choices in commodity project design

“In many meetings, discussions are problem- rather than solution-oriented, leading to a situation where problems are described as over-complex and often as ‘unsolvable’.”

–Jürgen Hierold

COMMODITY PROJECTS differ from many other development projects and programmes in how the boundaries of the project intervention are defined. Rather than choosing a certain geographic area or a theme as their entry point, commodity projects start with the selection of a commodity that provides opportunities for development. As such, some might consider commodity projects as “simple” – as they deal with just one commodity. But in many other ways they may be complex: they may address a multi-faceted set of problems. They may cover various steps in the value chain. They may deal with several stakeholders. And they may operate in several countries.

It is difficult to decide which issues to address within a project with limited resources and time. A number of choices need to be made that provide the initiative with a clear direction and the focus needed for efficiency. These choices are made at the very start of the initiative. Called “pre-analytical choices” by Giampietro (2003), they are inescapable in a research context (Röling et al. 2004), as well as in development projects.

The first choice is about the **commodity** itself. This is often not an open question, as those initiating and designing a project have expertise and interests in a certain field. This is discussed in section 2.1.

Second, a choice has to be made regarding the **project focus**. Will the project intervene to solve a single pressing issue in the commodity chain, or will it have a more holistic approach, tackling related issues simultaneously? This is further explored in section 2.2.

An important distinction is whether the project aims to address a **problem** that has been identified, or tries to take advantage of an **opportunity**. If it deals with an opportunity, it will tackle the constraints that prevent people from taking advantage of it. This is discussed in section 2.3.

Finally a choice has to be made for the geographical location of the intervention. In particular, a choice must be made between intervening in a **single country** or in **two or more countries** at the same time. We explore this in section 2.4.

2.1 CHOICE OF COMMODITY

The first question to answer when planning a commodity project is whether the commodity chosen provides a pathway for economic development, both on a macroeconomic as well as (and especially) at the local level.

The project managers categorized commodities into three broad groups: **orphan, infant** and **privileged**. The status of the commodity for decision makers and the context determine which category it falls into. An infant commodity in one country may be privileged in another.

Orphan commodities offer opportunities for development but are neglected: they receive little support from research and development. As a result, they experience constraints in processing and marketing, both domestically and internationally. An example is sorghum, which in many countries is seen as a “poor-person’s crop” – one that is grown mainly for home consumption. Because it does not generate cash income, it receives little attention from government and research. However, sorghum could offer opportunities for local economic development if its industrial use is promoted. Once such opportunities for increased economic gain from orphan commodities emerge, improving production is feasible as the crop is already embedded in the farming system.

Infant commodities are in the initial development stage, and need more support for research, development and commercialization. Bamboo in East Africa is one example: unlike in Asia, bamboo is hardly used in East Africa, despite its large potential, ready availability and local craft traditions. But little capacity exists: there are few skilled trainers and extension workers in Africa, and the value chain is under-developed.

Privileged commodities are those which receive focused attention from researchers, development agencies, governments or the private sector and have great importance attached. Significant funding from local and international sources is available, and dedicated organizations exist to support such commodities. Coffee is one example: it is one of the most valuable traded commodities worldwide, it contributes to foreign exchange, it generates many jobs, and it attracts government interest and finance from various sources. Dedicated research institutes exist in many countries; in Ethiopia there was a full ministry at one time. An international body coordinates the coffee industry.

The status of a commodity has consequences for the opportunities for further development. Developing orphan and infant commodities requires advocacy as one of the main activities. This highlights their importance for economic development and aims to convince other stakeholders to engage in developing them.

Privileged commodities have easier opportunities to create project partnerships with public organizations and private companies, as their economic importance is well recognized. But privileged commodities may suffer from long-established interests in the public and private sectors that may hinder attempts to improve market relations and increase the profit share in the value chain for farmers and other primary actors. In the case of orphan commodities, there is less risk that changing market relations might trigger resistance by economically and politically more powerful chain actors who defend their vested interests.

In privileged commodities, world trade is invariably an important factor, making quality standards less flexible. Furthermore much effort is made internationally to promote the production and marketing of such commodities in the world market. This limits the opportunities for new entrants, and especially those actors with the least resources may not easily benefit from development interventions. Orphan and infant commodities have less well-established quality-control and trade

systems, making them more suitable for new entrants. They may provide easier opportunities for resource-poor actors to earn a profit.

Commodities that are produced almost entirely for export, such as coffee and cocoa, are much more prone to the price fluctuations in the international market. Such products lack a well-developed local market and cannot be consumed by the farmer's own household, so if they do not attain the export standards, they go to waste. That represents a useless investment of cash, labour and land.

A commodity like maize presents entirely different opportunities. It provides the farm household with both cash income and food security. Furthermore, it is traded locally, nationally and internationally, which gives the farmer multiple options for marketing any surplus. As a result, the risk of wasted investment is much lower.

For project initiators, however, there often is no matter of choice in terms of which commodity to use as an entry-point for a development project. Most often, commodity projects are initiated by professional organizations such as research organizations, commodity boards or NGOs. Such organizations involved in complex development projects often have their own specialization, and are intervening through their knowledge and skills in a certain field. The commodity they choose is sometimes a given.

If the choice of commodity is a given, it becomes essential to select those areas where an intervention on the commodity can make the maximum potential contribution to economic development.

2.2 CHOICE OF SINGLE OR MULTIPLE FOCUS

Another choice to make during the project design is the scope of activities to engage in. Commodity projects are limited in time and resources. One could argue that it is efficient to focus on a single key issue that is hampering the development of the entire commodity chain. On the other hand, a single key issue may not exist: opportunities may instead be multi-dimensional and require a holistic approach.

Of the 11 projects described in Part 2 of this book, six were predominantly single-focus, while five tackled multiple problems (Table 2).

Single-focus projects The six single-focus projects each addressed a specific problem or opportunity. The cacao project is a good example. Witches' broom disease was the main cause of decline of the cacao sector in Brazil. The solution: plant new, resistant cacao varieties. The project identified these varieties, multiplied them, and trained farmers how to use them.

Three other single-focus projects addressed production issues faced by farmers: increasing yields (rice in South America, cashew in East Africa, and the coffee finance project). The coffee technology project in Rwanda and Ethiopia specifically focused on quality improvement. The remaining project, coconut fibre in the Philippines, developed a new product (fibreboard) and was aimed at processors rather than primary producers.

Of course, every problem is complex if we study it closely enough. Even the "single-focus" projects addressed various aspects of their problem: the cacao project involved varietal selection, establishing a biofactory to multiply plantlets, training for farmers and distribution of planting materials, and covered more than one country. We classify this project as single-focus because all

Table 2. Single or multiple focus?

Single issue		Multiple issues	
Project	Issue	Project	Issues
Coconut fibre Philippines	Product development	Jute South Asia	Production, marketing
Rice South America	Production	Bamboo East Africa	Value chain development
Coffee technology East Africa	Quality	Sorghum and pearl millet Asia	Value chain development
Cashew East and Southern Africa	Production	Horticulture Zimbabwe	Production, marketing, organization
Cacao South America	Disease	Aquaculture Southeast Asia	Production, marketing
Coffee finance Kenya	Production		

these efforts aimed to overcome a single problem – witches’ broom disease. The project did not address other issues such as other pests and diseases, harvesting or marketing.

Single-focus projects are useful if there is a single bottleneck that is restricting development of the commodity, or a single constraint that makes it difficult to take advantage of an opportunity. For the cacao project, this was witches’ broom disease; for the rice project, it was farmers’ skills; for the coffee project in Ethiopia and Rwanda, it was the processing technology. In each case, the project designers made a deliberate choice to overcome these bottlenecks.

Multiple-focus projects But often there is no single bottleneck, or the bottleneck is caused by a complex of underlying factors. In such cases, systemic change is needed: it is necessary to tackle several issues at once to improve the production or marketing of a commodity. In other cases it is necessary to anticipate bottlenecks that emerge when addressing the initial problem. The horticulture project in Zimbabwe is an example of this: the project aimed to help smallholder farmers improve the production and marketing of vegetables. That required solving problems all along the value chain: production, storage, packaging, marketing and organization. Each of these problems was a bottleneck: it was necessary to solve them all in order to increase the flow of the product along the chain and to boost farmers’ incomes.

Similarly, the remaining four multiple-focus projects (on jute, bamboo, sorghum and aquaculture) all dealt with several aspects of the commodity chain: production, marketing, research, organization and so on.

The choice whether a project needs to take a multiple or single issue focus depends on the issues at stake. Table 3 summarizes the advantages and disadvantages of focusing on single or multiple issues.

The obvious advantage of single-issue projects is that they are easier to manage. The objectives can be defined more easily, and outcomes can be predicted with more accuracy. The main drawback

Table 3. Advantages and disadvantages of single- and multiple-focus projects

	Focus on a single issue	Focus on multiple issues
Advantages	<p>Clear and well-defined objectives and outcomes</p> <p>More restricted number of partners involved</p> <p>Increased likelihood of measurable result</p>	<p>Opportunity to tackle interlinked issues simultaneously</p> <p>Potential to sustainably improve commodity chain functioning</p> <p>Opportunity to address relationships between commodity chain actors</p>
Disadvantages	<p>Difficult to obtain funds to deal with unanticipated problems</p> <p>May be impossible to solve one problem without solving others simultaneously</p> <p>Focus issue may turn out to be less important than expected</p> <p>Does not anticipate changes in the context</p>	<p>Costly to coordinate effectively</p> <p>Longer time needed for implementation</p> <p>Multi-disciplinary team needed</p> <p>Collaboration required between different types of organizations</p> <p>Skills needed in facilitating stakeholder interaction</p>

is that innovation as a result of the project intervention can only occur around this single chosen topic. Often innovation on this topic is impossible without change in other areas.

The main drawback of multi-focus projects is that it makes the projects themselves complex. The project management must have an overview of the entire commodity system, and the skills to manage multi-disciplinary teams and relationships. Complex projects take longer to get started, and the results are harder to predict.

Multiple-issue projects have the chance, however, to address interlinked issues simultaneously. As a result, it is possible to aim for innovation of the entire commodity chain – or system change. An essential component of such change is improving relationships among commodity chain actors. This requires skills in facilitating stakeholder interaction.

The choice of a single-issue project should thus be substantiated by evidence of a single dominant bottleneck or opportunity in the commodity chain. Flexibility may be needed to move to another issue, for example if a bottleneck is overcome by itself – for example if the project context changes. The choice of a complex multi-issue project can be justified by the need to address interlinked issues. Such a multi-issue project does, however, require coordination skills to manage a complex project, a multi-disciplinary project partnership, and a longer duration.

2.3 PROBLEM OR OPPORTUNITY FOCUS?

Many projects start with a problem analysis to provide insights into the factors that have to be dealt with to realize the desired goal. But focusing on problems may create its own difficulties. For example, it allows limited room for creativity and may give the feeling there is nothing one can do about the problems.

Perhaps a more promising approach is to identify opportunities first, and then explore the constraints that hinder people from taking advantage of this opportunity. For example, bamboo products from Ethiopia and Kenya could not compete in the international market; rather than tackling this problem by trying to make bamboo production competitive, the bamboo project sought opportunities by emphasizing the domestic market. It is therefore important to examine

Selling bags made from jute at a fair in Faridpur, Bangladesh

Jute project, Bangladesh
Photo: Jute Diversification Promotion Centre, Dhaka



the range of opportunities on which the project can build. A logical starting point for this is to examine the desired developmental goal and build a shared vision.

The coconut fibre project was one that started from an opportunity (the realization that waste coconut husks could be used as a raw material to make useful products) rather than a problem. The project then focused on developing the technology needed to press the husks into fibreboard.

2.4 MULTI-COUNTRY AND REGIONAL PROJECTS

Some commodity projects operate in a single country; others work in two or more. What are the advantages and disadvantages of intervening in one or multiple countries? This section looks first at multiple-country projects before examining those working in a single country.

Of the 11 projects in this book, only two worked in a single country: the horticulture project in Zimbabwe, and the coffee finance project in Kenya (Table 4). Eight projects worked in two or three countries, while one (the East Africa cashew project) operated in seven countries.

All except one of the multi-country projects worked in countries in the same continent. The exception was the coconut fibre project, which did much of its research in the Netherlands, but collaborated with organizations in the Philippines.

Activities in multi-country projects were not evenly spread. Usually, the focus was on one country, with less intense activities in the others.

Advantages of multi-country projects

Since multi-country projects (at least those funded by CFC) are so popular, we must assume that there are good reasons for designing them. After all, single-country projects are likely to be simpler and cheaper. A multi-country project must have a clear win-win situation for all participating countries. What, then, makes multi-country projects attractive?

Impact Multi-country projects cover a larger area than a single-country project, and have the potential to benefit a larger number of people and impact on commodities in different places. The project designer can highlight the international character and importance of the proposed initiative towards potential funders, and the donor can hope to raise its own standing in several countries at once.

Table 4. Single and multiple-country projects

Project	Countries
Single country	
Horticulture	Zimbabwe
Coffee finance	Kenya
Two countries	
Coconut fibre	Philippines, Netherlands
Jute	Bangladesh, India
Rice	Brazil, Venezuela
Coffee technology	Ethiopia, Rwanda
Bamboo	Ethiopia, Kenya
Three or more countries	
Sorghum and pearl millet	China, India, Thailand
Cacao	Brazil, Ecuador, Peru
Aquaculture	Malaysia, Myanmar, Thailand
Cashew	Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Tanzania, Uganda

Cost-effectiveness Small projects are relatively expensive to administer, and many donors do not fund projects under a minimum amount. They may surpass this minimum by grouping several small proposals that cover similar themes into a single larger project. Or they may expand a proposed activity to cover several countries.

Cross-border issues Specific problems, such as diseases or trade-related issues cross borders and as such can only be dealt with if tackled at an international level.

Economies of scale Increasing the supply and quality of commodities and value-added products in several neighbouring countries can stimulate mutual trade and open new markets. Collaboration between neighbouring countries can be essential to obtain a market share, as the volumes from a single country might not be enough to bring a favourable change in international market relations. For example, the jute industry in India and Bangladesh can benefit from a higher volume of raw jute that justifies the scaling up of processing and marketing.

Exchange and mutual learning Organizations in each participating country can widen their horizons and benefit from each others' strengths. National experts and organizations can share technology, germplasm, expertise, processes and lessons. Identifying such strengths needs to be done at an early stage in project development (Box 1).

Competition among implementing organizations Multi-country projects may create healthy competition amongst implementing organizations. That encourages them to focus on performance rather than (say) on purchasing equipment. Operating in more than one country also offers a type of insurance: in case activities in one country falter (for example, if a key partner organization fails to deliver), the project can continue to work in the other countries.

Box 1. Sharing knowledge on bamboo and cacao

While the bamboo project was being developed in East Africa, it was realized that Ethiopia had valuable experience in bamboo crafts and skills training, while Kenya had more expertise in bamboo plantation management. The project built on this through activities such as training, seminars, cross-visits, and the exchange of seedlings and technology.

More information: Jürgen Hierold (bamboo project), j.hierold@unido.org

Brazil, Ecuador and Peru face the same problem with witches' broom disease in cacao. All three countries had their own expertise in controlling the disease, and possessed different germplasm that could benefit the other countries. Institutes in the three countries pooled their expertise, germplasm and facilities to control the disease. This had other benefits: exchange of experience was stimulated in other fields not covered by the project (e.g., cacao management and control of other diseases).

More information: Uilson Lopes (cacao project), uilson@ceplac.gov.br

Such competition was lacking in the coconut fibre project (which focused on the Philippines only), and uptake of the project's fibreboard technology was limited. During and after the project, it emerged that there was more commercial interest elsewhere. A multi-country approach might have stimulated faster commercial adoption of the technology.

Disadvantages of multi-country projects

Complexity Working in multiple countries means having to deal with multiple governments and becoming familiar with different organizations, institutional structures, administrative requirements and personnel. There are more stakeholders, and the process of consultation in each country can be lengthy and costly. Changing governments, policies and personnel can complicate matters further.

Some projects intervene in several countries, with a main focus on one country – as was the case for the cocoa project (which worked mainly in Brazil), and the cashew project (Tanzania). The horticulture project was initially designed to cover several countries but eventually worked only in Zimbabwe when it was realized that working in more countries would be complex and costly.

Weak partners In a multi-country project, some countries and organisations will inevitably be stronger than others. Weaknesses in one (a lack of infrastructure, institutional capacity, etc.) may limit the success of technology transfer (Box 2).

Language and cultural differences Working across national boundaries may require working in several official and local languages. That complicates management and communication, creates costs for translation and interpretation, and may make it necessary to recruit hard-to-find multilingual specialists (Box 3).

Different countries have different cultures, religions, traditions and ethnicities. The overlap in interests may be limited, and it may be difficult to reach a common understanding of problems and approaches. For example, it may be hard to reach agreement on issues such as gender and how to ensure women are involved in project planning and implementation.

Box 2. Working with a weak partner in organic aquaculture

One weakness in the multi-country aquaculture project in Southeast Asia proved to be the much lower level of overall development in Myanmar as compared to Malaysia and Thailand. The weak infrastructure and remoteness of project sites prevented the timely delivery of certified organic feed. This endangered the project's success until other acceptable sources of feed could be found.

The three participating countries could clearly capitalize on their strengths:

- **Thailand** Advanced organic aquaculture systems and product certification schemes were already established, and the technology could be transferred.
- **Myanmar** The low level of development meant that no chemicals or pesticides had been used, making it easy to convert to organic production.
- **Malaysia** A high level of consumer awareness on food safety meant a large market existed that was willing to pay premium prices.

More information: Tarlochan Singh (aquaculture project), infish@tm.net.my or info@infish.org

Single-country projects

The advantages and disadvantages of single-country projects mirror those listed above. Projects in one country avoid many of the problems inherent in multi-country projects, but may have less impact, be less cost-effective, and fail to achieve economies of scale or benefits from international exchange.

In addition, project designers should take two other factors into consideration:

- **One country, big problem** A problem in a single country can be big and important enough to justify a major project investment. In Brazil witches' broom disease cut the country's cocoa output by 75% – from 400,000 to 100,000 tons/year. The scale of this problem would justify a single country project.
- **External benefits of single-country projects** Many problems that affect a commodity are restricted to one country but are still important for other countries. An example is frosty pod disease, which spreads very easily and can devastate cacao plantations. Brazil is free of the disease, but it occurs elsewhere in South America. A project in (say) Ecuador (where the disease does occur) would benefit Brazil by making it less likely that the disease spreads there.

Box 3. Você fala o Português?¹

The cashew project operated in seven countries in East Africa. This in itself posed challenges, which were made more difficult by language differences: French-speaking Madagascar and Portuguese-speaking Mozambique in addition to five English-speaking countries were partners in the project, and the farmers spoke their own local languages. Different financial systems, currencies and fluctuating exchange rates caused headaches in financial administration. It was necessary to build capacity within the project executing agencies to ensure consistent and transparent financial reporting.

¹ Do you speak Portuguese?

More information: Louis Kasuga (cashew project), ljkasuga@yahoo.com

2.5 LESSONS

In this chapter we have discussed issues relating to complexity in commodity projects. Complexities relate to the type of commodity, the focus the project chooses in terms of single or multiple issues tackled, the approach used, starting from a problem or an opportunity, and the number of countries involved. We can draw the following lessons for project designers and implementers.

- **It is important to focus on opportunities rather than problems.** It is only when an opportunity exists that an intervention can have a positive impact on the stakeholders involved. The project can then tackle the constraints that hinder the intended beneficiaries from taking advantage of the opportunity.
- **Single-focus projects need specific justification.** They should be initiated only where a thorough systems analysis has clearly identified a single, most important bottleneck for commodity development. Even then, other relevant issues should be made explicit. In other cases, focusing on a single issue is not justified.
- **Commodity system innovation often requires a multi-focus approach,** working on different issues simultaneously – which makes commodity projects complex. The coordination should have a broad overview of the system and be able to coordinate among a range of stakeholders.
- **A multi-country project is only justified if the participation of other countries brings clear benefits for each country.** The project has to make such a win-win situation explicit.

3

Partnerships in commodity projects



Training workers on equipment installed by the project in workshops of the Federal Micro and Small Enterprise Development Authority (FeMSEDA), Ethiopia

Bamboo project, Ethiopia
Photo: Jürgen Hierold

3

Partnerships in commodity projects

“Successful projects have many fathers, but failed projects are orphans”

– Ed Pulver

It is widely acknowledged that a project can be successful only if those involved feel ownership and responsibility for it (Muller and Tulder 2006, Fortanier 2006). Commodity projects are no exception. The question is, how can responsibilities in commodity projects best be shared between different project partners involved?

In this chapter we first discuss who the **stakeholders** of commodity projects are (section 3.1). Stakeholders are those that are affected by the project activities: they have a stake in it. They may or may not be directly involved in the project activities, but they are influenced by it.

From there we turn to project **partnerships**. Project partners supervise, coordinate or implement project activities. Section 3.2 discusses their roles.

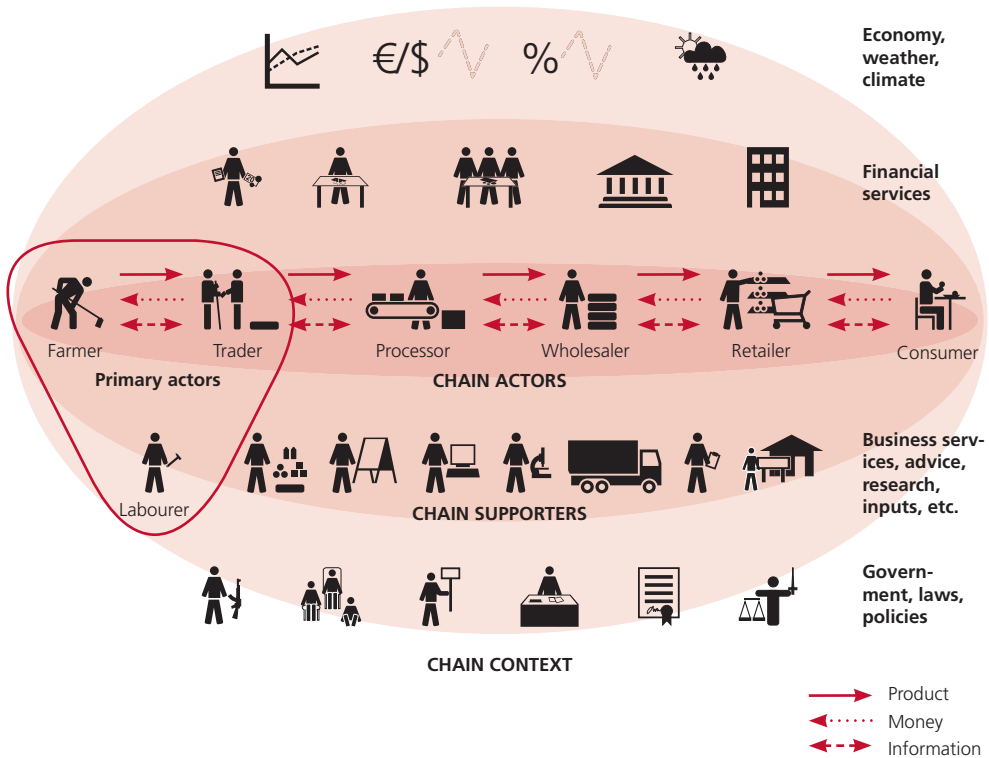
The participation of stakeholder groups is needed in making decisions and implementing commodity projects. That does not mean that everybody has to participate all the time: that would be time-consuming, difficult to manage, and costly. Furthermore all stakeholders have their own specific capacities and a role to play within a commodity project. But who needs to participate, at which stages and in what way, to make a project more likely to achieve its objectives? This is discussed in section 3.3.

3.1 STAKEHOLDERS IN COMMODITY PROJECTS

The stakeholders are those who are influenced by the project intervention. The value-chain literature provides a useful framework for determining the stakeholders in commodity projects. We can identify three broad categories of stakeholders: chain actors, chain supporters, and those that function within the chain context (Figure 1) (KIT and IIRR 2010).

Chain actors These are the individuals and organizations that produce, buy and sell the commodity. They include farmers, different types of traders, processors, retailers and consumers.

Among the chain actors are what we call the **“primary actors”**. Most commodity projects aim to reduce poverty. Smallholder farmers, small-scale livestock raisers, primary processors, fisherfolk and petty traders are in most cases the poorest actors in the commodity system, and are the intended beneficiaries of commodity projects. We can also include farm labourers and artisans in this group, even though they never take ownership of the product, so are not strictly “chain actors”. In other words, primary actors are the generally resource-poor people at the beginning of the value chain who are most often targeted by commodity projects. Not all projects work



Source: Adapted from KIT and IIRR (2010)

Figure 1. Value chain showing chain actors, chain supporters and chain context stakeholders

directly with these beneficiaries. They may intervene elsewhere in the value chain – for example, by conducting research to generate an improved technology, or by improving the marketing of a commodity further down the value chain. But they usually do so with the aim of improving the livelihoods of the primary actors at the beginning of the chain.

Other chain actors include traders, processors, wholesalers, retailers and consumers. These chain actors buy or sell the product, and may bulk it, process it, package and transport it, and distribute it to the final consumer. Most are private-sector companies, though in some countries government bodies still buy and sell certain products.

Chain supporters Chain supporters are those stakeholders that provide services that enable the chain to function. These services include research, extension, quality control, export, business development services, finance, and others. Chain supporters also include development project coordinators and implementers such as contractors, government agencies and NGOs.

Chain context stakeholders Chain context stakeholders influence the context in which the chain functions. They include decision makers in local and national governments and international organizations that set the scene and affect the environment of the chain. They make decisions that affect the wider context, such as infrastructure, legislation and education.

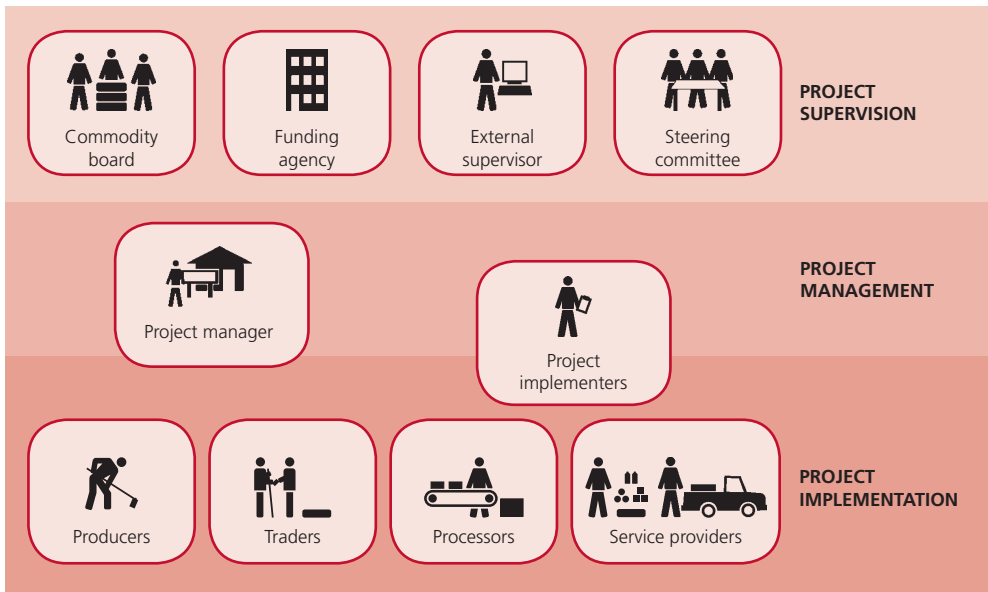


Figure 2. Generalized view of project partnership

3.2 PROJECT PARTNERS

Project partners are those stakeholders directly involved in the implementation of the project. Most commodity projects have a range of project partners, including the overall project manager, implementing organizations, and chain actors directly engaging in project activities.

The configuration of partners may vary from project to project. Figure 2 provides a generalized view based on the 11 CFC projects.

A first category of partners consists of those who are involved in the project **from a distance**. These include the project funder, who is clearly a partner, but mostly has limited involvement in project management and implementation. Other project partners involved from a distance are external supervisors or evaluators, and in the specific case of CFC projects, the international commodity boards. Finally a project steering committee is also involved from a certain distance.

There is often one main contractor or **project manager** (in CFC-speak, the “project executing agency”). This project manager bears overall project responsibility towards the funder and is in charge of coordination, reporting to the funder, communicating between different countries, and overseeing the “big picture” of the project. In many cases this project manager is also involved in project implementation.

The project manager coordinates a group of intermediate project partners – the **project implementers**, through whom the project is implemented. These project implementers may be involved in project management as well.

The exact division of responsibilities between the project manager and project implementers may differ. Some project managers merely administer the project. This was the case for UNOPS in the coffee finance project and CIAT in the rice project, with another organization (KPCU and FLAR respectively) taking the responsibility for project coordination. In other cases it is the project



Signing the project implementation agreement before the project launch

Aquaculture project, Myanmar
Photo: Tarlochan Singh

manager that does all coordination, and is also involved in implementation, for example ICRISAT in the sorghum project. What is important is that the local project implementers have enough freedom to take decisions based on their locally embedded knowledge.

A third category is those **chain actors** – producers, traders and processors – that are directly involved in project implementation and who are intended to benefit from the project interventions. These can include private-sector companies and primary actors.

Another group of stakeholders involved in implementation are **service providers**. They may be direct service providers to the commodity chain (so already closely involved), or be hired specifically by the project to provide a specific service.

Managing the partnership

The project partners have different motivations for contributing to the project. It is essential that they have enough common interests to ensure they have a stake in collaborating to make sure the project achieves its objectives (Box 4).

- In the jute project, the common goals were to develop entrepreneurship, reduce poverty and empower women and vulnerable people.
- In the sorghum and pearl millet project, the farmers were selected carefully to include interested, innovative and dynamic farmers.

