

## **INNOVATION FOR INCLUSIVE VALUE-CHAIN DEVELOPMENT: HIGHLIGHTS**

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### **Summary**

Despite increasing use of innovation-system and value-chain approaches to promote rural income growth, poverty reduction, and greater gender equity, there is little systematic knowledge about how to operationalize value-chain approaches in different contexts and how best to evaluate innovation and value-chain development. In this book, we bring together 14 papers (chapters)—of which 12 were previously published as journal articles—that present results of recent work associated with CGIAR and its partners in Africa, Asia, and Latin America. The papers assess the opportunities emerging from new and expanding markets for agricultural produce and identify challenges to smallholder participation in these markets and the resulting benefits. They illustrate how interventions have fostered agricultural innovation and inclusive value-chain development, and the extent of their impacts. Methods for evaluating complex interventions that involve innovation and value-chain development are presented, along with empirical results of evaluation studies. From an analysis of the cases presented, we discuss emerging issues and policy implications, and identify knowledge gaps and priorities for future applied research and evaluation.

### **Introduction**

For agricultural research to benefit the rural poor, it needs to complement other efforts that improve the policy environment, alleviate resource constraints, and build local capacity for responding to changing technological and economic challenges and opportunities. Action may also be needed to influence the incentives and constraints faced by large-scale retailers and buyers, for them to engage more effectively with smallholder producers and build mutually beneficial business relationships that are able to stand the test of time. Together, such efforts can lead to tangible improvements in smallholders' production and marketing practices, which benefit smallholders as well as other

market participants. The Inclusive Value Chains concept developed in this book shows by practical examples that it is possible to link smallholder producers, including a gender and minorities focus, to modern integrated markets.

This book has been prepared by a Value Chains Flagship team of the CGIAR Research Program on Policies, Institutions, and Markets (PIM), to take stock and learn from current knowledge on linking international agricultural research, innovation, and value-chain development (VCD) to benefit the rural poor. It brings together 14 papers that grapple with the complexity of VCD in developing countries and the potential to link agricultural research more effectively with development processes through joint learning and shared approaches to fostering innovation among stakeholders. The chapters present applied research carried out by professionals in centers affiliated with CGIAR and partner organizations in Africa, Asia, and Latin America. The book identifies emerging themes and offers recommendations for policymakers and decisionmakers, and identifies priorities for future research and development (R&D) work in this area.

Value-chain researchers from throughout CGIAR were invited to propose papers for inclusion in this book. More than 30 submissions were received and reviewed for their relevance to current debates on how agricultural research, innovation, and VCD can benefit smallholders, and for their scientific quality. After careful review, 14 papers were selected for the book, of which 12 were previously published as journal articles. The primary intended users of the book are researchers, policymakers, and development professionals working in the spheres of agricultural research, innovation systems, and VCD, who are often isolated from one another and have limited access to state-of-the-art knowledge on these subjects. The book is linked to the ValueChains Knowledge Clearinghouse website ([tools4valuechains.org](http://tools4valuechains.org)) as part of the Value Chain Flagship integrative strategy to reach a network of practitioners, researchers, and policymakers.

The book has four parts.

*Part 1, Highlights*, outlines the context and purpose of the publication and identifies the intended audiences. It sets the stage for the work reviewed and presents an overview of each chapter in Parts 2–4. It then identifies themes and policy implications that emerge from the chapters, and identifies priorities for future R&D work to advance inclusive VCD.

*Part 2, Challenges and approaches for inclusive value-chain development*, contains four chapters that discuss approaches for implementing VCD with the rural poor and the various issues and challenges that can arise in the process. The first chapter reviews well-known guides for value-chain analysis,

often the first step in the implementation of VCD interventions. It compares the assumptions underpinning their design, the recommended methods for data collection and analysis, and their effectiveness across different contexts in which VCD takes place. This is followed by another review of literature, which presents new insights and perspectives on issues related to stakeholder learning in VCD. The third chapter sheds light on how smallholders accumulated their livelihood assets in response to interventions for building certified-coffee value chains in Central America. The final chapter reviews experiences with contract farming, an approach frequently used by large private firms to ensure adequate supplies of high-value produce, for processing or marketing operations.

*Part 3, Integrating agricultural innovation and inclusive value-chain development*, contains six chapters that report on experiences with integrating approaches for innovation with those for promoting inclusive VCD in Asia, Latin America, and Africa south of the Sahara. The first three chapters focus on the interface between technical R&D work and VCD, and highlight the importance of a systems view of innovation that accords importance to both supply and demand factors. The remaining three chapters focus more specifically on the role of multistakeholder platforms in fostering innovation.

*Part 4, Evaluating inclusive value-chain development*, contains four chapters that present approaches for evaluating complex interventions aimed at inclusive VCD, including quantitative tools for measuring gender differences within value chains. The Introduction provides a brief overview of each method, as well as its benefits and limitations, and the scenarios in which it should and should not be used.

## **Perspectives on Agricultural Research and Innovation**

Views on the role of agricultural research, innovation, and VCD in reducing rural poverty, and on their interrelationships, have evolved substantially. Agricultural research has often been confused with innovation. However, there are important differences between them. Research is concerned with the production of new knowledge, which may or may not be used in practice. Innovation, on the other hand, is concerned with processes of change in the production and marketing of goods and services—changes that may or may not be driven by research. A sourcebook on agricultural innovation systems published by the World Bank (2012, 2) defines innovation as “*the process by which individuals or organizations master and implement the design and*

*production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world.”*

When CGIAR was established in the early 1970s, its strategy was “to use the best science in advanced countries to develop technologies for the benefit of food-deficit countries and populations” (Lele 2004, 3). At that time, agricultural research was viewed as the principal source of farm-level innovation to increase productivity and benefit poor farmers as well as consumers. In essence, research results were assumed to flow through an “innovation pipeline” from basic research conducted by advanced research institutes, to strategic research conducted by CGIAR centers, to applied and adaptive research conducted by regional and national programs, and finally through outreach or extension programs to farmer adopters (Biggs 1990; Ashby 2009).

Over time, the limits of the pipeline model have become apparent as our understanding of innovation processes has improved, more actors have become involved in research and innovation processes, and stakeholders have begun to expect agricultural research to solve more complex problems of rural poverty, food insecurity, nutrition, and sustainable management of natural resources. As a result, after the 1970s, priorities shifted from building agricultural research institutes to strengthening research systems, improving technology transfer, linking researchers with farmers, and most recently to strengthening agricultural innovation systems (Pant and Hambly 2009).

An agricultural *innovation* system is much broader and more complex than an agricultural *research* system. As defined by the World Bank (2012, 2) an agricultural innovation system is “a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behavior and performance.” Such a system is concerned not only with the production, exchange, and use of new knowledge, but also with fostering entrepreneurship, developing a vision for change, mobilizing resources, and overcoming resistance to change (Klerkx, Hall, and Leeuwis 2009, 411).

