2 Property Rights and Collective Action for Poverty Reduction: A Framework for Analysis

MONICA DI GREGORIO, KONRAD HAGEDORN, MICHAEL KIRK, BENEDIKT KORF, NANCY MCCARTHY, RUTH MEINZEN-DICK, BRENT SWALLOW, ESTHER MWANGI, AND HELEN MARKELOVA

This chapter presents a conceptual framework for examining how formal and informal institutions of property rights and collective action can contribute to poverty reduction, including through external interventions and action by poor people themselves. The past two decades have witnessed an increased understanding of the role of institutions in natural resource management (Ostrom 1990; Baland and Platteau 1996). The insights on the role of formal and informal property rights and collective action institutions in improving well-being can assist both research and policies for poverty reduction. They shed light on issues of governance, power relations, and ideological factors that keep people in poverty.

The rural poor are usually those with weakest property rights and the least secure rights to resources. Understanding how the poor can protect and expand their access to and control of resources can contribute to poverty reduction and improvement of government programs, which have sometimes produced unwanted effects, such as the reduction of tenure security for poor and marginalized groups, for example, by weakening customary rights or allowing elite capture of property.

There is also growing recognition that collective action allows people to overcome limitations linked to lack of resources, power, and voice. Collective action also underpins many community-driven development programs for service delivery, such as those for water supply, healthcare, and agricultural extension (Nitti and Jahiya 2004). As in the case of property rights, the poor and women are often at a disadvantage with regard to collective action because of social exclusion, lack of resources, and domination of meetings by local elites.

The United Nations Economic and Social Council (2001, 2–3) defines poverty as "a human condition characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights." For many of the world's rural poor, property rights are part and parcel of economic rights and entitlements, and their ability to engage in collective action is an essential choice, capability, and source of

power. In many cases, overcoming poverty requires transforming power relationships that keep people poor.

Poverty is complex in its manifestations and causes, which differ across different contexts. The conceptual framework presented in this chapter offers a way in which we can identify the contextual factors that underlie poverty. But although structural conditions are important, poverty is not static. Thus, the framework provides a basis for examining how property rights and collective action can contribute to poverty reduction, including both external interventions and action by poor people themselves. The case studies reported in this volume use this framework to explore various aspects of these relationships, and in the synthesis presented in Chapter 12 of this volume we review the findings and insights they provide for policy and practice to reduce poverty.

After a brief definition of the concepts of property rights and collective action, the first part of this chapter examines the initial conditions of poverty, highlighting the role of assets, risks and vulnerability, and governance structures and power relations. The latter part investigates the decisionmaking dynamics of actors—both poor and nonpoor—and how they can use the tangible and intangible resources they have to shape their livelihoods and the institutions that govern their lives. The chapter concludes with a discussion of how this framework can improve the understanding of outcomes in terms of changes in well-being.

Property Rights

We can define *property rights* as "the capacity to call upon the collective to stand behind one's claim to a benefit stream" (Bromley 1991, 15). Strength and security of property rights therefore depend on relationships between individual rights holders, others who have duties to respect those rights, and the institutions that back up those claims.

The fact that property rights do not necessarily imply sole authority over resources is especially relevant to poverty studies. The claim to a benefit stream can refer to a number of different "bundles" of rights: rights to access and withdrawal (use rights) and to management, exclusion, and alienation (decisionmaking rights) (Schlager and Ostrom 1992). Different individuals, groups, or the state often hold overlapping use and decisionmaking rights to resources. As we move from access to alienation, the potential benefit flows generally increase. Nonetheless, rights with low benefit flows are crucial, especially for poor people who might not hold other property. Security is given by the interplay of breadth, duration, and assurance that a right will be respected (Place, Roth, and Hazell 1994);[1] the last of these is the most important determinant of security. Assur-

1. *Breadth* refers to the number of bundles held. Access rights have less breadth than do access and management rights together.

ance is in part due to the recognition and legitimacy provided by governance structures that enforce rights and duties through supervision, sanctioning, and provision of forums for dispute resolution. The presence of multiple legal orders, referred to as legal pluralism (Griffiths 1986), indicates that rights can be backed by diverse institutions such as state, customary, and religious laws or other normative principles. The effectiveness of these claims depends on recognition of rights through internalized legitimacy or external enforcement. In some cases, state institutions may be very strong and traditional laws weak, while in others, customary or religious institutions hold much stronger sway.[2]

When backing institutions are weak, increased uncertainty about benefits and the inability to defend rights in case of disputes make the poor particularly vulnerable. People relying on customary institutions for enforcing claims on resources, where the state has claimed ownership, might presently enjoy benefits streams, but they also face the possibility that the state may exert various rights to their detriment in the future.

Collective Action

Collective action can be understood as an action taken by a group to achieve common ends (Marshall 1998). Collective action can be voluntary or obligatory for specific persons,[3] and members can act directly on their own or through an organization. Much collective action occurs informally through social networks or even through people's temporarily coming together for short-term purposes. The mere existence of an organization is not sufficient for collective action to occur.

Collective action can contribute to poverty reduction in several ways. In communities throughout the world, people work together to provide local goods and services. Self-help groups and mutual risk sharing substitute for imperfect credit markets, and microfinance groups allow people to access credit, sometimes helping poor people to build their own assets. Collective action can provide the poor with the opportunity to access services and protection claims and to increase their bargaining power. Finally, collective action is often essential to regulate the access, use, and maintenance of common pool resources, including devising rules, monitoring use, devising enforcement mechanisms, and implementing sanctions (Ostrom 1990).

---

2. *Formal property rights* often refers to state-recognized rights, while *informal rights* generally refers to rights that are neither recognized nor protected by state authorities. Note, however, that many such customary rights are highly formalized.

3. However, we exclude hired labor, corvée (obligatory unpaid labor), and forced labor from our analysis of collective action because the incentive structure for each is very different.

A Conceptual Framework

The conceptual framework presented here is adapted from the Institutional Analysis and Development (IAD) Framework (Ostrom 2005), highlighting the role of property rights and collective action in poverty reduction. It provides an analytical tool that can help to guide empirical research on institutions and poverty reduction and can inform policy decisions, as illustrated by the case studies in this volume.