Table 5 summarizes the project partners in the 11 projects described in Part 2 of this book.

Project management

The role and position of the project manager (the organization entrusted with managing the project) was analysed by the writeshop participants. An important task is to build a functioning consortium of project partners. It is the role of the project manager to negotiate the roles of the consortium partners and to coordinate their activities. This role requires project managers to be perceived as a neutral player both politically and in the value chain.

For commodity projects it is important that the project manager has the ability to relate to the different project partners and stakeholders. For example, the project manager should have the ability to discuss with, understand and motivate a private company to participate in project initia-

Box 4. Determining roles and responsibilities

“Drawing from the original project document, sub-agreements were tailored and signed between major drivers of the tasks and activities to be carried out.”

More information: Susan Njoroge (coffee finance project), susann@unops.org

“The project demonstrated that related responsibilities should be shared among the sponsors, donors, implementers, supervisors and other stakeholders, particularly the beneficiaries. The appraisal report and the project agreement between the donor, the supervisory body and the project managers clearly spelled out the responsibilities of the concerned parties.”

More information: Md. Fazlul Huq (jute project), fazlul_huq@yahoo.com

“In the sorghum project, ICRISAT had the overall responsibility of designing and executing the project. It was supported by the collaborating partners under the guidance of a steering committee and the donor/supervising body. The division of responsibilities was based on their strengths, experiences, expertise, implementation capacity and infrastructure. The responsibilities corresponded with the partners’ mandates and longer-term agendas, thus stimulating the continuation of activities after the project.”

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

tives. At the same time the manager needs the skill to distil the essential needs and opportunities of the intended beneficiaries.

Furthermore the project manager has to be a respected organization. A sound and recognized reputation in the commodity is of great help, and provides a ready-made network of organizations related to the commodity chain. The manager needs the ability to oversee the entire commodity system and to maintain a good relationship and direct communications with the project funder.

In seven out of the 11 commodity projects, the manager had initiated and designed the project: it had identified the opportunity, designed a project around it, and obtained funding from CFC. This has the big advantages of continuity, accountability and ownership: it reduces the possibility of gaps or misunderstandings in translating the project design into reality. In the words of the manager of the rice project, “those that bake the cake should be the first to taste it”.

But this pattern is not the norm for many funding agencies. There, the initiator may be a government or the funding agency itself, the designer may be a hired consultant, and the implementer may be a consulting firm that is answering an invitation for “expressions of interest” or a “request for proposals”. The implementer is then selected through a competitive bidding process. Such divisions of responsibility are inevitable under the project development process that these funders use, but they may result in delays, confusion and inefficiency.

Even in the project allocation system used by CFC, the initiator, designer and implementer may be different organizations. It is possible for the international commodity board to identify a project opportunity and CFC to request external consultants to formulate the project. An outside organization may also be brought in if the initiator cannot take on the role of manager. In such cases, it is necessary to find a manager that has the credibility to be able to take over leadership even though it comes in later than many other stakeholders. This was the situation in the Kenya

Table 5. Project partners involved in the 11 CFC projects

Project	Project manager			Implementers		Chain actors involved	
	Project manager	NGOs and development organizations	Public service and research organizations	Local, regional and national governments	Producers and primary processors	Private entrepreneurs in agribusiness	
Coconut fibre Philippines	National research centre (WUR)	–	Research institutes	Government agencies	Coconut producers	Panel-making firm	
Jute South Asia	Intergovernmental body (IISG)	Development NGO	National jute centres	Local, regional & national governments	Jute producers and processors	Jute manufacturing and marketing enterprises	
Rice South America	International producer organization (FLAR)	Farmers' association (FLAR)	National rice development organizations	–	Rice farmers	–	
Coffee technology East Africa	International development organization (CABI)	–	International coffee organization, coffee development authority	Ministries of agriculture	Coffee producers	Coffee processing and marketing firm	
Bamboo East Africa	International development organization (UNIDO)	–	National research institute (KEFRI) Enterprise development authority (FeMSEDA)	Ministries of industry, agriculture & forestry	Bamboo producers	Bamboo floorboard producer 200 furniture and crafts makers	
Sorghum and pearl millet Asia	International research centre (ICRISAT)	NGOs Farmer federations	National research & extension departments, universities	Municipalities	Grain producers	Feed industry Seed companies	
Horticulture Zimbabwe	National development bank (IDBZ)	Farmers' organizations Irrigation schemes	Ministries of agriculture and industry	Ministries of agriculture and industry	Vegetable producers	Trading company initiated by the project Exporters Input suppliers	
Cashew East and Southern Africa	National research institute (NARI)	–	Research institutes, district extension staff	Local governments; ministries of agriculture	Cashew producers	–	

Table 5 (continued)

Project	Project manager	Implementers			Chain actors involved	
		NGOs and development organizations	Public service and research organizations	Local, regional and national governments	Producers and primary processors	Private entrepreneurs in agribusiness
Cocoa South America	National commodity commission (CEPLAC)	–	National research and extension organizations, University	Ministries of agriculture	Cacao producers	–
Coffee finance Kenya	Intergovernmental project bureau (UNOPS)	–	Public research and extension agencies	Ministries of agriculture and cooperative development & marketing	Coffee producers & cooperatives	Coffee factories, processing and marketing firms
Aquaculture Southeast Asia	Intergovernmental organization (INFOFISH)	–	Extension agents	Department of fisheries	Fish and shrimp producers	Aquaculture enterprises, exporters

coffee project, where a neutral international body free of political connections (UNOPS) was brought in to manage the activities.

In the rice project in South America, the project manager (FLAR) was not the project signatory because it is not a legal entity. So its host organization, CIAT, was the official signatory and provided administrative services; for all intents and purposes, though, FLAR was responsible for the project management.

In multi-country projects, the project manager may be a neutral, international organization (as in the jute, rice, coffee technology, bamboo, sorghum and aquaculture projects). Or it may be an organization in the country hosting the project that can provide the leadership and facilities needed. The latter was the case in the cashew and cocoa projects.

Project implementers

The project manager often coordinates a set of partner organizations, each with a different type of expertise. These organizations form a consortium of partners that jointly possess the capacities that are needed to implement the project. Possible project implementers include:

- **National or local government agencies, public organizations, NGOs, private service providers**, and other development organizations offering a range of services: training, capacity building, organization, information and communication services.
- **Financial service providers**, offering credit, microcredit and banking services.
- **Research organizations** (international, public and private), providing their specific expertise.
- **Farmers' associations or cooperatives** that organize their members, manage production and marketing, and sometimes provide training or financial services.

In multinational projects, the partners may include one or more national-level organizations that coordinate activities in their country and may implement the project on the ground.

The collaboration may be on a commercial basis (a contract specifying the services to deliver and payments to be made), or on a partnership basis (relying on mutual interest and goodwill of organizations with mandates to play the roles required for the project) (Box 5).

There are numerous reasons for including partners in the project consortium. From the 11 projects the following reasons were identified:

- They represented **targeted primary actors** (federation of rice producers: rice project).
- They provided **co-funding** (state government: cacao project).

Box 5. Every partner brings something to the table

"All partners included in our sorghum and pearl millet project had something to bring to the table in respect to project objectives and requirements. We enlisted a veterinary university because it had facilities and expertise to demonstrate that sorghum could substitute for maize in manufacturing animal feeds. A producer federation was incorporated since it had skills in organizing and mobilizing farmers and in training villagers. A science and knowledge centre was brought in to undertake technical training for farmers and to conduct on-farm demonstrations. Research institutes participated since they developed the new sorghum varieties and so farmers could go there for information after the project. Seed firms were brought on board to provide quality seeds at concessionary rates. Feed and alcohol manufacturers were brought in to ensure market outlets for the produce."

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

- They were **influential decision makers** (ministries of fisheries: aquaculture project).
- They constituted an **essential chain actor** (Illycafé: coffee quality project).
- They possessed the **facilities** to implement the project and continue building on its achievements beyond the project lifespan (extension service departments of universities: sorghum and pearl millet project).
- They possessed **vital expertise** (Kenya Forestry Research Institute: bamboo project).

The cashew and cacao projects were entirely public-sector driven, with no private-sector or non-governmental organizations involved in implementation. The rice project was very much farmer-driven: the producer organization, FLAR, coordinated the project and collaborated with public extension services to implement it.

Other projects had a more multi-stakeholder approach, with producers, public, private and non-governmental organizations all involved. Examples were the jute and sorghum projects, in which producers, processors, private firms, NGOs, public extension services and government ministries all played a role. Producers or primary processors were involved in all 11 projects.

Specific components of a project may necessitate including additional partners. For example, a project that aims to improve crop production may require the involvement of a bank to provide farmers with credit so they can buy fertilizers.

The number and importance of partners may change during a project's life. As the project matures, new opportunities often emerge, requiring the incorporation of additional stakeholders as partners. An example is the coffee finance project: towards the end of the project new financial organizations got involved that were better placed to implement the developed credit products than the larger banks that were involved in the development.

It can be difficult to retain the interest of partners that have been assembled in the beginning. Especially delays in realizing funding for a project can de-motivate project partners. Long time-lags between project formulation and the start of implementation can mean that some of the intended partners have undergone changes in their management or mandate, resulting in changed priorities (Box 6). Private-sector interest in a project may easily wither if the time from design to initiation is too long.

Chain actors

In all of the 11 projects, chain actors were directly involved in project implementation. They are not mere passive recipients: they are active partners in the project. They take part in decision making and the realization of the project results.

Private agribusiness companies are often the main drivers in commodity value chains. Private companies are among the beneficiaries of commodity projects and should participate actively in them. But such collaboration is not always easy. The private sector is driven by the profit motive, not high-minded motivations such as "improving livelihoods of the poor". Few companies will invest in a technology or activities that do not create a direct profit for them. We discuss working with the private sector further in section 6.3 and Chapter 7.

Many project managers feel that the responsibility for decisions should be shared amongst the project partners. This also has implications for investments and budget management. How can decision making be delegated practically to implementing project partners, including the participating chain actors? Doing so means the project manager has to let go of some power and allow others to make decisions. That may result in deviations from the original plan – for which the

Box 6. New management, new directions in rice

Delays in approving and implementing a project can reduce stakeholders' interest and commitment. In the early stages of formulating the South American rice project, IRGA, a farmers' association in the Brazilian state of Rio Grande do Sul, was the main voice soliciting support and was heavily involved in planning. The IRGA management approved the final draft of the project document submitted to the funder.

But during the nearly 2-year wait for approval, the management of IRGA changed, and the new management requested numerous changes. As a result a revised draft was submitted to the funder and further delays occurred.

In retrospect, the new IRGA management should have been kept better informed during the waiting period. That would have avoided confrontations with the project management when the project finally began.

During the 3-year project life, the director of the relevant division within IRGA changed four times. This lack of continuity created difficulties in managing the project, frequent requests for changes in direction, and other difficulties that are normally addressed in the project formulation rather than during the implementation phase.

More information: Ed Pulver (rice project), e.pulver@cgiar.org

project manager bears responsibility towards the funder. The manager must find ways to coordinate the partners who have been given these responsibilities and ensure that they fulfil the terms of the agreement with the funder. Close coordination and a common understanding of goals and methods are necessary, as well as good communication with the funding agency.

3.3 PARTICIPATION OF CHAIN ACTORS IN PROJECT DECISION MAKING

Project management and implementing organizations are together chiefly responsible for managing the day-to-day implementation of commodity projects. However, clear mechanisms are needed to involve chain actors directly in making decisions that are in their interest and contribute to the positive development of the chain.

Direct participation of primary actors in agricultural research and development projects has been high on the agenda since the 1980s (Chambers 1983, Jiggins and De Zeeuw 1992).

While acknowledging this, the managers of the 11 projects found participation of primary actors a challenge. They cited various reasons for this. First, the primary actors are often resource-poor, so may not be able to risk trying something new, even if it promises much better returns. Second, primary actors are often hindered by limited education and experience of the outside world. Many do not speak the national language or have access to the media, making communication difficult. Third, vulnerable groups (women, youth, certain castes) face restrictions on what they are permitted to do. Finally, many primary actors are poorly organized, making it hard for the project to work with them.

Participation in project decision making by traders, private agribusiness enterprises and other chain actors is of similar importance. In most cases, improving the livelihoods of private entrepreneurs will not cut poverty. But entrepreneurs remain key to commodity chain development. As their enterprises develop, the commodity chain can also develop: the volume of produce traded rises, products and markets diversify, quality improves, and value is added in-country. Entrepreneurs'

knowledge of the chain is important for a commodity project, and their participation in decision making is essential to ensure that the project is pursuing realistic opportunities.

Chain actor organization

To participate effectively in decision making, chain actors have to be organized. It is not effective for projects to work with individual producers, traders or processors. An organization that has a credible mandate to participate in project decision making on behalf of a larger chain actor group is helpful for a commodity project.

In many places, farmers are already organized into groups – farmers’ organizations, marketing groups, savings-and-credit associations, cooperatives, self-help groups, and so on (Wennink et al. 2007). Commodity projects can work with such groups. However, the lower the level of organization, the smaller its mandate to participate in decision making on behalf of all farmers who produce the commodity.

Most of our 11 projects collaborated with existing organizations of producers, while some helped establish new ones. Four of the projects also worked with individual farmers, but all projects engaged with farmers’ organizations to some degree.

Some type of organization is essential for other chain actors as well to engage in project decision making. But there are often no bodies that represent the common interests of all traders and private entrepreneurs. This makes it difficult for them to contribute to project decisions. Often the only option is to select individual representatives of these actors to participate in decision making. The project management must then keep in mind that they represent their own interests rather than the common interests of the group.

Where no bodies exist to represent chain actors, it may be an option for the project to support their formation.

Commodity project life cycle

The commodity project life cycle can be divided into five stages (Figure 3):

1. **Identification** Generation of the initial project idea and preliminary design.
2. **Preparation** Detailed design of the project addressing technical and operational aspects. This includes writing the project proposal, assessing its soundness, securing approval, and arranging finance.
3. **Inception** Reassessment of the project design with the different project partners after approval, identification of missing partners, determination of detailed roles and responsibilities, and planning for action.
4. **Implementation and monitoring** Implementation of the project activities with continuous checks on progress and feedback.
5. **Evaluation** Periodic review of project with feedback for the next project cycle.

Here we discuss the participation in decision making by chain actors during identification and preparation, during the inception stage, and during implementation.

Participation during project identification and preparation

The success of a commodity project relies heavily on its design. Involving chain actors in the design process can help project identification and preparation in various ways. Here are some:

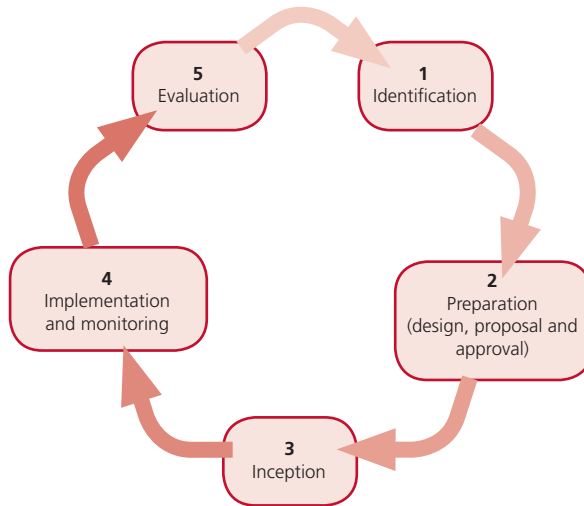


Figure 3. Stages in a typical project cycle

- **To identify needs and generate the initial project idea** Participation may begin by seeking inputs through preliminary dialogues with opinion leaders representing groups of chain actors or other stakeholders. These ideas feed the preliminary design of the project.
- **To identify potential partners** Early consultations enable the project originator to identify possible partners and sound out their interest in collaboration.
- **To draft the project proposal** A small workshop with a group of potential partners and chain actors can be a good way to develop project ideas and draft an initial logical framework. It ensures that the project does not reflect the ideas of the initiator and principal writer alone.
- **To build connections and gain trust** Participation of chain actors is an important first step for building trust and creating space for effective dialogue as the project progresses.
- **To build credibility with the funder** Showing the participation of chain actors in the project design is often vital to ensure that a proposal is credible with the donor. The sorghum project provides an example of the structured involvement of stakeholders in the design (Box 7).

How much pre-project consultation is good? There is little agreement on this. Some managers of the 11 projects felt that contacts with stakeholders should start as early as possible. Others preferred to use a feasibility study as a tool for consulting stakeholders. Still others questioned whether formal consultation is always required to write a good project proposal: after all, many projects are based on previous experience, making a complete series of consultations unnecessary.

There was agreement that it is essential to identify broadly the opportunities and constraints early on in the project design. In many situations however, it is not possible to consult with all stakeholders extensively before the project begins because of the time needed and funding has not yet been secured.

These limitations in opportunities for structured consultation with stakeholders during the design mean that the project designer's own knowledge becomes crucial. The project designer

Box 7. Involving primary actors throughout the sorghum project

In the sorghum and pearl millet project in Asia, the consultations began with meetings with villagers and potential partners to seek ideas for the project. These dialogues helped the project designers understand the real needs, develop the project's vision, and plan outcomes. The primary actors' opinions on the project components, their priorities and their expected roles in various stages of the project cycle played an important role in the project design.

Involving the primary actors in planning, baseline studies, the identification of constraints, the implementation of activities, monitoring and evaluation, and periodical project reviews ensured their active participation and enabled them to share their opinions.

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

needs in-depth knowledge of the commodity chain in the project area. Preliminary dialogues with stakeholders, including potential partners and intended beneficiaries, and gathering secondary data are quick ways to gather information early in project formulation. A designer who is knowledgeable about the commodity chain can do this effectively and informally.

The problems observed may be merely symptoms of many contributing factors – a realization that may emerge only later. An exhaustive analysis covering the entire value chain and its environment would be best, but may be too expensive and time-consuming, so not feasible before the project has been funded.

That makes it necessary to conduct an in-depth analysis of the constraints and opportunities during the project's inception phase – i.e., after approval and funding, but before implementation begins. Such an analysis enables the project implementers to study the situation in depth, review the project design, and revise it if necessary (Box 8). This issue is further explored in Chapter 4.

Another reason to limit pre-project consultations is the need to avoid raising expectations that may be impossible to fulfil. Companies and producer organizations may lose interest or switch priorities if approval takes a long time (Box 9).

And approval procedures do tend to take a long time! For the 11 projects, the length of the journey from a first project idea until project initiation ranged from one to four years. The preparation may take a long time because of the need for consultation with different project partners, who all have to approve the proposal before it is submitted to a potential funder. Then follows the review of the proposal, revisions, resubmission or submission to an alternative funder, and

Box 8. A changing situation in Zimbabwean horticulture

The Zimbabwe horticulture project aimed to help farmers to produce vegetables for export. It involved a wide range of stakeholders in pre-project consultations: the relevant ministries, finance organizations, village chiefs and farmers. Questionnaires were used to gather information and opinions, and workshops were held to explain the objectives and expectations.

But this was done too early; in the meantime the market situation had changed, and the project's initial results were disappointing. So the project had to be redesigned to help farmers produce for the local market rather than for export.

More information: Patricia Tembani-Chizengeya (horticulture project), ptembanieidbz@idbz.co.zw

Box 9. Problems with consultations in the coconut fibre project

Stakeholder consultations may unnecessarily complicate the preparation and approval of a project. Some experiences from the coconut fibre project:

- The time span between the start of planning and implementation may be too long. Consultations may lengthen this further, and the stakeholders may have lost interest when the approval finally comes through.
- Stakeholders – especially funding agencies – may lack the expertise to judge a proposal. They may need to contract independent specialists to do so, which adds to the time needed.
- The project aimed to develop a new industrial technique (pressing coconut fibre into boards). But it avoided involving industrial firms because it aimed chiefly to benefit smallholder coconut farmers. The project designers wanted to develop the technology and make it widely available; collaborating with a single company would have created market distortions and problems with intellectual property.

More information: Jan van Dam (coconut fibre project), jan.vandam@wur.nl

ultimate approval. Once approved by the funder, signing agreements between the implementing partners is notorious for creating further delay. Recruiting or assigning essential staff takes time, postponing the start of action further.

In this context, extensive pre-project consultations may be of little help. Once the project finally gets under way, much may have changed. It therefore makes sense to develop the outline of a sound project idea, get approval for it, then use the inception phase to recheck the design and fill in the details. This shortens the pre-project phase and avoids disappointing partners if no funding can be secured. Many projects have to be re-designed during the inception phase anyway, as it is only when resources are secured that true planning can be done with the final project partners. The main difficulty with this approach is the funding agencies' insistence on detailed project plans before they will approve funding.

Ideally, the person or organization preparing the project is the same as the one implementing it. Only then can the project really benefit from the preparation stage during its implementation.

Participation during the inception phase

Once a project is approved, it is hardly ever possible to move immediately into implementation. Proposals are written in a way that maximizes the chances of approval by the funding organization. They are sometimes written by relative outsiders (often consultants) who may not have the detailed operational knowledge required for realistic planning. In any case, the project approved needs to be fine-tuned to meet evolving realities on the ground by the organizations that are entrusted with implementation.

This necessitates an inception phase in which the project partners interpret the project proposal, adapt it where necessary and possible, divide up the tasks and responsibilities, and plan for action. The participation of primary actors and private entrepreneurs in this step is required. Here are some of the advantages:

- **Trust** Building strong coherence and trust among project partners is essential for effective project implementation. The lead organization should take time to get to know the partners and build relationships with them based on open communication. Participation

in decision making will help the partners to learn about and respect each others' positions and values, and enables them to develop their relationships.

- **Clarifying expectations** In the inception phase it is important to revisit the expectations and objectives of the different project partners. When people's agendas are transparent and a joint vision is defined, conflict and misunderstanding become less likely.
- **Improved planning and implementation** The inception phase provides time for the project partners to plan the interventions. It is an opportunity for the stakeholders to review the plans and revise them if necessary. It also enables plans to be fleshed out in detail, given the certainty of funding.
- **Division of roles and responsibilities** The consultations enable a clear division of tasks and responsibilities among the project partners, drawing on the strengths of each.

Participation during implementation

The types of participation in decision making during the implementation are a defining characteristic of a commodity project. Table 6 lists seven types of "participation", in rough order of the degree to which the "participant" controls the decisions made. Note that the "higher" types (interactive participation and self-mobilization) are not necessarily better or more desirable than the "lower" ones (passive participation, information giving, consultation, etc.). Depending on the situation, different types of participation may be appropriate.

Table 6. Types of participation

Type of participation	Type	Details
G	Self-mobilization	People take initiatives independent of outside organizations. They contact outside organizations for resources and technical advice, and retain control over how resources are used.
F	Interactive participation	People jointly analyse the situation and are involved in planning activities and forming or strengthening local institutions. The project seeks multiple perspectives and uses systematic and structured learning methods to facilitate participation.
E	Functional participation	People form groups to meet predetermined objectives related to the project. Such involvement tends to be after major decisions have been made. Institutions formed tend to be dependent on outside initiators, but may become independent.
D	Participation for material incentives	People provide resources (such as labour or land) in return for food, cash or other material incentives. They are not involved in learning.
C	Participation by consultation	People are consulted and external agents listen to their views. These external agents define both problems and solutions. There is no share in decision making, and professionals are under no obligation to take on board people's views.
B	Participation in information giving	People answer questions. They do not have the opportunity to influence proceedings, as the findings are neither shared nor checked for accuracy.
A	Passive participation	People are told what is going to happen or has already happened. The information being shared belongs to external professionals.

Source: Adapted from Pretty (1994, 1995), Pretty et al. (1995)

Table 7. Types of participation used by projects with primary actors and the private sector

Project	Type of participation						
	A Passive	B Information giving	C Consultation	D Material incentives	E Functional	F Interactive	G Self mobilization
Coconut fibre Philippines		□	▲			□	
Jute South Asia		▲ □	▲ □	▲ □	▲ □	▲ □	
Rice South America	▲ □	▲ □	▲ □		▲ □	▲ □	
Coffee technology East Africa		▲	□			▲ □	
Bamboo East Africa		▲ □		▲	▲ □	▲ □	
Sorghum and pearl millet Asia		▲ □	▲ □	▲ □	▲ □	▲ □	
Horticulture Zimbabwe	▲	▲	▲ □		▲	▲	
Cashew East and Southern Africa	▲ □	▲	▲		▲ □	▲	
Cacao South America		▲ □	▲		▲	▲	
Coffee finance Kenya			▲ □		▲	▲ □	□
Aquaculture Southeast Asia		□	▲ □		▲ □	▲ □	

▲ = participation by primary actors, □ = participation by private sector

Source: based on self-evaluation by project managers rather than objective criteria.

Table 7 summarizes the types of participation used in the 11 projects described in Part 2 of this book, for primary actors and for the private sector. Two things are immediately evident:

- Most projects used **multiple types of participation** depending on particular steps and needs within the project. This makes sense as projects consist of a collection of differing activities, and the same type of participation is not effective or desirable for each activity.
- Most projects used **similar types of participation across stakeholder types**. For example, if they used interactive participatory approaches with primary actors (Type F), they also tended to use similar approaches with the private sector. This means that the projects

made efforts to ensure the participation of both producers and agribusiness entrepreneurs in project activities.

The most common forms of participation were information giving, consultation, functional and interactive participation.

Box 10 describes the consultation process by the different project partners in routine project planning and decision making in the sorghum and pearl millet project. The project partnership included the implementing organizations, producer representatives and private enterprise representatives.

The 11 project managers noted that participation by chain actors in decision making has drawbacks. Meeting with large numbers of stakeholders is difficult logistically and costs effort, staff time and money. Participation may also lead to delays in planning and implementation. Different groups of stakeholders may have divergent interests that are impossible to reconcile. Even within stakeholder groups, disagreements may occur. In such instances, participation may lead to conflict rather than agreement, impeding project implementation. Asking someone their opinion about a problem raises their expectations that the project will solve the problem quickly. But the project may balance this with other stakeholders' priorities.

In some societies, it is easy for participatory processes to be hijacked by local elites, village elders, or other powerful interests. Less powerful people – the poorest and most disadvantaged – do not have the opportunity to give their opinions, or are afraid to do so. The project may have the appearance of broad-based participation, but in fact serve the interests of a small group. Women may be at a particular disadvantage: in some societies they are prevented from attending public meetings, or are expected to agree with their husbands if they do. In such circumstances, it may be necessary to hold separate meetings for women and men.

Because of these difficulties of participation, it is not uncommon that projects pay lip-service to participation, but in fact ignore most of the stakeholders' opinions. Or they may use participatory approaches to manipulate stakeholders into agreeing to an activity that has been decided beforehand.

Project managers often have to facilitate the interaction between commodity chain actors. Producers and private entrepreneurs may not agree on the best actions to take. Their representatives who help make project decisions will have the interests of their own stakeholder groups in mind – which are not necessarily identical to the interests of the commodity sector as a whole. It is up to the project manager to make the implications of possible decisions for the different chain actors visible and to try to reach agreement on activities to benefit the sector as a whole rather than a single group. In some cases however, no consensus will be reached. In these cases it can be fully justified to limit participation in decision making to Type C participation, "consultation". In such

Box 10. Consultations in the sorghum and pearl millet project in Asia

At the beginning of each year, the ICRISAT-led sorghum project used a process-oriented approach to plan that year's activities with the project partners. The size and nature of grants were fixed depending on the numbers of villages and farmers in each area. The partners were responsible for local activities. ICRISAT provided technical support, overall guidance for implementation, thematic and methodological backstopping, and overall monitoring, evaluation and coordination.

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

cases, chain actors express their opinions on the basis of their own interests, but if no consensus can be reached, the decision-making power rests with the project management.

The type of participation depends on the nature of the project. Participation has to be functional. In the coconut fibre project, for example, coconut producers were consulted (Type C). The project's objective was to develop a high-quality fibre-based product. A different type of participation by producers would not have been functional. The industry, however, participated interactively (Type F), because otherwise the project would not have been possible; it would have been merely a laboratory experiment.

Finally, it should be noted that a high degree of participation is not enough. It is increasingly recognized that participation is an important but insufficient condition for success. In many cases, it is necessary to address opportunities and constraints at a higher level than the grassroots. This requires institutional and policy changes (see section 5.7), and the lobbying of decision makers at higher levels.

3.4 LESSONS

This chapter has discussed the different stakeholders and partners involved in project implementation. We also looked at the management of those partnerships. We finished with a discussion on participation of chain actors in project decision making. Here are some lessons from the experience in the 11 projects:

- For effective project implementation, **a workable project coalition** must be created, usually with an overall project manager and implementing organizations. Primary actors are not passive recipients of project benefits and actions, but can be active project partners.
- Pre-project consultation is by necessity often not very extensive. This can be counteracted by a good **assessment of needs and opportunities during the project inception phase**.
- Projects should look for functional participation by chain actors in decision making. Especially where there are conflicting interests, the role of the project manager is to **help reach a consensus among actors**. When no consensus can be reached, the project management may make the decision, guided by the project objectives and for the benefit of the development of the commodity chain.
- **Formal or informal organization of primary actors** is a prerequisite for their effective participation in project decision making.
- **Different activities require different types of participation**. More participation is not always enough to achieve your desired outcomes – and can even be counterproductive.
- The limiting factors in commodity chain development are often at **a higher institutional level**. These constraints cannot be overcome through the participation of primary actors, but require buy-in and participation of powerful decision-makers.

4

Flexibility in implementation



Inspectors collecting samples for lab analysis

Aquaculture project, Southeast Asia
Photo: Tarlochan Singh

4

Flexibility in implementation

“Commodity development is not fixed and predetermined, but rather an evolving process. Project design should take this into account by subdividing the project into stages, at the end of which the need to redirect the project is assessed and recommendations made to the project financiers. The key is to focus on delivering the purpose for which the project was designed in an efficient and effective manner.”