The innovation capacity of a country, sector, or market chain depends on the capacity of its researchers and development programs, and also on effective linkages and information flows among public and private actors, incentives for cooperation, and the policy environment (Hall 2006). Innovation is stimulated by the interaction of individuals and organizations with diverse—sometimes conflicting—stakes in the management of scarce resources or the governance of productive processes. For this reason, successful interventions often involve brokering or facilitation of group processes that enable diverse stakeholders to interact, experiment, and learn together in ways that stimulate

innovation (Dror et al. 2016; Klerkx, Hall, and Leeuwis 2009, 413). R&D professionals and especially CGIAR centers played crucial roles as innovation brokers or facilitators in the cases presented in Part 3 of this book.

One institutional arrangement for enhancing interactions that can lead to innovation is the *multistakeholder platform*, which provides a space for interaction among different stakeholders; to improve mutual understanding, create trust, define roles, and engage in joint actions related to a common interest or production process. Chapter 8 (Thiele et al.) describes two types of platforms. The first can operate at a national or sector level, bringing traders, processors, supermarkets, and others together with farmer associations and R&D organizations to foster the development of new market opportunities through commercial, institutional, and technological innovation. The second type is structured around geographically delimited supply areas, operating more locally, meshing farmers and service providers to address market governance issues in assuring volumes, meeting quality and timeliness constraints, and empowering farmers.

The institutional arrangements and standard operating procedures of most agricultural R&D organizations have lagged behind the evolution of thinking on innovation processes and systems (Hall 2009, 30). Nevertheless, project teams charged with using research to benefit the poor have experimented with new ways of strengthening the contribution of research to agricultural innovation processes (see Part 3 of this book). One weakness of many attempts to link research with development is a focus on the supply of innovations, rather than on the demand for new products, processes, or institutional arrangements. The cases presented in this book show how programs have moved beyond supply-driven approaches, developing more demand-oriented and systemic approaches for facilitating innovation and inclusive VCD.

## **Perspectives on Value-Chain Development**

Reardon and Timmer (2012) highlight the revolutionary nature of the transformation of food systems in developing countries since the mid-1980s. The recent transformation of supply chains includes shifts from traditional markets to modern retail formats (be they regional supermarket chains or local corner markets), and rapid institutional and organizational change (including extensive consolidation of ownership and modernization of procurement systems, through integration of supply chains or contract farming). A study in Asia (Reardon et al. 2012) indicates that the value chains for both high-value products and domestic staples are undergoing a “quiet revolution” in their

structures and performance. High-value chains that originate in developing countries can provide a more profitable outlet for smallholders, but require that they commit to producing and delivering pre-identified volumes in the proper form and quality. The extensive discussion on value chains that has emerged in recent years aims to understand the changes in rapidly changing markets for agriculture products and the implications for poor market actors (namely smallholders, rural laborers, and small and medium-sized enterprises) and effective options for governments, development organizations, and the private sector to support poor value-chain actors.

Value-chain concepts represent an important change in thinking about development and the relationships among agricultural producers, traders, processors, and consumers. The term “value chain” is used in different ways in the professional literature. In this book, a *value chain* refers to the sequence of interlinked agents and markets that transforms inputs and services into products with attributes that consumers are prepared to purchase. Millions of low-income people, a large proportion of whom are women, participate in agricultural value chains as producers, traders, processors, and retailers. Many millions more, including most of the developing world’s poor, participate in agricultural value chains as laborers or consumers. As Haggblade, Hazell, and Reardon (2010, 1429) note, “landless and near-landless households everywhere depend heavily on non-farm income for their survival, while agricultural households count on non-farm earnings to diversify risk, moderate seasonal income swings, and finance agricultural input purchases.” Therefore, improving the performance of agricultural value chains stands to benefit large numbers of people (Reardon and Timmer 2012; Reardon et al. 2012; Aramyan, Lansink, and van Kooten 2005; Lohman, Fortuin, and Wouters 2004; Lambert and Pohlen 2001).

Agroprocessing is a key component of the rural non-farm economy. Most studies of VCD associate “modern” enterprises with “large-scale” ones, which are highly visible in and around cities in the processing and retail sectors—employing large numbers of workers and serving large numbers of (mainly urban) consumers. In contrast, most of the chapters in this book highlight modernization processes that are taking place among small and medium-sized agro-enterprises located in rural areas and small towns. These enterprises often face the double challenge of responding to the demands of buyers and processors that purchase their outputs, as well as supporting their smallholder input suppliers in upgrading their capacity to deliver quality inputs in sufficient volumes. Lanjouw and Lanjouw (2001) note that promoting growth of the rural non-farm sector can have several benefits, including

- providing employment for the poor;
- smoothing employment and income over seasons and years, for people who have limited access to other risk-coping mechanisms;
- tightening rural labor markets, raising wages, or reducing unemployment; and
- lowering prices to the poor.

The term *value-chain development* describes a type of intervention that aims to address poverty through improved linkages between businesses and poor households. In contrast to development approaches that focus narrowly on improving the capacities of smallholders to increase their productivity or better manage natural resources, VCD challenges development organizations to work with diverse stakeholders to understand the performance of the value chain and identify mutually beneficial options for improving chain performance. It is reasoned that by working in closer collaboration with private-sector actors, VCD can increase the benefits for the poor and enhance the prospects for sustaining operations and benefits after the termination of an intervention. For smallholders, benefits may include increased income, more secure market linkages, and access to new services for production. For wholesalers, processors, and other downstream enterprises, benefits may include improved quality and flow of raw material, reduced transaction costs, and enhanced environmental and social credentials.

VCD often targets marginalized actors in a value chain, such as smallholders, small-scale businesses, and landless laborers. Such “inclusive” value-chain development has been defined as a “positive or desirable change in a value chain to extend or improve productive operations and generate social benefits: poverty reduction, income and employment generation, economic growth, environmental performance, gender equity and other development goals” (UNIDO 2011, 1). It is from this perspective that many development agencies, donors, and governments have adopted VCD as a key element of their rural poverty-reduction strategies (Humphrey and Navas-Alemán 2010).

There is reason for both optimism and concern regarding the poverty-reduction potential of VCD. While globalizing markets offer opportunities for marketing higher-value products that simply did not exist before, these markets generally demand considerably more in terms of business acumen, efficiency, and attention to quality and food-safety standards than markets for traditional products (Reardon et al. 2009).

Not all poor farming households can benefit from access to value chains for higher-value agricultural products. Value-chain participation in more demanding markets requires smallholders to deliver regular supplies of produce of consistent quality and sufficient quantity. Meeting these conditions requires access to land, inputs, technology, knowledge, organization, capacity, skill, and infrastructure, which may not exist in some communities or among some groups of asset-poor producers.