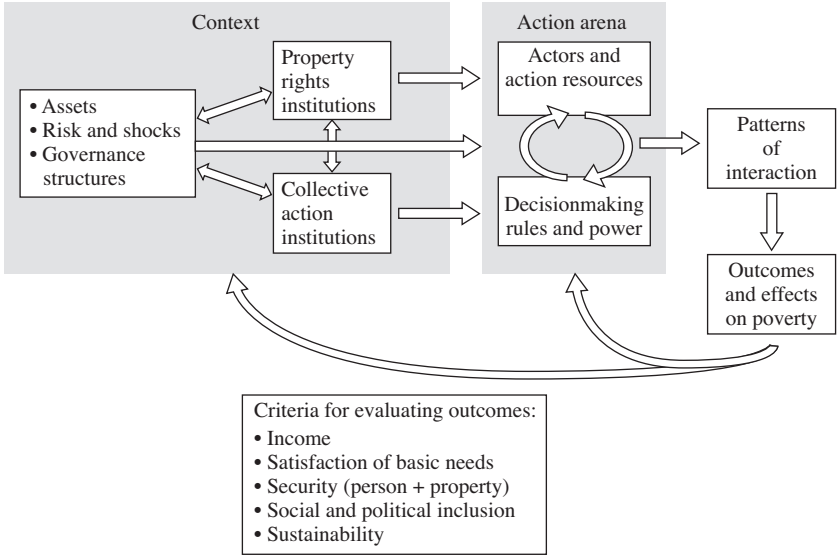
The property rights of the poor affect their initial conditions, especially their asset base, exposure to shocks, and position in power relations. Collective action affects their ability to make use of resources in decisionmaking and action situations. To conceptually move from conditions of poverty to strategies for poverty reduction, we need a dynamic framework that shows the processes by which property rights and collective action can contribute to building people's asset bases. Such a framework is presented in Figure 2.1.

In the first box in Figure 2.1, the context represents the initial conditions that people face, which shape the initial opportunity set of possible actions. The context includes physical, technical, socioeconomic, and policy and governance conditions. In this chapter we focus on two particular aspects related to physical, technical, and socioeconomic conditions of particular relevance to the poor: asset endowments and vulnerability to shocks. In addition we look at the basic governance structure, the legal and political system. Each of these shapes the nature of the existing institutions of property rights and the capacity for collective action. The second part of the framework, the action arena, helps us to illustrate how people themselves, the state and other entities, and different actors together can make use of institutions of property rights and collective action as well as change institutions to reduce poverty. While the context represents the initial conditions that affect people's actions, people's agency (the actions themselves) and their interactions with other people or actors shape their future. The action arena represents possible action situations, for example, a decision about investing resources, negotiating among different interest groups, or making collective efforts to maintain a local irrigation system.

Decisionmaking rules are particularly important in the action arena, because they represent the "authority relationships that specify *who* decides *what* in relation to *whom*" (Oakerson 1992, 46, emphasis in the original). In the action arena parties act independently, wait for the actions of counterparts, cooperate, discuss, negotiate, challenge each other, and so on. They exchange resources, devise new rules, and demand action from other parties. Our interest in this volume is in highlighting how action, and specifically cooperation among the poor, can bring about change.

Over time specific actions create patterns of interaction that may, in turn, affect the initial conditions for the next round. *Patterns of interaction* refers to the regularized and observable behavioral outcomes of actors acting within a

FIGURE 2.1 Conceptual framework for the role of property rights and collective action in poverty reduction



SOURCE: Authors' adaptation based on Ostrom (2005).

specified set of rules. In these interaction processes, actors reinforce existing institutions or create new institutions. Existing (a priori) institutions delineate the socioeconomic space and the rule-boundedness within which actors make their choices and take action. For example, often rules and norms constrain women's voice and their ability to assert claims. On the other hand, although institutions constrain, allow, and affect actions a priori, actions may alter institutions a posteriori (Giddens 1984), thus changing the initial conditions (see feedback arrows in Figure 2.1). One example is that of concerted and sustained action over time increasing women's rights.

Finally, actions and patterns of interaction lead to outcomes. Outcomes are as varied as the action situations; they can be direct effects on well-being, such as an increase in income due to a good harvest, or changes in institutions themselves, such as the strengthening of collective action capacity and the redesign of property rights arrangements. Actions geared toward social and political structural changes (as opposed to more immediate outcomes) generally require a longer time frame to realize and thus necessitate a long-term analysis. A number of feedback loops from patterns of interaction and intermediate outcomes back to the action arena and the context might be needed before institutional changes will affect the lives of the poor, for instance, through improved social and political inclusion, income, health, security, and sustainability or

reduced vulnerability. These final indicators can serve as final criteria for evaluating outcomes in terms of poverty reduction.

The Context

Assets

Most of the poverty literature has focused on income and consumption. Here we want to highlight the importance of assets for the poor as a means of not only providing increased income but also facilitating accumulation of additional assets over time.

Poverty-related research has moved beyond simple income–expenditure measures of well-being to consider a more holistic approach that takes into account people's assets and capabilities (Bebbington 1999). The sustainable livelihoods framework outlines five basic types of assets that are essential for the livelihoods of the poor: human, physical, natural, financial, and social (Scoones 1998). This traditional "asset pentagon" has been expanded by identifying public capital and political capital, which are also considered essential for the institutional environment of the poor. Public capital is defined as access to public goods and services, which include a range of services and infrastructure such as health posts, roads, and electrification (Winters et al. 2002). Political capital can be understood as the political resources held by individuals and communities that can be used to influence policy processes to achieve desired outcomes (instrumental political capital) as well as the structure of a political system that shapes actors' access to instrumental political capital (structural political capital). Examples of instrumental political capital include electoral leverage or interest groups, while state fiscal capacity and internal organization of the state are examples of structural political capital (Birner and Wittmer 2003). Although the links between assets and collective action or property rights are illustrated by one arrow in Figure 2.1, theory does not predict a single relationship between assets and these institutions. One could argue that assets are either a necessary complement or a substitute for collective action. Clearly we need to look in more detail at the particular types of assets and their context. Table 2.1 presents examples of assets and possible hypotheses regarding their linkages with collective action and property rights. This list is by no means exhaustive but is intended to show how all seven types of assets have implications for the institutions that are of interest to the studies in this volume. For each type of asset, it is possible to identify more detailed hypotheses regarding how they would increase or decrease the likelihood of institutional arrangements that include or exclude the poor. Indeed, the case studies on *iddir* in Ethiopia (Chapter 3), social networks in the Philippines (Chapter 4), producer marketing groups in Kenya (Chapter 5), watershed management in India (Chapter 6), and collective action in Cambodia (Chapter 11) performed quantitative tests of how different types of assets affect the likelihood of engaging in collective action. Although

TABLE 2.1 Assets and their links with institutions

Type of asset	Examples	Links to collective action (CA)	Links to property rights (PR)
Human	Education, health, labor supply	Education expands vision for CA; poor health restricts participation in CA.	Education helps secure statutory rights; labor can secure "sweat equity."
Physical	Agricultural technologies, tools, houses and other buildings	Cell phones and vehicles facilitate CA; CA is needed to acquire some technology.	Buildings require land but can also secure land rights.
Natural	Land, water, trees, biodiversity, environmental services	Landscape planning and many environmental services require CA.	PR mediate use and benefits of natural resources.
Financial	Credit, savings, remittances	Microfinance groups use CA as collateral and social networks for remittances.	Financial capital is necessary to acquire property; PR serve as collateral for loans.
Social	Kinship and other support networks, marketing groups	Social capital is a stock that enables the flow of CA.	Social capital helps secure group PR.
Political	Collective representation, interest groups, political parties	CA can increase political voice.	Political capital helps in lobbying the state for secure PR.
Public	Roads, water connection, communications infrastructure	CA can provide some public infrastructure when the state does not.	Lack of PR can be a barrier to accessing some public assets, such as water connections.