– Charles Agwanda

MOST DEVELOPMENT projects have to be described in detail before they are approved for funding: the project designer has to lay out the objectives, activities and deliverables over time, along with the associated budgets. This detailed planning has two main purposes:

- To show to the funder that its investment is likely to provide the promised result.
- To explain the logic of the proposed intervention to the project implementers.

But when the project is being implemented, barriers, constraints and unforeseen hurdles are inevitable. New developments may require a response, and opportunities may arise that mean it is not possible or desirable to pursue the activities that had been planned. Commodity projects generally aim to stimulate innovations in production, processing or marketing – but innovation is by nature unpredictable. Furthermore, commodity markets are dynamic, resulting in constant changes in opportunities and constraints. Keeping rigidly to the original plans is unhelpful in such cases, making it wise to include a degree of flexibility in the project design and implementation.

But flexibility has its dangers. It makes planning and forecasting results difficult. It creates uncertainties in management and budgeting, and complicates monitoring and evaluation. It requires a management that is able to analyse the situation, identify alternatives, adjust goals and activities, and communicate all this to the funder. It requires a large degree of trust from funding agencies: they must be confident that the project implementers are indeed doing all they can to make the project a success, and are not merely pushing their own agenda or misusing the funds. In the face of this uncertainty, and confronted with the need to re-jig budgets and frameworks, it is often tempting for the funder to insist on sticking to the original plan, despite pleas from the implementing organization for an alternative.

How can commodity projects be designed with an appropriate degree of flexibility in mind? Changes should not be made for their own sake, but because they are necessary or desirable. Such changes can be seen positively: as ways to achieve the project objectives better, and above all to increase the likelihood that the primary actors' livelihoods are improved.

This chapter explores how to strike a balance between clear planning and monitoring on one hand, and room for manoeuvre and flexibility on the other (section 4.1). It also seeks to show how flexibility can be engineered into the project design and implementation (section 4.2).

4.1 WHY AND WHEN IS FLEXIBILITY NEEDED?

As a project progresses, unforeseen problems and opportunities may arise. We can recognize three types: surfaced, second-generation, and changing environment.

Problems and opportunities that surface during the project Certain problems, opportunities and constraints may come to light only as the project implementers investigate the situation in depth. In the aquaculture project, for example, the Japanese market was identified as a possible client for organic fishery products only after the project implementation had begun.

An example from the sorghum project was grain mould: this disease attacks the grain in the rainy season, reducing the quality, lowering the price, and discouraging farmers from growing the crop. This problem was identified as an essential bottleneck only after the project had already started. The project found a series of three simple solutions to this problem: it encouraged the farmers to plant resistant varieties, trained them to harvest the crop when it was physiologically mature (rather than waiting for it to dry on the stem), and provided equipment to dry and thresh the seed heads.

Second-generation problems and opportunities Some problems and opportunities may arise as a result of the project activities itself: solving one problem (increasing production) may lead to another (the need to find buyers for the resulting surplus). An example is the coffee quality project. This initially focused on a single issue: improving the quality of coffee. As the project was gaining momentum, and coffee quality improved substantially, a new opportunity arose: seeking a price premium for the higher-quality coffee. In response, the project supported lobbying with the coffee auction house in Ethiopia to introduce a new category of coffee that would fetch a premium price.

Problems and opportunities caused by a changing environment Policies and market conditions (both national and international) change, new governments take power, prices rise and fall, and economic circumstances alter. All these may create new problems or open up new opportunities. In Kenya, the changing liquidity status of banks affected the credit scheme that the coffee finance project had established. As a result the bank that was a major partner in the project had fewer opportunities to apply the credit product it had developed. In response, other financial institutes that could use the approach were brought into the project partnership. Also in Kenya, a change in forestry policy after a new government came to power threatened to ban the harvesting of bamboo. In response, the bamboo project supported a dialogue with policymakers to consider sustainable bamboo-cultivation practices (see also Box 19, page 64).

One could argue that those problems and opportunities that surface only after better understanding of the system indicate poor project design, and could have been avoided. The practical reality of the 11 commodity projects demonstrates, however, that oversights are part of the game; projects need to be open to recognizing them and able to address them.

Other emerging problems and opportunities cannot be anticipated in the project design or budget. Sufficient programmatic and budget flexibility has to be engineered into the design to

enable managers to deal with such situations. If necessary, the managers must have the courage to press the government and donors to change the project's direction.

A project monitoring system must be attuned to detecting emerging problems and opportunities. It must do more than gather a narrow set of data on achievements to compare against expectations or milestones. Periodic examination of the project's wider environment, perhaps using more informal methods, is needed.

Flexibility during the inception stage

Proposals may be unrealistic for three reasons. First, because project proposals are written with a double purpose. First and foremost, they are meant to explain the proposed activities to funding organizations and project partners in a convincing way so as to secure funding. In addition, they are used to guide project implementation by spelling out the objectives, methodology and activities. The need to convince funders and partners of the project's value encourages the designers to be optimistic about various aspects of the project's environment. Without such optimism, the project may not gain the necessary support.

Second, the project's designer is not necessarily the implementer. The designers may not appreciate the reality of the situation, or the capacities and manner of intervention of the implementing organizations.

Third, there are time constraints in the project design. As discussed in section 3.3, a compromise is often struck between perfecting the design and the amount of time spent in design. In fact, some information that sheds light on the proposed activities becomes available only after the proposal has been approved.

These three reasons make it necessary to review the project design during the inception phase, when the partnership configuration is being finalized and detailed project planning is done.

Flexibility during project implementation

Commodity projects depend on markets, and market circumstances can change unexpectedly: the price of commodities traded on the world market may be particularly volatile. Planned activities may no longer make economic sense. Projects should be flexible enough to respond to such changes (Boxes 11 and 12).

Box 11. Unanticipated cost increases in Latin America

A water harvesting project in Latin America aimed to build reservoirs. It initially estimated the cost of moving a cubic metre of earth at US\$2. But a sudden rise in the price of fuel more than doubled this, to \$4–5 per cubic metre. The project budget was not enough to build the number of demonstration reservoirs that was anticipated in the project design. The project was able to achieve its targets by forming strategic alliances with local governments to provide the equipment and cover some of the costs. These alliances proved to be the most important feature of the project – something that was totally unexpected in the project design. In spite of the increased costs, the reservoirs still proved economically viable.

More information: Ed Pulver (rice project), e.pulver@cgjar.org

Box 12. A policy change disrupts work in Ethiopia

Transport is crucial for extension work and capacity building. But in the coffee project in Ethiopia, the government banned the acquisition of vehicles – even though the vehicle that had been ordered had already arrived at the port. The ban forced the project to use other means of transport – an inconvenience that disrupted activities.

More information: Charles Agwanda (coffee technology project), c.agwanda@cabi.org

New chances for impact may present themselves in the course of a project: new market opportunities may arise, partnership opportunities may develop, and government policies and laws may change. All these may force the project to adjust (Box 13).

If a change is necessary, it should be made sooner rather than later. If a problem is allowed to persist, or if the project is going in the wrong direction, the difficulties only become more severe. A window of opportunity may exist for limited time: a failure to take advantage of it may mean a lost opportunity.

Commodity projects are temporary by nature. Those organizations taking responsibility for executing these projects – private consultancy firms, NGOs, research organizations or public service organizations – depend to a large extent on the resources available through these projects to maintain their staff. The temporary nature of these resources results in a large staff turnover as projects come and go. This has its influence on projects and requires adaptations in management.

In addition, projects are inevitably confronted with unforeseen difficulties in management. An implementing organization may encounter problems in playing its planned role – for example, key staff members may leave unexpectedly, or a manager may fail to perform adequately. Partners may also be subject to changes: a company may go bankrupt or an NGO may change its priorities. All these may force the project to rethink its approach (Box 14).

4.2 BUILDING FLEXIBILITY INTO THE PROJECT DESIGN

Changes in projects are inevitable. Rather than seeing them as a burden, those involved should view them as a way of refining activities, recognizing new realities and taking advantage of opportunities. For project managers, it is a challenge to adjust the plan without raising opposition from partners or funders.

Box 13. An opportunity for greater impact in Bangladesh and India

In the Bangladesh and India jute project, an opportunity arose to expand the project impact. The project management realized that it had the trained personnel and other requirements in place to nearly double the number of jute entrepreneurs. Doing so meant reallocating funds, increasing the emphasis on local market entrepreneurs, and investing more in tools and training. These changes were proposed to the steering committee, were articulated in the annual work plan, and received the donor's approval.

More information: Md. Fazlul Huq (jute project), fazlul_huq@yahoo.com

Box 14. Management changes in Kenyan coffee finance project

In the coffee finance project in Kenya, the primary actors did not feel that the project was being implemented quickly enough, and they complained to the technical team comprising the executing agency (UNOPS), the implementing unit (the Kenya Planters Co-operative Union) and the implementing advisor (De Chamal Du Mée) about the lack of action at the field level. The concerns were presented to the project steering committee, resulting in a change in the project management.

More information: Susan Njoroge (coffee finance project), susann@unops.org

Specific results and vague pathways A strategy to build flexibility into the design of projects is to be specific on the results the project should obtain, but vague on how it will achieve them. The broad lines of activities can be identified, but the specifics can best be left to the detailed annual project planning. The design must focus on what needs to be done, rather than on how to do it. That avoids imposing too much rigidity on the implementation team.

Use the logical framework for learning, not as dogma Logical frameworks (“logframes”) are a common tool for planning projects. They show how the proposed activities will achieve the required results and contribute to the project goals. Milestones are then used to assess progress. Logframes are often criticized as a reason for mechanistic, non-reflective implementation. But if both the funder and the implementer regard the logframe as the latest version of the project plan, which can be adapted as required, the logframe ceases to be a hindrance for flexible implementation.

Communicating change to donors Problems arise when a project logframe is used as the only reference for performance, and if deviation from it is considered an infraction of the project agreement. This may happen from the side of the funding organization, but may be even stronger on the part of the implementers. Implementers should seek to build relationships with the funder so it is easy to explain changes that improve the project impact. Good, timely communication is key. Without it, resistance or problems on the part of the funder can be expected.

Including an inception phase An inception phase is useful to deal with wishful thinking and inaccurate assumptions in the project design and the different reality in the field. During this phase, the implementers check the validity and feasibility of the design with the project partners and stakeholders. They can then present a well-argued, re-designed project proposal and implementation plan to the steering committee and funders. This makes it possible to adapt the proposal, correct design flaws and mitigate adverse market effects.

Boxes 15 to 17 give examples of the need for flexibility.

Box 15. Oops – it’s not in the budget!

In the cashew project in East and Southern Africa, a review of the budget before implementation began revealed that there was no provision for the country coordinators’ travel costs. It was assumed that the project would operate within each coordinator’s work place. However, that was not the case: some project areas were as far as 500 km away. That would have seriously hampered the project’s ability to achieve its objectives. The budget was adjusted accordingly, enabling the managers to follow up activities in the field.

More information: Louis Kasuga (cashew project), ljkasuga@yahoo.com

Box 16. Shifting priorities in the cashew project

Early in the cashew project, the implementers realized that the planned allocation of resources did not reflect the situation in the field. A rapid appraisal showed that more emphasis was needed on managing existing orchards, rather than setting up nurseries to evaluate new varieties. The stakeholders felt that evaluating genetic material was a long-term activity that would not produce results during the life of the project. Improving the management of existing orchards, on the other hand, would provide immediate results and benefit farmers more.

The project team proposed reallocating resources from evaluating genetic material to training and workshops in crop management. With a strong justification based on the information that had been gathered, the steering committee and donor approved this change.

More information: Louis Kasuga (cashew project), ljkasuga@yahoo.com

Box 17. Adding partners to expand markets for sorghum

The sorghum project originally focused on using the grain to make chicken feed. But in the first year of implementation, the project management realized that the chicken producers in Thailand could not absorb the grain produced – but the country's mushroom and duck-feed producers could do so. In China, demand for sorghum grain was strong in the alcohol and food industries.

The management presented these findings to the steering committee, which approved the switches in target markets. Smallholder sorghum producers have benefited from a more reliable market, more potential buyers and healthy competition among them, leading to higher prices for the producers.

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgjar.org

Building flexibility into implementation

Project managers need ways to detect and respond to changing circumstances during implementation. There are various mechanisms for this: baseline surveys, annual work plans, the monitoring and evaluation system, formal and informal early warning systems, progress reports and periodic reviews. We will discuss each in turn.

Baseline survey A baseline survey or analysis of the commodity system analyses the initial situation that the project faces. It is used for planning and as a basis against which progress can be measured. Many baseline surveys are far too detailed: they collect too many data, and analysis and reporting take too long – making the survey of little use in planning activities. It is better to collect only those data that are necessary to follow progress, keep track of emerging circumstances, and assess impact. Because baseline surveys are a valuable learning opportunity for the project implementers, the project benefits most when the surveys are undertaken by those who will be directly involved in implementation.

Annual work plans Perhaps the most opportune time for proposing changes in activities and budgets is the annual work plan. This lays out the project's direction and activities for the coming year.

Monitoring and evaluation for learning The monitoring and evaluation system should help the project cope with change while keeping in mind its original goals and objectives. It should help the project manager foresee the need or opportunity for change, so allowing re-planning and approval in good time.

In the past monitoring and evaluation were mainly targeted at accountability towards donors. Now it is recognized that monitoring and evaluation can make important contributions to the actors' learning and can improve the project's interventions (Guijt et al. 1998, Woodhill 2007). That means the monitoring and evaluation system should have two functions: it should ensure accountability towards the funder ("Are we on the right track? Are we achieving our goals?") as well as continuously check the proposed activities and results for relevance and need for adaptation.

There may be tension between the two objectives of accountability and learning. Monitoring and evaluation for accountability force project actors onto the defensive. They have to justify their actions towards the other actors and the funder. This does not provide the best environment for acknowledging mistakes, learning lessons and redirecting actions.

Monitoring and evaluation for learning requires an atmosphere of trust and collegiality, in which mistakes and insights on what is not going well can be shared without a loss of credibility or reputation. Partners are often willing to discuss failures and challenges if this leads to immediate improvements (Kuepper and Nederlof 2009).

Early warning systems Early warning systems make it possible for the project management to anticipate and respond to challenges and emerging opportunities. They should include both formal and informal mechanisms. A formal system might include committees of local stakeholders who are directly involved in the project, who discuss project progress and report to the management (Box 7, page 37).

Informal assessment is just as important. This cannot be engineered into the project, but depends on team-building and frequent field visits by managers. A core role for managers is to understand the difficulties faced by various stakeholders. They should aim to create non-hierarchical relationships between the project partners, in which people are confident to express their opinions, and feel that their ideas are welcomed. If connectivity permits, online platforms that allow partners to exchange views and experiences in an informal way may enable continuous feedback.

In addition, project managers should source feedback in less formal ways. In many societies true opinions and experiences are not shared in formal meetings. The most valuable feedback can be obtained during informal interaction, such as a chat with a project implementer over lunch or a beer, or interaction with project beneficiaries at a local market or in the fields.

Progress reports and project supervision Another form of early warning system is embedded in the reporting and supervision system. Comparing the progress reports with the project milestones may indicate a need to change the implementation approach. Reports should be viewed not as a burden but an opportunity to reflect on progress and make adjustments.

A good relationship with the supervisory structure of the project – the steering committee or supervisory board – is helpful in assuring there is opportunity for change. Open and frequent communication, and a joint commitment to the project objectives rather than the more detailed activities, are needed. As soon as the project management and the supervision agree that a certain objective turns out to be better served with a different type of activity, change becomes possible.

Reviews External reviews provide occasions for enacting changes with the participation of the funder. Painful changes in partner configurations and major realignments of activities can best be managed through an external review. Usually the funder and reviewers perform reviews at fixed times during the project life. The number and timing of such supervisory visits may be made more flexible if required. Such a rescheduled review could be initiated by the project manager if he or she recognizes the need for a major change.

Box 18. Switching target markets in Zimbabwe

The Zimbabwe horticulture project started out by focusing on export crops. During the period between project design and inception, the competitive market circumstances had changed substantially as a result of Zimbabwe's currency policies. Local traders expressed concern over the cost of exporting produce, and pointed out that local markets were available. A market survey confirmed their advice that producers would have more opportunities and could earn more by selling to the local markets. The project management and steering committee reviewed the survey and prepared a document proposing a switch. The donor approved the requested changes and revised the funding allocations accordingly.

More information: Patricia Tembani-Chizengeya (horticulture project), ptembanieidbz@idbz.co.zw

Communicating change to funders

Present a proposal for change positively In general, the project manager will benefit from creating an atmosphere in which a proposal for change is regarded as routine. If adequately articulated and justified, such changes will be regarded as reflecting a dynamic project with active leadership and vision.

Transparency Ultimately the funder has little to gain from not allowing purposeful flexibility based on constructive thinking and awareness supported by evidence. Such flexibility can only lead to a better project. It is important for the project management to build a relationship with the funder that ensures transparency and trust. Proposed changes need to be documented, giving their justification and potential consequences. If budget issues are involved, attention should be directed to the positive consequence of moving funds (Box 18).

Timely messages It sometimes happens that field partners are so involved in activities that they react to field changes without referring back to the original project document or communicating changes to the funder. The funder may misinterpret this and conclude that the project is not on track or that the partners are trying to hide something.

It is important to maintain close and open communication with funders. Here, Ali Mchumo, the CFC Managing Director (third from left, back row), visits farmers in Restinga Seca, Rio Grande do Sul, Brazil

Cacao project, Brazil
Photo: Ed Pulver



4.3 LESSONS

Flexibility is necessary to enable a project to respond to changing circumstances and shortcomings in the design. This chapter discussed how flexibility can be built into various stages of a project. Some of the main lessons include:

- **Commodity projects require flexibility** so they can react to changing market and policy circumstances as well as errors and omissions in design.
- **An inception phase** allows a commodity project proposal to be adapted to the reality in which it must be implemented.
- **Continuous formal and informal assessment** of the need for change can be made part of the routine monitoring and evaluation system.
- **A non-hierarchical project structure** and managers' presence in the field make it possible to detect the need for change early.
- **Change should be expected rather than dreaded.** It should be presented as a token of good project management.

5

Activities of commodity projects



A farmer who has been trained on bamboo furniture-making in Awassa, Ethiopia, presents one of his products

Bamboo project, Ethiopia
Photo: Jürgen Hierold

5

Activities of commodity projects

“In the initial stage of a commodity project, resources should be apportioned more for building development infrastructure in the form of functioning stakeholder organizations rather than physical infrastructure.”

– Md. Fazlul Huq

THIS CHAPTER analyses the activities in the 11 projects presented in Part 2 of this book. It is based on informal estimates by the managers of each project on the amount of project grant funds and effort that went into each activity, rather than a formal breakdown of the project activities or budget. This provides a picture of what projects usually do to support commodity development.

The 11 projects aimed to improve different aspects of the commodity system. Most projects combine activities aiming at technology development, improving knowledge and skills to use technology, and strengthening the organization, interactions and policies required to make the commodity system functional.

A more in-depth discussion of how these activities can contribute to lasting development impact is provided in Chapter 6.

5.1 OVERVIEW OF COMMODITY PROJECT ACTIVITIES

Figure 4 summarizes the 11 CFC project managers' estimates of investments in different categories of activities. Training and extension (average of 29% overall) and research and development (20%) were the two most important types of activity across the 11 projects. They were followed by equipment and buildings (15%), organizational strengthening (14%), marketing (12%), improving interaction among stakeholders (10%) and communication (8%).

These averages mask considerable variation among projects. For example, the rice project focused heavily on training, and the coconut fibre and cacao projects largely on research. The coffee finance and bamboo projects devoted more resources to equipment, and the aquaculture project more to marketing than any of the other projects.

There is no general guideline on how to allocate funds and effort: each project has a different goal and a different set of circumstances. Nevertheless, we can still draw some lessons from the experience of the 11 projects.



Figure 4. Types of activities in 11 commodity projects

5.2 BUILDING CAPACITY

Building capacity is an important aspect of many commodity projects – including the 11 summarized in this book. We can think of different types of capacity building (adapted from Potter and Brough 2004):

- **Individual** Improving the personal capacity to perform through training. Often in addition to training, practical experience and the appropriate incentives are required for improving individual performance.
- **Organizational** Improving the capacity of stakeholder groups to carry out their functions in the commodity system through strengthening existing and building new organizations.
- **Institutional** Improving the capacity of the commodity system to function requires effective interactions among stakeholders and a conducive policy environment. Note that we distinguish “institution” (a set of rules – North 1990 and 2005) from “organization” (a group of people who work together).

Taking all these types of capacity together – the first three segments in Figure 4 – we see that all the projects invested significant amounts of effort into capacity building in the wider sense. On average more than half the projects’ resources were invested in capacity improvement. The rice and cashew projects even invested 80% or more of their effort in this area. Only the cacao and

coconut fibre projects (which focused mainly on research) and the aquaculture project (marketing) invested less than 40% of their effort in capacity building.

It may be necessary to build different types of capacity at the same time. Indeed, many projects do just this. The coffee technology project, for example, aimed to improve quality on-farm (individual knowledge and skills), improve the quality of services offered by extension (organizational), and build better trade relations between chain actors (institutional).

Focusing on one type of capacity building alone may not make sense. For example, training for individual knowledge and skill improvement on processing bamboo will be effective only if producers are organized into groups and linked with extension services and buyers.

Training

All 11 projects invested in training, and it was the most important type of activity for seven of them (Figure 4). Most projects provided training to the beneficiaries directly, as well as invested in training of service providers, who then passed on their skills and knowledge to the beneficiaries. By ensuring they trained service providers (“training of trainers”) of other organizations, they sowed a first seed for scaling-up efforts. Such an approach has several benefits: it makes it possible to reach a much larger number of beneficiaries than would otherwise be possible, and it improves the quality of partner organizations and their ability to provide services. The typical organizations that were involved in providing training services were public agencies, farmers’ organizations and NGO advisory services. There were no examples of trainers from private companies such as private advisory services or trading or processing companies.

Strengthening organizations

Nine of the 11 projects invested in strengthening organizations, devoting between 5% and 30% of their resources to this type of activity (Figure 4). The exceptions (rice and cacao) put heavy emphasis on training and research, which was implemented by organizations that were already well established.

In commodity projects, organizational development may focus on improving the organization of chain stakeholders:

- **Chain actors** For small-scale producers or processors to access services and connect to market opportunities, they have to be organized. Commodity projects often help them get organized so they can do so. The aquaculture, sorghum and cashew projects all helped producers get organized so they could market their products, while the jute project did the same with small-scale processors.
- **Chain supporters** Improving the quality and effectiveness of support services can have a lasting impact on a commodity value chain. Support services include research and extension, information and advice, input supply, quality-control systems, model production centres, trade centres, marketing support and financial services. Here the aim should be to enable these organizations to improve their delivery of services in a sustainable way (i.e., after the project ends). Training trainers and developing new training approaches, methods or programmes can be considered part of improving support services.

These members of a bamboo plantation group in Ethiopia have learned how to establish a village-based nursery, which is operated by a farmers association

Bamboo project, Ethiopia
Photo: Jürgen Hierold



Improving interaction among stakeholders

It is not enough to improve the performance of different categories of actors and chain supporters in the commodity chain. The interactions between them also have to be improved so they work together more smoothly. Improving the interactions between chain actors is the focus of value-chain development initiatives (KIT et al. 2006, KIT and IIRR 2008 and 2010). Improving service provision by chain supporters is also an example of improved stakeholder interaction.

Innovations result from interactions among the different stakeholders (Hall et al. 2006). That means creating and strengthening linkages, helping farmers identify markets and sources of credit, and brokering agreements between different groups. Such activities accounted for between 5% and 15% of expenditures for most of the projects (Figure 4).

For one project (coffee finance in Kenya), improving interaction was the dominant type of activity. The focus of this project was building a credit system to enable farmers to improve their coffee production and quality.

Although promoting interaction among stakeholders was only a small part of its overall activities, the sorghum project offers several examples of this approach. It organized stakeholder meetings to improve the farmers' access to services and markets. It helped farmers establish links with the input suppliers, and linked the suppliers with various public and private organizations. It helped the farmers' associations take on a leading role in guaranteeing the provision of inputs from suppliers. It helped the suppliers and farmers' associations enter written agreements on such arrangements. And it brokered between banks and farmers to improve their access to credit.

5.3 EQUIPMENT AND BUILDINGS

Commodity projects often invest in equipment, buildings and consumables, for example in the form of machinery, vehicles, storehouses and other fixed assets. They do this because a lack of such assets hampers the commodity's development. We discuss the modalities of investing in equipment to solve problems in commodity chains in more detail in section 6.4.

The 11 projects invested an average of 15% of their funds in buildings and equipment. It was the largest component (30%, tied with training) for the bamboo project.

5.4 RESEARCH AND DEVELOPMENT

Under research and development we include research activities by research organizations, as well as pilot efforts by the private sector such as prototype development and investments to develop new products. Applied research by primary actors, with or without support from intermediate or research organizations, is also part of research and development efforts.

Among the 11 projects, research and development played a dominant role in two: cacao and coconut fibre (Figure 4). In both these projects, research and development accounted for 50% or more of the expenditures. In both, the lack of technology was the key bottleneck to developing the commodity chain: the need to overcome a devastating disease in the case of cacao, and the wish to turn waste into a useful product in the case of coconut fibre.

Research and development were a smaller component of the other nine projects, ranging from 20% for the coffee technology project, to none for the rice project. However, the rice project relied on earlier research findings that demonstrated how the yield gap could be overcome.

Research and development can find ways to solve problems that farmers and others face, and can create entirely new economic opportunities – so having a lasting effect on commodity chains. But the managers of our 11 projects hesitated to support fundamental research within commodity development projects. Only where stakeholders identify a clear opportunity to solve a problem – as was the case of resistance to witches' broom disease in cacao – is it justified to invest commodity project funds in more fundamental research. This should not, however, be read as meaning the project managers were opposed to fundamental research: it is clear that commodity chains benefit from research advances. But within commodity projects such fundamental research is felt to be out of place. The temporary nature of such projects, and the resulting focus on short- and mid-term results, make them poor hosts for such activities.

Even where the research is applied to a field need, it is necessary to convert the research findings into reality. In the cacao project, the government played this role: it invested in a programme to multiply planting materials and advise farmers how to use them. For the coconut fibre project, no such sponsor has yet been found, so the fibreboard production technology still has not been implemented on an industrial scale. One solution is to ensure that the intended beneficiaries of the research have a say in the types of research to be funded (Nederlof 2006, Heemskerk and Wennink 2005).

Opinions differ on whether services such as research and extension should be provided for free to users. A balance needs to be struck between using funds for research of public benefit which would not otherwise be funded, and research and development activities that are of direct benefit to private companies. For example, companies do little research on economic thresholds to help farmers decide whether to spray against a crop pest, because they are unlikely to be able to turn such knowledge into a profit. Public funding will have to be allocated to do such research. On the other hand, much product-development research, including variety development and the development of crop-protection products, is done effectively in the private domain, as the research results can be commercialized. Seeking a balance between public and private investments in research and development is an important element of commodity projects.



Witches' broom disease causes many twigs to grow from a single point on a branch. Young pods may drop off before they develop

Cacao project, Brazil
Photo: Uilson Lopes



Mature pod of a susceptible cacao variety infected by witches' broom disease. The cacao project identified resistant varieties and multiplied them for distribution to farmers

Cacao project, Brazil
Photo: Uilson Lopes

5.5 MARKETING

Improving marketing can produce lasting effects for the beneficiaries and the value chain as a whole. For one of our 11 projects (aquaculture), marketing was the most important component, accounting for 30% of its expenditure (Figure 4). This project aimed to create new markets for aquaculture products in various countries, so devoted a considerable part of its resources to activities such as market surveys, market visits and seafood shows, as well as related communication activities such as producing technical manuals and briefings.

The jute project also had a significant marketing component, accounting for 20% of the expenditure. This project developed a range of jute products and sought markets for them. Marketing efforts included holding large numbers of events where buyers and sellers could meet, and participation in national and international trade shows and fairs.

Two projects (cacao and rice) did not devote any resources to marketing as they were both working with producers with established marketing channels and activities. The other eight projects devoted between 5 and 15% of their resources to marketing.

We discuss marketing in further detail in Chapter 7.

5.6 COMMUNICATION

Communication was a small but vital part of every project. The 11 projects described in this book invested between 5% and 15% of their efforts in communication activities such as public awareness, publications of various types, and radio and television broadcasts (Figure 4). This low figure is perhaps misleading because other activities, especially training, marketing and promoting interaction, also contain a strong communication element. High-quality, accessible and simple training materials are essential for training programmes. Well-produced materials aimed at policy makers and other audiences can be vital to ensure project goals are achieved.

Effective communication is also an essential component for scaling-up. A project may be very effective, but its successes are unlikely to be replicated if they are not communicated adequately.

All projects claim to have invested in communication, but only modestly. Although project managers often recognize the importance of communication, it quickly becomes the closing item on the budget, resulting in an under-allocation of funds. See section 6.3 for further discussion on this.

5.7 POLICY CHANGE

The policy environment has an important influence on the functioning of a commodity chain. Standards, trade rules, the taxation system, subsidies, safety regulations, export and import procedures are some of the rules and regulation that constitute the policy environment. Improving the policy environment often forms a component of commodity project activities. Figure 4 does not show policy change as a specific category, as it largely falls under the categories “communication” and “interaction”.

Usually policy making involves the government at different levels. There is a growing importance however of chain actors, especially on the retail end, that agree to develop and enforce their own policies. GlobalGAP (www.globalgap.org) is an example of the retail industry setting the standards for fresh produce exports to Europe. A commodity project can help by making specialist expertise available in researching, drafting and facilitating the negotiation of policies.