Research indicates that farming households require a minimum asset endowment to participate successfully in value chains (Chapters 2 and 3). For those who fall below minimum asset thresholds, it is unclear whether public- or private-sector interventions can create the necessary preconditions for their long-term participation in value chains. Similarly, cooperatives and other forms of collective enterprise may lack certain assets needed to develop viable business operations that are able to facilitate the participation of smallholders in value chains and to respond to the needs of buyers and processors further down the chain.

The asset endowment of an individual farm family is not the only thing that determines the benefits it derives from market participation. An analysis of data from Latin American countries (Berdegué, Bebbington, and Escobal 2014) indicates that the opportunities and performance of family farmers who are integrated into agricultural markets but face constraints because of their asset endowments are largely determined by the local economic environment, or “proximate context.” Smallholders who operate in areas experiencing open, dynamic development—for example, near provincial towns with growing incomes, markets, and employment—are likely to have more market opportunities and take better advantage of them than farmers in less economically dynamic areas.

There is an urgent need for learning from experiences to improve the design of VCD interventions. This reflects both the inherent complexity of designing interventions with small businesses and with the rural poor, and contemporary pressures to achieve greater outcomes from external assistance in less time and with fewer resources. This highlights the need for incorporating learning-oriented monitoring and evaluation into VCD interventions.

## **The Chapters in this Book**

Since the 1970s, international centers affiliated with CGIAR have worked with national and regional partners to stimulate agricultural innovation and growth. In many cases, the benefits derived by smallholders have been



constrained by these farmers' limited opportunities to market their products. In an attempt to expand the benefits of agricultural R&D for smallholders, since 2000, R&D organizations have experimented with approaches for promoting innovation and inclusive VCD. This book presents several cases that have been documented and published in professional journals. Other experiences are now being documented and prepared for publication. Interested readers are encouraged to visit the websites of individual CGIAR centers and the PIM ValueChains Knowledge Clearinghouse (<http://tools4valuechains.org>).

With roughly three-quarters of the world's poor living in rural areas, addressing global poverty requires paying attention to rural populations, especially smallholders in developing countries (Torero 2014, 155). One reason for the continuing poverty of smallholders is their limited asset endowments—not only their landholdings, but also their human, financial, social, and other forms of capital (Donovan and Stoian 2012). Another crucial reason is that most smallholders practice subsistence farming or operate largely in local markets, rather than in lucrative provincial, national, or global markets. Consequently, smallholders have few economic incentives to adopt new technologies or invest in productive assets that could raise their levels of productivity and incomes.

Two types of intervention appear critical for allowing smallholders to participate in growing markets:

1. ones that provide physical *infrastructure and information technology* to connect smallholders to markets; and
2. ones that create or strengthen complementary *institutions* that reduce the high marketing risks and transaction costs faced by smallholders, due to their small production surpluses.

The chapters in this book present various approaches for providing the institutional arrangements that can allow smallholders to participate more advantageously in growing markets.

As illustrated in Table P1.1, Part 2 of this volume discusses the opportunities created by VCD and the challenges smallholders face in participating more advantageously in this development. It includes a comparative review of guides for value-chain analysis and reviews of experiences with VCD approaches, as well as a review of the literature on experiences in contract farming with smallholders. One case study in Part 2 includes the impacts of interventions to improve access to coffee markets in Nicaragua. One general conclusion of the chapters in Part 2 is the need for VCD stakeholders to

understand the local context in which VCD takes place, including the livelihood strategies and asset endowments of smallholders, and how this shapes the opportunities for achieving genuinely inclusive VCD interventions.

**TABLE P1.1** Summary information on the chapters in this book

Chapter title	Reference (original publication date)	Value chain, country, or region	Approach	Main contribution
<b>Part 2. Challenges and approaches for inclusive value-chain development</b>				
1. Guides for value-chain development: A comparative review	Donovan et al. (2015)	General	Comparative review of guides for value-chain analysis	Summarizes the main features, strengths, and weaknesses of 11 guides. Provides recommendations for guide use by context, and identifies priorities for reflection and debate
2. Value-chain development for rural poverty reduction: A reality check and a warning	Stoian et al. (2012)	General	Review of literature and authors' experience	Extracts lessons for improving design of inclusive VCD. Makes a plea for integrating a livelihoods focus into VCD, with a particular focus on farmer asset endowments
3. Changing asset endowments and smallholder participation in higher-value markets: Evidence from certified-coffee producers in Nicaragua	Donovan and Poole (2014)	Certified green coffee in Nicaragua for export	Case study	Gauges outcomes of access to certified-coffee markets, noting limitations for achieving poverty-reduction goals posed by limited asset endowments of smallholders
4. Contract farming in developing countries: Theory, practice, and policy implications	Minot and Sawyer (2015)	General	Review of literature	Presents an extensive review of literature on contract farming with smallholders in developing countries. Notes relevant theory and identifies policy implications
<b>Part 3. Integrating agricultural innovation and inclusive value-chain development</b>				
5. Enhancing innovation in livestock value chains through networks: Lessons from fodder innovation case studies in developing countries	Ayele et al. (2012)	Livestock products in Ethiopia, Syria, and Vietnam	Comparative case studies	Illustrates the value of integrating innovation-system and value-chain approaches, to enhance smallholder innovation and market success

Chapter title	Reference (original publication date)	Value chain, country, or region	Approach	Main contribution
6. Transformation of smallholder beef-cattle production in Vietnam	Stür, tan Khanh, and Duncan (2013)	Beef in Vietnam	Case study	In addition to the underlying driver of strong market demand for quality meat, identifies key aspects of the context and the intervention that contributed to the transformation of beef-cattle production and marketing in a Vietnam case study
7. Collective action for market-chain innovation in the Andes	Devaux et al. (2009)	Potato products in Bolivia, Ecuador, and Peru	Comparative case studies	Develops a framework for analyzing collective action in value-chain innovation, taking advantage of potato diversity to improve smallholder access to markets. Applies the framework to identify early results and policy implications of Andean work
8. Multistakeholder platforms for linking small farmers to value chains: Evidence from the Andes	Thiele et al. (2011)	Potato products in Bolivia, Ecuador, and Peru	Comparative case studies	Identifies two types of multistakeholder platform based on differences in characteristics of the value chains, the participating actors, and institutional arrangements. Analyzes platform performance, and presents preliminary results and implications
9. Unraveling the role of innovation platforms in supporting coevolution of innovation: Contributions and tensions in a smallholder dairy-development program	Kilelu, Klerkx, and Leeuwis (2013)	Dairy products in Kenya	Case study	Highlights the dynamics, inherent tensions, and unexpected results of innovation processes, and the need to strengthen feedback, learning, and adaptive management of innovation
10. Dealing with critical challenges in African innovation platforms: Lessons for facilitation	Swaans et al. (2013)	Several chains addressed by 11 programs, mainly in Africa south of the Sahara	Synthesis of authors' experience and literature review	Highlights critical issues for effective platform facilitation, related to: platform dynamics, power differentials, gender, external vs internal facilitation, sustainability, scale, and evaluation
<b>Part 4. Evaluating inclusive value-chain development</b>				
11. Impact of third-party enforcement of contracts in agricultural markets: A field experiment in Vietnam	Saenger, Torero, and Qaim (2014)	Dairy products in Vietnam	Case study	Demonstrates the methodology and presents results of a field experiment (randomized control trial) to study the effect of eliminating information asymmetry in contract farming