SOURCE: Authors.

it is also possible to generate and quantitatively test hypotheses about how various assets affect property rights (for example, whether credit availability increases property rights to land), many of these linkages are not straightforward, especially if we look beyond property rights as narrowly defined by titles and full ownership. Thus, many of the linkages between assets and property rights in this volume are explored qualitatively as, for example, in the Indonesian case (Chapter 8), where social and political capital were used to strengthen the land rights of forest communities.

The link between available assets and ability to choose is widely recognized (Sen 1997). Asset endowments include not only physical assets, but also bundles of rights to resources (the right to collect firewood from forest or graze common pastures), personal skills gained through education or experience, and social networks based on trust and reciprocity.[4] Current endowments generally depend on intergenerational transmission of assets, past investments in health and education, and past policies (Adato et al. 2003).

Individuals and households hold diverse assets that can be combined to provide different livelihoods; alternatively, certain assets may be leveraged to gain access to yet more assets. Assets are often complementary and partly substitutable. Human capital—for example, agricultural knowledge and experience—improves returns to land assets. Similarly, access to complementary inputs such as credit, input and output markets, transportation, and storage improves the value and productivity of land. Secure property rights to land can provide the collateral required to access financial capital. Similarly, rights to one asset may provide substitutes for missing assets, as when people gather food from common lands if crops fail. It is thus advantageous to hold a diverse portfolio of assets, especially to reduce vulnerability during periods of hardship.

The literature on poverty traps emphasizes the importance of thresholds in transforming assets into income, which constrain accumulation of capital goods that would allow higher returns (Dasgupta 2003). Security of property rights or redistribution can substantially improve the ability to satisfy basic need thresholds, improving human capital development and thus increasing future earnings (Strauss and Thomas 1998). The second major threshold, the inability to undertake lumpy investments for more productive livelihood strategies, is compounded by poor access to financial markets (Barrett and Swallow 2005). Even small investments (for example, in goats) may be prohibitive for poor households that barely meet their subsistence needs and cannot borrow from formal or informal credit markets. Collective action can allow pooling of resources among the poor to invest in what would be prohibitive for one person alone.

Insecure property rights imply a high risk that benefits from investments will be lost or appropriated by others. Together with subsistence requirements, which also put more value on the present than the future, insecure property

4. Asset endowments are the pool of resources or assets available to an individual or household.

rights contribute to holding the poor in low-yielding livelihood strategies. This is particularly relevant when returns to investments accrue only long after the investment is made.

Poverty and poverty traps can be exacerbated by lack of access to public services such as safe water and health facilities. Access to these can also dramatically increase the productivity of individually held assets. Although who benefits from improvements in public services depends on various conditions, in general, public education and public health should have at least mildly progressive impacts on the poor.

In the absence of effective public services, the poor may opt for collective action to produce local public goods. The likelihood that people will mobilize resources depends on their capacity to undertake collective action and on the specific incentives structure—expected benefits and expectations about others' behavior (Sandler 1992). Here, social cohesion and the history of cooperation and trust contribute to the capacity of a group to pool together resources for the provision of public goods and services.

Collective action is also a means for the poor to secure access to benefit streams derived from resources. Property rights are only as strong as the institutions that back them up, and collective action can provide the collective support to secure claims, even transforming informal claims into formal rights. Recognition of indigenous rights to resources and requests for improvement of public service provision are two recurring examples. Leadership and capacity to cooperate are key to successful acknowledgment of rights.

Risk and Shocks

Poverty and well-being are determined not only by households' assets and income but also by their degree of vulnerability to shocks over time, which pushes them into greater impoverishment and often perpetuates poverty (Jalan and Ravallion 1999). Shocks come from multiple sources, affect whole communities (covariate) and individual households (idiosyncratic), influence one or more livelihood sources at a time, and demand multiple responses, creating large variations in income over time (Dercon 2002; Fafchamps and Lund 2003). The vulnerability of a household has three components: (1) exogenous characteristics of the risks faced (for instance, distribution of rainfall), (2) the extent to which a household engages in ex ante risk management, and (3) the extent to which it can engage in ex post risk coping.

The impact of risk and uncertainty on subsistence farmers has long been recognized (Moscardi and de Janvry 1977). In the absence of perfectly functioning insurance markets (formal and informal), producers tend to favor less risky subsistence crops (Fafchamps 1992) and, despite a higher concentration of subsistence crops, greater diversification (Walker and Ryan 1990). Greater vulnerability also leads to smaller investments (Skees, Hazell, and Miranda 1999), less adoption of new technologies (Antle and Crissman 1990), and ultimately to a higher likelihood of remaining trapped in poverty (Barrett and Swallow 2005).

Here we consider three categories of risk: natural, economic, and sociopolitical. In each category, some of the risks occur frequently, meaning that people's understanding of the probability that different outcomes will occur is likely to be quite high. Other risks occur only sporadically, and people generally have more difficulty in estimating the probability of their occurrence. Yet other events occur with such infrequency that there is simply no basis on which to assess their probability. Table 2.2 gives illustrative examples of these types of risk for each category, acknowledging that certain risks might change categories depending on the location. The case studies in this volume explore some of these shocks in greater depth. For example, illness and death of family members are major concerns in Chapters 3 and 4, price fluctuations in Chapter 5, pest infestations in Chapter 7, policy changes in Chapters 8–11, and drought in Chapters 9 and 10. The Cambodian case study in Chapter 11 dealt with risks ranging from illness to flooding, civil war, and genocide.

As in the case of assets, we cannot formulate a simple hypothesis regarding the likely effect of risk on collective action and property rights. Rather, we need to look at the likely effects of each type of risk.

It is difficult for anyone to directly insure against rare events, but wealthier households are more able to build up generic savings to insure against many risks. Without access to government or donor relief, we would expect that poorer households would need to sell productive assets sooner and would be more likely to move into chronic poverty. Evidence suggests that in crisis situations even external aid is often neither efficiently nor fairly distributed (Keen

TABLE 2.2 Risks and their occurrence

Type of shock	Frequent, with well-known probability	Less frequent, with imprecise knowledge of probability	Rare events, with probability unknown
Natural	Seasonal rainfall	Droughts	Earthquakes
	Hail	Floods	Forest fires
	Endemic pest infestations	Morbidity and mortality	Epidemic disease outbreaks
	Frost		Global climate change
Economic	Seasonal prices	Formal-sector interest rates	Asset bubbles and stock market crashes
	Input availability	Inflation	"Revolutionary" technologies (computers)
	Informal loan rates	Real estate values	
Sociopolitical	Elections	Personal security	Changing regulatory frameworks
		Property security	Warfare and revolutions
		Ethnic discrimination	Genocide

SOURCE: Authors.