Projects can deploy different strategies to facilitate policy change. The most important component of this strategy is to involve policy and decision makers in the project, thus making them feel they have a stake in the success of the project in particular and the commodity chain in general. Here are some ways to involve policymakers in projects:

- **Involve in management** The government department or organization that oversees the project's commodity may be closely involved in managing the project – perhaps as the national focal point or coordinator. Such involvement will foster a sense of responsibility towards the project and a desire to see it succeed. It will open doors that might otherwise remain closed. It also confers a degree of power and influence that – depending on the circumstances – may or may not be advisable.
- **Share success** Decision makers are like all other people: they like to be associated with successful initiatives. The projects attempted to demonstrate success, and to make the decision makers part of that success.
- **Consult** Consultations (see section 3.3) may occur at all stages of the project: identification, preparation, inception, implementation and evaluation. Consultations can involve a wide range of actors, including government agencies not directly related to the project activities. Key decision makers may be included in the project steering committee.
- **Interact** It may be useful to facilitate interactions with decision makers during the project implementation. For example, the project may invite politicians to officiate at the project launch, attend exhibitions and field days, present certificates, and so on.
- **Lobby for change** The project stakeholders may decide to lobby to change a policy that hinders the commodity chain functioning, or to introduce a new policy to improve it. This means identifying the policy that needs to be changed, formulating suggestions for a new policy, then targeting the government department or decision makers responsible (Box 19).
- **Promote awareness** The project can raise awareness of its aims and activities among a wider public by working with the mass media. Elements of a media strategy may include press releases, press kits, press conferences, field visits, interviews with staff and beneficiaries, etc.

Most of the 11 projects have deployed one or more of these strategies. For example, the aquaculture project in Southeast Asia took various steps to foster a pro-project environment (Box 20).

Box 19. Lobbying for a policy change in Kenya

A ban on forest logging affected the bamboo project as it included the ban of harvesting bamboo. As bamboo stems die off and rot when they are about 6 years old, such a ban was not useful for forest conservation, and impeded the production and use of bamboo. The project included study tours to China and India for decision makers, and policy papers to lobby with officials to exclude bamboo from this ban.

But just as the relevant official had agreed to push for revoking the ban, a change in government meant a new person was assigned to the post. That meant the project had to start its lobbying work over again – a time-consuming and costly effort.

More information: Jürgen Hierold (bamboo project), j.hierold@unido.org

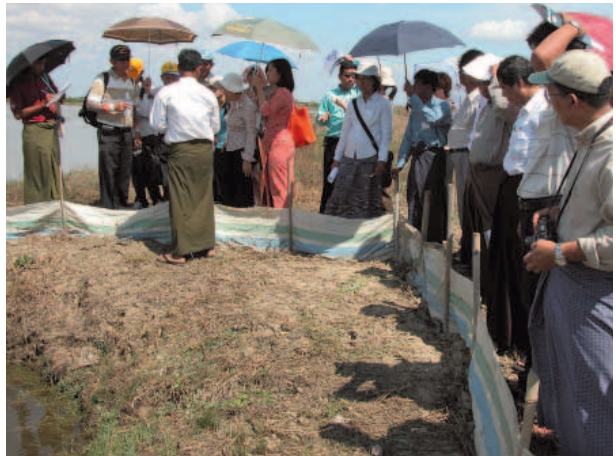
5.8 COMBINING ACTIVITIES FOR INNOVATION

When considering the mix of activities that constitute the 11 commodity projects it can be concluded that the majority intervenes through a mixture of activities, aiming at different types of change simultaneously.

Project interventions may be focused on the technology or product (the “**hardware**”), knowledge and skills (the “**software**” needed to make the hardware function) or organizations and institutions (the organizational arrangements needed to make it function – or the “**orgware**”). Smits (2000: 10) argues that innovation requires “a successful combination of hardware, software and orgware”. Leeuwis and van der Ban (2002) argue that viable innovations require a multi-dimensional approach.

Table 8 shows that nearly all the projects included activities in all three aspects, but gave them different amounts of attention. For example:

- **Hardware** The cacao and coconut fibre projects emphasized the hardware aspects. The cacao project developed and distributed millions of disease-resistant plantlets. The coconut



Participants of a training workshop on aquaculture practices visiting a culture pond

Aquaculture project, Asia
Photo: Tarlochan Singh

Box 20. Fostering a conducive environment for organic aquaculture

The organic aquaculture project planners sought inputs from various organizations in the countries where it operated (Thailand, Malaysia, Myanmar) very early on – during the project formulation phase. The department of fisheries in each country was made the national project coordinator, enabling the project activities to be incorporated into their routine activities. The national coordinators from the three countries met regularly to exchange ideas and views.

The project also supported various initiatives to foster support among other stakeholders. It organized study visits for groups from Myanmar and Malaysia to farms and other establishments in Thailand, where organic aquaculture technologies were more advanced. It held training workshops in Malaysia and Myanmar using specialists from Thailand as well as in-house expertise. It invited an organic retailer from Malaysia to Myanmar to view the aquaculture activities and participate in a technical and marketing seminar. This retailer became a key buyer of produce from the project farms. The fisheries ministers and other dignitaries were invited to officiate at project seminars.

Involving different players in activities and giving them a sense of ownership and importance helped create a more enabling environment for the project.

More information: Tarlochan Singh (aquaculture project), infish@po.jaring.my

Table 8. Hardware, software and orgware

Project	Technology, product ("hardware")	Knowledge, skills ("software")	Organization, institutions ("orgware")
Coconut fibre Philippines	Conversion of coconut residues to building panels	Publications, conference presentations training, demonstration, market survey	Consortium of farmers' organizations, investors
Jute South Asia	Processing technology Increased use of jute products, marketing	Training, demonstrations	Organization of production units, setting up entrepreneur centres
Rice South America	Production intensification	On-farm demonstration and trials	Organization of extension service and local farmers' organizations with new methodology and strategy
Coffee technology East Africa	Processing technology	Training	Development of direct trade relations between farmers and auction
Bamboo East Africa	Plantation and processing technology Research on non-indigenous species	Participatory appraisal Training, on-farm demonstrations	Organization of farmers and processors
Sorghum and pearl millet Asia	Production technology and marketing	Training, demonstrations	Organization of marketing and farmers' groups
Horticulture Zimbabwe	New crops and management	Training sessions, workshops	Export agents, organization of farmers' groups
Cashew East and Southern Africa	Production technology	Training	Organization of farmers' groups
Cacao South America	Resistant cacao varieties	Research on gene technology and breeding Technology transfer	
Coffee finance Kenya	Credit scheme	Training	Organization of farmers' groups
Aquaculture Southeast Asia	Organic farming	Training workshops, field visits, study visits, seminars	Organic certification

fibre project focused on perfecting and adaptation of the technology for making boards out of coconut fibre.

- **Software** The rice project was heavily oriented towards training farmers to improve their production technology. The coffee technology project introduced processing technology, but focused much of its effort on training farmers how to use this technology.
- **Orgware** The jute project established cottage industries and service centres, and facilitated meetings to bring buyers and sellers together. The sorghum project invested in helping producers get organized.

When analysing a commodity chain and proposing interventions to take advantage of development opportunities in the chain, the distinction between hardware, software and orgware can provide a useful framework. Using this distinction assists the project designer and manager to consider which activities are needed to facilitate innovation in the commodity chain. It helps the designer avoid the pitfalls of considering only the more obvious technological issues, and of overlooking the knowledge and organization change required for impact. Questions include:

- **Hardware** Are there new technological needs or other products that can benefit the functioning of the commodity chain?
- **Software** Which knowledge and skills are needed to make a new technology a success? Are there knowledge and skill gaps that hinder the commodity chain from functioning?
- **Orgware** Are there constraints in the interaction between chain actors and chain supporters? Does the improved organization of farmers, processors, traders or service providers improve the functioning of the commodity chain? Are there constraints in rules and regulations that hinder the chain?

5.9 LESSONS

In this chapter we have discussed the different types of activities that commodity projects engage in: various types of capacity building (training, strengthening organizations, improving interactions among stakeholders), equipment and buildings, research and development, marketing, communication, and efforts to influence policy. We can draw three overall lessons:

- **Commodity projects typically combine different activities** in the field of capacity building, research and development, policy advocacy, marketing and communication.
- Capacity to perform is determined by **personnel skills, the functioning of organizations and effective interaction between organizations**. It does not make sense to focus on only one without assessing the functioning of the others. All need to be sufficient to make possible the desired improvements in the commodity chain.
- Considering the **hardware, software and orgware** needed to improve the functioning of a commodity chain can help create an effective combination of activities in the project.

6

Ensuring lasting impact



An Indian farmer shows off her new sorghum cultivar

Sorghum and pearl millet project, India
Photo: Ashok Alur

6

Ensuring lasting impact

“To ensure post-project multiplier effects, the most important factor is to develop sustainable organizations during the project period that will themselves drive forward the objectives and activities after the project ends.”

– Md. Fazlul Huq

A COMMODITY DEVELOPMENT project is an investment – one that seeks to maximize its impact per dollar or euro invested in the form of economic and social development for the beneficiaries. The investment is temporary – the project has a lifetime of only a few years – but aims to have a long-term impact.

A successful project achieves part of its impact during its lifetime. But the bigger impact should come after the project has ended – in terms of a lasting effect on the people and organizations involved (“sustainability”), as well as spreading its effects to others who were not involved (“scaling up”). Scaling-up and sustainability are extensively discussed in the literature, and diverse ways of classifying the efforts to increase the impact and scope of interventions are proposed (Uvin and Miller 1994, Pretty 1995).

This chapter provides some insights into what kind of activities a commodity project can invest in, and what implementation strategies it can use to maximize the chances of a long-term positive effect. We look first at some common problems associated with sustainability in commodity projects (section 6.1). We then turn to scaling up, and analyse the post-project impacts of the innovations introduced by the 11 projects described in Part 2 of this book (section 6.2). We look at strategies to promote sustainable results and scaling up (section 6.3). Finally, we address the prudence of using grant funds to pay for equipment and buildings (section 6.4).

6.1 SUSTAINABILITY

The term “sustainability” has come to mean many things, and has taken on social, economic, political and environmental dimensions. Here we use it to mean the project’s ability to create effects that continue into the future without on-going outside inputs. For example, if the project trains farmers in a particular technique, sustainability means they will continue to use that technique without requiring advice, training or incentives from the project indefinitely into the future. If the project creates a new marketing organization, that organization will continue to operate without any outside financial or technical support.

Despite the best intentions of all involved, many commodity projects prove to be unsustainable, or fail to scale up. Three types of problems are particularly important: **aid dependency**, **market distortions**, and **unsustainable incentives**. Let us look briefly at each one.

Aid dependency

Development organizations and projects naturally aim to assist those people, regions or countries that are most in need. But this aid may have perverse effects: it may reduce the beneficiaries' ability to solve their own problems. The beneficiaries become dependent on aid.

Where several projects and development organizations are working in the same area, they may become rivals for beneficiaries and partners. Payments of incentives for attending meetings or participating in training may result, and beneficiaries and officials may come to expect such payments as a price for their cooperation. Such a system of incentives can be damaging for commodity projects, which support the development of sustainable services and relations between actors based on a fair reward for services delivered.

Unwanted market distortion

Many commodity projects influence markets in some way. They may do so deliberately – for example if the goal is to improve the marketing of a particular crop. Or they may do so indirectly, for example by doing research that results in increased production.

The changes may be desirable – a greater flow of commodities in the chain, a change in value chain relations in favour of the intended beneficiaries, or improved availability of credit to producers and processors. But undesirable and unanticipated changes may also occur:

- Producers other than the direct beneficiaries may be harmed: increasing production as a result of a commodity project may result in lower prices for all producers.
- One company may receive an unfair advantage: its competitors may not have access to the skills, technologies or organizations that the project has established.
- Existing market relations may be damaged: local traders and processors may be put out of business when farmers sell directly to a larger buyer in the city.

The aim is not to avoid affecting the market – some effects may be inevitable, and indeed desirable. But the project does have to consider the existing linkage system, how it will be affected by the proposed intervention, what the unintended consequences may be, and how sustainable the intended changes are over time.

Artificial and non-sustainable incentives

Commodity projects risk creating incentives that may not be in the long-term interests of the actors involved. For example:

- A private enterprise which receives a grant may have to divert its attention away from competitive challenges it faces in the market, and towards the goals and priorities set by the grant.
- A farmer organization may be selected as a project partner because it is able to submit a grant application, not because of its ability to represent its members' needs.

How to use project money in a way that aligns the incentives with the long-term pressures in a competitive market? This is a challenge with no simple answer – but one that every project has to face. We discuss this further in section 6.3.

A “biofactory” was set up by the State of Bahia for the rapid production of plantlets of resistant cacao varieties

Cacao project, South America
Photo: Uilson Lopes



6.2 SCALING UP

Most commodity projects work with a relatively small number of direct beneficiaries, but with the goal of influencing a much larger number of people. For example, a project may train farmers how to use a new rice-growing technique, in the hope that other rice farmers will also benefit from it.

Ideally, this is a natural consequence of a successful project (Rogers 1995). But it rarely happens spontaneously. “Scaling up” efforts are needed to increase the impact and scope of the project interventions beyond the original intended beneficiaries. The project design must create the conditions that make this happen. For example, it may be better to train trainers in the public extension system or farmer-trainers, rather than (or as well as) having project staff train the primary actors directly. The rice project did exactly this (Box 21). Furthermore it is important to create conditions under which these training services can be continued after the project.

Table 9 shows the interventions aimed at stimulating innovations introduced by each project and how these are finding continued use beyond the end of the project.

A farmer’s nursery of grafted cashew seedlings

Cashew project, East Africa
Photo: Louis Kasuga



Table 9. Post-project impacts of project innovations

Project	Production and processing technology	Market relations	Improved services (training methods, development approaches)
Coconut fibre Philippines	Private sector companies experimenting with the technology		
Jute South Asia	Entrepreneur service centres providing training and marketing support	New marketing links set up in national and international markets	Service-provision approach adopted by governments and NGOs
Rice South America	Improved production technology adopted by producers		Training method adopted for rice in Brazil, Uruguay and Argentina, and extended to oilpalm in Ecuador and Colombia
Coffee technology East Africa	Improved processing adopted by producer groups and individual farmers	New marketing relations in Ethiopia New classification in auction system Investment in improved technology	Approach replicated in more areas in Kenya, Rwanda and Ethiopia
Bamboo East Africa	Eight industrial companies established or in preparation	National bamboo development authority promoting bamboo	Training centre functioning Producer cooperative associations Training materials multiplied Six new bamboo projects
Sorghum and pearl millet Asia	Farmer-to-farmer exchange Improved sorghum varieties Seed companies promote varieties	Direct marketing links between producer organizations and industry established Grain storage warehouses built	University extension services continue training Approach used in other states in India
Horticulture Zimbabwe			Contract farming link between farmers and supermarkets
Cashew East and Southern Africa	Farmer-to-farmer exchange Farmer groups continue after project		District councils in Tanzania adopted training method
Cacao South America	Propagation by government biofactory Producers planting new variety		Extension method adopted by the cacao development organization

Table 9 (continued)

Project	Production and processing technology	Market relations	Improved services (training methods, development approaches)
Coffee finance Kenya			Financial organizations offer credit to farmers Credit approach replicated in Kenya, Tanzania and Uganda Software used for other products
Aquaculture Southeast Asia	Within-farm area increase	Market chain of organic fishery products Added value to existing aquaculture products Similar programmes in India and Bangladesh Organic certification and labelling in Malaysia	

Box 21. Scaling up rice-production techniques

The rice project aimed to help farmers in Brazil and Venezuela increase their yields by managing their crop better. The project trained extension staff on how to demonstrate best practices in rice production; they in turn trained lead farmers, who passed on their knowledge to other farmers in their groups using the demonstration approach. This strategy enabled a small number of extension workers to reach a large number of farmers.

The project's approach has spread in two ways. Other farmers have seen the improvements and have begun to adopt the new techniques spontaneously. And the public extension systems in Brazil, Uruguay, and Argentina have adopted the demonstration methodology. More recently, the methodology has been adopted in Ecuador and Colombia for a different crop – oilpalm.

More information: Ed Pulver (rice project), e.pulver@cgiar.org

The innovations introduced by the projects may create impacts in different ways:

- **Production and processing technologies** They develop products and practices and persuade beneficiaries to adopt and adapt them. Examples from our projects include production technologies (e.g., the coconut fibreboard and coffee technology projects), crop varieties (sorghum and cacao), a new credit product (coffee finance), and processing techniques (bamboo, jute).
- **Market relations** The project may create and improve commodity chains. New stakeholder arrangements such as the market for organic aquaculture products or improved sorghum fall into this category.
- **Improved services** The project may develop new services or improve existing service delivery. Into this category fall the jute entrepreneur service centres in Bangladesh and India, the bamboo training centre and bamboo development authority in East Africa, and the Brazilian biofactory to multiply cacao plantlets. The use of a training methodology (as in the rice project – Box 21) or from the sorghum project can also be seen as a new service. Another new service is the offer of a new credit product to farmers in the coffee finance project.

As said earlier, it often is the combination of developing production and processing technologies, market relations and services that leads to innovation.

6.3 CREATING CONDITIONS FOR SUSTAINABILITY AND SCALING UP

How can projects be designed and implemented to maximize the likelihood that they will be sustainable and can be scaled up? Here are some ideas, based on the experiences in our 11 projects:

- Planning for multiplier effects from the start
- Communication
- Balance between protecting pilot initiatives and exposure to reality
- Institutionalization
- Gaining government support
- Involving the private sector
- Ensuring support services are provided
- Encouraging co-financing.

We discuss each of these in turn.

Planning for multiplier effects from the start

Aiming for sustainability and scaling up is not an afterthought to be dealt with towards the end of a commodity project. Rather, it requires careful consideration during the design stage. It means choosing partners with a proven track record and developing their capabilities. It means developing institutions and designing systems that are self-sustaining. It means reserving resources for communication and other activities that aim to make the project's work more widely known. And it means developing a clear exit strategy right from the start, as part of the project design (Douthwaite et al. 2008).

The key to success is success. Without initial successes, few enterprises and organizations will buy into a project's initiatives. So projects should consider going for quick wins without compromising their long-term objectives. That will create momentum, enthusiasm and belief in the interventions.

Plan an exit strategy Ideally, a project instigates self-financing activities that can be continued by the same organizations once the project itself ends. In this case, the project management phases out, and the other organizations continue providing the same services: no "handover" is necessary. If some kind of handover is necessary, it should be anticipated in the initial project design – not (as is often the case) in its final year.

Capacity building and empowerment A project is more likely to be sustainable if the primary actors are able to continue the activities without supervision, and if they are in a position to make decisions. The project can increase the likelihood that this is the case through training and other forms of capacity building, by empowering them to take a major role in decision making, and by helping them build their linkages with key chain actors, chain supporters and indirect actors (Box 22).

Communication

Communicating success Ideally, success speaks for itself. But in reality, it is necessary to advertise one's success to make the project's approaches and recommendations known, to encourage adoption by new players, and to gain support from government and the private sector. The appropriate media depend on the situation and target audiences: they may include the mass media, internet, video, printed materials, and face-to-face methods. Messages should give credit to all partners (not just the project manager) – especially those powerful enough to take the activities to scale.

Documentation An effective communication programme relies on good documentation throughout the project, as well as at its end. For example, the project can make draft versions of methods and tools available early to actors for testing and improvement. This helps to share and verify the emerging project knowledge, and to build a base for post-project use.

End-of-project documents should analyse the factors that contributed to the project's success, the problems faced during implementation and the measures made to correct them. Documentation is important at the end (for example, an end-of project "post-mortem" seminar is helpful to celebrate successes and to analyse what went right and what went wrong), as well as during the project (to report on processes and progress). Documenting these aspects enables the implementing and funding organizations and others to reflect on and learn about the successes and failures.

Box 22. Building capacity for bamboo in East Africa

Bamboo is an “infant” commodity in East Africa, so few strong organizations or support services exist. The bamboo project aimed to strengthen an existing organization to become a hub for training, services and technology demonstration for the region. During the initial assessments for the project, the project designers visited various training centres and found that the Federal Micro and Small Enterprises Development Agency (FeMSEDA) in Addis Ababa already had a basic training workshop for bamboo crafts and some staff who had been trained by Chinese experts around 15 years beforehand. FeMSEDA became one of the project’s implementing agencies, with the goal of building its capacities to provide services and training for the region.

FeMSEDA provided co-financing and in-kind contribution in form of:

- Renovated and adapted workshop buildings to house equipment
- Installed power supply
- Operational costs for the workshop
- Training staff and their salaries.

The project supported FeMSEDA with:

- Technical training for the trainers in-house and in China and India
- Development and printing of illustrated training manuals
- Payment of training expenses for specific courses conducted for the project
- Involvement of FeMSEDA staff in entrepreneurship and management training and other capacity-building activities
- Building of product development and design capacity
- Study tours for FeMSEDA management.

FeMSEDA is now a partner in a new bamboo project funded by the Common Fund for Commodities. It also provides services to other bamboo projects and disseminates bamboo technology.

More information: Jürgen Hierold (bamboo project), j.hierold@unido.org

Balance between protecting pilot initiatives and exposure to reality

From pilot to scale Laboratory tests, small-scale field experiments and pilot plants may give misleading results because they do not reflect the conditions of full-scale production, where economies of scale and commercial realities (including the need to make a profit) come into play.

Projects face pressure to deliver success – and as a consequence have limited room for failure. At the same time, however, failure is an important part of the process of learning and selection that constitutes innovation (Douthwaite 2002). In response to pressure, the project implementers may make every effort to realize success by devoting large amounts of resources and staff time to a few showpiece activities. But such activities are unlikely to be replicated in a more competitive environment after the project ends.

On the other hand, sometimes a protected environment is required during the initial stages of development of new products or services. As the product or service is not yet mature, it cannot yet survive in a fully competitive environment, and its further development becomes impossible. It is thus a balancing act for the project management on one hand to provide a conducive environment for innovation, while on the other hand avoiding overprotection and pampering of pilot initiatives to show success.

Arrange for large-scale investment Some types of technologies can spread gradually. But others do not, even though the concept has been proven to be sound. This may be because they are not scale-neutral: they require a certain scale to work. A big push is required to make them a success. It is vital to understand the scale of the intervention needed to get from success

in a pilot to success in the mainstream. Such an understanding can be obtained only by developing relationships with private entrepreneurs who are the intended users of the technology. These relationships can be built through joint activities during the project.

Industrial processes may require a large investment to be viable – for example, where the technology is too costly for small-scale entrepreneurs to afford. In such a situation, a decision is needed on whether a commodity project can co-fund this investment.

- The coconut fibre project developed technology to produce fibreboards. It decided to place its intellectual property in the public domain (rather than protecting it with a patent and licensing it exclusively to a single entrepreneur). But this reduced the eagerness of the existing board industry to adopt the technology.
- In the cacao project, the introduction of disease-resistant varieties presented an opportunity to revive the cacao sector. The main constraint was the reproduction and distribution of improved planting material. The government built facilities to rapidly produce large numbers of plantlets, and distributed them to growers through the extension service. This was a major cost, but was necessary to make the new planting material available. The “big push” needed to create an impact was provided by the government and the substantial resources it was able to devote to solving the problem.

Institutionalization

Most projects are short-term affairs with limited scope and funds. A major strategy for assuring they have a lasting impact is by institutionalization – ensuring that their results, activities, methods or approaches become part of modules, curricula, standard activities, policies or other existing procedures of other organizations. These organizations can originate from the private or the public domains: they may be NGOs, government services or private companies.

The organizations that continue a project's activities have to have a long-term mandate and presence, and able to handle the increase in scale envisaged. There are two ways of ensuring this: by building new organizations, and by relying on existing organizations.

Building new organizations Some projects build sustainable, replicable organizations of a chain actor or between chain actors that continue to exist beyond the project lifespan. The jute project, for example, established service centres for jute entrepreneurs.

Relying on existing organizations Other projects entrust their activities to existing, powerful organizations that have the capacity to “go big”. Such organization may acquire a new role, or adapt their existing role. Involving these bigger organizations and keeping them interested is worth the effort. For the coffee financing project, banks were the key (Box 23).

Gaining government support

Government support may be needed in the form of supportive policies (for example, favourable tax rules, tax exemption, or support for organic standards) and services (such as training or agricultural extension).

To gain government support, it is necessary to keep key government organizations and individual decision makers closely involved in and aware of the project's work. It may help if the relevant organizations are among the implementing partners and are represented on the steering committee. Maintaining good relations with government officials is vital. The project should try to

Lack of credit for inputs may result in low yields and spoiled produce

Coffee finance project, Kenya
Photo: Susan Njoroge



Box 23. Banks as a scaling-up mechanism for coffee finance

For the coffee financing project in Kenya, the involvement of banks was vital. The lack of credit for small-scale coffee growers was a long-running problem. Banks had previously worked with government organizations to extend credit to farmers, but with little success.

The banks were interested in developing a credit product that would work with this group of potential clients. So the project built them in from the very beginning. Local people were already very familiar with the concept of forming loose “merry-go-round” groups to enhance their financial situations. The project adapted this idea to form “common interest” and “joint liability” groups that could qualify for bank loans.

More information: Susan Njoroge (coffee finance project), susann@unops.org

embed relevant aspects of its initiatives in the appropriate government agencies, for example by training government staff and strengthening services provided by government agencies.

Aligning the project’s work with the government’s own plans and activities (rather than ignoring them or working at cross-purposes) can also make it more likely that the project’s initiatives will be taken up (Box 24).

Involving the private sector

If a private company earns a profit from the interventions that the project promotes, it has an interest in ensuring that those interventions continue. Examples are trading or processing companies that buy the products that the farmers produce. Such companies may have an interest in providing services such as extension advice and production credit to farmers, and in introducing a new technique to more farmers to expand their supplier base.

Other private-sector companies may also benefit from the intervention: a bank that provides credit to farmers earns interest on its loans, and a firm that sells inputs to farmers can increase its sales.

Commodity projects often invite such private-sector partners to co-finance activities. They do this in the hope that if the partner has a stake in the project, it will help direct the project to outcomes

Box 24. Promoting government and private-sector interests in jute

The jute project received support from the governments in both Bangladesh and India, which took over the project's programmes when it ended. They did so because the project was helping promote the governments' aims to revive the distressed jute sector, empower women, reduce poverty, increase employment and improve family incomes.

When private entrepreneurs discovered through the project that they could earn more from jute than other products, many shifted to jute manufacturing.

More information: Md. Fazlul Huq (jute project), fazlul_huq@yahoo.com

that will stand on their own without further donor support. Companies, for their part, are often willing to co-sponsor development projects on condition that they will benefit – for example, by gaining access to a reliable supply of quality raw materials, or by owning the technology and know-how developed through the project. Public money is often necessary first to create the conditions under which it becomes interesting for a private enterprise to take up such activities.

This may create a dilemma:

- On one hand, many donors are hesitant to give exclusive intellectual property rights to private companies, preferring instead to place them in the public domain.
- On the other hand, a profit-oriented company can usually make a better job of disseminating and promoting a new technology on a proprietary basis.

There is no easy solution to this dilemma (Box 25). A focus on pre-competitive areas of collaboration helps: areas that benefit the entire chain in terms of increased productivity, quality or efficiency. These are often feasible areas for private involvement as they benefit all actors. From that point forward, actors compete. This is the rationale behind international commodity boards and various round tables (e.g., for palm oil and soy).

One way to organize the transition from grant financing to self-sustainability is to start the project with grant money, but gradually reduce the share of donor funding in favour of private-sector funds later in the project.

Higher income is a powerful incentive. That is true all along the value chain – for farmers, traders, exporters and retailers. The project must clearly demonstrate how the changes it promotes will benefit each of the actors involved. For example, coffee farmers must be able to understand

Box 25. Wanted: Willing entrepreneurs for coconut fibreboard

In the coconut fibre project (see also Box 32), the research was done by Wageningen University and Research Centre, while the Philippine partner institutes were to ensure the technology was transferred and implemented.

During the project itself, this approach appeared fruitful. But when the project ended, there was no one to take up the responsibility. Commercial parties were interested and adapted the principle of pressing fibres into boards, but did not consult the relevant experts. They acted in a very secretive way, and have so far failed to come up with viable products. Other entrepreneurs are observing their results and are awaiting success before they take up the technology.

More information: Jan van Dam (coconut fibre project), jan.vandam@wur.nl

how they will benefit from a new processing technology, and a bank must see how it will benefit by offering a new credit product. In the sorghum project, alcohol companies in China contracted farmers' associations for an assured supply of grain of the variety they needed. This is to the clear benefit of both parties.

Chapter 7 will discuss how commodity projects can best identify and make use of market opportunities.

Ensuring support services are provided

Support services may be vital if the beneficiaries are to continue to use an improved practice (Nederlof et al. 2008). Farmers need advice, credit, soil testing services, veterinary health care, market information, and so on. Without these services, they may find it impossible to continue using the improved technology or practice. So the sustainability and scaling up of an intervention may depend on the sustainability and scaling of the associated services.

How to ensure that these services can be provided after the project has ended? Here are some ideas from the 11 projects.

Commercial provision of services The most sustainable solution for service delivery is to ensure that beneficiaries pay for the services they receive. This allows for the development of a class of private advisory service providers, who make a direct living out of it. If those who require the services are poor, charging fees may not be possible at first. But as they begin to earn more, fees can be introduced and increased gradually to cover some or all of the costs (Heemskerk et al. 2008, Heemskerk and Davis in press, Heemskerk and Wennink 2005, World Bank 2010).

Even where donor funds are used to provide advisory services, they can be channelled through the services' clients, who contract providers directly. This also supports the development of professional service providers. In the jute project, small-scale processors paid the project for advisory services, and continued such payments to the government organizations that took over the facilities after the project ended.

Embed in the private sector As mentioned above, private companies may have a stake in continuing to provide the services that producers need. In some cases, the company provides services as part of a contract-farming system, and deducts the costs of the service from the payment when the producer delivers the product. Such systems are well known. Another option to recover costs would be for the enterprise providing the embedded services to secure donor funds from government or non-governmental organizations for this non-commercial activity.