Chapter title	Reference (original publication date)	Value chain, country, or region	Approach	Main contribution
12. Linking smallholders to the new agricultural economy: The case of the <i>Plataformas de Concertación</i> in Ecuador	Cavatassi et al. (2011)	Potato products in Ecuador	Case study	An exemplary evaluation, applying multiple methods to identify program impacts. Provides evidence of the effects of combining production support with facilitating market access
13. Lapses, infidelities, and creative adaptations: Lessons from evaluation of a participatory market development approach in the Andes	Horton et al. (2013)	Coffee, potato, and yam in the Andes	Comparative study of four cases	Examines issues in the evaluation of participatory VCD interventions, related to action and change models and the fidelity of implementation. Identifies three types of deviation from the intervention design and the implications for managers and evaluators
14. Using quantitative tools to measure gender differences within value chains	Madrigal and Torero (2015)	General	Review of literature	Presents four quantitative tools, widely used elsewhere, that could be used to study gender-related questions in agricultural value chains

**Source:** Authors.

**Note:** Original publications are listed in the References for their respective chapters.

Traditionally, different groups based in different types of organization have designed and implemented interventions that focused on either agricultural innovation *or* VCD. Part 3 presents several cases in which CGIAR centers and national collaborators have developed integrated interventions that involved *both* innovation-system and VCD approaches. The papers in this part identify factors that have influenced the performance of these integrated interventions, and provide important lessons for facilitating processes of innovation and VCD.

Evaluation is commonly identified as an area that requires strengthening in complex interventions, such as those that promote agricultural innovation and VCD. Part 4 reviews evaluation issues and experiences, and presents methods for improving evaluations that support learning and adaptive management, as well as accountability for the resources used in complex interventions.

## **Chapters on Challenges and Approaches for Inclusive Value-Chain Development (Part 2)**

The first set of papers discusses the challenges facing and approaches available for smallholders, businesses, and external supporters for achieving inclusive

VCD. This includes a comparative review of available guides for value-chain analysis, a review of literature on VCD for rural poverty reduction, an analysis of asset endowments and smallholder participation in coffee markets in Central America, and a review of experiences with contract farming.

Chapter 1 (Donovan et al.) provides a comparative review of tools available for designing VCD interventions. It reviews 11 guides for value-chain analysis—a first step in the design of VCD strategies. The guides provide a useful framework for understanding markets and engaging with value-chain stakeholders. However, the guides often overlook a critical issue for achieving inclusive VCD: the basic conditions necessary for VCD to advance development objectives and achieve sustainability. The authors suggest three areas for future critical reflection and debate on the design of guides for VCD: (1) concepts, methods, and tools for addressing the specific challenges and needs of the poor in value chains; (2) tools for identifying important factors in the context of value chains and the implications for interventions; and (3) mechanisms for mutual learning on the design and implementation of VCD interventions.

Chapter 2 (Stoian et al.) reasons that those engaged in VCD will achieve greater impact when they consider the bottlenecks, tradeoffs, and dilemmas that can arise when attempting to link poor farming households with higher-value markets. The authors' plea for a sharper focus on the needs and circumstances of local actors, which also serves as "a reality check and a warning," draws on their own experiences in working with nongovernmental organizations (NGOs) and the private sector, as well as an overview of recent experiences with VCD. The design of VCD interventions often assumes that poor households have sufficient resources to participate effectively in VCD, do not face substantial trade-offs when using these resources, and can assume higher risks when reinvesting capital and labor. However, these assumptions often do not reflect the realities and needs of the poor. The authors encourage donor agencies and development practitioners to adopt asset-based approaches to the design, implementation, and assessment of value chains, and to identify the nonmarket interventions needed for enabling disenfranchised groups to meet the minimum asset thresholds for their successful participation in value-chain initiatives.

Chapter 3 (Donovan and Poole) analyzes changing asset endowments and smallholder participation in Nicaragua's certified-coffee market in response to interventions that aimed to ameliorate the negative impacts of the "coffee crisis." The authors' analysis suggests that most small-scale coffee farmers built particular elements of their asset base and increased

their resilience to future shocks through access to value chains for certified coffee. However, households struggled to make effective use of the gains to improve their livelihoods. Few of the least-endowed households increased the scale or productivity of coffee, and most continued to depend heavily on subsistence production and seasonal off-farm income. The authors conclude that improved market access alone, even under relatively favorable market conditions and with considerable external support, may have uncertain impacts on rural poverty if the underlying constraints on household assets and investments are not addressed concurrently.

Contract farming is one way to address market failures by integrating smallholders into modern agricultural value chains, providing them with inputs, technical assistance, and market access. However, critics are concerned about the imbalance of power between farmers and the companies that organize and manage contract-farming schemes. Chapter 4 (Minot and Sawyer) reviews the theory and practice of contract farming in developing countries and their policy implications. Most empirical studies suggest that contract-farming schemes raise the incomes of participating farmers by 25–75 percent. The evidence is less clear on the degree to which buyers are willing to contract smallholders. In some cases, contractors accept or even prefer working with smallholders. Nevertheless, contract farming cannot serve as a broad strategy for rural development because it is economically justifiable mainly for certain high-value commodities in certain markets. In those circumstances, however, it can be an effective institution for helping smallholders raise productivity and access more remunerative markets.

### **Chapters on the Integration of Agricultural Innovation and Value-Chain Development (Part 3)**

The practical application of innovation-system and VCD approaches—and particularly the integration of these two approaches—is challenging, and there are few well-documented cases of their successful application. The chapters presented in Part 3 show how agricultural researchers and development professionals in national and regional organizations associated with CGIAR programs have grappled with fundamental issues of linking research with action, how they interpreted and applied innovation-system and VCD thinking, and the results that have been obtained in Asia, Latin America, and Africa south of the Sahara.

Fodder scarcity is a perennial problem for many smallholders in developing countries. Chapter 5 (Ayele et al.) presents lessons from fodder innovation studies in Ethiopia, Syria, and Vietnam. Fodder innovation is triggered and

diffused by actors interacting and learning in networks, and on farms. Fodder innovation, being only one element of livestock value chains, is sustainably enhanced when linked to other innovations and market-oriented activities that optimize productivity gains. Yet smallholders face systemic constraints to accessing markets, and need to organize in groups to exploit opportunities. The authors conclude that rather than treating innovation-system and value-chain approaches as separate tools, the integration of their complementary features enhances smallholders' innovation and market success.