1994). Additionally, whereas governments and donors often act in response to natural disasters, responses to economic crises are themselves highly variable, and responses to sociopolitical shocks are even less predictable.

Because their individual and household savings are lower and access to formal insurance markets nearly absent, the poor not only tend to be more exposed to various risks but are also more likely to lose productive assets. A shock that results in asset reductions below a crucial threshold level may change a household's status from being temporarily poor to being trapped in chronic poverty (Barrett and Swallow 2005).

One potential option for reducing vulnerability is to increase the security of access (property rights) of the poor to various resources. Often the use of common or state-controlled resources provides a safety net in times of extreme need. Such access functions as an ex post mechanism to smooth consumption or maintain the asset base (for example, livestock). Flexible access can help to absorb many shocks, including climatic, economic, and, in certain cases, sociopolitical upheavals. Informal systems supporting these access claims can be exercised regularly to offset idiosyncratic but regularly occurring events such as seasonal rainfall and also to offset potential losses from less frequent but locally specific events such as floods and droughts (Goodhue and McCarthy 1999).

However, flexible access rights may be seen as less secure and thus quite costly in terms of lower investment in and management of these resources. Additionally, in times of generalized shocks (for example, widespread and prolonged drought), flexible, informal property rights systems may perform very poorly as insurance mechanisms, possibly leading to the dramatic increase in conflicts. This highlights the potential link between formal and informal land tenure systems: formal land tenure policy should recognize the inherent strengths of informal systems in managing idiosyncratic risks but also provide a formal framework to manage conflict or provide relief during generalized crises.

Another key dimension of shocks is how widespread their effects are: whether they vary from individual to individual (idiosyncratic) or whether the same shock is felt by a larger social group (covariate). In many cultures, local people rely on social networks that function as insurance networks (for instance, funeral societies) to deal with individual (idiosyncratic) shocks. These networks range from informal to highly formal organizations. Empirical work highlights the capacity of local networks and collective action to smooth consumption (Kurosaki and Fafchamps 2002). However, local insurance mechanisms are also often unable to buffer households from large-scale, long-lasting (covariate) shocks (Skoufias and Quisumbing 2003), offering an opportunity for more formal insurance mechanisms to link to informal insurance networks so that each source of insurance is complementary and synergistic. Social networks that link rural households to urban economies and labor markets may be more effective than local social networks in helping households to cope with generalized shocks, such as Thailand's financial crisis of 1997–98 (Geran 2001).

Major natural disasters such as earthquakes or widespread drought may exceed even the capacity of countries to buffer and insure against them, calling for international coordination.

This classification of risks can be used to generate hypotheses regarding the effects of different types of risks on the capacity of collective action to provide some form of insurance mechanism: for instance, that collective action is more likely to reduce people's vulnerability to more predictable, idiosyncratic risks than to unpredictable, covariate risks (see Chapters 3 and 4). One might hypothesize that infrequently occurring risks whose probability is imprecisely known are likely to lead to flexible property rights arrangements, whereas more predictable risks lend themselves to more fixed private property systems (see the report of the Ethiopia–Somali case study in Chapter 10). One might also form hypotheses regarding the links among assets, risks, and collective insurance mechanisms, such as that greater assets allow one to self-insure and opt out of collective action for mutual insurance.

These examples highlight a small part of the role of property rights and collective action in reducing vulnerability. Informal tenure and collective action are often extremely important in managing idiosyncratic risks. However, there remains a very real need to forge links with formal-sector insurance, especially with respect to generalized shocks. Even within the informal sector, the poorest are often excluded from these reciprocity-based networks, implying that there are opportunities for more formal government programs.

Governance Structures

Legal, political, and power structures strongly affect the distribution of property rights, the extent of collective action, and resulting poverty levels (see Table 2.3 for a summary). They determine if rights to income streams are in fact accessible to the poor, how rights are negotiated, and if collective action will contribute to income and increased participation.

In the past decade market integration, privatization, democratization, and the transparency-enhancing revolution in information technology have allowed far-reaching reforms of legal systems, power, and governance structures (Bardhan and Mookherjii 2000). Some of these changes helped to economically integrate the poor, increase their voice, protect their rights, and make politics accountable. However, even countries that have embraced reform underestimate the challenge of transforming norms, law, and power into an enabling institutional environment for the poor (Alden Wily 2003). To understand the reasons for this variability, it is important to look at the nature and capacity of the state, the degree of its legal pluralism (the relative strength of customary and statutory systems), the extent of its decentralization, and the strategies that organizations (especially state agencies) employ in dealing with communities. Each of these has particular relevance to collective action and property rights, as summarized in Table 2.3.

TABLE 2.3 Key aspects of governance structures

Aspects	Implications for collective action	Implications for property rights
Nature and capacity of the state	Democratic and authoritarian states have different policies on supporting or restricting collective action.	Different political systems have different types of support for private, state, and common property.
	The capacity of a state affects the need for collective action in service delivery.	Weak states have less capacity to keep records and enforce property rights.
Legal pluralism	Strong customary systems are often built on collective action and social capital.	A high degree of legal pluralism may create property rights conflicts between statutory and customary claimants.
	Dominant statutory systems may crowd out collective action.	
Decentralization	Decentralization can create spaces for community organizing to strengthen rights and access new opportunities, for instance, participate in budgets.	Decentralization creates insecurities when associated processes and structures are unclear and can allow for elite capture but can also strengthen local rights.
Organizational strategies	Extension agents and others work with individuals, decreasing opportunities for collective action.	The complexity of land registration procedures favors those with more education, time, and mobility, leading to elite capture of property rights.

SOURCE: Authors.

The nature and capacity of the state plays a fundamental role in shaping many other institutions. Democratic and authoritarian political systems have very different approaches to the poor (and the wealthy). We can hypothesize that democratic governments are more likely to tolerate and even encourage voluntary collective action; totalitarian governments may collectivize or extract corvée but suppress voluntary associations that the state does not control. Respect for rule of law will affect the security of property rights. It is not only the type of government and the intent of the state that matters but also its capacity to deliver on its policies. Where the state is weak, collective or private action may be the only option for securing services—whether delivery of water or education or even policing. Similarly, property rights are only as strong as the institution that stands behind them. We can therefore hypothesize that if the state is weak, government-issued titles will not be as meaningful as where the state has capable record keeping and legal enforcement of property rights.