Embed in a government programme Governments provide many services to their citizens: security, education, roads, primary health care, and so on. Such services are sometimes criticized as being inefficient, and it can be challenging for a project on a tight timeframe to engage with the government with its sometimes cumbersome decision-making procedures. If a project is successful though, the government may decide that it is in the national interest to continue its work, at least until the sector is mature enough to allow private-sector providers to emerge. In the jute project, for example, the governments of India and Bangladesh have taken over the delivery of a range of support services. They did so to reduce poverty, create jobs, raise incomes and revive the long-distressed jute sector (Box 24).

Embed in NGO programmes NGOs may take up aspects of the intervention and replicate them. They may adapt them to local conditions and find ways of supporting their costs through

a combination of user fees and donor support. Still, NGO funding is often also provided on temporary basis, and NGO agendas shift over time.

Impose levies A levy is an indirect charge that can be ploughed back into providing the services. An example of this is the rice project in South America: the government charges a levy or tax on rice sales, and passes this on to the farmers' association that provides research, training and marketing services.

Encouraging co-financing

Co-financing is widely used to improve the ownership of equipment and activities, to ensure priority needs are supported, and to avoid gross market distortions. It is possible at different levels in commodity projects:

- **Co-financing by counterparts** Donors often insist that the counterpart organizations contribute part of the project costs. That stretches the resources available, helps make the best use of the resources, and ensures that the activities are in line with counterparts' own priorities. These contributions can be in cash (as a direct contribution to the budget), or in kind (in the form of project staff, facilities, vehicles or equipment).
- **Co-financing by beneficiaries** Beneficiaries may also be required to contribute to the costs – for example by asking them to pay part of the cost of training, or to seek the sponsorship of a third party to attend. Equipment to test a new processing technique could be part-funded by a collaborating private firm.

Such co-financing can help reduce the activity's dependency upon donor's funds. It can be a powerful way to ensure the participation of primary actors: if they contribute to the activity, they develop a sense of ownership for it, demand a say in how it is run, and are less likely to become dependent on outside assistance. The areas most susceptible to aid dependency involve infrastructure improvements, purchasing of inputs, creating favoured markets, and the participation of national staff in project activities. In the design phase, specific attention should be paid to obtaining co-financing for those areas.

6.4 FINANCING EQUIPMENT AND BUILDINGS

The question on whether and how to finance equipment and buildings often arises in commodity projects. On one hand, facilities such as crop driers and storage facilities may be vital for farmers to take advantage of a new technology or to supply a particular value chain. But such facilities are often expensive, so are out of the reach of farmers with little capital and limited access to credit. Who should own such facilities? And how should they be provided – through grants or loans?

Table 10 gives an overview of the types of investments in equipment and buildings made in our projects. The six most illustrative projects are presented.

Who should own and manage equipment and buildings?

Providing free equipment or buildings to one group of farmers or a particular entrepreneur risks distorting the market in undesirable ways. Imagine one entrepreneur that has taken a loan to invest in processing, based on certain market realities. Suddenly another entrepreneur gets similar facilities for free from a project. That reduces the first entrepreneur's ability to compete: it creates

Table 10. Investments by selected projects in equipment and buildings for project beneficiaries

Project	Equipment from grant	Co-financing arrangement	Rationale
Coconut fibre Philippines	Upgrading pilot production line Drying equipment	None	Improve existing equipment for demonstration purposes
Jute S Asia	Hand looms	Building for looms	Demonstrate and create income earning opportunity.
Coffee technology E Africa	Coffee processing equipment: drying beds, washing stations, pulpers, raised beds	Rwanda: none Ethiopia: Illycafé	Demonstrate that quality problems can be solved by existing simple technology
Bamboo E Africa	Heavy-duty bamboo processing machines Hand tools for farmers and artisans	Building, power supply, staff	Demonstrate previously unknown bamboo-based technology
Sorghum and pearl millet Asia	Sorghum dryers Multiple threshers Village level stores	Land for store provided by local government	Considered essential to overcome bottlenecks
Horticulture Zimbabwe	Packing house Cold storage Irrigation equipment	None	Considered an essential component of fresh vegetable chain

unfair competition. There are also many projects that pay for equipment but do not create the conditions for the users to maintain them or feel ownership for them.

However, the projects described in this book contain some clear examples where investing in equipment did make an important difference to the development of the value chain as a whole:

- The coffee processing project invested in drying beds and pulpers to demonstrate an improved processing technology. That had a clear spin-off effect: other farmers began investing in similar equipment without project support, and other development organizations started to promote the technology.
- The jute project invested in minimal village-level equipment (looms, bleaching and dyeing facilities) to add value to the raw jute. These facilities were used for demonstrations and training of small-scale processors. Groups of processors could use the equipment to generate an initial income, so became convinced to buy their own equipment. To instil a sense of ownership and responsibility for the equipment, the project demanded the beneficiaries make a sizeable contribution towards the cost of the equipment.
- In the sorghum and pearl millet project, the provision of equipment and storage facilities was an essential component. The project built stores and drying sheds, and bought threshers for farmers to use. The farmers had to make contributions in kind – by providing the land and labour for the construction.
- The bamboo project built houses to demonstrate the value of bamboo as a building material (Box 26).

Box 26. Building subsidized houses from bamboo

Technology developed in China allows bamboo to be used as a construction material instead of wood. Bamboo boards, panels and planks can compete with the best tropical hardwood products, and they come from inexpensive, fast-growing species.

Ethiopia has the largest bamboo forests outside China. But it uses bamboo only for basic applications, without processing. The bamboo project tried to stimulate the use of bamboo in Ethiopia by building subsidized houses from bamboo-based materials. These showed that every part of a house can be made out of bamboo at par with, or superior to, other construction materials.

This created an initial demand for the bamboo materials, allowing the first bamboo processing centre to start operations, and putting bamboo products on the market. At the same time, the performance and advantages of these products could be seen in real life, making it easier for construction companies to decide whether to use bamboo. The purpose was not to build the subsidized houses per se, but to create an initial demand. That allowed the market to be launched and made it possible for construction companies to accept bamboo as a building material.

More information: eco@common-fund.org

When to fund equipment and buildings?

Co-funding equipment by local partners is important to enhance ownership. Grant money should not be invested in equipment if this leads to unfair competition with other private entrepreneurs who did not happen to be partners in the project. In general, loans provide a more reliable incentive than grants. Where primary actors lack a vital piece of equipment, tailored credit arrangements can be designed to enable them to buy it. The jute project is an example of this: the project used hand looms to demonstrate the technology, but could not provide such looms to all beneficiaries. A credit arrangement to help weavers buy their own looms formed a lasting solution.

The coffee finance project focused specifically on developing such credit services to overcome the marketing constraints faced by small coffee growers (Box 27). Rather than investing directly in equipment for producers, the project developed a more sustainable solution through a credit scheme.

Providing equipment and buildings through grants is justified only in exceptional circumstances: when it cannot be done through loans, it is in the public interest, and the sustainable management of the assets is assured through clear ownership arrangements.

Box 27. Credit schemes for coffee

Small-scale growers in Kenya needed driers and other equipment to improve the quality of their coffee. The coffee finance project had partly created this awareness among farmers by emphasizing the need to enhance the coffee's quality. The farmers requested assistance to build more and better driers, but the project was not able to support this directly. Instead, it developed a credit scheme with local banks that combined good husbandry practices while providing farmers with the funds to raise their farm productivity. Eager to adopt the technology, the farmers applied for loans from this scheme. This is an example of using grant funds to initiate a process that was sustainable and not dependent upon external funding.

More information: Susan Njoroge (coffee finance project), susann@unops.org

If grants are used, the project should insist that the beneficiaries contribute to the cost, in cash or in kind. That helps ensure that the beneficiaries feel responsible for the asset and will maintain it properly. Equipment is rarely given its true value when it is provided for free.

The horticulture project in Zimbabwe offers an example of where this was not done. This project has made fairly sizeable investments in building a cold chain for vegetable trading, without any co-financing by the immediate beneficiaries. Instead, the project set up a company, with the development bank (the project manager) and farmers as shareholders. While such a shareholding arrangement may instil these stakeholders with some sense of ownership, neither farmers nor the company managers actually invested their own money. That risks creating unfair competition with existing traders, as well as reducing the likelihood that the facilities will be managed in a sustainable and effective way.

6.5 LESSONS

In this chapter we have discussed the strategies that commodity projects can follow to generate an effect beyond the project's own lifespan. First we examined some of the issues with sustainability and scaling up: what makes them so difficult? Next we looked at how the different activities led to post-project impacts. We then discussed how to encourage post-project multiplier effects. Finally, we looked at some considerations in providing capital investments for facilities and equipment.

From this we can distil the following lessons:

- **It is important to plan scaling up at the start**, not at the end. Often it is only near the end that project partners start thinking about the post-project effects. But efforts to ensure multiplier effect are likely to be effective only if they have been designed right from the start.
- **Overprotecting and overinvestment in pilot initiatives should be avoided.** Pilot initiatives need to evolve in realistic situations to allow for scaling up later.

Several strategies exist to encourage post-project effects:

- **Co-funding is important for long-term take up by different partners.** Once project partners contribute themselves, they most probably expect to benefit from the activities.
- **Use loans, not grants, to finance buildings and equipment.** A grant project should co-fund buildings or equipment only when credit is not an option, the buildings and equipment are of essential public interest, and proper management of the assets is assured.
- **Institutionalizing activities – ensuring that organizations take them up and they become standard practice** – is the most important strategy to ensure post-project impact. The private sector is a sometimes overlooked partner in this regard. Communication of success supports ownership and institutionalization.

7

Using market opportunities



Organic tilapia

Aquaculture project, Myanmar
Photo: Tarlochan Singh

7

Using market opportunities

“Various potential industrial buyers were invited to the dialogues on market opportunities. The food industry, alcohol industry, breweries, mushroom producers and others participated. This created a healthy competition among buyers, thus providing more options for farmers to market their sorghum.”

– Ashok Alur

COMMODITY PROJECTS generally aim to improve the incomes of the less affluent in the chain: primary producers, labourers and processors – the “primary actors” at the beginning of the commodity chain (section 3.1).

For a long time, development projects assumed that incomes would rise if production increased. They helped farmers and primary processors raise their output by providing them with better technology. But this focus has changed over the last 30 years (Lee 2002, Stoop 2002, Bie 2001, Eicher 2003). Development agencies now realize that improved technology and higher production alone rarely result in higher incomes for the primary actors. The single most important prerequisite for raising incomes is a market for the product produced. That may sound obvious, but it has been neglected in many development efforts. Plus, a project’s development gains can be sustained only if each actor in the chain receives an acceptable reward for its actions.

Sometimes there is fairly guaranteed demand for a certain commodity: for example, maize in a food-deficit country like Rwanda, or rice in countries in Latin America where domestic consumption is higher than production. But even in such cases, marketing is not necessarily well arranged. Cartels of traders, infrastructure inefficiencies, seasonal gluts, cheap imports and food aid may all disturb markets so that increasing production alone does not improve farmers’ incomes.

Market opportunities are an essential trigger for innovation. Without economic incentives for change, improvements in production technology, farmer organization and relations between value chain actors will not occur. Some market opportunities occur because demand is higher than supply, and increased productivity would be the short answer to this opportunity. More often, however, the situation is more complex, and market opportunities involve combinations of production increases, product diversification, quality improvement and differentiation, lower transaction costs, better timing of production, and building new market relationships. Also changes on the demand side, such as changing consumer behaviour and demands for fair and sustainably produced products are factors that create opportunities.

This chapter investigates how commodity projects can make the best use of existing and new market opportunities to contribute to pro-poor economic development. It discusses the following sub-questions:

- How and when to identify market opportunities? Section 7.1 focuses on market research.
- Apart from market research, what can be done to realize the potential of identified market opportunities? This is discussed in section 7.2.
- How to keep the focus on the intended beneficiaries: the primary actors? This is addressed in section 7.3.

7.1 IDENTIFYING MARKET OPPORTUNITIES

Broad objectives of market research

The 11 projects had three broad objectives in their market research:

- **Broad assessment of the mid- to long-term opportunities for sector development** This research is relevant when a project is being designed or soon after it begins. It guides decisions on the project's mandate and scope (see the introduction to Chapter 2 on pre-analytical choices) and assesses opportunities for increasing volumes or diversifying products that would develop the commodity chain.
- **Identifying concrete market opportunities for existing and new products** This is important once promising directions or products have been chosen.
- **Contacting potential partners** This is a very important part of building new market relationships.

Market research in a single project may pursue all three objectives. In the sorghum project, for example, pre-project research assessed the general demand for sorghum of improved varieties. This assisted in the design of the project. During the project implementation, further research identified companies that were looking for improved sorghum, and the different possible uses of this sorghum. Based on this, trade and contract farming relationships were built between producers and processors.

Market research during the design phase

Project designers need a basic understanding of the commodity and its market to provide some assurance that the intervention may achieve long-lasting economic development. Unfortunately, detailed market research during the design phase is problematic: collecting sufficient intelligence requires resources which are unlikely to be available before the project is approved.

It is therefore important to focus on only those questions that require answers before the project, and that are essential to convince the funding agency of the project's necessity. These include:

- What is the current market for the commodity and the products made from it? What are the likely trends?
- What are the broad market opportunities and the constraints preventing the intended beneficiaries from taking advantage of them?
- How would addressing the market opportunities impact on the primary actors as well as on other chain actors?

Two bamboo-processing companies in Ethiopia established by the project buy raw materials from project villages and employ 300–400 men and women

Bamboo project, Ethiopia
Photo: Jürgen Hierold



As explained in section 3.2, time lags between project design and initiation may necessitate at least an update and in some cases a renewed market study when implementation begins. A minimal study therefore is enough for the pre-project stage. Considering the difficulty of predicting future markets, more than crude projections are not helpful, and any projections should be interpreted with caution.

Entrepreneurs and other actors in the commodity chain are the best source of information for such a minimal study, while chambers of commerce, for example, may be able to provide secondary data. Interviews with different actors can be “triangulated” against other available data, giving reasonably reliable conclusions, as well as revealing interesting fields or innovative, unique or contrasting ideas that might be explored further.

This type of market research assesses existing markets and consumer patterns. Developments in other markets may affect the demand for a certain commodity. For example, trends in the bio-fuels market may strongly affect the demand for items such as vegetable oils, starch, sugar and even wood chips that are used to produce carbon-dioxide-neutral energy and green products. Predicting the possible effects in the medium and long terms on the commodity markets requires a level of visioning.

For some proposed interventions, it may be possible to answer the questions on broad market opportunity based on available data and a desk study, without the need to gather additional data. In five of the 11 projects described in Part 2, a pre-project market study was done to ensure the project design was valid (Table 11). The other six projects relied on existing data and the knowledge of organizations that contributed to the project design.

Market research during project implementation

Table 11 shows that of the 11 projects, only two – the rice and cacao projects – did not include any market research. These two projects focused on technical solutions to production constraints. They aimed at well-established, existing markets with reliable demand, so market research was not deemed necessary. Their approach of aiming for a non-processed bulk product provides little opportunity to focus on improving the livelihoods of a more vulnerable group of producers. This was also not the objective of these two projects. They put more emphasis on an impact through

Table 11. Market strategy and market research of 11 CFC projects

Project	Pre-project market study	Market study during project	Marketing strategy
Coconut fibre Philippines		•	New product for domestic markets
Jute South Asia	•	•	New products and higher quality for national and international markets
Rice South America			Conventional national bulk market
Coffee technology East Africa		•	Higher quality for the existing market
Bamboo East Africa		•	New products for the domestic market
Sorghum and pearl millet Asia	•	•	Higher quality for the local and regional market
Horticulture Zimbabwe	•	•	New products for the domestic and export market
Cashew East and Southern Africa		•	Higher quality for the existing international market
Cacao South America			Conventional international bulk market
Coffee finance Kenya	•		Existing conventional bulk market
Aquaculture Southeast Asia	•	•	New product for the regional and international export markets

macroeconomic development. This approach fits the agricultural sector of Brazil (the location of both projects), where larger-scale, highly commercial farming dominates.

But such circumstances in which there is a clear scope for commodity chain development through production increases alone are rare. All the other projects focused on developing new products in one way or another, which meant there were questions with regard to the market for these products. This required market intelligence, and each project conducted research to gather it. This allowed decision makers and economic actors to make informed choices on how to focus their efforts with respect to:

- Local, national, regional or international market focus.
- Conventional or certified chains (fair trade, organic).
- Bulk markets or high-quality markets.
- Balance between productivity increase and quality improvement.
- Crude produce or value addition through semi-processing or processed products.
- Existing product or product innovation.
- Commodity by-products or waste utilization to create additional income.

The main elements to take into consideration when taking these decisions are:

- Price competitiveness in the local, regional and international markets.
- Quality competitiveness and ability to meet standards.
- Supply capacity: can the right volume of the right quality be assured?
- Risks: can the risks involved be borne by the economic actors, and specifically by the primary actors? Primary actors are vulnerable to unpredictable fluctuations in returns.
- Available infrastructure: roads, electricity, and information and communication technology.
- Support services: agricultural services, business development services, quality-control and export services.

Domestic, regional and international markets

During project design, both project managers and funding agencies often overemphasize access to global markets, especially those in Europe and the United States, and they often underestimate the hurdles (such as the need to meet strict standards) to entering such markets. This may be partly because of pressure to satisfy a country's need for foreign revenue and a healthy trade balance. A more realistic and longer-term strategy with commodities which are traded both nationally and internationally would be to focus initially on a more easily accessible domestic market that has lower quality and standards requirements, and then to move into regional and global markets to gain additional income from the best-quality produce.

Several of our projects offer examples of this.

- The cashew project in Tanzania followed just such a strategy to focus first on the domestic market.
- In the horticulture project in Zimbabwe, by contrast, market analysis showed that aiming for the South African export market was difficult due to high costs of transport. The domestic market offered higher prices and fewer quality constraints.
- Similarly, the bamboo project investigated the international and national competitiveness of Ethiopian bamboo-based products, and concluded that the national market provided the best opportunities.
- The organic aquaculture project initially aimed at the European and American export market, but soon found that more suitable market opportunities existed closer to home in Southeast Asia (Box 28).

Even within domestic markets, a similar overemphasis can occur on supermarkets in larger towns, while volumes that are being traded and consumed through local markets may give producers much easier market access and larger profit margins (Michelson 2008).

An existing, stable local market provides an important basis for the further development of a commodity. For most commodities only part of the produce can be exported or sold through supermarkets as a result of stringent quality standards. A well-developed domestic market provides a stable outlet for the larger bulk of produce.

Quality and quantity improvement

Which strategy should a project follow: to improve a product's quality, its quantity, or both? Basically, this is the wrong question. The question should be, "what are the opportunities for the

Box 28. Marketing opportunities for organic seafood in Asia

Traditional organic fish markets in Europe and the USA require an expensive international certification (for example, that provided by Naturland) and considerable efforts to get access to such markets. Also, when targeting individual countries in the European Union, one has to re-certify under the national certification of each country.

Instead of targeting such markets immediately, the organic aquaculture project explored and exploited emerging new markets in the tiger economies of Southeast Asia (Malaysia, Singapore, Thailand, etc.). Surveys revealed that there was a market for organic aquaculture products especially among middle- and upper-class consumers in these countries. Moreover, these markets readily accepted the regionally developed Thai organic certification. By choosing these markets, the project also benefited from a reduced carbon footprint, as the products did not need to be transported long distances to the market.

More information: Tarlochan Singh (aquaculture project), infish@tm.net.my or info@infofish.org

intended beneficiaries to improve their livelihood through a chosen commodity?" The answer may be any of the three strategies.

- The coffee technology project aimed to add value by improving the quality of the coffee. It did this by introducing better processing technology.
- The cashew project aimed for both quantity and quality improvement: first through variety replacement, and second by introducing better processing methods.
- The cacao project focused on increasing quantities. The witches' broom disease had crippled the Brazilian cacao industry, and large-scale variety replacement was seen as the only possible solution to revive it.
- In the rice project in South America, demand was not considered problematic. Furthermore competitiveness was also not in question for the time being, because of state subsidies for domestic rice production. As a result, a choice could be made to focus entirely on increasing productivity through intensification.

Processing to add value

One way for primary actors to earn more is for them to add value to their products. For example, the jute project aimed at adding value to raw jute by having village artisans process it into semi-finished and finished products, mainly for the domestic market.

The development of a processing industry, as in the jute project, has the added advantage that it can create job opportunities, so benefiting those who do not possess land.

Using waste

The coconut fibre case offers an example of a completely new product: fibreboard. This was based on a by-product (coconut husks) that is otherwise rarely used and is considered a waste. The fibreboard had no existing market, but could compete with products made from wood. It was essential to study whether users would be willing to substitute the wood products for those made of coconut fibre, and what was necessary to persuade them to do so. Here market research moves into marketing research and the development of a strategy that promotes the product (Box 29).

Box 29. Problems in commercializing coconut fibreboard

Local entrepreneurs, the project's subcontractor and Japanese investors decided to start manufacturing shipping pallets made from coconut fibre. This announcement was widely publicized, and the launch was eagerly watched. But an inadequate power supply at the plant meant that production did not reach full scale. That raised doubts about the technical feasibility and discouraged other potential manufacturers from beginning production.

The donor organization contracted a Philippine NGO to perform a feasibility study at local industries, but the NGO did not consult the right experts and never submitted a report – most probably because it had approached non-compatible manufacturers. Interested end-user companies, which had been ready to buy the boards produced, lost interest. A more careful approach to building consortia was chosen outside the Philippines in developing business plans.

More information: Jan van Dam (coconut fibre project), jan.vandam@wur.nl

Supply capacity

The ability of producers to supply the right quantity and quality of the commodity must be taken into consideration during the discussions with producers, processors and traders. For example a small farmer association might not be able to fulfil the demands of a multi-national buyer. Careful, realistic assessment of the supply capacity of individual farmers and their associations is required to prevent such failures. Alternatives are identifying another market opportunity more suited to the producers' supply capacity, or creating a larger group of farmers to produce enough of the product.

Who should do the market research?

Market research is often sourced out to specialist consultants, who produce a report containing information about the market. But how helpful is such outsourcing? The reliability and usefulness of such research was questioned by the managers of the 11 projects. Here are three arguments against it:

Market knowledge The objective of market research is not to produce market **information** in the form of text, but **knowledge** in the form of organizations and individuals that understand the market and are able to make sensible decisions. The best way to learn is not by reading reports, but through experience. It is doubtful whether written information from external specialists can achieve this objective of improved market knowledge. Involving stakeholders themselves in the market research may be essential for the research to improve their market knowledge.

Market relationships Another reason to have stakeholders conduct the research is to enable them to build new market relationships. Relationships develop through direct contacts that build trust between actors. This cannot be achieved by outsiders, and requires the direct, active involvement of the stakeholders. In the aquaculture project, for example, the producers took part in exploring the market for organic products. This helped them understand the market situation, and assisted them in deciding which markets and products to target.

Different chain actors should be involved in investigating market opportunities: producers and their associations, traders, processors, entrepreneurs, and buyers. Export councils, chambers of commerce, importer organizations in target countries and other organizations can play a crucial

role in exploring market opportunities. Such organizations can specify the product standards and certification processes needed to enter their markets.

Reliability and relevance External consultants often lack specific knowledge of the product. Actors who are directly involved in the sector are more likely to have the basic, detailed knowledge needed for the research.

We can conclude that it is an advantage for direct actors to be involved in marketing research. But they may not know how to do it. This is where commodity projects can play an important role: they can consider how to assist the stakeholders in doing their own research, and the type of external expertise that may be required.

In reality, though, much market research is sourced out. Advantages of outsourcing include:

- The outside researcher will not be involved in the next phase, so can provide more neutral information as he or she has no interest in the outcome.
- Outsourcing provides a sense of objectivity that may help avoid political interference or submitting to pressure from individuals with specific interests.
- Trusting the job of market research to recognized specialists provides a sure way to get a quality study done quickly.

It may be possible to take advantage of both strategies by combining external expertise with one's own market research: bringing in external experts to assist the stakeholders to do the market research and analyse and document the results. A manual to train producers how to identify market opportunities has been developed by CIAT (Ostertag et al. 2007).

7.2 REALIZING THE POTENTIAL OF MARKET OPPORTUNITIES

Making use of market opportunities requires more than market research alone. Commodity projects can use various other methods to realize the potential of market opportunities identified through research.

Piles of coconut husks: a valuable resource that often goes to waste

Coconut fire project, Philippines
Photo: Jan van Dam



Facilitating communication and stakeholder interaction

An important requirement for improving the functioning of commodity chains is effective communication between actors in the chain. Projects can provide a platform for exchange among the actors, and facilitate such communication. Such a platform is unlikely to be organized at the initiative of a single chain actor (producers, transporters, processors, retailers), even though most of them stand to benefit from improved interaction.

Such interaction has three objectives:

- **Understanding needs** This includes the quantities, quality and timing of produce in the chain. Improved communication helps producers, transporters and traders understand the requirements of processors and retailers. It is also necessary for the functioning of price incentives for delivering the desired quantity and quality at the right time.
- **Improving the chain** This covers the assessment of weaknesses and opportunities for improvement in the whole chain. This is of essence for the project itself, but more importantly for the larger commodity sector.
- **Strengthening services** Better communication between the chain actors and services such as research, extension, certification, quality control and standards services is a starting point for a stronger sub-sector. Services can be tailored to the demand of chain actors only if communication is established among the stakeholders concerned.

Organizing the supply side

A major task of many projects is to support the supply of the raw commodity. That may mean training and organizing the primary actors so they can supply the product reliably and with the right timing, quantity and quality. Organizing smallholder farmers and linking them to traders and processors may be as important as improving marketing and distribution facilities.

A major obstacle for entrepreneurs to source from smaller producers is the effort needed to ensure a constant supply of the right quality at the right time. This was very clear in the sorghum project: chicken-feed companies became interested in using sorghum as an ingredient once they were convinced this would be technically and economically feasible. The sorghum project invested in organizing and training sorghum producers to make sure they could produce and bulk the required qualities and quantities of the crop (Box 30).

Box 30. Facilitating the organization of sorghum producers in Asia

The sorghum project initiated the formation of farmers' organizations in India, China and Thailand. It helped the farmers form associations, get trained and obtain seed and technology to produce the uniform quality of sorghum and pearl millet required by the industry.

The farmers bulked their produce and stored it in structures built in the villages. That enabled the farmers to supply the produce in bulk. The project facilitated dialogues between farmers and buyers, so enabling the farmers' associations to negotiate directly the price for their produce.

In some cases contract farming arrangements were successful. These committed a buyer to buy a product at a certain price.

By bringing in different end users, the project created healthy competition among the buyers, helping the farmers' groups to get better prices.

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

Similarly, the cashew project organized producers and trained them on improved cashew management to ensure higher qualities and quantities of output. The jute project supported and trained groups of farmers in jute processing. It set up centres to support these groups in producing and marketing their produce, making them a much more attractive partner for entrepreneurs.

Such efforts provide a service to entrepreneurs in sourcing raw products. The commodity project can play a key role in stimulating and supporting such services. Besides providing these services directly, it should consider how they can be made available on a sustainable basis.

Research and prototype development

Established companies are often hesitant to respond to innovative products entering a novel market. They often need proof of principle and assurance of a secure return on their investment before they will commit to active involvement.

A commodity project can overcome this by providing opportunities for low-risk testing of products and technologies, by (co-)funding prototype development, or by piloting new technology. This can be enough to convince entrepreneurs that further investments are justified:

- In the coconut fibre project, existing machinery was adapted to demonstrate the production technology under local circumstances.
- The coffee finance project funded an information system and piloted a new credit product. Without project support, the banks involved in the testing would not have invested their resources in pilot testing the product.
- The sorghum project offered research services to factories to demonstrate that sorghum could replace the raw materials they were using.

Marketing trials are another example of piloting. The jute project supported the promotion of jute products by private companies.

All these project activities aimed to reduce the costs and risks of innovation by the private sector. They allowed the private sector to experiment with innovative technology or products where they would otherwise have hesitated.

It is essential to embark on these activities together with the private-sector actors to ensure that the tests and piloting are done in a way that convinces them. Ideally, the project should not assume all the risks or investments; these should be co-funded. This ensures that the private sector is interested, and avoids unilateral decision making by project managers.

Quality-control systems

Quality-control systems can play a decisive role in a product's reputation: something that is essential for a sustainable market. For export products especially, the eagerness of buyers and the price depend on the crop's reputation. Setting up or improving quality-control systems can be a component of commodity projects.

Coffee is a good example. The coffee technology project aimed to improve the quality and reputation of coffee from Ethiopia and Rwanda. As a result of its efforts, a new category of higher-quality coffee was introduced in the national auction systems. The project did this by promoting new technology and overhauling the quality-control system used by cooperatives in the two countries.

For the cashew project, assuring a consistent high quality remains the biggest challenge for profitably tapping into export opportunities. Developing functional quality control systems for cashew in East and Southern Africa will be an important part of this.

When implementing quality-control systems, it is essential to involve the right expertise. Such systems must be based on local reality; they cannot just be copied from elsewhere. Quality control must focus on grading systems, ensuring that different qualities are separated for different markets. Local, domestic and regional markets often have lower standards than the European and North American markets. Focusing on the highest possible standards alone can result in the waste of perfectly good produce that can be sold profitably and safely. The promotion and institutionalization of a standardized grading system with different recognized quality categories can assist in serving the different segments of a commodity market. The cashew market is a good example: there are internationally accepted standard grades for virtually every quality of nut or even fraction of a nut.

Lobbying for market incentives

Projects may engage in policy advocacy to convince government decision makers to support their commodity. Especially for orphan and infant commodities this can be important (see section 2.1). This can be done in various ways:

- By lobbying policymakers directly.
- By facilitating discussion among stakeholders to reach agreement on the need for policy change.
- By providing evidence based on practice to lobby groups.
- By encouraging stakeholders to get involved in lobbying.