Chapter 6 (Stür et al.) analyzes the transformation of smallholder beef-cattle production in rural Ea Kar, Vietnam, where smallholder crop–livestock farmers were able to take advantage of the rising demand for meat in urban centers and transform cattle production from a traditional, extensive grazing system to a more intensive, stall-fed system that supplies quality meat to urban markets. Introduction and expansion of farm-grown fodder production enabled farmers to produce fatter animals, achieve higher sale prices, and reduce labor inputs by moving from grazing to stall feeding. These benefits convinced farmers, traders, and local government that smallholder cattle production could be a viable enterprise. Within 10 years, the way that cattle were produced and marketed changed significantly in the area. In addition to the underlying driver of strong market demand for quality meat, several key factors contributed to this transition:

- a convincing innovation that provided immediate benefits to farmers and a vision for local stakeholders;
- a participatory, systems-oriented innovation process that emphasized capacity strengthening;
- a value-chain approach that linked farmers and local traders to markets;
- formation of a loosely structured coalition of local stakeholders that facilitated and managed the innovation process; and
- technical support over a sufficiently long period to allow innovation processes to become sustainable.

Chapter 7 (Devaux et al.) presents the case of the Papa Andina network, which used collective action in two approaches for fostering market-chain innovation: the Participatory Market Chain Approach (PMCA) and stakeholder platforms. Both of these approaches bring small-scale potato producers together with market agents and agricultural service providers to identify common interests, share market knowledge, and develop new

business opportunities. These forms of collective action help to overcome market failures by strengthening linkages among smallholders, service providers (including researchers), and market agents. The facilitated interactions have stimulated innovation and helped to create new market niches for native potatoes grown by poor farmers in remote highland areas. The authors describe Papa Andina's experiences with innovation in value chains and discuss the policy implications for R&D organizations and the need for R&D organizations to have the capacity to diagnose innovation systems and facilitate group processes involving people with diverse stakes in a commodity's production, marketing, and use.

Chapter 8 (Thiele et al.) focuses on multistakeholder platforms for linking smallholders to value chains in Bolivia, Ecuador, and Peru. Although value chains linked to urban markets and agro-industry present new opportunities for adding value and raising rural incomes, smallholders struggle to enter these markets, and a lack of trust among value-chain actors increases transaction costs and short-circuits innovation. Differences in characteristics of value chains, participating actors, and institutional arrangements have led to the emergence of two types of platform. One type brings traders, processors, supermarkets, and others together with farmer associations and R&D organizations to foster commercial, institutional, and technological innovation. The other type is structured around geographically delimited supply areas, meshing farmers and service providers to address market-governance issues in assuring volumes, meeting quality and timeliness constraints, and empowering farmers. The cases studied indicate that platforms that bring stakeholders together around value chains can result in new products, processes, norms, and behaviors that could not have been achieved otherwise and that benefit poor farmers.

The agricultural innovation-system approach emphasizes the collective nature of innovation and stresses that innovation is a coevolutionary process. These insights are increasingly informing interventions that focus on setting up multistakeholder initiatives, such as innovation platforms and networks to enhance agricultural innovation. A number of studies have addressed issues of platform organization, but there has been limited analysis of how platforms shape innovation processes. Chapter 9 (Kilelu, Klerkx, and Leeuwis) attempts to unravel the role of innovation platforms in supporting innovation through an in-depth case study of a smallholder dairy-development program in Kenya. The findings indicate that highly dynamic innovation processes produce interactional tensions and unexpected effects, and that intermediation and facilitation are crucial for resolving tensions that emerge at different actor



interfaces. Chapter 9 also notes that platforms are not always able to adapt adequately to emerging issues. This points to the need to look at platforms dynamically and pay more attention to mechanisms that strengthen feedback, learning, and adaptive management in innovation processes.

Innovation platforms are increasingly used by R&D initiatives to engage the poor in agricultural innovation processes. These platforms are forums for action and learning, in which different types of actors come together to address issues of mutual concern. The dynamic nature of the innovation process and the differences in interest, capacity, and power among the actors involved make facilitation of innovation platforms challenging. Based on group reflection on their personal experiences in facilitating innovation platforms, Chapter 10 (Swaans et al.) analyzes seven key issues critical to effective platform facilitation:

1. the dynamic and evolving nature of platforms,
2. power dynamics,
3. gender equity,
4. external versus internal facilitation,
5. sustainability of the process,
6. issues of scale, and
7. monitoring and evaluation.

### **Chapters on the Evaluation of Inclusive Value-Chain Development (Part 4)**

Part 4 addresses several issues related to the evaluation of complex interventions aimed at inclusive VCD. Some examples of these interventions are trade-offs between ensuring the fidelity of the intervention and promoting local adaptation of intervention protocols, identification of programs' economic impacts, use of experimental evaluation approaches, and quantitative tools for measuring gender differences within value chains.

Using a randomized field experiment in Vietnam, Chapter 11 (Saenger, Torero, and Qaim) examines the effect of alleviating the information asymmetry regarding product quality that is widespread in contracts between agricultural producers and buyers in developing countries. In contract farming, opportunistic buyers may underreport quality levels to farmers to reduce the price that they have to pay. In response, farmers may curb investment, thereby

negatively affecting farm productivity. In the experiment, the authors entitled randomly selected smallholder dairy farmers in Vietnam, who are contracted by a large company, to independently verify milk-testing results. Results indicate that treatment farmers used 12 percent more inputs, and they also significantly increased their output. Some wider research and policy implications are discussed.

Chapter 12 (Cavatassi et al.) presents an economic analysis of the use of multistakeholder platforms (*plataformas de concertación*) to link smallholders to high-value food markets by looking at the experience of a platform program in the Ecuadorian highlands. Multiple evaluation methods are used to ensure identification of program impact. The findings suggest that the program successfully improved the welfare of beneficiary farmers, as measured by yields and gross margins. These benefits were achieved through improving the efficiency of agricultural production and selling at higher prices. No significant health or environmental effects were found. Overall, the program provides clear evidence that combining production support with facilitating market access can be successful.

Participatory approaches are frequently recommended for international development programs, but few have been evaluated. To contribute to knowledge on the use and results of participatory methods, from 2007 to 2010 the Andean Change Alliance evaluated the Participatory Market Chain Approach (PMCA). Chapter 13 (Horton et al.) examines the fidelity of implementation, factors that influenced implementation and results, and the PMCA change model and four applications of it in Bolivia, Colombia, and Peru. The authors identify three types of deviation from the intervention protocol—lapses, creative adaptations, and true infidelities—and discuss the implications for intervention design and implementation. They also identify five groups of variables that influenced PMCA implementation and results:

1. Attributes of the macro context
2. Attributes of the market chain
3. Attributes of the key actors involved
4. Local rules in use
5. The intervention's capacity-development strategy.