Legal pluralism is ubiquitous; the coexistence of statutory, religious, customary, and even donors' law is more the rule than the exception (Meinzen-

Dick and Pradhan 2002). Any rigid conception of statutory law frequently ignores secondary use rights, sometimes reducing access by the most vulnerable to key assets and sources of livelihood. But the relative strength of statutory and customary systems and the degree to which they are harmonized or in opposition will vary. We can hypothesize that strong legal pluralism is likely to favor collective action and polycentric governance, whereas dominant statutory systems may repress collective action. In the realm of property rights, legal pluralism may create ambiguities, but these can work either in favor of or against poor or disadvantaged people, giving them access to resources even where they are not able to secure formal ownership.

Decentralization of legal, administrative, and political structures can change power relations further by engaging the disenfranchised in the political process (Bardhan 2002). In this context, the state should act as a catalyst in mobilizing people and neutralizing local oligarchies. If not, poor villagers can neither use their "voice" to vote out incapable politicians (because the politicians are their landlords), nor can they exit by moving to other jurisdictions (because they are bound in interlinked contracts) (Litvack, Ahmad, and Bird 1998). However, decentralization may be misused by a state to reduce its budget obligations, further discriminating against the poor (Ngaido and Kirk 2001). Any successful decentralized delivery of public services depends on the accountability of decisionmakers, implying that there are public debates on their work performance and sanctioning.

Despite lower information costs to identify the poor in decentralized systems (Galasso and Ravallion 2001), capture of benefits by local elites, often associated with high poverty levels and weak political institutions, might undermine the reform benefits (Bardhan and Mookherjii 2000). Moreover, in newly decentralized structures with insufficient accountability, public spending is often channeled toward the nonpoor (Litvack, Ahmad, and Bird 1998). Participation through collective action is often regarded as a silver bullet to break the vicious cycle of power imbalances and recurrent poverty. Cross-country data show that participatory political regimes are associated with significantly lower levels of economic instability and that participation helps to moderate social conflicts (Hadenius and Uggla 1996). However, participation requires investments of time or money, both of which the poor lack, plus a critical mass of activists. Besides involving possible free-riding problems, participation may be weak as long as the right to unite and form coalitions cannot be enforced at the local level (Litvack, Ahmad, and Bird 1998).

Organizational strategies refer to regularized plans within the structure of incentives produced by rules, norms, and expectations of the behavior of others (Ostrom 2005). Although mostly applied at the individual level in the IAD framework, the strategies of organizations are an important aspect of governance structures that influences the likelihood that poor people will be able to engage in collective action and property rights. Does an organization employ

participatory approaches and seek to accommodate people with little education? For example, an extension agency may work either with "contact farmers" (usually local elites) or through group-based approaches; we can hypothesize that the latter approach fosters collective action, while the former is more likely to lead to elite capture of knowledge. Similarly, we would anticipate that agencies with complex, formal approaches to land registration can lead to elite capture of property rights. Strategies of participatory land-use planning can lead to the accumulation of natural capital and stronger property rights for certain groups as rights to graze or harvest firewood are clarified.

Property Rights

In the conceptual framework presented in Figure 2.1 we have identified property rights and collective action institutions as part of the context but have put them in separate boxes to highlight their particular relevance in this volume. Secured land access and control contribute to livelihoods through farm income, food security, and buffering against economic shocks, as well as through accumulating other forms of assets. Securing property rights to productive resources and enabling their transfer can help the poor to escape from poverty traps (Deininger 2003). Redistribution of land rights may be necessary to overcome deeply rooted inequality in assets, break the power of oligarchies, and bring resources into the hands of the more productive. Whether the market alone can accomplish this or an active role for the state is needed remains contested (Deininger 2003). Moreover, simply redistributing land to the poor is not enough; providing economic prospects to beneficiaries is as vital (Deininger and Kirk 2003). What is often ignored when comparing the costs and benefits of redistributive policies is the substantial positive spillover effect in terms of enlarging the stake of the poor in the political system by strengthening local democracy (Bardhan 2002): the capture strategies of local elites lose their momentum if land can be mortgaged through titling and new external credit sources are opened.

Collective Action

Collective action can shape norms as well as legal and power structures. First, it can serve as a lobbying instrument because groups can more easily protect their interest vis-à-vis others competing for a limited piece of the "cake" (Hadenius and Uggla 1996). Second, collective action can be the foundation for organizations, from informal groups up to service cooperatives. It can also help to disseminate information on the shortcomings of policy reforms (Litvack, Ahmad, and Bird 1998).

However, experience has shown that collective action at the local level often remains limited in its impact if it is not backed by external support (Meinzen-Dick, Knox, and Di Gregorio 2001). In addition, vertical links from local collective action institutions to civil society and political arenas are necessary to reach higher policy levels and to create forceful countervailing power.

Many of the hypothesized links between property rights and other aspects of the context of collective action have already been identified. We should note that we also postulate a link between property rights and collective action institutions, such as, for example, when land ownership is a criterion for membership in a group (such as a water users' association) or when collective action to patrol boundaries strengthens a group's exclusion rights. The hypothesized roles of collective action and property rights in poverty reduction in different contexts are discussed in the following section.

The Action Arena

We now turn from an examination of the context to an analysis of the dynamics of the action arena. This encompasses the actors, the action resources on which they draw, and the factors that lead to changes in material conditions and institutions themselves. This is, in the first place, a positive view that can become the basis for a normative approach dealing with the process of creating and changing institutions. It exemplifies the mechanisms by which tangible and intangible assets (which are part of the initial condition) are mobilized for individual and collective action, often through bargaining and negotiation processes by actors mediating different interests. Rules are supplied by the legal and institutional setting, but at times action can also occur outside of conventional institutionalized rules (for example, in protest actions). The action arena shows how initial conditions contribute to action dynamics.

Actors and Action Resources

Actors may be individuals, citizens of a state or community, or collective entities such as organizations, government departments, private companies, or NGOs. Each actor will have specific action resources and possible choices about strategic behavior. There can be both internal and external actors. Internal actors are those who are to follow the specific rule system that emerges from institutional bargaining, while external actors may influence the bargaining processes of institutions that define rule systems for other actors and may act as benevolent agents or as opportunistic rent seekers. Once major actors are identified, we can look for specific change agents, those that can influence other actors. They can have positive or negative influences, which may be intentional or unintentional, and their clout may change over time. A variety of individual or collective behavioral theories can be applied to actors in our framework, including rational choice and bounded or situational rational choice.

Action resources are intangible and tangible assets that give actors the capability for agency. Agency includes the ability to exercise livelihood choices, to participate in collective action at various levels, to influence other actors' agency choices, and to get involved in political processes.