Governments may act in various ways to promote the development of a commodity chain. Here are some examples:

- **Act as a launch customer** If it buys a certain product (such as coconut fibreboard), the government can establish a sizeable initial guaranteed market that gives a solid basis for the private sector to start full-scale production.
- **Promote a product through legislation** In Bangladesh, the government banned the use of plastic shopping bags, creating a big incentive for the production of alternative bags made from jute.
- **Subsidize production** In South America, subsidies support farmers to intensify their rice production. However, production subsidies are difficult to sustain and may lead to overproduction (the European Union's infamous "butter mountain" is one example of this). Furthermore under current international trade policies the room for manoeuvre of national governments with production subsidies has diminished.

Branding, marketing, and promoting new products

Introducing a new product to the market requires a well-designed marketing campaign (Kotler 1994). Branding and awareness-raising of specific groups are needed. Identifying potential consumers and interest groups helps to direct the marketing and publicity effort.

A recognizable product branding may be important to raise the interest of retailers and end-users in both international and domestic markets. Publicity for product introductions or achievements in commodity projects may attract attention from the public. Brochures, handouts and advertisements

Box 31. Conquering Ethiopian and Kenyan markets with bamboo products

International marketing was foreseen in the bamboo project, but early on it was realized that the supply capacity could not be built within the short project period. So the awareness and marketing campaign was clearly oriented towards markets in Ethiopia and Kenya.

Bamboo has a reputation of being a “poor person’s timber” in these two countries, and most producers, investors and potential consumers do not know of its potential for industrial, high-value-added products.

The project conducted a wide range of promotion and marketing activities geared towards specific target groups:

- It linked producers with processors and buyers by conducting buyer–seller meetings.
- It facilitated supply arrangements for raw materials between farmers and big companies.
- It organized bamboo trade fairs as part of existing trade shows and exhibitions to promote high-value bamboo products.
- It invited local politicians and UN representatives to give opening speeches at workshops, distribute certificates, etc. This attracted media attention and generated coverage in the TV, radio and newspapers.
- It produced brochures and pamphlets to reach a wide audience group.
- It conducted economic feasibility studies for bamboo plantations and industrial companies, and tested the technical properties of bamboo species and products.

The project reached out to various target groups through marketing and promotion to increase the market penetration of bamboo in domestic markets, raise the interest of potential investors, gain support from politicians, and create cooperation with other international initiatives.

More information: Jürgen Hierold (bamboo project), j.hierold@unido.org

highlighting the product’s unique selling points may help to promote it. Events such as trade shows, fairs and meetings between sellers and buyers can be used to attract attention. Novel means such as internet commercialization (e-forums, e-markets) are expected to become important for many products. Websites with market information and retailer contacts could assist customers to select the desired products. Projects can consider co-funding such efforts to introduce new products.

Our projects offer various examples of how they have promoted new products:

- The bamboo project supported the promotion of bamboo-based products through demonstrations and commercial promotion as well as teaching local artisans the possibilities of the product to develop local interest (Box 31).
- The jute project supported processors to promote and market their products through local and international trade fairs.
- The organic aquaculture project supported entrepreneurs to promote branded organic fishery products at international trade fairs and present them at international meetings.
- The coconut fibre project is considering setting up a franchise organization to register a brand name (“ecoco board”) and logo and to obtain certification and quality labelling (such as Fairtrade or Forest Stewardship Council).

Taking private-sector needs into consideration

The involvement of private-sector actors is almost invariably essential for a commodity project’s initiatives to be sustainable (see section 6.3). But how to convince these private-sector actors to cooperate with a development initiative? In the past, development professionals and private firms have often distrusted one another – though this is changing rapidly. Nevertheless, convincing pri-

Box 32. To patent or not to patent coconut fibreboard technology?

The coconut fibre project refused to patent the technology it had developed to manufacture boards from coconut husks. It did this for two reasons:

- Public funds were invested in the project
- The project aimed for the technology to benefit small-scale coconut producers and processors, and for it to be available for all coconut-growing countries.

However, entrepreneurs want to protect their investments, so would prefer to negotiate an exclusive license to produce and market the boards.

More information: Jan van Dam (coconut fibre project), jan.vandam@wur.nl

vate-sector actors to participate in development project activities can still be a problem, especially if the project seeks their co-investment.

A first step is to consider the situation of the private sector carefully. Development professionals have been trained fairly intensively over the past 20–30 years on the importance of participation of the primary actors in development. They have developed skills in listening to producers' needs, trying to understand their reality, decision making and priorities. But they have paid less attention to listening to and understanding the situation of private entrepreneurs.

It is also not uncommon for private entrepreneurs to be seen as problematic actors in the chain, rather than possible allies or even important targeted beneficiaries (KIT and IIRR 2008). For example, where one person sees a problematic, dishonest broker, another may see a landless, small trader who is trying to make a modest living and who performs a vital role in the value chain.

Based on the 11 projects' experiences we can suggest a few basic issues to take into consideration when engaging the private sector:

- Co-investment by the private sector is positive as it creates a direct pressure for project performance.
- Private-sector actors quickly become disappointed by the long administrative procedures that projects go through before they are approved and initiated. It may be wise to involve private sector actors only once a project finally gets under way, though this may hamper opportunities for co-investment.
- Projects should clearly present what is in it for a private-sector actor, and what is expected in return. They should use language an entrepreneur understands. They must be flexible to accommodate needs of the private sector to adopt technologies (for example in terms of patent rights and variety protection – Box 32).
- Private-sector actors should be invited only to those events and meetings of direct interest to them. These meetings should be kept short and to the point. Private entrepreneurs have a low tolerance for meetings without immediate results.
- Project managers should understand that an entrepreneur's natural first objective is the current and future well-being of his or her company. After that, issues such as social justice, equity and fair distribution of profits can be discussed.
- Private entrepreneurs are interested in opportunities to improve their business. They may welcome incentives to participate in a project such as access to investors, tax holidays, or tax-free import of equipment.

- Like farmers, private entrepreneurs may also benefit from better organization. A project could consider supporting the organization of entrepreneurs in a sector and improving communication among them.

7.3 KEEPING THE FOCUS ON PRIMARY ACTORS

The objective of commodity development projects is not just macroeconomic development as such. In addition, they seek local economic development with an impact on the less affluent. Unfortunately, macroeconomic growth does not automatically “trickle down” to the primary actors. Commodity projects that seek to improve the lives and livelihoods of primary actors have to remain focused on how to impact on this group.

It is widely accepted that improving market access and options for smallholders is an essential part of commodity projects and should be carefully engineered into the project design. But it is not easy to do this in a way that truly takes into consideration the interests of the primary actors. Some successful strategies are discussed below.

Improving the position of primary actors in the value chain

One can distinguish four different ways that producers may improve their position in the chain (KIT et al. 2006, Kaplinsky and Morris 2000):

- **Process upgrading** This implies producing the same product more efficiently. This is vital if producers are to increase their incomes and participate in wider markets. The producers must be able to produce enough output, at the right time, to interest a buyer; they must have the links with the buyer so they can sell it at all; and they must maintain relationships with buyers over time.
- **Product upgrading** Farmers can improve the quality of their product in various ways while targeting particular segments of the market.
- **Functional or intra-chain upgrading** Producer organizations can take on new activities in the chain, either upstream or downstream, or change the mix of activities they undertake – for example, by getting into basic processing or bulking and trading.
- **Chain or inter-chain upgrading** Producer organizations can also set out on a new value chain: they can start growing a new crop, keep a new species of livestock, or start a new enterprise.

But improving their position may not be easy. Small-scale producers are likely to run into powerful interests that hamper their progress. Other chain actors – traders, processors, larger-scale producers – may be reluctant to support small-scale farmers in their efforts to obtain a larger margin for their efforts. This means that farmers’ organizations are important to confer the clout needed to overcome such resistance and to realize change.

Reducing risks by market guarantees and diversifying market strategies

Primary actors in the chain generally have little cash and few other reserves, so are not resilient against market shocks such as sudden drops in price or the loss of a major buyer. Guaranteeing a market is one way to reduce such risks. Projects often do this by brokering contracts between farmers and buyers. Indeed, contract farming is a way to provide market assurance and reduce the risk for producers.

But markets may change rapidly, and buyers may fail to honour their commitments. Even the best market-watching and trend-forecasting may fail to predict such problems. So relying on a single buyer or market is not ideal. Diversifying markets offers more assurance of sustained profit. Some examples of this strategy are:

- Before the sorghum and pearl millet project began, the project implementer established partnerships with the feed industry to ensure a market for the farmers' output. To reduce the farmers' vulnerability further, the project continued to search for other potential buyers, such as the alcohol industry in China (Box 33).
- The jute project in Bangladesh and India helped women form self-help groups and linked them with marketing channels.
- In Brazil, all the food consumed in public schools, orphanages and other government-supported organizations is bought from local smallholders. These products include some that are hard to find buyers for (jackfruit, bananas with poor appearance). This strategy benefits farmers, the schools and other organizations, as well as the local economy.

Increasing the value of the farm-gate product

Increasing the value of the farmers' products directly benefits smallholder households. This may be done through on-farm processing, by changing the type of product (for example by introducing new crop varieties), by improving grading and packaging, or by developing technologies that use by-products or wastes.

- In the Philippines, the new technology to manufacture fibreboard from coconut husks has potential to increase primary actors' incomes. It places a value on an otherwise worthless crop by-product, coconut fibre.
- In Brazil, small machines were developed to extract cacao bean pulp, which is normally thrown away but which can be made into a range of products. More than 200 agro-industries were established, reducing the impact of the witches' broom disease that was devastating farmers' incomes at the time.
- In China, sorghum varieties suitable for the alcohol industry were developed, enabling farmers to sell at a higher price.

Risk-reducing production technology

Primary actors are also vulnerable to production risks. They may benefit from technology that can reduce the risk of crop failure. Examples are:

Box 33. Contract farming for the sorghum alcohol industry

In China, the sorghum project brokered contract-farming arrangements between sorghum farmers and three alcohol-producing companies.

Through the contract, the companies helped the farmers buy inputs, and the Sorghum Research Institute provided technical support. The companies agreed to buy the sorghum at a fixed minimum price, and to pay more if the market price at time of sale was above this. This arrangement encouraged the farmers to get into contract farming.

More information: Ashok Alur (sorghum and pearl millet project), a.alur@cgiar.org

- In Brazil, introducing resistant cacao varieties reduced yield losses due to witches' broom disease.
- Interplanting resistant cacao trees with cash crops and rubber trees rather than as monocrops can reduce the cacao farmers' risks. When the cacao is young, cassava, maize, pineapple and bananas provide the farmers with cash income. When the cacao is mature and has started to produce, the rubber trees provide shade and produce latex. Such agroforestry systems minimize the impact of falling prices and poor weather that affects yields.

Focusing on attainable markets

Some markets impose requirements that are too stringent for primary actors to reach. Projects can encourage farmers to target other markets with less stringent requirements. For example, the aquaculture project established mechanisms to sell to countries with less demanding (and cheaper) certification processes (e.g., Singapore, Hong Kong, Malaysia and Thailand), rather than Europe and North America.

Stimulating transparency in the market

The marketing of many commodities involves lots of intermediate actors, and prices change on a daily basis. While buyers know about prices, smallholders rarely do. This puts producers in a difficult bargaining position. In addition the farmers often have a limited choice in terms of buyers, either because there are few, or because they have divided up their sourcing areas to avoid competing with each other. Making knowledge about the current price accessible through market information systems provides smallholders with intelligence useful for their price negotiations or in their search for alternative buyers.

Collective action to organize marketing

For small-scale producers, collective marketing has numerous benefits. It can enable producers to negotiate better prices, sell the larger amounts that buyers demand, invest in processing and storage facilities, gain access to credit, and so on.

- In the aquaculture project in Thailand, a fish producer realized that a buyer was interested in purchasing his fish, but in quantities he could not produce. So he got together with other producers to form a group to supply the amounts required.
- A group of producers in Thailand was formed to supply shrimp to hotels in Tokyo. One of the group leaders was taken to Tokyo to join the negotiations over a supply contract.

Ensure access to finance

Linking primary actors to microfinance or other types of credit may assist producers in intensifying their production and increasing their profits. The coffee finance project focused on developing access to credit based on the value of the coffee bushes and their potential production, rather than using land as collateral. This ensured that small-scale farmers could obtain credit at acceptable interest rates, while keeping risks for the financial organizations to an acceptable level.

Many other strategies can be applied to make credit available to primary actors, based on relationships within the commodity chain (KIT and IIRR 2010).

But care is needed with the provision of credit. Credit typically increases risks, whereas primary actors ideally try to minimize their risks. Often the gradual build up of capital by producers

through saving schemes provides a more sustainable and less risky way to ensure primary actors' access to finance.

7.4 LESSONS

This chapter has focused on how to use market opportunities. This involves on one hand ensuring that commodity projects cater to the needs of the private sector and the market, while on the other hand also benefiting the primary actors. We first looked at how to use market research to identify market opportunities. We examined various ways that projects can use to exploit such opportunities. We then discussed how projects can maintain a focus on primary actors while still maintaining a market orientation. We can draw the following lessons from the experiences of our 11 projects:

- Outsourcing market research may produce a report but does not educate stakeholders. Instead, **sourced-in expertise can assist the stakeholders to do their own research** and help them learn about the market and build relationships with key partners in the chain.
- **The private sector may need incentives to take an active part in the project** and assistance in adopting innovations that the project develops. This may include supporting the organization of entrepreneurs.
- As neutral outsiders, **projects may be able to facilitate or structure communication among different types of economic actors** or build new market relations.
- **Both supply and demand are important.** Much of a project's work may involve helping organize the supply of a commodity – in terms of quality, quantity, timing and reliability. Investing in quality-control systems is one way of ensuring that a commodity gains and maintains a good reputation in the market.
- Commercial success is not enough: **projects must keep in mind their impact on primary actors** when taking decisions on which opportunities to pursue and which activities to initiate.

8

Conclusions



Women farmers celebrating the crop harvest

Sorghum and pearl millet project, India
Photo: Ashok Alur

8

Conclusions

THE BASIC question this book started out with was **how public resources can be deployed to support agricultural commodity chains for local economic development**, with a specific objective of poverty alleviation. We have looked for insights into this question based on the experience of 11 CFC-funded commodity development projects. We broke this main question into eight sub-questions. This concluding chapter briefly revisits these eight questions. It concludes with a general summary of our findings.

8.1 HOW TO DESIGN SIMPLE SOLUTIONS WHEN PROBLEMS ARE COMPLEX?

Agricultural commodity systems are complex. Only in a few rare cases will removing a single bottleneck result in meaningful commodity development. A holistic approach that takes all types of constraints into account is often required. Still, commodity projects are temporary and have limited resources, and choices are needed on where and how to intervene. Most of these choices are made by those who formulate the initial project idea. Resource constraints mean it is often not possible to test the assumptions on which these choices are based, so the quality of the project idea and the choices made depend largely on the designers' insights and their overview of the commodity and area in question.

A first choice concerns which commodity to intervene in. The designers' view of the commodity's current status has implications for the project's focus. "**Privileged**" commodities have the advantage of well-established markets and recognition of their economic importance. Yet, the vested interests of decision makers and chain actors in privileged commodities might make innovation difficult. "**Orphan**" and "**infant**" commodities may provide opportunities for innovation that meet less resistance from powerful decision makers. Such commodities, however, require lobbying and promotion if they are to get higher on the agenda of decision makers and chain actors.

Because of the temporary nature of a commodity project, it may make sense to limit its scope to a single important issue. But problems and opportunities seldom have a single dimension; they are more often interlinked. Single-focus projects should be initiated only when a thorough analysis of the situation provides clear evidence that they can result in a sizeable impact by removing a specific, important bottleneck impeding the whole commodity chain. Flexibility is essential to react to new constraints that emerge as a result of unexpected changes or the intervention itself.

Rather than identifying problems to solve, it is more effective to identify **opportunities** where a project can contribute to commodity chain development. Actions can then be identified to capitalize on this opportunity in a sustainable way.

Intervening in several countries at a time is sometimes tempting for both funders and project designers. But intervening in a commodity chain is already complicated enough. Adding an extra

These farmers are just two of the many actors in a complex commodity system

Horticulture project, Zimbabwe
Photo: Patricia Tembani



dimension by intervening in several countries should be done only if the added value is obvious for each country.

8.2 HOW TO SHARE PROJECT RESPONSIBILITIES BETWEEN PUBLIC, PRIVATE AND PRODUCER ORGANIZATIONS?

For effective implementation, **commodity projects require a workable partnership**. Usually an overall coordinator and several intermediate implementing organizations form a consortium. Chain actors that benefit directly, such as producers, small-scale processors, private companies and their associations, complement the project partnership and can play a direct role in decision making and implementation. It is essential to communicate with all these project partners from the design phase onwards, and to define a joint vision.

There are different reasons for including organizations in the project partnership. The simplest guideline is that **each partner needs to add value to the project as well as stand to benefit from it**. Such a win-win situation is a condition for success. Certain chain actors need to be actively engaged as they are essential for the project success; these include producer organizations and processing, trading or retailing enterprises. Organizations such as government ministries have a lot of clout in policy making. Involving them as project partners from the start helps to obtain policy support. A partner may also be important for its specific expertise. Others may be brought in because they can mobilize co-funding or build on and scale up activities, enabling the project to increase its impact.

8.3 HOW TO ENSURE STAKEHOLDER PARTICIPATION AT THE DIFFERENT STAGES OF A PROJECT?

Resource-poor producers and processors are usually the main beneficiaries that commodity projects seek to support. They are not mere recipients of project interventions, but also active project partners and participants. Their participation in decision making improves the chances of success. Nevertheless, **a balance is needed between participation and efficient decision making**.

More participation is not always better, and it can even be counterproductive. Participation must be functional and for a specific activity and not be done for the sake of political correctness. Working with farmers is not enough: important factors limiting commodity chain development may occur at an institutional or policy level. The participation of primary actors cannot overcome such limitations; buy-in and participation of powerful decision makers or chain actors are needed in addition.

The participation of primary actors in commodity development projects has been recognized as essential since the 1980s. But it is also important to **ensure the direct participation of other chain actors**, especially processors and traders. These actors are often poorly organized, and individual entrepreneurs have little time to invest in a partnership. This makes their representation in project decision making a challenge.

8.4 HOW TO ENGINEER FLEXIBILITY INTO THE PROJECT DESIGN?

Project design serves a double purpose: to convince donors and partners to invest their resources, and to shape the intervention. The objective to “sell” the project idea may lead to an over-optimistic project plan. There are limitations to doing extensive system analysis before the project is approved to understand the commodity system and to predict the impact of the proposed activities. In addition, circumstances may change during the often lengthy period between project design and the start of implementation, throwing up new opportunities or creating new problems. During implementation, unexpected results may occur, and new issues may arise. This requires flexibility in project implementation and room for change in the design. An inception phase enables the project to be re-designed once it is approved to adapt it to the emerging reality.

Commodity projects operate within a dynamic market reality, and opportunities emerge throughout the project life. In addition, commodity chains and the systems in which they operate are complex. That makes it difficult to predict the full consequences of a proposed intervention.

Project designs inevitably contain flaws that need to be addressed during implementation. One could argue for better project design, but it is more realistic to accept that the design will need adaptation, and to engineer flexibility into the project.

Seeking ways to improve the project process should be made part of routine monitoring and evaluation. Informal assessment of emerging opportunities and problems is also needed. A non-hierarchical project structure and the managers’ field presence enable the need for change to be detected early.

An important principle is to **assess performance in terms of its contribution to the project’s objectives, rather than emphasizing whether specific activities have been implemented.** During the project design, it is more important to plan what the project intends to achieve rather than how it will do it.

8.5 HOW TO SPEND GRANT FUNDS WITHOUT CREATING PROJECT DEPENDENCY?

Commodity projects aim to contribute to lasting innovation in commodity chains within a limited time. These innovations may take different forms:

- New products and production and processing techniques.
- Improved interactions between actors, including stronger market relations and links between research and actors within the value chain itself.

- Improved services for chain actors and policies that support the functioning of the commodity chain.

The 11 commodity projects invested most heavily in building capacity (in its widest sense): improving individual skills, strengthening the functioning of organizations, and promoting interaction between them. It makes little sense to focus on only one of these elements without considering the others. Other issues that the projects addressed were research and development, marketing and market development, policy change and communication. Most of the projects engaged in all these activities simultaneously. Projects need to take the **hardware** (such as the technology or the product), the **software** (the required skills and knowledge) and the **orgware** (both the organizational and institutional conditions) into account.

To avoid dependency **it is essential to think about institutionalization** (making the project activities part of the mandate of an established organization), for example by ensuring that a project partner takes up responsibility for the activities. This is more likely when activities are co-funded and when an exit strategy has been designed at the start of the project (rather than near the end).

8.6 HOW TO ENSURE LASTING EFFECTS OF TEMPORARY ACTIVITIES?

Development projects aim to have a measurable effect during their implementation. But it should not end there: effective projects are those that result in long-lasting change – and even an increasing impact after they end. To achieve this, sustainability and scaling up need to be a focus from the project's beginning.

There is a risk that projects over-invest to obtain pilot successes. This can lead to results that cannot be replicated later when more modest resources are available. Co-investment by project partners and direct beneficiaries should be a basic principle throughout. If buildings and equipment are financed, this should be done with care, preferably through loans rather than grants.

A major strategy for lasting project impact is to embed activities and approaches in durable intermediate organizations: public service bodies, private companies or NGOs. Forging the right project partnership by involving such organizations from the start is essential. This will create the necessary buy-in for them to continue the successful elements after the project closes. This buy-in can be boosted by communicating successes, generously acknowledging the role of others, and sharing the success.

For commodity projects to achieve impact at a meaningful scale, the organization of chain actors is indispensable. Organizing primary actors is essential as there are many of them compared to the larger chain actors higher up in the chain. Working through groups makes it possible to reach substantial numbers of primary actors, reduces transaction costs, enables economies of scale, and increases the primary actors' bargaining and advocacy power.

The most important guarantee for sustainability lies in market incentives for all chain actors and supporters to continue to play their roles. It is not only chain actors that need income from their sales. Ideally, chain supporters such as advisory services and research should also be rewarded from the commodity chain. Market opportunities are essential in triggering innovation. An initial investment of public money through commodity projects is often needed to create the conditions where the private sector will develop new services and products into a business.

8.7 HOW TO MAKE THE BEST USE OF MARKET OPPORTUNITIES?

Market opportunities form the basis of agricultural commodity-based development. That makes the involvement of private-sector actors essential. They need to be convinced of the benefits for their enterprises. They need sufficient incentives to participate, in the form of activities that are clearly in their direct interest.

Projects can initiate activities that assist both private companies and primary actors to pursue market opportunities. Market research is often a first step. **The project can support stakeholders to do their own research.** In doing so they learn about the commodity market and even make a start with building new relationships with other chain actors and chain supporters.

Local markets should not be overlooked when considering opportunities for enhancing innovation in the commodity chain. An exaggerated focus on export markets should be avoided. Domestic markets often provide more feasible opportunities for small-scale farmers.

Market studies should consider supply constraints as well as the demand for the product. Constraints are hardly ever a problem of simple demand or supply. More often, the opportunities lie in better communication between those who have the resources to supply and those who have a demand for a product.

Much of a project's work may involve **improving communication between these chain actors and helping organize the supply of a commodity** – in terms of quality, quantity, timing and reliability. As neutral outsiders, projects can play a role in improving interactions among different types of actors. Investing in quality-control systems helps ensure that a commodity gains and maintains a good reputation in the market.

8.8 HOW TO ENSURE A POSITIVE IMPACT OF COMMODITY PROJECTS ON PRIMARY CHAIN ACTORS?

Behind most commodity projects there is the ambition to assist the primary chain actors: small producers, landless labourers, petty traders and small-scale processors. **Special efforts are needed to enable the most vulnerable actors to benefit from commodity projects.** Organizing primary actors is a prerequisite for them to be able to benefit from commodity market opportunities. But social inclusion is never automatic, even with high levels of participation by the primary actors. There are a number of other elements that commodity projects can take into consideration when aiming for the primary actors.

Primary actors can often benefit from improved transparency in the chain. Producers, small-scale processors and petty traders are often in a weak bargaining position, so find it hard to secure a fair reward for their effort. Improved transparency, better information and organization can improve their bargaining position.

Reducing risks may be just as important as increasing incomes when addressing the primary actors. Special care is needed with facilitating access to credit, as this tends to increase risks.

8.9 GENERAL INSIGHTS

To a large extent, agricultural commodity projects are like other development projects. They are largely comparable in their management and in monitoring and evaluation, and the same basic principles and tools can be applied. There are other elements, however, in which they differ from other projects.

Commodity projects intervene in a complex system, so require a combination of skills. The project management should combine the capacity to analyse and understand the commodity system with the skills to bring together and forge collaboration and understanding between unlikely partners: economic actors within the chain, support organizations from the government, NGOs, the private sector and producers' organizations. **The success of commodity projects depends on creating a coalition** of people and organizations with these capacities.

The general objective of agricultural commodity projects is to bring lasting change through innovation. Innovation has its technical aspects: such as a new variety, production technology or the development of a new processed product. However, institutional innovation is also required for impact to be lasting. This means not only improving the organization of chain actors, but also the interactions among chain actors and support services, and optimizing the context in which the commodity chain functions.

Innovation is by its nature an unpredictable process which depends on taking risks, testing new things, and learning from the experience. This implies that **room is needed for failure**. Furthermore, room is needed for adaptation along the way, based on the insights gained. This may go against pressure from funders to seek sure-fire results. Both funders and implementers of commodity projects need to balance between the need for results and the room of manoeuvre required for enabling innovation. A good management principle would be to base decision making and evaluation on objectives, while allowing flexibility to adapt activities as required. Transparent communication between project management and funders is needed for this. This is possible only if there is room for mistakes, and if readjusting activities is seen as responsive management rather than evidence of bad design.

We can conclude that commodity projects are a valuable pathway for economic development. But they have to be designed and implemented in a way that improves the livelihoods of primary actors, while providing enough incentive for private entrepreneurs to participate. The project design needs to provide the implementers with the flexibility to respond adequately to emerging opportunities. A diverse but carefully assembled project coalition can contribute to effective implementation. Finally, new practices, products and services initiated through the project are best embedded in organizations with a long-term presence that are largely financed through the commodity chain. Under these conditions, the temporary investment of public resources in commodity development projects can have a lasting positive impact.



Part 2

Project summaries

Farmer grafting young cashew seedlings

Cashew project, East Africa
Photo: Louis Kasuga

Coconut fibreboard in the Philippines



“Very high quality boards can be produced by a simple and robust technology from waste coconut husks, without any additive – just applying heat and pressure.”

– Jan van Dam

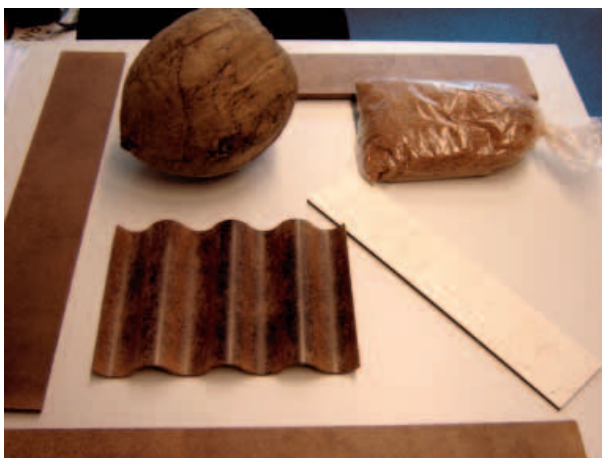
Project title

Coir based building and packaging materials

Commodity Coconut fibre
Countries Netherlands, Philippines
Duration 1999–2005
Total costs US\$ 1,700,000
CFC grant US\$ 1,400,000

Contact

Jan van Dam
jan.vandam@wur.nl
www.ecocoboard.net



Samples of the raw material (whole coconut) and feedstock (milled coconut husk), and products that were developed by the coconut board project: corrugated board, coated high-density and uncoated medium-density fibreboard

Photo: Jan van Dam

WHEN THEY harvest their coconuts, farmers throughout the world cut off the fibrous husk to reveal the nut inside. They sell the nuts and often discard the husks as worthless.

But the husk is potentially valuable. Could it be turned into fibreboard for use in building – like the panels now made from wood chips?

This project found out that it is possible. It developed the technology to press coconut fibre into boards and even three-dimensional shapes, without adding any glues or other chemicals. This is because coconut husks contain natural lignin that acts as a binder. The project identified the best processing temperatures and pressures for making the boards, tested the quality of the resulting product, and compared it with other products already on the market.

Philippine project partners were trained on the new techniques at Wageningen University and Research Centre in the Netherlands. In addition, several workshops were held in the Philippines, presentations were given at international events, and articles were published in journals to disseminate knowledge about the technology.

On the pilot scale the new way of working with coconut husks proved successful. The product is attractive enough to gain a competitive position in the market, and has the potential to become

economically feasible. In the Philippines, India, and Indonesia, entrepreneurs with local governmental support have been able to get various stakeholders together and prepare for production.

Project objectives

- To develop technology to make fibreboard from coconut husks as a substitute for wood in building and packaging.

Beneficiaries

- Small-scale coconut farmers in the Philippines and Indonesia.
- Large numbers of artisans, furniture makers and construction workers.

Major actors

Wageningen University and Research Centres: coordination and research.

Fibre Industrial Development Authority: fibre processing research.

Philippine Coconut Authority: coconut husk sourcing.

Forest Products Research and Development Institute: panel manufacturing pilot.

Achievements

The project developed a way to make low-cost building panels from coconut waste, without costly chemical additives. Different types of boards and three-dimensional products were developed. The process was economically feasible and the products were competitive on the market. Production on a pilot scale was successful. An optimal production level of 10–20,000 tons per year was based on investment costs and the logistics of coconut fibre supplies.