Although there was insufficient information to test the validity of the PMCA change model, results were greatest where the PMCA was implemented with highest fidelity. The case analysis suggests that the single most

critical component of the PMCA is engagement of market agents—in addition to farmers—throughout the intervention. Lessons for planning and evaluating participatory approaches relate to the use of action and change models, the importance of monitoring implementation fidelity, the limits of baseline survey data for outcome evaluation, and the importance of capacity development for implementers.

Chapter 14 (Madrigal and Torero) explores the use of quantitative tools to measure gender differences within value chains, and argue that using quantitative tools to study gender-related questions in a value-chain context can encourage gender inclusion and promote economic growth in developing countries. Four tools are proposed, based on widely known methods in gender and labor economics literature, that have straightforward empirical implementation. These tools—which have been tested and proven useful for gender analysis in other settings—could help researchers identify critical issues and value-chain bottlenecks to pinpoint more effective and inclusive policies and development strategies.

## **Emerging Themes and Policy Implications**

The chapters in this book deal with many aspects of agricultural innovation and VCD in different geographic, social, economic, and institutional contexts. From this broad range of experiences, six common themes emerge, which relate to

- Opportunities created by the expansion of markets for agricultural products,
- Challenges for smallholders,
- Characteristics of agricultural innovation and VCD,
- Attributes of successful interventions,
- Centrality of institutional innovation, and
- Role of multistakeholder platforms in VCD.

### **Opportunities Created by the Expansion of Markets for Agricultural Products**

The chapters in this book reinforce the view that access to lucrative markets for agricultural products can benefit smallholders in developing

countries, and interventions that address technical, economic, and institutional challenges can help smallholders take advantage of these opportunities. Nevertheless, VCD is not a panacea that alone can solve rural poverty problems. In many cases, inclusive VCD interventions that support small-scale and rural enterprises will have little impact unless they are complemented with policy changes that create a more conducive environment for enterprise development and help smallholders gain a foothold in lucrative value chains.

In recent years, the policy and agribusiness environments of most countries have become more open, liberal, and dynamic (World Bank 2014). There has been rapid growth in urban demand for high-value foodstuffs in both developing countries and foreign markets. Niche markets in advanced urban economies continue to generate strong demand, especially for organic and fair-trade items.

Smallholders can supply markets with diverse food products (Hazell and Rahman 2014) and they may have a comparative advantage in producing high-value, labor-intensive products, such as perishable fruits, vegetables, and specialty crops (Chapter 4). Farmers in remote areas often have a deep knowledge of neglected and underutilized species, such as quinoa, amaranth, and native potatoes in the Andes, for which lucrative new markets are being developed (Giuliani et al. 2012). Improvements in transportation are reducing marketing costs, and information technology is helping reduce the asymmetries in market information that have traditionally put rural smallholders at a disadvantage vis-à-vis large farmers and market agents (Webb 2013).

### **Challenges for Smallholders**

Smallholders often find it difficult to exploit the opportunities presented by expanding markets. Concerns over the scarcity of agricultural raw materials in rapidly growing markets, coupled with more stringent food-safety and quality standards enforced by government agencies and supermarkets, have spurred market integration and increased coordination and collaboration among producers, processors, and retailers (Dolan and Humphrey 2000; Reardon and Timmer 2012). But smallholders are often excluded from these increasingly complex and dynamic markets.

Smallholders often have limited access to land, credit, technical advice, basic knowledge of the market system, and current information on market prices and conditions—all of which restrict their capacity to invest, expand their market surplus, and add value to their produce. The limited market surpluses of individual smallholders raise the unit cost of assembling, handling, and transporting their products. These common attributes of smallholders

highlight the importance of policies and programs that strengthen farmer associations and collective marketing. The research reported in this book indicates that poor households require minimum assets to successfully participate in VCD. Women are especially disadvantaged when it comes to access to land, labor, credit, and infrastructure. The implication is that gender issues need to be considered specifically in the design, implementation, and evaluation of interventions.

### **Characteristics of Agricultural Innovation and Value-Chain Development**

Agricultural-innovation and VCD processes are highly complex.<sup>1</sup> So many factors and variables are interacting in these processes, and there are so many unknowns, that there is no single recipe for success and the outcomes are unpredictable. This complexity has important implications for the design, implementation, and evaluation of interventions, which are discussed in the following section.

Different types of intervention, and innovation, often reinforce each other. For example, separate interventions that focus on improving the productivity of dairy cattle, on milk marketing, on credit, on farmer organization, or on policies may produce some benefits for smallholders on their own. But when combined, they may produce much more substantial and long-lasting benefits. The experiences with dairy development in Kenya and Vietnam reported by Kilelu, Klerkx, and Leeuwis (Chapter 9) and Stür et al. (Chapter 6) illustrate this point. The implication is that those who design and implement applied R&D programs should seek to combine efforts that promote agricultural innovation and VCD, rather than work in isolation.

The benefits of agricultural innovation and market development are unequally distributed. It has long been understood that early adopters stand to gain more from innovation processes than late adopters. The studies presented in this book indicate that the distribution of benefits in VCD depends in part on the initial asset endowment of participating farmers. Lower and upper asset thresholds are crucial for the distribution of benefits. Below a lower threshold, smallholders may have insufficient resources to participate in dynamic value chains and may be negatively impacted by VCD interventions. Between the lower and upper thresholds, participants may benefit significantly from the intervention. Above the upper threshold, participants

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1 The distinctions between simple, complicated, and complex situations and interventions are discussed by Patton (2011, chapter 4).

may benefit little from the intervention, since they were already participating actively in markets and deriving significant benefits prior to the intervention.

The livelihood strategies and asset endowments of individual farming households are not, of course, the only aspects that determine the benefits derived from market participation. As Berdegué, Bebbington, and Escobal (2014) conclude in a regional study in Latin America, the benefits that farming households reap from engagement in agricultural markets are strongly influenced by the local economic environment. Recent trends in the international markets for coffee, cocoa, oil palm, and other crops have shown the major implications that sustained fluctuations in prices can have on the livelihoods of farming households. Approaches to promote innovation and VCD should take into account smallholders' livelihood strategies and asset endowments, as well as the local economic context. VCD interventions should apply asset-based approaches to identify the nonmarket interventions needed to enable the poorest groups to meet minimum asset thresholds to participate successfully in VCD initiatives, or transition out of agriculture. It is especially important to pay attention to the needs and opportunities of women and other marginalized groups, who may benefit from, or be adversely affected by, innovation and VCD. Identifying gender imbalances and designing appropriate interventions or components are necessary to achieve gender inclusion.