All assets can potentially become action resources, but their value depends on the specific action situation and the rules that are applied. For example, kinship

networks (social capital) are more important in some societies than in others. A car (physical capital) is more important as an action resource for accessing services where there are good roads than where roads are poor or missing. The ability to mobilize labor to clear land (one form of human capital) can be an important action resource to enable someone to acquire property rights under customary tenure in swidden agriculture (shifting cultivation), whereas formal education and knowledge of the legal systems (other forms of human capital) become an action resource that enables people to gain secure property rights when tenure systems are formalized.

We have seen the importance of access to and control of tangible resources; here we present some less tangible but equally important action resources.

Information and knowledge are key action resources (Schlüter 2001) that enable powerful actors to change the perceived values of the different alternatives (Young 1995). Because access to information is costly and often spreads through networks, the poor can be at a particular disadvantage if excluded from these networks. Also, social functions often give higher value to knowledge of modern global phenomena than to tacit, traditional knowledge.

Cognitive schemata, or mental models, define the borders of what is imaginable to actors in terms of their understanding (knowledge) and normative perspective and thus provide the limits of what actors can perceive as feasible in their lives. According to bounded rationality theories, the borders of what is imaginable to an actor are delimited by mental models (North 1990) that define the knowledge base and the normative perspective of an actor. Cognitive dissonance, the difference between mental models and reality, affects how an actor processes actual events and legitimizes group solidarity.

Social standing within a community or social group is another important action resource, one that derives from two sources: the habitus of an actor and the embeddedness of the actor in social networks (Bourdieu and Accardo 1993). The habitus actors demonstrate in the public and private realms is essential to how they can gain recognition as a leader in public discourse and collective action. How do actors behave, what clothes do they wear, what confidence and cultural knowledge can they show in public? This is often rooted in mental models, constantly molded by social interaction. The embeddedness of an actor in social networks can refer to both formal and informal networks that reach outside the local community. Horizontal social networks provide space to combine forces and to increase relative leverage in order to reinforce identities and self-confidence. Vertical political networks are an important source of benefit streams that affect the capabilities of individuals and groups. Recognized membership in specific organizations may be a necessary entry point to the public arena where collective action is negotiated. For example, many irrigation associations allow only landowners or heads of households to be members. Wives or heads of landless households are not included and hence do not participate in public discourses over collective action for managing the irrigation, although they are affected by the decisions of the group (Meinzen-Dick and Zwarteveen

1998). At the same time, formal membership may not be sufficient to give one a say because relative bargaining power also depends on other action resources. Both the habitus of local actors and their ability to draw on social networks influence the recognition they receive from outside the immediate community. Hence, they provide the space for networks with powerful actors on a higher spatial level than the village. In many clientele societies, these "political assets" are an important source of benefit streams, for example, in the form of employment, welfare benefits, and so on. These may affect the capabilities not only of individuals but also of groups.

Time itself is an action resource that allows people to engage in collective or individual action to further their interests. A significant disadvantage of the poor, especially poor women, is the high opportunity cost of their time. However, the costs are not constant: for example, wage laborers may be able to participate in collective action in times of unemployment. Thus, the rules that define when interactions take place will shape the action resources available to different groups.

There are important interactions among different types of action resources. In most societies, tangible assets also convey status and increase options, because "income only maintains consumption, but assets change the way people interact with the world. With assets, people begin to think for the long term and pursue long-term goals. In other words, while income feeds people's stomachs, assets change their minds" (Sherraden 1991, 13). In many agrarian societies wealthier households have better access to information and collective resources. Even within households, control of assets influences the bargaining power of individuals; for instance, women with control of assets have more influence in intrahousehold decisionmaking (Quisumbing, 2003).

Decisionmaking Rules and Power

Collective action takes place in the action arena. Within the action arena, we can envision different decisionmaking mechanisms and resulting rules, such as strategic negotiation, democratic deliberation, social bargaining, and coalition building, all of which include forms of collective action at some level.

In a strategic interaction scenario, action resources of individuals or collective actors determine their bargaining positions. Power includes the ability to change other players' choice sets, preferences, mental models, and constraints. Strategic behavior is affected by two types of power, positional power and sanctioning power.

There is a strong interaction between power and decisionmaking rules in use. In general, democratic deliberation works best when power is relatively evenly distributed, or less powerful actors have specific guarantees that their rights will be protected. Strategic negotiations might be more effective in situations of strong power disparities (Fung and Wright 2003).

In an institutional game, bargaining success is a function of the ability to produce credibility for strategic actions. Players with more action resources

may be able to forgo present benefits for future ones, wait until a new round of negotiation starts, or recruit coordination alternatives (Hanisch 2003). Also, the resources they control might provide credibility to specific strategic behavior.

The actual bargaining power, then, depends on the initial asset endowment an actor disposes of and on the specific interaction. The latter is determined by the remaining contextual factors, such as risk and uncertainty, as well as the normative legal setting, the identities of the other actors, and their context. These conditions shape how actors make credible commitments or threats. Thus, the specific interaction determines which action resources actors can use and how effectively these resources can be transformed into power endowments.

Understanding the action arena has important implications for poverty reduction. We can hypothesize that the poor are disadvantaged by lack of action resources or by decisionmaking rules that call for resources that the poor do not have. The first is relatively easy to test, at least for tangible or quantifiable assets such as education, as indicated in Chapters 3, 4, and 11 of this volume. Because of the huge range of rules that can be found, testing hypotheses regarding how decisionmaking rules do or do not disadvantage the poor and how they favor one type of action resource over another generally requires more in-depth qualitative work, such as that done in the Indonesia case (Chapter 8).

By identifying the key action resources or rules that disadvantage the poor, internal or external actors who want to address poverty can either build up the critical action resources that poor people lack or shift the rules to favor other resources that the poor do have. For example, where poor people (especially women) cannot obtain credit because they lack land titles or other forms of conventional collateral, one approach would be to strengthen the property rights of the poor or women; another would be to develop alternate rules for loans that use forms of collateral that poor people are more likely to have—as has been done in microfinance programs, which use groups and social capital as collateral.

Patterns of Interaction

The actors, their action resources, and the applicable rules all delimit the space within which actors make choices and take action in a specific action situation. The action situation is shaped by the asset endowments and action resources of the actors, their relative positioning, and the a priori rules defined by the initial condition. Accordingly, different actors will have different limits and opportunities within any single action situation. In the action arena, parties act independently, wait for the actions of counterparts, cooperate, discuss, negotiate, challenge each other, and so on. They exchange resources, devise new rules, and demand action from other parties. Repetition of these bargaining processes leads to interaction as regularized and observable behavioral outcomes. In these interaction processes, actors reinforce existing institutions and create new ones.