Staff from the Philippine project partners were trained in the technology. The technology was disseminated at a workshop in the Philippines where a diverse group of international and local entrepreneurs, farmers and investors were informed on the state of the art.

The project demonstrated that it was feasible and profitable to produce board from coconut fibre. The technology is ready: it awaits interested investors and entrepreneurs to implement it in developing countries.

There is high potential for wide commercialization of this technology in many coconut-producing countries. Entrepreneurs from Brazil, French Polynesia, Kenya, Mozambique, Papua New Guinea, Surinam, etc., have shown interest, but have not yet invested in production.

More information

Snijder et al. (2006)

Entrepreneurship in jute products in Bangladesh and India



“The project has highlighted that jute diversification can be a very fruitful and enduring way of augmenting income, creating employment, reducing poverty, and overall socio-economic upliftment of the poor and especially women – who constitute 95% of the beneficiaries.”

– Md. Fazlul Huq

Project title

Small-scale Entrepreneurship
Development in Diversified Jute
Products

Commodity Jute
Countries Bangladesh, India
Duration 2005–10
Total costs US\$ 2,600,000
CFC grant US\$ 1,500,000

Contact

Md. Fazlul Huq
fazlul_huq@yahoo.com
www.juteenterprisebd.com
www.juteenterprise.in



Weaving jute products

Photo: Jute Diversification Promotion Centre, Dhaka

JUTE is a major traditional fibre crop in Bangladesh and parts of India. It is used to make sacks, ropes and other low-value products. Competition from plastics and artificial fibres is high. In the early 2000s, Bangladesh banned the use of plastic bags in order to reduce waste pollution. That greatly expanded the potential market for bags and other products made from jute.

This project aimed to stimulate the processing of jute in Bangladesh and India into high-value products: bags, mats and many other items. The range of potential products is vast: the project designed grocery bags, carry bags, laundry bags, travel bags, and so on; mats for the floor, tables and walls; and items such as shoes, dolls, hats, jewellery, apparel and upholstery.

To produce these products, higher-quality jute yarns and fabrics were needed. The project identified 16 types of yarns and 12 types of fabrics that had been developed through research. It supported the establishment of cottage industries to produce these raw materials, and trained entrepreneurs in how to manage them.

To turn the yarns and fabrics into finished products, the project established “jute entrepreneurs’ service centres” where artisans could receive training and then come to use the looms, sewing machines and other equipment. It established “raw material banks” where the artisans could buy dyes, chemicals, yarn, fabric and other items they needed.

The project also dealt with the marketing of the finished products. It conducted market surveys to identify promising markets, and held 125 meetings where buyers and sellers could meet to negotiate trades.

Project objectives

- To stimulate the production of higher-value jute products such as mats, shopping bags, handbags and shoes.
- To stimulate entrepreneurship and rural jobs in jute processing.
- To increase the use of jute fibre in domestic and export markets.

Beneficiaries

- 16,000 weavers, spinners and artisans, mostly women.
- Jute growers and others involved in production and supply.

Major actors

International Jute Study Group: Project supervision.

National Centre for Jute Diversification (as of 2010: National Jute Board), Kolkata, India: Project implementation.

Jute Diversification Promotion Centre, Bangladesh: Project implementation.

Achievements

The project supported the adoption of jute processing technology by small-scale entrepreneurs to make high-value products. It provided loans to establish spinning, dyeing and bleaching plants, small-scale weaving factories using hand looms and power looms. It trained entrepreneurs to run these cottage industries.

It designed hundreds of products using these yarns and fabrics: bags, mats, shoes and other items. It supported entrepreneurs to start production of these products by providing training, production facilities, and centralized stores where they could buy inputs.

The project conducted surveys of domestic and foreign markets, and linked prospective buyers with producers through buyer–seller meetings and exhibitions.

The project enabled entrepreneurs to add at least ten times more value to their final product. Instead of selling coarse sacks, they can now export fashion items.

The entrepreneurs increased their skills, efficiency and productivity, and the quality of their products have reached international standards. They developed links with local and international buyers. Various producers’ associations and NGOs adopted the project’s approaches, replicated the training and adopted the technology.

Some 2,500 entrepreneurs started producing jute-based products, with each employing at least five workers. The average income of the small entrepreneurs and artisans rose from near zero to around US\$ 250 a year in India and US\$ 800 in Bangladesh. Total sales of jute products during the project were US\$ 1.4 million.

Bridging the yield gap in irrigated rice in Brazil and Venezuela



"Farmers are the agents of change. Farmers have an incentive to change, but many researchers and extension agents are contracted staff with little incentive for improvement."

– Ed Pulver

Project title

Bridging the yield gap in irrigated rice in Rio Grande do Sul, Brazil, and Venezuela

Commodity Rice
Countries Brazil, Venezuela
Duration 2002–5
Total costs US\$ 1,500,000
CFC grant US\$ 975,000

Contact

Ed Pulver
e.pulver@cgiar.org
www.flar.org



Farmer leader explaining observations from on-farm demonstration plots: an example of farmer-to-farmer technology transfer in Frontier Region, Rio Grande do Sul, Brazil, 2005

Photo: Ed Pulver

In 2000 the gap between actual farmers' yields and the potential yield in Latin America and the Caribbean was estimated at 1.3 t/ha. This project aimed to close the gap by helping farmers in Rio Grande do Sul (a state in Brazil) and in Venezuela to adopt improved production techniques. It did this by training extension staff in improved crop management practices, and by developing an extension approach to transfer these technologies to rice growers. The extensionists worked closely with lead farmers to adopt the new techniques; these lead farmers in turn passed on their knowledge to other farmers in their groups. This farmer-to-farmer strategy enabled a limited number of extension agents to reach large number of rice growers.

In both countries, the extension services have adopted the farmer-to-farmer methodology developed by the project, and yields and production continue to rise.

Small growers were the primary beneficiaries of increased technical assistance and high-yield production technologies since they have limited access to existing technologies and other forms of assistance, and the higher yields enabled them to obtain a reasonable income on a limited land area.

Project objectives

- To increase the yield of irrigated rice in Venezuela and southern Brazil.

Beneficiaries

- Irrigated rice farmers, extension agents and farmer organizations.

Major actors

FLAR (Fondo Latinoamericano para Arroz de Riego/Latin American Fund for Irrigated Rice): coordination: management of project and on-farm supervision of activities.

IRGA (Rio Grande do Sul Rice Organization): provided extension agents and services, and assisted in technology transfer.

FUNDARROZ (Venezuelan Fund for Irrigated Rice): provided counterpart staff, administrative support and assisted in integrating the project into local farmers' organizations.

Achievements

In Rio Grande do Sul, Brazil, over 5,000 farmers employed the improved technologies on 475,000 ha, resulting in yield increases of 1.7 t/ha and an increased production of 800,000 t. The yields of farmer leaders increased by nearly 3 t/ha. The extension service continues to use the farmer-to-farmer methodology developed by the project, and yields and production continue to increase.

The value of the increased rice production at the farm gate during the final year was more than US\$ 180 million, or over US\$ 36,000 for each of the 5,025 participating growers. As a result of the initial joint extension effort and the continuation and expansion of the programme by IRGA, it took only 4 years for farmers to increase state yields from 6 to 7 t/ha. If the growth trend before the project had continued, it would have taken 40 years to increase yields by this amount.

In Venezuela, the extension system altered the way technical assistance is provided to rice growers. Yields on the 40,000 ha served by the project increased by 1.2 t/ha. The increased production generated a total of US\$ 9.6 million a year for the participating farmers.

The project has had impacts in other countries, too. In Uruguay and Argentina, the adoption of similar farming techniques has led to rapid yield increases. FLAR has also promoted similar approaches in various other rice-growing countries in Central and South America and the Caribbean, but the level of support available has not been sufficient to have a measurable impact.

Improving coffee technology in Ethiopia and Rwanda



“The project led to the appearance of a new type of coffee in the Ethiopian market which is rewarded by high price premiums in the local and international market.”

– Charles Agwanda

Project title

Improving coffee quality in east and central Africa through enhanced processing practices

Commodity	Coffee
Countries	Ethiopia, Rwanda
Duration	2004–7
Total costs	US\$ 2,900,000
CFC grant	US\$ 2,030,000

Contact

Charles Agwanda
c.agwanda@cabi.org
<http://tinyurl.com/28284xf>



Smallholder farmer in Rwanda producing fully washed coffee using a hand pulper

Photo: Charles Agwanda

THE QUALITY of coffee produced by smallholder farmers in Ethiopia and Rwanda was often low, so farmers received low prices. Discouraged, they had begun to switch to other crops.

This project aimed to improve the quality of the coffee by introducing new ways of processing the coffee cherries and by helping the farmers to link with more profitable market channels. Three processing methods were introduced: “semi-washed processing”, a new type of pulping equipment that uses little water, and an improved way of sun-drying the coffee cherries.

Only some of the farmers in Ethiopia were already organized, so the project helped them form groups. In Rwanda, all the farmers were already members of groups. The project provided the groups with small-scale hand pulpers and drying facilities, trained them, provided technical backstopping, and facilitated groups to exchange the experiences with the new techniques.

Because semi-washed coffee was new to Ethiopia, it was necessary to introduce a new category of coffee into the auction system. The central auction house made provision to introduce a new category, “semi-washed coffee”.

The project improved the quality and price of smallholders’ coffee. In Ethiopia, the smallholders were integrated into higher levels of the coffee value chain. Some now bulk their coffee and

sell it via the auction or direct to exporters, so bypassing traders. In Rwanda, the new processing methods stimulated interest among other development agencies to adopt similar practices.

Project objectives

- To introduce improved coffee processing practices and build capacity among farmers, extension staff, managers and traders in their use.
- To increase the farmers' income by enabling them to produce and sell better quality coffee.
- To encourage private-sector operators to invest in improved technology.

Beneficiaries

- Small scale coffee producers in four districts of south-western Ethiopia and smallholder coffee farmers in Rwanda.

Major actors

CABI: coordination and research.

Illycafé: co-financing.

Ministry of Agriculture and Rural Development, Ethiopia: project implementation and counterpart funding.

OCIR Café (Rwanda Coffee Development Authority): project implementation and counterpart funding.

International Coffee Organization: project supervision.

Achievements

Smallholder coffee producers adopted the new processing techniques, so can produce higher-quality coffee beans. Farmers were organized in processing groups, enabling them to sell in large volumes (about 18 tons from each district). Over 5,000 farmers were trained and given information materials on coffee processing using the new technologies. Some farmers now deliver their product direct to the coffee auction house, rather than to intermediate traders.

The marketing classification of Ethiopian coffee has been expanded to include coffee produced using the new methods. The new processing methods enabled the farmers to improve the quality of their coffee from class 4 (poor) to classes 1–3 (good to excellent). This has enabled them to secure premiums of up to 40% for sun-dried coffee and 75% for the semi-washed coffee.

Experiences were copied by other organizations, including the International Livestock Research Institute, the Ethiopian government's coffee extension service, and the US Agency for International Development. Improved sun-drying is becoming more common among smallholders as it requires minimal investment yet improves the quality and price. The Ethiopian government has recommended using the project model for similar commodity projects.

The image of coffee from the project areas improved. Other farmers started to adopt the new processing methods and use the new channels to sell their coffee. The project demonstrated the need to make market arrangements to benefit smallholder farmers. The farmers developed a culture of savings and investment, became empowered, and were able to influence the government and development agencies.

Developing bamboo in Ethiopia and Kenya



“Bamboo is still an infant commodity in Africa. The project raised the awareness on bamboo products and created interest among larger investors to build industrial bamboo processing firms.”

– Jürgen Hierold

Project title

Eastern Africa bamboo project

Commodity Bamboo
Countries Ethiopia, Kenya
Duration 2005–10
Total costs US\$ 2,600,000
CFC grant US\$ 1,690,000

Contact

Jürgen Hierold
j.hierold@unido.org
hieroldj@web.de
www.unido.org, www.eabp.org.et



A graduate from the bamboo skills training in Kenya has set up his own workshop and sales outlet. He employs 10 young people, who are undergoing on-the-job training

Photo: Jürgen Hierold

BAMBOO IS an extraordinarily useful plant: it can be used for everything from scaffolding to toothpicks. It can be used for building, turned into laminated products such as floorboards, and used to make furniture and many types of household implements. People in East and Southeast Asia have used bamboo for thousands of years, and the bamboo industry there is well developed. But this is not the case in Africa, where bamboo is often regarded as a “poor man’s wood” and used mainly for basic applications like fences and traditional housing.

This project aimed to stimulate the production and processing of bamboo in Ethiopia and Kenya by transferring technology and expertise from countries like China and India. Ethiopia’s long familiarity with bamboo crafts, and Kenya’s experience in bamboo plantation management, enabled a rewarding exchange of expertise between these two countries.

The project conducted research on the mechanical properties of African bamboo species and confirmed they had potential to be made into various industrial products. It introduced and field-tested new species, identified suitable areas for bamboo cultivation, and conducted research that showed that the products were economically feasible.

The project trained farmers on bamboo production, established demonstration nurseries and micro-plantations, and distributed thousands of seedlings of the local and 12 introduced varieties to all farmer groups.

To stimulate the processing industry, the project set up a bamboo training centre in the Federal Micro and Small Enterprises Development Agency (FeMSEDA) in Ethiopia, provided it with processing equipment, and trained its staff. It also developed illustrated, easy-to-understand training manuals in Amharic.

In Kenya, the project upgraded the Kenya Forestry Research Institute's facilities and upgraded its training manuals. Institute staff were trained at FeMSEDA and transferred their skills to more than 40 artisans in Kenya. The project also supported a policy dialogue to consider sustainable ways of using bamboo in face of a ban on deforestation – which also prohibits the cutting of bamboo.

The project also improved domestic marketing of bamboo through product design, market studies and participation in fairs and exhibitions.

Project objectives

- To promote the sustainable production, supply and use of bamboo products in Ethiopia and Kenya.
- To improve bamboo processing skills and the level of processing technology.
- To improve bamboo products and expand their markets.

Beneficiaries

- Bamboo producers and their families in three rural pilot areas in Ethiopia and three in Kenya.
- Urban micro-entrepreneurs (furniture and craft making).
- Industrial bamboo processing companies and potential investors.
- Organizations involved (FeMSEDA, Ministry of Agriculture and Rural Development Extension Services, Kenya Forestry Research Institute).

Major actors

UNIDO (United Nations Industrial Development Organization): project coordination and management.

INBAR (International Network for Bamboo and Rattan): supervisory body.

Ministry of Agriculture and Rural Development, Ethiopia: project implementation, disseminating plantation and harvesting technology, host of national project coordinating office.

Federal Micro and Small Enterprises Development Agency, Ethiopia: regional trainings for micro-entrepreneurs.

KEFRI (Kenya Forestry Research Institute): disseminate plantation and harvesting technology, provide bamboo seedlings to farmers and NGOs.

Achievements

Research confirmed that African bamboo species have potential to be made into various products. New species were introduced and field-tested. Suitable areas were identified for bamboo plantation, and research showed that the products were economically feasible. The project established

bamboo nurseries and supplied seedlings to all participating 300 farmers in the six pilot villages. National capacity was created by training of technical trainers (>10) and extension staff (>30).

The project upgraded an industrial bamboo training centre in Ethiopia and established a crafts centre in Kenya. It provided them with equipment, trained staff and developed user-friendly training manuals in local languages. These centres now offer training on bamboo processing technology and product design. More than 500 people were trained in bamboo processing skills, and 200 sets of hand tools were distributed to beneficiary groups.

Cooperation was established with development agencies like the EU, CIDA, FARM Africa, World Vision International-Ethiopia, the World Agroforestry Center and GTZ, creating outreach beyond the actual project sites.

In Ethiopia, the number of farmers cultivating and trading bamboo increased from 250 to over 500. A majority have moved into making furniture and other bamboo products.

The farm-gate price of a bamboo stem rose from birr 0.25–1.50 to birr 3.0-10 birr. The price on the Addis Ababa market was up to birr 25. Farmers' incomes have risen accordingly. The bamboo producers have formed legally recognized cooperatives. Producers earn an average of birr 5,000 from bamboo – up to 80% of their total income.

The urban artisans have improved their skills and the quality of their products, and have increased their income. For example, one artisan got a contract of birr 80,000 (US\$ 8,000) for building traditional bamboo restaurants.

The project generated awareness of the value of bamboo, and private investors are considering establishing eight processing plants in Ethiopia and creating up to 1,500 jobs.

Sorghum and pearl millet for poultry feed in India, China and Thailand



“A coalition approach was an effective means of tackling technical problems and developmental and institutional issues to enable sustainable uptake and dissemination of technologies.”

– Ashok Alur

Project title

Enhanced utilization of sorghum and pearl millet grains in poultry feed industry to improve livelihoods of small-scale farmers in Asia

Commodity Sorghum and pearl millet

Countries India, China, Thailand

Duration 2005–9

Total costs US\$ 2,100,000

CFC grant US\$ 1,510,000

Contact

Ashok Alur

a.alur@cgiar.org

alurashok@gmail.com

www.icrisat.org/feedcrops/



Head of sorghum of one of the new varieties promoted by the project

Photo: Ashok Alur

SORGHUM AND pearl millet are two important but neglected cereal crops. This project aimed to improve their yields and production through a range of interventions in technology transfer, farmer organization, business services, credit and marketing linkages. The project covered 71 villages and 6,290 farm families in India, 7 villages and 506 families in Thailand, and 9 villages and 631 families in China.

A coalition of organizations, coordinated by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), implemented the project. ICRISAT, in association with agricultural universities and crop research institutes, identified suitable technologies to boost production, and trained farmers how to apply them. NGOs and farmers' federations helped the farmers organize into associations to facilitate training, demonstrations and marketing. Seed and input supply companies, feed manufacturers, and grain-processing firms supplied seeds of improved varieties and other inputs, provided storage and transport services, and made bulk purchases of the grain. A total of 15 partners were associated with the project in India, nine in China and five

in Thailand. The coalition also included nine farmers' associations formed and officially registered through the project.

The project introduced and distributed seed of improved sorghum and pearl millet varieties and hybrids. It organized over 100 training programmes for over 7,500 farmers (including 3,000 women) on improved technologies, new science tools in agriculture, soil testing, planting, intercropping, integrated crop, nutrient and pest management, harvesting, seed production, storage, marketing, organizational management and finance. It produced information materials in local languages and held over 175 field demonstrations on farmers' fields. Scientists paid regular visits to the fields during the cropping season to advise farmers how to solve field problems.

The project addressed various problems identified by farmers in the supply of inputs and in marketing. It facilitated farmers to buy seed of improved varieties direct from the suppliers, and linked the farmers' associations with suppliers of other inputs. It built eight village warehouses to enable farmers to store their grain and sell it in bulk at a favourable time. These warehouses are managed by farmer-led committees. It facilitated linkages with sources of low-interest loans, so enabling farmers to buy inputs and to store their grain after harvest until the price has improved. It linked farmers with private-sector buyers. Regular meetings with the buyers helped the farmers' associations to sell in bulk at a price premium. The project helped develop agreements between farmers' groups and other organizations, and each year expanded its operations to serve new villages.

In India, cultural reasons meant that few women farmers participated at first. But the project encouraged women to get involved and take on leading roles. Women's self-help groups distributed seed, and women attended training and sat on management committees and farmers' associations. The participation of women in Thailand and China was satisfactory from the start.

Project objectives

- To improve farmers' yields and production of sorghum and pearl millet by providing improved varieties, access to farm inputs and credit.
- To strengthen the abilities of farmers' groups to buy inputs, bulk the grain they produce, store and transport it, negotiate sales and obtain credit.
- To train project partners in coalition building and bulking, grading, storage and bulk marketing of grains.

Beneficiaries

- Nearly 7,500 small-scale farmers growing sorghum and pearl millet.

Major actors

ICRISAT (International Crops Research Institute for the Semi-Arid Tropics): project coordination and support.

Agricultural universities and crop research institutes (four in India, one each in China and Thailand): technology provision, training and support to farmers.

Federations of farmers and poultry producers: farmer organization and representation, linkages with farmers' groups, developing market linkages.

Farmers associations (six in India, two in Thailand, one in China): project activities in the field.

Seed and input supply companies, feed manufacturers, grain processing firms: provision of seed and inputs, variety selection, storage, transport, bulk purchase of produce.

NGOs and district-level agricultural science centres: liaison among partners, facilitation of input supplies and credit, training and technology transfer, assistance in building farmers' associations and marketing.

Achievements

The project introduced around 35 improved varieties of sorghum in India, 9 in Thailand and 14 in China, as well as 10 varieties of pearl millet in India. To improve production, the project distributed the seed of these improved varieties and hybrids for farmers to buy. It built village grain storage warehouses and facilitated low-interest loans and links with buyers. It helped the farmers organize themselves into farmers' associations, provided them with training and information materials.

A contract farming model was popularized in China, with three buyers making purchasing arrangements with around 150 families.

Among project beneficiaries in India, yields of pearl millet grain rose by an average of 32%, and fodder yields went up by 20%. Yields of sorghum increased by 19% to 73%. By buying in bulk, farmers were able to cut the cost of seed by 13–51%. Adoption rates of improved varieties and hybrids ranged from 3 to 88%.

The warehouses attracted several processors to buy grain, and convinced banks to provide short-term credit to the farmers to meet their immediate cash needs using the stored grain as collateral.

Market links were created between farmers' associations and various food, alcohol and poultry feed processors. In China, contract farming with the alcohol industry has proved very successful. Three buyers agreed to buy sorghum at or above an agreed floor price. In Thailand, farmers sell sorghum to the duck-feed industry and mushroom producers.

Horticulture outgrower schemes in Zimbabwe



"Every voice counts in a project that involves many stakeholders."

– Patricia Tembani-Chizengeya

Project title

Developing and piloting horticulture outgrower schemes for export market in eastern and southern Africa

Commodity Horticultural crops
Countries Zimbabwe
Duration 2007–17 (ongoing)
Total costs US\$ 2,300,000
CFC grant US\$ 1,740,000

Contact

Patricia Tembani-Chizengeya
ptembanieidbz@idbz.co.zw
www.idbz.co.zw



Mange-tout pods ready for picking

Photo: Patricia Tembani

HORTICULTURE IS the fastest-growing sector in the Zimbabwean economy. Before 2000, production for export was mainly by large-scale producers; very few smallholder farmers were able to participate in this lucrative market. They lacked the knowledge and skills to produce for export, and the necessary infrastructure to handle perishable produce. Large-scale farmers already had mature marketing channels. How could these be used to benefit smallholders?

This ongoing project aims to enable small-scale farmers in communal areas to participate in horticultural production and marketing. It focused initially on 400 farmers in two irrigation schemes: Dotito in Mashonaland Central province, and Cashel Valley in Manicaland. The crops that have been grown include sugar snap and mange-tout (types of bean where the immature pods are eaten), baby corn and (most recently) tabasco chillies.

The project trains the farmers on crop production and marketing, provides them with extension advice, and offers them low-interest loans so they can buy seed and other inputs. It has persuaded existing marketing organizations to buy the products.

The farmers are organized into groups in each of the irrigation schemes for training and extension facilitation, access to loans, and marketing. A committee of representatives from the groups coordinates activities and supervises the members.

Each farmer in the group signs a contract with the marketing agent, a reputable company that packages, exports the product, and sells it to the supermarket. The farmer is assigned a quota

specifying the amount and quality of the crop to deliver. The farmer can get a loan to buy seeds and other inputs from the Infrastructure Development Bank of Zimbabwe. The marketing agent also receives a loan for packaging materials and transport.

The farmer delivers the products to the marketing agent's packing shed. Payment is made after the product has arrived at its destination, normally 30 days after delivery. The marketing agent deducts the cost of the inputs and remits this amount to the bank.

Project objectives

- To strengthen the capacity of smallholder outgrower farmers to produce vegetables and fruits for export markets.

Beneficiaries

- 400 smallholder farmers in the Dotito and Cashel Valley irrigation schemes.

Major actors

IDBZ (Infrastructure Development Bank of Zimbabwe): Project management responsible for implementing and overseeing the project and managing funds.

Ministry of Agriculture: Provision of technical support to outgrower farmers through the extension service.

Ministry of Industry and Commerce: National coordinator, promotion and coordination of exports.

Achievements

The project is ongoing (2010, year 3 of 10 years). The 400 farmers have learned skills in producing and marketing new, high-value crops: sugar snaps, mange-tout, baby corn and tabasco chillies. Most farmers plant a total of 1 ha of the crops per year. With irrigation, they can plant three crops a year, with an average yield of about 4 t/ha. For each cropping season, a farmer can get a loan of US\$ 2,000, repayable after harvest at an interest of 4.5% a year. The total loan portfolio is US\$ 1.2 million.

Farmers who used to grow food only for their own use can earn about US\$ 2,000 per cropping season from 1 ha of land. They have learned how to grow high-value export crops intensively on a small area using simple hand tools, rather than trying to cultivate a large area. The project has opened export markets for small-scale farmers, using channels previously used only by large-scale producers.

Improving cashew in Eastern and Southern Africa



“The project has established a sustainable organization of technology and knowledge sharing among farmers, researchers and extension officers. Even after the end of the project these activities continue.”

– Louis Kasuga

Project title

Regional cashew improvement network for Eastern and Southern Africa

Commodity Countries

Cashew
Ethiopia, Kenya,
Madagascar,
Malawi,
Mozambique,
Tanzania, Uganda

Duration

2004–10

Total costs

US\$ 3,190,000

CFC grant

US\$ 2,790,000

Contact

Louis Kasuga
ljkasuga@yahoo.com



Cashew apples

Photo: Louis Kasuga

IN THE 1970s and 80s, cashew production in Tanzania declined dramatically: from 145,000 tons in 1973–4 to just 16,000 tons in 1986–7. There were various reasons for this: many cashew farms were abandoned as the government forced people to move into villages. Bush fires, diseases, pests, unreliable weather and the old age of cashew trees took their toll. A lack of improved planting materials and low producer prices made it hard for farmers to renew their plantations. Other cashew-producing countries in East and Southern Africa experienced similar problems.

This project aimed to provide cashew farmers in Tanzania and other countries in the region with knowledge and technology to increase their cashew output and quality by planting improved trees and managing them better.

The project worked at various levels: with the central ministry in each country, researchers, extension staff and farmers. It informed these stakeholders about the potential of cashew and the project's goals. It trained extension staff in participatory approaches and cashew-production

techniques. These extensionists in turn helped the farmers organize into groups of about 50 farmers, with sub-groups of 10 members each.

The members of each sub-group appointed one person as a “farmer leader”. This person received training on cashew-management techniques, and then had to train the other members of the group. In each group of 50 farmers, one farmer leader, usually without formal training in agriculture, was selected to act as a resident extension agent. The project developed easy-to-understand training materials such as flyers and handbooks to support them.

Seed of over 20 improved varieties was distributed to central nurseries and numerous nurseries run by farmers’ groups in all the participating countries. These nurseries raised seedlings for distribution to the farmers. By 2010 most of the trees were yielding well; yields should continue to improve as the trees get older.

Tanzania benefited most because the cashew industry there is well established compared to other participating countries. In Ethiopia, where cashew was introduced for the first time, suitable areas for cultivation were identified, and the crop is now growing well there.

Manual shelling machines were introduced to Malawi and Uganda. Small-scale village processing started in Uganda. Technicians from outside Tanzania were trained grafting methods and nursery management.

Project objectives

- To increase quantity and improve the quality of raw cashew nuts.

Beneficiaries

- Resource-poor cashew farmers within the project areas and outside.

Major actors

Naliendele Agricultural Research Institute, Tanzania: project management and provision of technical backstopping.

District councils: implementation and supervision of project activities, organization of farmers, technology transfer.

Governments: counterpart funding.

Achievements

The project trained 300 extension officers and 17 district coordinators in cashew production and participatory approaches. It formed and trained 520 groups of small-scale farmers and provided them with information. It set up a system to exchange improved cashew materials between countries and research institutes. Some 500 kg of seed were distributed, and germplasm materials were imported from Brazil and Benin. The project established 16 central nurseries to multiply and distribute seedlings to farmers. Around 340,000 new cashew trees were planted (about 5,000 ha).

Five videos were prepared and distributed; and 3,000 copies of a cashew handbook were distributed in English, French and Portuguese. Farmers adopted most of the technologies and improved their yields and quality of cashew. Farmers and the extension system are organized in a way that will enable the continued exchange of technology and information in the future. More farmer groups have been formed. Farmers’ incomes in most of the groups are increasing gradually. Some group members now apply for credit from financial organizations.

Controlling witches' broom disease in cacao in South America



"The disease caused a drop in cacao production from 400,000 tons a year to just 90,000 tons. But as a result of the project, production has risen again to 150,000 tons – and will continue to grow as the new plantings of resistant clones mature."

– Uilson Lopes

Project title

Molecular biology techniques in search for varieties resistant to witches' broom disease of cocoa

Commodity	Cacao
Countries	Brazil, Ecuador, Peru
Duration	2000–6
Total costs	US\$ 3,200,000
CFC grant	US\$ 820,000

Contact

Uilson Vanderlei Lopes
uilson@ceplac.gov.br
www.ceplac.gov.br



Healthy cacao pods

Photo: Uilson Lopes

WITCHES' BROOM is a fungal disease that attacks pods and branches of cacao trees, causing up to 100% losses in some farms. Native to the Amazon region (Brazil, Colombia, Ecuador and Peru), the disease has spread throughout South America, devastating production and causing unemployment in cacao-producing areas. In 1989, the disease reached the main production region of Brazil, then the world's second-largest cacao producer, cutting production from 400,000 tons a year to just 90,000 tons – barely sufficient to meet the country's domestic needs.

The normal way to control witches' broom is by pruning the diseased trees. But this is costly and ineffective. A new approach was needed. This project aimed to introduce disease-resistant cacao varieties. It studied the genetic makeup of the cacao tree and mapped the genes that confer resistance to the disease. It tested collections of cacao germplasm in Brazil, Peru and Ecuador to identify varieties that were resistant. It also tested cacao trees in the field for resistance, and studied how the witches' broom fungus spread over time.