### **Attributes of Successful Interventions**

In the context of this book, a successful intervention is one that generates significant and potentially lasting benefits for the rural poor at scale. As noted at several points, few rigorous evaluations of VCD interventions exist, limiting the extent to which we can draw firm conclusions based on experiences to date. Nevertheless, our review of the cases presented in this book supports the following general propositions, which we hope will be tested in future applied research and evaluation studies:

- Interventions that have focused narrowly on either expanding production or developing value chains have had limited benefits for the poor.
- Interventions that combined agricultural innovation and VCD have had synergistic effects.
- Multistakeholder platforms that fostered commercial, technical, and institutional innovation have had more significant and lasting impacts than those focused on governance and coordination issues.

- Inclusivity is an elusive ideal. Effective participation in VCD requires a minimum set of assets (not only land and financial capital, but also knowledge, skills, social capital, and access to sources of technical support), which the poorest of the poor lack. So, while successful interventions broaden participation in VCD, benefitting the poor, they should not be expected to produce significant direct benefits for the poorest of the poor.
- The main benefits of VCD for the poorest rural groups—those with very small parcels or no land at all—come from expanded employment in production, processing, and marketing activities and in reduced prices of agricultural products.
- There is no single recipe for inclusive VCD. Interventions need to be tailored to fit the opportunities and constraints of particular places and targeted to reach specific groups.
- Flexibility of intervention design and implementation is crucial for success. Since innovation and VCD processes are inherently unpredictable and evolve over time, program managers need the flexibility to respond quickly to changing conditions.
- Project-based interventions are not enough. VCD interventions have been most successful where the economic and policy environments have supported rural enterprise development or where appropriate policy changes accompanied the interventions.
- Time is essential for results to emerge. The most successful interventions reviewed in this book benefitted from continuous support—from donors, international organizations, and national partners—over a decade or more. Follow-up studies show that the benefits of VCD interventions often continue to emerge years after the interventions terminate, through successive waves of innovation and change (Mayanja et al. 2012; Devaux et al. 2013)

Until recently, interventions have tended to focus either on agricultural research and farm-level innovation or on VCD. However, frustrations with traditional interventions, particularly with those focused on increasing production, have led to the development of more integrated interventions involving both agricultural innovation and VCD. Examples of successfully integrated interventions reported on in this book include the International Livestock Research Institute's (ILRI) work with the Smallholder Dairy Development Project in Kenya, their work with fodder innovation and

beef production in Vietnam, and the International Potato Center's (CIP) work with PMCA. Several other CGIAR centers and partner organizations have also implemented initiatives that have attempted to combine both agricultural-innovation and VCD approaches, but, to date, few of these cases have been documented in peer-reviewed publications.

Interventions that combined innovation systems and VCD approaches generally began with technical research, which was later complemented with participatory approaches involving farmers, and later yet addressed issues of market access and VCD. They were flexible and adapted to needs and opportunities as they emerged.

As the scope of work broadened from conducting research to facilitating innovation and then embraced VCD, the number and diversity of stakeholders increased and coalition building and facilitation became more important.

Based on their work with local Vietnamese researchers, development professionals, government officials, farmers, market agents, and others, over more than a decade, ILRI researchers have identified the following components of an emergent strategy:

- A convincing technical innovation
- A participatory, systems-oriented innovation process
- A VCD approach that links farmers and local traders to growing markets
- Formation of loosely structured coalitions of local stakeholders
- Provision of technical support over an extended period—perhaps a decade or more.

CIP's work with PMCA in South America also began with technical research. Early on, researchers incorporated participatory approaches to engage farmers in applied R&D. Later they began to work with other service providers and groups of market-chain actors to develop new products. Early marketing efforts stimulated innovation in both institutional arrangements and production technology—for example, contracts between farmer groups and processors, and use of new varieties and postharvest methods.

Interventions that have stimulated innovation processes that produced substantial benefits for smallholders have had to overcome numerous challenges. One set of challenges in public-sector agricultural research organizations relates to the limited availability of work vehicles, fuel, and per diems needed for work off station. Additionally, public research organizations are often hesitant to work with large private firms or NGOs. Researchers may



also be wary of “getting bogged down in development work” or discouraged from doing it because of the traditional research mandate of their organization. To cope with these challenges, international organizations have often taken the lead in facilitating innovation and VCD processes, and they have provided essential resources for off-station work. In some cases, they have enlisted the collaboration of NGOs to play leadership roles. Local ownership of, and responsibility for, interventions has been cultivated via the development of coalitions or platforms, discussed in a separate section below.

A second set of challenges concerns the involvement of large private firms. Creativity is positively associated with the diversity of stakeholders involved in innovation processes. In many cases, large marketing or processing firms could play important roles in innovation processes. But it has been difficult to encourage these firms to invest the time needed in what they often feel are unproductive meetings that produce few immediate results for them. For this reason, there has been a tendency for platforms to work initially with small entrepreneurs, and bring larger businesses on board once they can see the potential value of early innovations.

The lack of well-trained local facilitators or innovation brokers has been another common challenge, and this is an important reason why international organizations have often—at least initially—led the process of facilitating innovation, and then prioritized capacity strengthening for local facilitators. Development of methodological guides and capacity building have been among the most important contributions of international organizations to local innovation capacity. It is important to note, however, that it has been easier to strengthen the capacity of individuals than to bring about changes in their parent organizations to take full advantage of their newly developed capacities. This point is discussed more fully in the section on the importance of institutional innovation (below).

A final challenge has been to overcome donor demands for quick results. CGIAR, national, and regional R&D programs have been under increasing pressure from donors to produce quicker results with more limited resources (Pingali 2010; McCalla 2014). Interventions that have generated significant benefits have generally been carried out over a decade or more, with support from international donors and the stable organizational environments provided by CGIAR centers. The policy implication is that donors that wish to generate significant returns on investments in inclusive VCD should understand that external support is likely to be needed for a number of years—probably at least a decade.

### **Centrality of Institutional Innovation**

Existing institutional arrangements with buyers often limit the ability of smallholders and small market agents to increase their benefits from value-chain participation. Smallholders often distrust local buyers, which increases their transaction costs and reduces their incentives for investing in yield-increasing technologies. Product quality is increasingly important for determining farmers' pay in high-value markets, and costly technology is needed to assess invisible quality attributes, such as nutrient content and pesticide residues. In this context, weak institutions for ensuring the fair measurement of product quality and for enforcing contracts can negatively impact smallholders.

Institutional innovations—such as multistakeholder platforms, farmer organizations, innovative contract-farming arrangements, independent bodies for product quality verification, and new R&D approaches—have played key roles in inclusive VCD. Multistakeholder platforms will be discussed in the following section. Several chapters in this book show how farmer organizations have aided in reducing transaction costs in input and product markets, by improving product assembly and quality assurance, and by organizing supplies of inputs, credit, and technical assistance. They have also aided in negotiating more favorable contract terms and conditions for smallholders. It is important to note, however, that farmer organizations often require long-term external support (Berdegúé 2001).