These patterns of interaction gradually form social relationships and structures, which can reduce or reinforce poverty and lessen or increase social inequal-

ity and exclusion as well as cooperation or conflict. As these patterns of interaction affect the constitutional level of rules, we find societies shaped by patron–client relations, neopatrimonialism, ethnic antagonisms, caste differentials, or democratic decisionmaking. These patterns of interaction also transfuse the very nature of the state and how the state acts and develops its own administrative and political structures. In this sense, the institutional outcomes constitute the outcomes of prior social bargaining that reflects the unequal action resources of different social actors.

In turn, patterns of interaction produce outcomes. If outcomes are positive for all those involved, the actors will maintain the structure of the situation. When outcomes are not positive for all actors or for some of the actors, they will try to change their strategies. Negotiations in action situations often have to do with distributional aspects related to expected outcomes.

Outcomes and Effects on Poverty

Outcomes from the action arena can be evaluated in terms of how the poor and the nonpoor fare with regard to all the critical aspects of poverty: the ability to secure basic needs, the level and distribution of income, the degree of social and political inclusion, opportunities, and vulnerability. Starting from initial conditions and the subsequent dynamic interactions, a variety of poverty outcomes are possible from changes in both formal and informal property rights and collective action institutions. In addition to direct outcomes in terms of the welfare of individuals, what happens in the action arena affects the initial conditions and institutions of successive interactions. It is important to keep in mind that property rights systems are dynamic: the distribution of rights as well as how they are interpreted and enforced will change over time. Some of the change is driven by changing material conditions, but shared mental models, normative and cognitive frames, and power in particular also play major roles in changing property rights. Collective action is, by definition, dynamic, and it changes over time even when institutionalized through an organization.

Poor people may be able to influence change in these institutions in their favor, but based on the framework, we would hypothesize that their lower level of action resources, especially power, makes such outcomes more difficult to achieve. External change agents, including the state, can assist in such processes, but the complexity of institutional change means that favorable outcomes are not automatic, even if external agents are genuinely interested in reducing poverty.

Conclusion

Research on natural resource management shows us the importance of property rights and collective action for self-organization and improved livelihoods. The poverty literature highlights the importance of asset thresholds and poverty traps, as well as the central importance of the agency and capabilities of all

people, including poor men and women. We attempt to bridge the domains of the natural resource and poverty literature so that an understanding of what enhances the outcomes of collective action and property rights institutions can lead to more effective poverty reduction by poor people themselves and by external agencies.

Three characteristics of the initial conditions of the poor are particularly relevant in understanding the constraints and opportunities they face. These include their assets, the sources of the risk and uncertainty that cause their vulnerability, and the power constellation created by legal and governance structures. Power plays an important role in the process of change and is the most critical for poverty reduction. Both the broad power structure of a society and the one specific to an action arena affect outcomes. The poor, with few power resources, are often at a disadvantage. Although human agency certainly plays a major role in these outcomes, the options available to men and women are strongly conditioned by their material conditions and the institutional environment in which they live. But people's actions and interactions can also shape both the physical and institutional environments in which they operate.

Understanding these effects can provide insights into how policies and programs can improve the choices of poor people and their capabilities to pursue their goals. Providing specific examples can help build understanding of these concepts. The following chapters of this volume present individual case studies that explore relationships among particular elements of the conceptual framework. Each case focuses on aspects that are most relevant to the situation and research questions of that case.

Some used formal hypothesis testing through quantitative measures; others were more exploratory, using qualitative measures and action research to gain a more complete understanding of the interactions among different groups and individuals. Through the accumulation of evidence from different approaches, we hope to get a more complete picture of the factors that facilitate or constrain the development of collective action and property rights institutions that will enable poor people to strengthen their bargaining power in a range of action arenas, establishing more equitable and less volatile patterns of interaction as well as improved outcomes for environmental sustainability and poverty reduction.

References

Adato, M., T. Benson, S. Gillespie, D. Gilligan, L. Haddad, S. Harrower, J. Hoddinott, S. Kadiyala, J. Maluccio, A. Murphy, A. Quisumbing, M. Sharma, K. Simler, F. Yamauchi, and Y. Yohannes. 2003. *Pathways out of poverty: A proposal for a global research program.* Washington, D.C.: International Food Policy Research Institute.

Antle, J. M., and C. C. Crissman. 1990. Risk, efficiency, and the adoption of modern crop varieties: Evidence from the Philippines. *Economic Development and Cultural Change* 38 (3): 517–537.

Alden Wily, L. 2003. *Governance and land relations: A review of decentralization of land administration and management in Africa.* London: International Institute for Environment and Development.

Baland, J. M., and J. P. Platteau. 1996. *Halting degradation of natural resources: Is there a role for rural communities?* New York: Food and Agriculture Organization and Clarendon Press.

Bardhan, P. 2002. Decentralization of governance and development. *Journal of Economic Perspectives* 16 (4): 185–205.

Bardhan, P., and D. Mookherjii. 2000. Capture and governance at local and national levels. *American Economic Review* 90 (2): 135–139.

Barrett, C. B., and B. M. Swallow. 2005. Dynamic poverty traps and rural livelihoods. In *Rural livelihoods and poverty reduction policies,* ed. F. Ellis and H. A. Freeman. London: Routledge.

Bebbington, A. 1999. Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods and poverty. *World Development* 27 (12): 2021–2044.

Birner, R., and H. Wittmer. 2003. Using social capital to create political capital: How do local communities gain political influence? A theoretical approach and empirical evidence from Thailand. In *The commons in the new millennium: Challenges and adaptation,* ed. N. Dolsak and E. Ostrom. Cambridge, Mass., U.S.A.: MIT Press.

Bourdieu, P., and A. Accardo. 1993. *La misère du monde.* Paris: Editions du Seuil.

Bromley, D. W. 1991. *Environment and economy: Property rights and public policy.* Cambridge, U.K.: Blackwell.

Dasgupta, P. 2003. *World poverty: Causes and pathways.* Cambridge, U.K.: Cambridge University Press.

Deininger, K. 2003. *Land policies for growth and poverty reduction.* Washington, D.C.: World Bank and Oxford University Press.

Deininger, K., and M. Kirk. 2003. Land policy, poverty alleviation and sustainable rural development. *Agriculture and Rural Development* 10 (2): 44–47.

Dercon, S. 2002. Income risk, coping strategies, and safety nets. *World Bank Economic Observer* 17 (2): 141–166.

Fafchamps, M. 1992. Solidarity networks in pre-industrial societies: Rational peasants with a moral economy. *Economic Development and Cultural Change* 41 (1): 147–174.

Fafchamps, M., and S. Lund. 2003. Risk-sharing networks in rural Philippines. *Journal of Development Studies* 71 (2): 261–287.