The project researchers found 22 varieties that were resistant to the disease and arranged for these to be multiplied on a massive scale so that farmers could replant their holdings. The govern-

ment of Bahia, a state in eastern Brazil, invested in a “biofactory” to produce 20 million plantlets a year for sale to farmers at minimum cost.

CEPLAC extension agents trained the farmers how to graft these plantlets onto existing trees or onto rooted cuttings. It also trained them how to prune the trees to maximize production.

In Brazil, the federal government contributed half the project budget and financed farmers to rejuvenate or replant their plantations with the resistant varieties.

Project objectives

- To identify disease-resistant genes to witches’ broom in cacao trees, and to develop cacao varieties which are resistant to the disease.

Beneficiaries

- 115,000 farmers and their families in Brazil, Ecuador and Peru.
- Potentially all 5–6 million cacao-growing farmers in the world.
- All people working in the cacao sector.

Major actors

CEPLAC (Federal government commission responsible for coordinating cacao cultivation), Brazil: executing agency and research and training of partners.

State University of North Fluminense, Rio de Janeiro, Brazil: research and training of partners.

INIAP (National Autonomy Institute of Research in Agriculture), Ecuador: research and training of partners.

ICT (Institute of Tropical Crops), Peru: research and training of partners.

Achievements

The project identified the genes that confer resistance to witches’ broom disease in cacao. It used this information to test around 1,000 cacao clones and developed 22 resistant varieties resistant to witches’ broom. It multiplied 150 million plantlets of these clone varieties and disseminated them to farmers. Some 150,000 ha were replanted with the resistant varieties. The project exchanged resistant varieties among Brazil, Ecuador and Peru. It trained researchers and professionals from the three countries on cacao DNA technology and disease control. It established DNA technology labs in all three participating organizations.

In Brazil, production rose from 90,000 to 150,000 tons of cacao a year. Most of the new plantations are still young, and many other cacao-producing areas are being replanted with the resistant clones, so output will increase further. The recovery of the cacao industry has created 200,000 new jobs. The DNA technology is being spread to other countries, including Africa, where it should help prevent an outbreak of the disease in countries that are currently free of it.

Finance for small-scale coffee farmers in Kenya



"Farmers discovered that by managing their coffee trees well, the productivity of their coffee improved. Production rose by up to two to three times, while superior grades were encountered for all farmers participating in the project."

– Susan Njoroge

Project title

Pilot short- and medium-term finance to small-scale coffee farmers in Kenya

Commodity	Coffee
Countries	Kenya
Duration	2005–10
Total costs	US\$ 1,400,000
CFC grant	US\$ 1,450,000

Contact

Susan Njoroge
susann@unops.org
www.unops.org
<http://tinyurl.com/2aoepxs>



Demonstration of coffee-drying technology to bankers, farmer representatives and project managers.

Photo: Susan Njoroge

A GLUT IN the supply of coffee in the 1990s caused world prices to fall. At the same time, the liberalization of coffee milling and marketing in Kenya dismantled the existing centrally managed system, which had provided input and pre-credit to small-scale producers. Farmers found themselves in an awkward situation where the old system was inoperative while the new system was undefined. Many started switching to other crops.

To encourage farmers to continue growing coffee and enable them to improve the quality of their product, it was necessary to provide them with loans and technical advice. This project designed a "credit plus" system. This consisted of two components:

- Farmers were organized into groups of 5–25. Out of each group four members were trained in the four most important husbandry skills: coffee fertilization, pruning, pest and disease management, and picking and delivery. Each person was responsible for ensuring that the other group members carried out these tasks correctly.
- An easy-to-use integrated software was designed to manage data on the farmers. This computes each farmer's loan requirements, based on the number of bushes and a calendar of crop activities. It tracks the loans as well as the farmers' production and sales. Savings- and-credit cooperatives provide farmers with loans at market interest rates; members of the

group are jointly liable for each others' loans. The cooperatives sell their members' coffee, deducting the loan repayments and interest before paying the farmer.

Project objectives

- To design and operate a pilot credit scheme to provide inputs to coffee farmers, which could be replicated to other countries and commodities.

Beneficiaries

- Over 4,000 small-scale coffee farmers.

Major actors

UNOPS (United Nations Office for Project Services): project management and coordination, reporting and grant management.

International Coffee Organization: supervision.

Ministry of Agriculture, Kenya: permissions and support for project activities; provided funds through the Coffee Development Fund.

Coffee Development Fund: channelling of funds to the savings-and-credit cooperatives.

Savings-and-credit cooperatives: loans to farmers.

Kenya Planters Co-operative Union: field coordination and implementation.

De Chazal Du Mée and National Bank for Agriculture and Rural Development Consultancy Services (NABCONS): advice on implementation activities.

Realtime Computer Systems: development and installation of software.

Coffee Research Foundation: research-based advice on coffee activities.

Nairobi Coffee Exchange: coffee auctions, provision of market intelligence.

Coffee Board of Kenya: regulatory aspects.

Achievements

The project developed a "credit plus" scheme that included financial support in combination with a package of technical support in crop husbandry. It created a software system to support the scheme. It trained 1,300 farmers, with another 3,000 farmers in the area borrowing from the good practices. Nearly 1,000 farmers were organized in groups for training and financial support purposes. Twenty-five staff members from banks and microfinance organizations were trained and provided with technical manuals and brochures. Farmers are able to get credit more easily from savings-and-credit cooperatives.

The participating farmers' coffee yields increased by 176% between 2007 and 2009, and quality improved. Banks became more interested in providing smallholder farmers with financial support. The project demonstrated that well-supervised credit at market interest rates is more beneficial and sustainable than providing subsidized and market-distorting loans to farmers.

The project approach of piloting new credit mechanisms is now being used in similar projects in Kenya, Rwanda and Ethiopia.

Organic aquaculture in Southeast Asia



“The project has shown that there is a market for organic and eco-labelled aquaculture products in Asia which is prepared to pay substantial premiums for such products. Moreover, these products are also accepted by the established international markets.”

– Tarlochan Singh

Project title

Organic aquaculture in Myanmar, Thailand and Malaysia

Commodity Shrimp, freshwater prawns and fish

Countries Malaysia, Myanmar, Thailand

Duration 2007–10

Total costs US\$ 1,400,000

CFC grant US\$ 835,000

Contact

Tarlochan Singh

infish@po.jaring.my

infish@tm.net.my

snghtlchn@hotmail.com

www.infofish.org



Harvest of organic freshwater prawns, Myanmar

Photo: U Hla Win

DEMAND FOR organic food is booming as consumers become concerned about food quality and environmental conservation. Seafood is no exception: consumers increasingly demand shrimp, prawns and fish that are produced in an environmentally friendly way and without the use of antibiotics or harmful chemicals. Consumers are often prepared to pay considerably more for such organic products.

How can aquaculture farmers in Southeast Asia benefit from this trend? This project aimed to promote the sustainable production and marketing of organic and chemical-free aquaculture products from Myanmar, Thailand and Malaysia. It focused on black tiger shrimp, freshwater prawn and freshwater fish (tilapia, silver barb, etc.).

The project surveyed existing and potential markets for aquaculture products, including organic products. It facilitated producers to visit such markets, and introduced to them the concepts of organic farming and certification. It helped producers prepare their farms for conversion to organic production, helped them obtain organic feeds, and assisted them with the certification process. It trained the producers and processors on how to process the organic product, ensure traceability and label the product as organic. It also studied ways to improve product safety and profitability.

The project helped to set up demonstration centres in Thailand and Malaysia to spread awareness and skills on organic aquaculture farming techniques among other enterprises and small-scale producers.

To promote marketing, the project facilitated the export of organic products, for example by presenting them at seafood shows, compiling technical manuals and industry briefings, and holding workshops to showcase the project's work.

Project objectives

- To promote sustainable production and marketing of organic aquaculture products from Asia.

Beneficiaries

- Seven medium- and small-scale aquaculture enterprises in Myanmar, Thailand and Malaysia.

Major actors

INFOFISH: Project execution agency.

FAO (Food and Agriculture Organization of the United Nations) Subcommittee on Fish Trade: Supervisory body.

Departments of Fisheries in Myanmar, Thailand, Malaysia: National focal points.

Two demonstration centres on organic aquaculture (established by the project).

Achievements

The project showed that Southeast Asia can produce certified organic and eco-labelled aquaculture products that can meet international standards. Two farms were certified by Naturland, a German organic certification organization, while six were certified by the Thai national certification body. The project also helped to develop new markets for organic and eco-labelled products in Japan, the European Union and other international markets, and found that there is also significant domestic and regional demand for organic and eco-labelled seafood in Southeast Asia.

The project developed black tiger shrimp, freshwater prawn and freshwater fish as organic products. It contributed to the development of improved farming techniques with attention to food safety and environmental protection. It developed value-added products (such as attractively packaged fillets and steaks) from organic and eco-labelled fish and prawns. It developed or adapted sustainable production techniques for organic farming of shrimp, freshwater prawn and freshwater fish for local conditions.

The project created greater awareness of organic aquaculture production and marketing in the Asia-Pacific region. It developed new domestic markets (supermarket chains, hotels, high-end restaurants and retail outlets) and export markets (Malaysia, Singapore, Japan and the European Union). Interest among the region's producers in organic farming of fishery products is increasing. The acceptance of organic certification and eco-labelling is growing. The project showed that there is a market for organic and eco-labelled aquaculture products in Asia which is prepared to pay substantial premiums for such products.

Contributors and references



Women sewing jute bags in an entrepreneur service centre, Bangladesh

Jute project, Bangladesh
Photo: Jute Diversification Promotion Centre, Dhaka

Contributors' profiles



Charles Agwanda

Coordinator for commodities, Centre for Agricultural Bioscience International (CABI)

United Nations Avenue, Gigiri, PO Box 633, Kenya

Tel. +254 20 7224450, +254 20 7224462, fax +254 20 7122150

Email c.agwanda@cabi.org, website www.cabi.org

Charles Agwanda is a senior scientist with CABI Africa. He holds a PhD in plant breeding from the University of Montpellier, France. He specializes on variety selection methods, especially on marker-assisted selection. He worked as a coffee breeder for 15 years with the Coffee Research Foundation, Ruiru, Kenya, before joining CABI as a coordinator for commodities. He has worked extensively in Africa in developing and managing development-oriented commodity projects.



Ashok Alur

Project coordinator, Global Theme on Crop Improvement, International Crops Research Institute for the Semi Arid Tropics (ICRISAT)

Patancheru 502324, Greater Hyderabad, India

Tel. +91 8354 201354, fax +91 40 30713075

Email a.alur@cgiar.org, alurashok@gmail.com, website www.icrisat.org

Ashok Alur has a doctorate in agriculture from the University of Agricultural Sciences, Dharwad, India. He works as a project coordinator for ICRISAT and as an honorary professor for Sam Higginbottom Deemed University. He has also worked in various other international institutes. He is member-adviser on several bodies, universities and networks. He has received more than 10 national and international awards from various organizations and governments in India, China and Thailand in recognition of his services in agriculture. He has participated in many international conferences, presented more than 35 papers on agricultural research and development, and has several publications to his credit. He is currently associated with the University of Horticultural Sciences, Bagalkot, Karnataka, India, as a special officer for planning and monitoring.



Jan van Dam

Senior scientist, Wageningen University and Research Centre (WUR)
Bornse Weilanden 9, 6708 WG, Wageningen, The Netherlands
Tel. +31 317480163, +31 317480084
Email j.vandam@wur.nl, website www.wur.nl, www.fibre crops.nl

Jan van Dam is a senior scientist at the WUR Institute for Food and Biobased Research in Wageningen, the Netherlands. He studied bio-organic chemistry at Utrecht University and graduated there on bacterial polysaccharide vaccines. He has 20 years of experience in the innovation and application of development research of fibre crops for use in textiles, paper, building materials, packaging and composites. He has initiated and been involved in several projects in developing countries on processing and product diversification of jute, kenaf, coir, kapok, bamboo, oil palm residues, etc. He is a member of the board of the European Polysaccharide Network of Excellence and has done consultancy missions for CFC, UNIDO and FAO.



Peter Gildemacher

Senior advisor, Royal Tropical Institute (KIT)
Mauritskade 63, 1090 HA, Amsterdam, The Netherlands
Tel. +31 (0)20 568 8663
Email p.gildemacher@kit.nl, website www.kit.nl

Peter Gildemacher is a tropical agronomist and rural innovation specialist. He worked as advisor and scientist in agriculture for 12 years, mainly in Africa. He worked in Kenya at the International Potato Center for 4 years, managing research and economic development projects on potatoes in East Africa. Before that he worked as an advisor at the Centre National de Semences Forestières in Burkina Faso. He started his career at the applied fruit research station in the Netherlands. He joined KIT in 2008 and is appreciated for his skills in the design, implementation and documentation of interdisciplinary agricultural projects.



Jürgen Martin Hierold

Industrial development officer, United Nations Industrial Development Organization (UNIDO)
Vienna International Centre, Wagramerstr, 5, PO Box 300, Vienna 1400, Austria
Tel. +43 1 26026 3793, +43 2244 33836
Email j.hierold@unido.org, hieroldj@web.de, websites www.unido.org, www.juka-sound-craft.co.cc

Jürgen Hierold is an engineer for industrial wood processing. He has been working with UNIDO since 2001. For UNIDO, he has developed and implemented a wide range of projects, focusing on wood- and bamboo-processing industries and enterprise development in post-crisis

situations in Ethiopia, Indonesia, Kenya, Laos, Mexico, Malawi, Sudan and elsewhere. Prior to that he worked for the private sector in Germany before joining the German Development Service in Sudan (1991–3) to build a product-development and design centre in a private university. From 1994 to 2001 he was assigned to the Philippines, where he provided technical assistance to two major furniture associations.



Md. Fazlul Huq

Project Executing Agency , International Jute Study Group (IJSG)
Small-Scale Entrepreneurship Development in Diversified Jute Products, 145
Minipuripara near FarmGate, Tejgaon, Dhaka 1215, Bangladesh
Tel. +880 2 8753707
Email fazlul_huq@yahoo.com

Md. Fazlul Huq obtained a master's degree in economics from Karachi University. After a brief teaching career, he joined government service in 1968 and retired as an Additional Secretary to the Government of Bangladesh in 2000. He participated in a large number of national, regional and international seminars, symposiums and conferences, including the international forestry seminar in Michigan, USA (1989), the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil (1992), and the World Coast Conference in Noorwijk, Netherlands (1993). He has also represented his government in many international forums including the CFC, and was a member and chair of CFC's Consultative Committee. He worked with the Project Executing Agency of the CFC jute project in 2005–10. He has authored a number of books and publications on economics, social forestry and NGOs in sustainable development.



Louis Kasuga

Principal agricultural research officer, Naliendele Agricultural Research Institute
10 Newala Road, PO Box 509, Mtwara, Tanzania
Tel. +255 784 791445, +255 713311408, fax +255 732934103
Email ljkasuga@yahoo.com

Louis Kasuga is head of the Agronomy Section at Naliendele Agricultural Research Institute, Tanzania. He holds a PhD in agricultural botany from the University of Reading in the UK. Dr Kasuga has 32 years of experience in cashew research and is the country coordinator for the CFC-funded Regional Cashew Improvement Network for Eastern and Southern Africa in Tanzania. He participated in the development of a multidisciplinary knowledge-based model of research and extension outreach known as the Integrated Cashew Management Programme. His expertise lies in working with farmer groups. Dr Kasuga is an editor of the book *Knowledge transfer for sustainable tree crop devel-*

opment: *A case history of the Integrated Cashew Management Programme in Tanzania.*



Femke van der Lee

Junior advisor, Royal Tropical Institute (KIT)
Mauritskade 63, 1090 HA, Amsterdam
Tel. +31 20 568 8342
Email f.v.d.lee@kit.nl, website www.kit.nl

Femke van der Lee holds an MSc in international development studies from Wageningen University, with a specialization in rural development sociology. She has worked with the ETC Foundation in Leusden and done research in South Africa. She has been on an internship in Cuba and has done action research on agricultural innovation and development in Ecuador, Ghana and Kenya. She joined KIT in 2010 as a junior advisor in sustainable economic development, focusing on agricultural services and rural innovation.



Uilson Vanderlei Lopes

Cacao breeder, Cacao Research Center (CEPEC-CEPLAC)
Rod. Ilheus-Itabuna km22, Itabuna, BA, 45.600.000, Brazil
Tel. +55 73 3214 3262; +55 73 8834 1981, fax +55 73 3214 3204
Email uilson@ceplac.gov.br, website www.ceplac.gov.br

Uilson Lopes holds a PhD on quantitative genetics from the University of Florida. He has been working as a cacao breeder at the Cacao Research Center in Brazil since 1987. He has worked in projects with cacao breeders in West Africa and Latin America. He has interest in disease resistance, breeding and data analysis.



Paul Mundy

Independent consultant in development communication
Müllenberg 5a, 51515 Kürten, Germany
Tel. +49 2268 801691, fax +49 2268 801692
Email paul@mamud.com, website www.mamud.com

Paul Mundy is a British consultant in development communication. He holds a PhD in journalism and mass communications from the University of Wisconsin-Madison. He specializes in easy-to-understand information materials, developed through intensive writeshops like the one used to produce this book. He also provides consultancy services in various aspects of development communication. He has worked extensively in Southeast Asia, South Asia, Africa, Latin America and the Caribbean.



Suzanne Nederlof

Senior advisor, Royal Tropical Institute (KIT)
Mauritskade 63, 1090 HA, Amsterdam, The Netherlands
Tel. +31 20 568 8316
Email s.nederlof@kit.nl, website www.kit.nl

Suzanne Nederlof holds an MSc in rural development sociology and a PhD in communication and innovation studies from Wageningen University. She has 13 years of experience in rural development through long-term assignments for the Food and Agriculture Organization in Ghana, the International Institute for Soil Fertility Management in Togo, and a research outreach station of Wageningen University in Burkina Faso. She joined KIT in 2006. She is a senior advisor in sustainable economic development, focusing on agricultural services, producer organizations and rural innovation. She has skills in action research, participatory approaches, facilitation of multi-stakeholder processes, and training.



Susan Njoroge

Project support officer, United Nations Office for Project Services (UNOPS), Kenya
PO Box 783, Gigiri, Nairobi, Kenya
Tel. +254 20 7621144, +254 721 310376
Email susann@unops.org, website www.unops.org

Susan Njoroge holds an MSc in business administration from the University of Salford, UK and a BSc in biological sciences from the University of Nairobi, Kenya. She has professional skills in business, organizational and human resources development, research and project administration, and management. She has worked in various sectors, including banking, pharmaceutical marketing, human resources and business consultancy. She is currently a project officer with the United Nations.



Edward Pulver

Project coordinator, Centro Internacional de Agricultura Tropical (CIAT)
FLAR (Latin American Fund for Irrigated Rice)
Cali, AA 6713, Cali, Colombia
Tel. +572 4450052, +572 4450094
Email e.pulver@cgiar.org, website www.flar.org

Ed Pulver has a PhD from the Michigan State University. He has 35 years of experience working in Africa, Asia and especially Latin America. He specializes in working with rice growers to increase their yield through improved crop management resulting in more competitive production.



Tarlochan Singh

Chief, Technical Advisory Services, INFOFISH
Level 2, Menara Olympia 8, Jalan Raja Chulan, Kuala Lumpur 50200 Malaysia
Tel. +603 20783466, +603 20784614, fax +603 20786804
Email infish@tm.net.my, info@infofish.org, snghtrlchn@hotmail.com, website www.infofish.org

Tarlochan Singh holds an MSc in crustacean physiology from the University of Malaya, Malaysia. He is chief of Technical Advisory Services at INFOFISH, an intergovernmental organization providing technical advisory services and marketing support to the fisheries industry in the Asia-Pacific region. He does consultancy work in various aspects of fisheries and aquaculture, and responds to technical inquiries from the industry. He is also the editor of INFOFISH International, a long-standing bimonthly industry publication.



Patricia Tembani-Chizengeya

Agriculture project manager, Infrastructure Development Bank of Zimbabwe
67 Samora Machel Avenue, Harare, Zimbabwe
Tel. +263 4 750171, +263 4 252823, fax +263 4 798214
Email ptembanieidbz@idbz.co.zw, website www.idbz.co.zw

Patricia Chizengeya is an agriculturist with an MSc in crop protection from the University of Zimbabwe. She has experience of over 15 years in agriculture in various organizations, particularly in extension, training, research and advisory services. She provides consultancy services particularly in project management, appraisal and analysis.

References

- Bie, S.W.** 2001. The 1990s: An important decade for agricultural research in developing countries. In: ISNAR. Annual report 2000: Reflecting on an important decade for agricultural research in developing countries. International Service for National Agricultural Research, The Hague.
- Chambers, R.** 1983. Rural development: Putting the last first. Longman, London.
- Clay, J.W., A. Dufey and J. MacGregor.** 2005. Leverage points for encouraging sustainable commodities. Ch 9 in: Lines, T. Agricultural commodities, trade and sustainable development. International Institute for Environment and Development, London, and International Centre for Trade and Sustainable Development, Geneva. <http://tinyurl.com/39xv9ud>
- Douthwaite, B., S. Alvarez, G. Thiele, and R. MacKay.** 2008. Participatory impact pathways analysis: A practical method for project planning and evaluation. ILAC Brief 17. Institutional Learning and Change Initiative, Consultative Group for International Agricultural Research, Maccaresse, Rome.
- Douthwaite, B.** 2002. Enabling innovation: A practical guide to understanding and fostering technological change. ZED Books, London.
- Eicher, C.K.** 2003. Flashback: Fifty years of donor aid to African agriculture. Revised version of a paper presented at an international policy conference "Successes in African agriculture: Building for the future" sponsored by InWent, IFPRI, NEPAD and CTA, Pretoria, South Africa, 1–3 Dec 2003.
- Fitter, R., and R. Kaplinsky.** 2001. Can an agricultural "commodity" be de-commodified, and if so, who is to gain? IDS Discussion Paper 380, Institute of Development Studies, University of Sussex. <http://tinyurl.com/33wtv18>
- Fortanier, F.** 2006. Partnerships, power and equity in global commodity chains: Multinational enterprises, commodity chain partnership and host country development goals. Expert Centre for Sustainable Business and Development Cooperation (ECSAD), and Interchurch Organization for Development Cooperation (ICCO). <http://tinyurl.com/6huh3s7>
- Giampietro, M.** 2003. Beta-gamma science for sustainable agriculture: Taking the implications of complexity seriously. Doctoral dissertation, Wageningen University, Wageningen, Netherlands.
- Gibbon, P.** 2001. Agro-commodity chains: An introduction. Overseas Development Institute, London. <http://tinyurl.com/3akgj2p>
- Gonsalves, J., and R. Armonia** (eds). 2010. Writeshops: A tool for packaging and sharing field based experiences: A guide to organizing writeshops. International Institute of Rural Reconstruction, International Potato Center-Users' Perspective with Agricultural Research and Development, Manila.
- Guijt, I., M. Arevelo, and K. Saladores.** 1998. Tracking change together. PLA Notes 31: 28–36. International Institute for Environment and Development, London.
- Hall, A., W. Janssen, E. Pehu, and R. Rajalahti.** 2006. Enhancing agricultural innovation: How to go beyond the strengthening of research systems. World Bank, Washington.

-
- Heemskerck, W., and K. Davis.** In press. Thematic note 2: Farming as a business and the need for local (agri-) business development services (LBDS). In: Module 5: Extension agricultural innovation systems source book. World Bank.
- Heemskerck, W., E.S. Nederlof, and B. Wennink.** 2008. Outsourcing agricultural advisory services: Enhancing rural innovation in sub-Saharan Africa. KIT Bulletin 380, Royal Tropical Institute, Amsterdam.
- Heemskerck, W., and B. Wennink.** 2005. Stakeholder-driven funding mechanisms for agricultural innovation: Case studies from sub-Saharan Africa. Royal Tropical Institute, Amsterdam.
- Jiggins, J., and H. De Zeeuw.** 1992. Participatory technology development in practice: Process and methods. Pp. 135–62 in Reijntjes, C., B. Haverkort, and A. Waters-Bayer (eds). *Farming for the future: An introduction for low-external input and sustainable agriculture*. Macmillan, London, and ILEIA, Leusden.
- Kaplinsky, R., and Morris, M.** 2000. A handbook for value chain research. International Development Research Center, Ottawa. www.globalvaluechains.org/docs/VchNov01.pdf
- KIT, Faida MaLi and IIRR.** 2006. Chain empowerment: Supporting African farmers to develop markets. Chapter 2: Introducing value chains. Royal Tropical Institute, Amsterdam; Faida Market Link, Arusha; and International Institute of Rural Reconstruction, Nairobi.
- KIT and IIRR.** 2008. Trading up: Building cooperation between farmers and traders in Africa. Royal Tropical Institute, Amsterdam, and International Institute of Rural Reconstruction, Nairobi.
- KIT and IIRR.** 2010. Value chain finance: Beyond microfinance for rural entrepreneurs. Royal Tropical Institute, Amsterdam, and International Institute of Rural Reconstruction, Nairobi.
- Kotler, P.** 1994. *Marketing management*. 8th ed. Prentice Hall, Englewood Cliffs, NJ.
- Kuepper, B., and E.S. Nederlof.** 2009. Monitoring and evaluation of local economic development: An inventory of key resources and lessons learned. Royal Tropical Institute, Amsterdam.
- Lee, R.** 2002. Interactive design of farm conversion. Linking agricultural research and farmer learning for sustainable small scale horticulture production in Colombia. Doctoral dissertation, Wageningen University, Wageningen, Netherlands.
- Leeuwis, C., and A. Van den Ban.** 2002. *Communication for innovation in agriculture and resource management: Building on the tradition of agricultural extension*. Blackwell Science, Oxford.
- Michelson, H., T. Reardon, and F. Perez.** 2010. Small farmers and big retail: Trade-offs of supplying supermarkets in Nicaragua. Staff paper, Michigan State University, East Lansing.
- Muller, A., and R. van Tulder.** 2006. Partnerships, power and equity in global commodity chains: A “rough guide” for partnerships for development. ICCO, Utrecht.
- Nederlof, E.S.** 2006. Research on agricultural research: Towards a pathway for client-oriented research in West Africa. Doctoral dissertation. Wageningen University, Wageningen, Netherlands.
- Nederlof, E.S., B. Wennink and W. Heemskerck.** 2008. Access to agricultural services. Background Paper for the IFAD Rural Poverty Report. KIT, Amsterdam. www.ifad.org/rpr2011/background/3.pdf
- North, D.C.** 2005. *Understanding the process of economic change*. Princeton University Press, Princeton.
- Ostertag, C., M. Lundy, M.V. Gottret, R. Best and S. Ferris.** 2007. Identifying market opportunities for rural smallholder producers. Good practice guide 3. Rural Agroenterprise Development Project, International Center for Tropical Agriculture (CIAT). <http://tinyurl.com/az7h6a>

- Potter, C., and R. Brough.** 2004. Systemic capacity building: A hierarchy of needs. *Health Policy and Planning* 19(5): 336–45. <http://heapol.oxfordjournals.org/cgi/reprint/19/5/336>
- Pretty, J.N.** 1994. Alternative systems of inquiry for a sustainable agriculture. *IDS Bulletin* 25(2):37–48. Institute of Development Studies, Brighton.
- Pretty, J.N.** 1995. *Regenerating agriculture: Policies and practice for sustainability and self-reliance*. Earthscan, London.
- Pretty, J.N., I. Guijt, P. Scoones and J. Thompson.** 1995. *A trainer's guide for participatory learning and action*. IIED Participatory Methodology Series. International Institute for Environment and Development, London.
- Roberts, J.** 2006. Aid and trade at the micro level. Pp. 51–76 in Page, S. (ed.) *Trade and aid: Partners or rivals in development policy?* Cameron May, London.
- Rogers, E.M.** 1995. *Diffusion of innovations*. Free Press, New York. 4th ed.
- Röling, N.G., D. Hounkonnou, S.K. Offei, R. Tossou and A. van Huis.** 2004. Linking science and farmers' innovative capacity: Diagnostic studies from Ghana and Benin. *NJAS Wageningen Journal of Life Sciences* 52:211–35.
- Smits, R.** 2000. *Innovation in the university*. Inaugural address, University of Utrecht, Utrecht.
- Snijder, M.H.B., E.R.P. Keijzers, M.J.A. van den Oever, and J.E.G. van Dam.** 2006. *Coir based building and packaging materials*. Final report of project CFC/FIGHF/11. CFC Technical Paper 43. Common Fund for Commodities, Amsterdam.
- Stoop, W.A.** 2002. *A study and comprehensive analysis of the causes for low adoption rates of agricultural research results in West and Central Africa: Possible solutions leading to greater future impacts: The Mali and Guinea case studies*. Study commissioned by the interim Science Council/CGIAR, FAO, Rome.
- Uvin, P., and D. Miller.** 1994. *Scaling up: Thinking through the issues*. World Hunger Program, Watson Institute of International Studies, Brown University, Providence, RI. <http://tinyurl.com/6yuaqjg>
- Wennink, B., E.S., Nederlof, and W. Heemskerk.** 2007. *Access of the poor to agricultural services: The role of farmer organizations in social inclusion*. KIT Bulletin 376, Royal Tropical Institute, Amsterdam.
- Woodhill, J.** 2007. M&E as learning: Rethinking the dominant paradigm. In: de Graaf, J., C. Pieri, S. Sombatpanit and J. Cameron (eds). *Monitoring and evaluation of soil conservation and watershed development projects*, Science Publishers, Enfield, NH.
- World Bank.** 2010. *Designing and implementing agricultural innovation funds: Lessons from competitive research and matching grant projects*. Report 54857-GLB, World Bank, Washington, DC.