Contract farming has helped farmers overcome market failures by linking them with output markets for high-value foods and guaranteeing them a market for their produce. When contractors provide inputs, credit, or technical advice, contract farming can also help farmers to access technology and input markets. Contract farming can raise the incomes of participating farmers. But its application is limited to high-value crops and livestock products sold in quality-sensitive markets. Where market institutions are weak, independent bodies for product-quality verification can improve contract enforcement, benefitting both buyers and sellers. Strengthening local institutional arrangements (for example, to enforce contracts and provide independent verification of product quality in contract-farming schemes) can contribute significantly to the development of agricultural markets and the benefits reaped by smallholders. Innovations in contract design are important to balance the power between smallholders and the monopsonistic power of contracting companies. One example is the third-party certification proposed by Saenger et al. (Chapter 11). Other innovations are mentioned by Minot and Sawyer (Chapter 4).

Innovations in R&D approaches are an important way to foster innovation processes in the productive sector, benefitting smallholders and other economic actors. Several chapters in this book show how the participation of research organizations in multistakeholder platforms and acting as innovation brokers has improved the linkages between researchers and other service providers and value-chain actors. This has contributed both to innovations in the productive sector and to improving the focus of applied research on challenges and opportunities identified by value-chain actors.

As a cautionary note, it is important to realize that institutions—be they market institutions or the rules and procedures of agricultural R&D organizations—are often highly resistant to change. This resistance is one reason why some promising new innovation systems or VCD approaches developed with support from externally funded “special projects” were not mainstreamed in the parent R&D organizations.

### **Role of Multistakeholder Platforms in VCD**

Many of the interventions presented in this book have involved the development of multistakeholder platforms that provide opportunities for interaction among individuals with different stakes in a common resource or process, to interact, improve their mutual understanding, create trust, and engage in joint activities. Some platforms have been primarily concerned with fostering market innovation, others with improving market-chain governance and coordination, and yet others with both innovation and chain governance.

Effective facilitation, or innovation brokerage, is crucial for the success of multistakeholder platforms, and involves not just the coordination of interactions, but network formation, technical backstopping, mediation of disputes, advocacy, capacity building, and documentation of results. In recent years, many NGOs have developed their own capacity for facilitating events, which provides a base for further developing their capacities for innovation brokerage. These skills are scarcer in publically funded agricultural research institutes, highlighting the need for investments in capacity development if agricultural research organizations are expected to facilitate the work of platforms.

Since innovation and VCD are complex processes, platforms may take different forms, and tend to evolve over time. The platforms analyzed in this book generally played different roles at different times and their structures evolved accordingly. Mechanisms for platform funding, planning, management, and governance need to allow for continual adaptation to emerging challenges and opportunities.

Platforms need to be flexibly managed, learn from experience, and adapt to unfolding events. Platform managers need the support of learning-oriented monitoring and evaluation. They also need evidence of impacts to justify platform funding. Since platforms facilitate processes but do not themselves produce tangible results, it is difficult to prove their value through impact studies. Developing the capacities needed for learning, documentation, and impact assessment remain challenges for many platforms.

Platforms have various degrees of formality and longevity. Some platforms have written charters and official government recognition, but most have less formal structures and operate through more informal interactions among actors for specific purposes. Where platforms are concerned with natural-resources management, their sustainability is crucial for achieving sustainable results. But transitory development coalitions can play useful roles in promoting innovation and inclusive VCD.

The chapters in this book illustrate how widely socioeconomic, institutional, ecological, and technical conditions vary over time and space, and how interventions that promote inclusive VCD need to be tailored to fit specific local conditions and need to be flexible enough to evolve in response to changing conditions, opportunities, and threats. For this reason, platforms also vary significantly over time and space. The policy implication is that while general principles of agricultural innovation and VCD are broadly applicable, rigid models for platforms and broader interventions cannot simply be scaled up or transferred from one area to another.

The need for flexible arrangements and quick responses can make it difficult for R&D programs in public agricultural research institutes to participate effectively in platforms. For this reason, organizational reforms may be needed for some public-funded agricultural research organizations to be able to play more effective roles in promoting innovation and inclusive VCD.<sup>2</sup>

## Conclusion

The chapters in this book suggest a number of priorities for future research to advance inclusive VCD. They are summarized in five points:

1. *Methods for implementing asset-based approaches to value-chain development.* There is a broad consensus that the asset endowments of smallholders and other market-chain actors influence their ability to

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2 For a discussion of the types of organizational changes that may be needed, see Horton (2012).

participate in and benefit from VCD interventions. It is, however, less clear how to practically assess initial asset endowments and implement asset-based approaches. Practical methods are needed for applying asset-based approaches for VCD, in particular, for determining the “value-chain readiness” of potential participants and capturing gender differences along the value chain.

2. *Platform membership, management, and facilitation.* Comparative assessment of experiences with different types of platform, management systems, and facilitation arrangements is needed to clarify how such aspects as member diversity, the formality of management structures and systems, and different facilitation arrangements influence platform performance in different contexts.
3. *Evaluation approaches and testing of action and change models.* Applied research and evaluation are needed to draw lessons from experience and test the (often implicit) action and change models that guide complex integrated interventions that promote inclusive VCD. Complex interventions such as inclusive VCD present evaluators with numerous challenges. Common themes in this book are the importance of improving evaluation to support adaptive management of interventions; to provide the information on cost-effectiveness needed for improved accountability for the resources used; and to answer more fundamental questions related to the effectiveness of inclusive VCD interventions, vis-à-vis alternative approaches for improving the lot of the rural poor. It is also important to reduce the cost of evaluations and identify practical methods for assessing changes along the entire value chain, and to guide efforts to scale up promising pilot schemes.
4. *Upscaling.* Most of the experiences with interventions that integrate innovation-system and VCD approaches documented to date have been at the level of pilot projects. Many questions remain concerning: (1) the feasibility of expanding and extending these pilots to achieve greater impact; and (2) as to how best to scale up successful promising approaches while taking into consideration the heterogeneity of conditions in which VCD takes place.
5. *Application of a “gender lens.”* Women participate in many activities along value chains, and VCD initiatives may have differential impacts on women and men. More applied research and systematic evaluation is needed to offer donors, practitioners, and researchers in the field

practical and effective methods and tools for designing and implementing intervention strategies that enhance the benefits realized by women who participate in value chains. Some experiences have been documented and offer recommendations for mainstreaming gender in agricultural innovation processes (for example, Polar et al. 2015). These should be reviewed with an eye to developing more inclusive agricultural-innovation and value-chain development processes. Deeper insights into the opportunities to improve the returns to women from VCD may provide guidance on how to incorporate youth, ethnic minorities, and other underrepresented groups in VCD.

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