Fung, A., and E. O. Wright. 2003. *Deepening democracy: Institutional innovations in empowered participatory governance.* London: Verso.

Galasso, E., and M. Ravallion. 2001. *Decentralized targeting of an antipoverty program.* Washington D.C.: World Bank.

Giddens, A. 1984. *The constitution of society: Outline of the theory of structuration.* Berkeley, Calif., U.S.A.: University of California Press.

Goodhue, R. E., and N. McCarthy. 1999. Fuzzy access: Modeling grazing rights in Sub-Saharan Africa. In *Property rights, risk, and livestock development in Africa,* ed. N. McCarthy, B. M. Swallow, M. Kirk, and P. Hazell. Nairobi, Kenya, and Washington, D.C.: International Livestock Research Institute and International Food Policy Research Institute.

Geran, J. 2001. Coping with crisis: Social capital and the resilience of rural livelihoods in northern Thailand. Ph.D. dissertation, University of Wisconsin, Madison, Wisc., U.S.A.

Griffiths, J. 1986. What is legal pluralism? *Journal of Legal Pluralism* 24: 1–55.

Hadenius, A., and F. Uggla. 1996. Making civil society work, promoting democratic development: What can states and donors do? *World Development* 24 (10): 1621–1639.

Hanisch, M. 2003. *Property reform and social conflict.* Aachen, Germany: Shaker.

Jalan, J., and M. Ravallion. 1999. Are the poor less well insured? Evidence on vulnerability to income risk in rural China. *Journal of Development Economics* 58 (1): 61–81.

Keen, D. 1994. *The benefits of famines: A political economy of famine relief in South-Western Sudan, 1983–1989.* Princeton, N.J., U.S.A.: Princeton University Press.

Kurosaki, T., and M. Fafchamps. 2002. Insurance market efficiency and crop choices in Pakistan. *Journal of Development Economics* 67 (2): 419–453.

Litvack, J., J. Ahmad, and J. Bird. 1998. *Rethinking decentralization in developing countries.* Washington, D.C.: World Bank.

Marshall, G. 1998. *A dictionary of sociology.* New York: Oxford University Press.

Meinzen-Dick, R. S., and R. Pradhan. 2002. *Legal pluralism and dynamic property rights.* CAPRi Working Paper 22. Washington, D.C.: International Food Policy Research Institute.

Meinzen-Dick, R. S., and M. Zwarteveen. 1998. Gendered participation in water management: Issues and illustrations from water users associations in South Asia. *Agriculture and Human Values* 15 (4): 337–345.

Meinzen-Dick, R. S., A. Knox, and M. Di Gregorio, eds. 2001. *Collective action, property rights, and devolution of natural resource management: Exchange of knowledge and implications for policy.* Feldafing, Germany: Deutsche Stiftung für internationale Entwicklung / Zentralstelle für Ernahrung und Landwirtschaft.

Moscardi, E., and A. de Janvry. 1977. Attitudes toward risk among peasants: An econometric approach. *American Journal of Agricultural Economics* 59 (4): 710–716.

Ngaido, T., and M. Kirk. 2001. Collective action, property rights and devolution of rangeland management. In *Collective action, property rights, and devolution of natural resource management: Exchange of knowledge and implications for policy,* ed. R. Meinzen-Dick, A. Knox, and M. Di Gregorio. Feldafing, Germany: Deutsche Stiftung für internationale Entwicklung / Zentralstelle für Ernahrung und Landwirtschaft.

Nitti, R., and B. Jahiya. 2004. Community-driven development in urban upgrading. *Social Development Notes* 85: 1–6.

North, D. C., ed. 1990. *Institutions, institutional change and economic performance.* Cambridge, U.K.: Cambridge University Press.

Oakerson, R. J. 1992. Analyzing the commons: A framework. In *Making the commons work: Theory, practice and policy,* ed. D. W. Bromley. San Francisco: ICS Press.

Ostrom, E. 1990. *Governing the commons: The evolution of institutions for collective action.* New York: Cambridge University Press.

———. 2005. *Understanding institutional diversity.* Princeton, N.J., U.S.A.: Princeton University Press.

Place, F., M. Roth, and P. Hazell. 1994. Land tenure security and agricultural performance. In *Africa: Overview of research methodology,* ed. J. Bruce and S. Migot-Adholla. Dubuque, Iowa, U.S.A.: Kendall/Hunt.

Quisumbing, A. 2003. *Household decisions, gender, and development: A synthesis of recent research.* Washington, D.C.: International Food Policy Research Institute.

Sandler, T. 1992. *Collective action: Theory and applications.* Ann Arbor, Mich., U.S.A.: University of Michigan Press.

Schlager, E., and E. Ostrom. 1992. Property rights regimes and natural resources: A conceptual analysis. *Land Economics* 68 (3): 249–262.

Schlüter, A. 2001. *Institutioneller Wandel und Transformation: Restitution, Transformation und Privatisierung in der tschechischen Landwirtschaft.* Aachen, Germany: Shaker.

Scoones, I. 1998. *Sustainable rural livelihoods: A framework for analysis.* IDS Working Paper 72. Sussex, U.K.: Institute for Development Studies.

Sen, A. 1997. *Choice, welfare, and measurement.* Cambridge, Mass., U.S.A.: Harvard University Press

Sherraden, M. 1991. *Assets and the poor: A new American welfare policy.* Armonk, N.Y., U.S.A.: M. E. Sharpe.

Skees, J., P. Hazell, and M. Miranda. 1999. *New approaches to crop yield insurance in developing countries.* EPTD Discussion Paper 55. Washington, D.C.: International Food Policy Research Institute.

Skoufias, E., and A. Quisumbing. 2003. *Consumption insurance and vulnerability to poverty.* FCND Discussion Paper 155. Washington, D.C.: International Food Policy Research Institute.

Strauss, J., and D. Thomas. 1998. Health, nutrition, and economic development. *Journal of Economic Literature* 36 (2): 766–817.

United Nations Economic and Social Council. 2001. Substantive issues arising in the implementation of the international covenant on economic, social and cultural rights: Poverty and the international covenant on economic, social and cultural rights. Geneva. <http://www2.ohchr.org/english/bodies/cescr/docs/statements/E.C.12.2001.10Poverty-2001.pdf.> Accessed October 5, 2009.

Walker, T. S., and G. Ryan. 1990. *Village and household economies in India's semiarid tropics.* Baltimore: Johns Hopkins University Press.

Winters, P., B. Davis, and L. Corral. 2002. Assets, activities and income generation in rural Mexico: Factoring in social and public capital. *Agricultural Economics* 27 (2): 139–156.

Young, D. 1995. The meaning and role of power in economic theories. In *On economic institutions: Theory and applications,* ed. J. Groenewegen, C. Pitelis, and S. Sjoerstrand. Hants, U.K.: Edward Elgar.