

INTERNATIONAL PERSPECTIVES

Toward a Vision of Land in 2015

Edited by

GARY C. CORNIA AND JIM RIDDELL

Toward a Vision of Land in 2015

Dedicated to Roy Bahl



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International Perspectives

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Gary C. Cornia and Jim Riddell

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P A R T



Introduction

Changing Views, Values, and Uses of Land

Gary C. Cornia and Chi-Mei Lin

The decision made by the leaders of the International Center for Land Policy Studies and Training (ICLPST) to host a conference on land and land-related issues resulted from their desire to recognize the 100th international course the center had sponsored. Over the past 40 years, the center and its training programs have been a launching ground for many good ideas dealing with land and land use. The center's directors and academic and administrative leaders deemed it important that time and resources be allotted to recognize the contributions of its faculty, staff, and alumni. They also wanted to engage in a public dialogue around land and land use.

The Lincoln Institute collaborated with ICLPST to invite some of the best thinkers on land issues to prepare papers on land-related topics that would be important between the present time and the year 2015, the target date that United Nations member states have agreed to for the Millennium Development Goals. Two of the eight goals are to “ensure environmental sustainability” and to “develop a global partnership for development” (www.un.org/millenniumgoals). The assignment to identify and contact the individuals to prepare the papers was given to the academic staff at the center.¹ The ICLPST staff must be complimented for their efforts. We believe that the papers accomplished the goal of encouraging decision makers to think

¹ICLPST brought the authors together for a conference held in Taipei, Taiwan, in October 2006. This conference allowed the authors to discuss their chapters with each other before making revisions to form the chapters of this book. This conference will be referred to throughout the book as the October 2006 Conference.

about land in the context of a changing world. Both the conference and this book are important, because policy makers often do not take the time or have the time to think either cautiously or creatively about land. We offer the following experience from recent history to illustrate the significance of the volume.

Only seven years ago, most of the world's population was waiting with considerable apprehension for the change in the Gregorian calendar from the year 1999 to 2000. Moving from one year to the next is a milestone that had happened thousands of times prior to 31 December 1999. However, many groups and individuals all over the world dreaded this particular change. There was a certain level of predictable alarm promoted by the advocates of a doomsday outcome. Alarming comments from such groups were expected and generally discounted as irrational.

Nevertheless, in the final few years of the twentieth century, a novel but factual fear was associated with the approaching calendar change. Interestingly, that apprehension originated with some of the most rational professionals of the twentieth century: computer software programmers and information technology specialists. One difference between this group and the doom-sayers was that their alarm came from a logical and understandable source and seemed reasonable to informed individuals. Because of decisions made by software programmers in the middle of the last century, there were widespread concerns that the change in the calendar year from 1999 to 2000 could cause havoc in operational functions controlled by computers. Airlines, banking, credit cards, clocks, payroll systems, tax systems, medical records, and virtually any process that had been computerized were considered at risk when the calendar change occurred. Fortunately for humankind, by the early morning of 1 January 2000, the electronic world was perceptibly relieved that the concerns around the transition to the new century and the software itself had been successfully resolved.

What does the transition to the current century have to do with the topic of this volume—land in 2015? This historical anecdote illustrates an important point: unless a catastrophic event actually occurs or is a “near miss,” societies and cultures have a propensity to overlook the cumulative importance of change. Societies also discount the importance of time, and we believe societies treat issues around changing land use in virtually the same manner. Unless there is a catastrophic event, the long-term consequences of land use decisions are ignored; yet land, like time, plays a critical role in practically every aspect of the human condition. We also ignore demographic events that have implications for land policy and land use unless a crisis is associated with the event. For example, the world has recently passed a tipping point: the population in urban areas now exceeds the population of rural areas

(World Bank 2003). This event has not received the volume of press attention associated with entering a new millennium, but the implications of an even more urbanized world for the human condition and for the role and importance of land are significant.

Thus, one purpose of this volume is to remind decision makers and policy analysts of the important background issues that surround land use and of the role these issues might play by the year 2015. The volume is not bold enough, or from our view imprudent enough, to forecast the role that land will be playing in 2015. What it does try to do is to alert policy and decision makers to the changing circumstances of how society views, values, and uses land. For example, in his chapter in this volume, Daniel Bromley reminds us that society first started thinking of land as a garden. Society then put a tractor in the garden, and some elements of society are now trying to remove the tractor from the garden. This latest view of land is referenced in this text as sustainable development.

Some of the issues addressed in this book are raised to help policy makers think about how to utilize land to help govern a community. This includes using land as a revenue source for the funding of government or as a tool in economic development. Some chapters offer insight and advice about technical and policy innovations that might improve our understanding of land use decisions, while others suggest the need for a careful reevaluation of the process of thinking about land and its fundamental importance in a society.

Together the chapters cover a wide array of topics focused around the themes of four sections: land and public finance, land in the context of economic development, institutional reforms in land management policies, and changing visions of land.

PUBLIC FINANCE AND LAND ADMINISTRATION

Roy Bahl and Jorge Martinez-Vazquez introduce the theme of public finance in chapter 2, which concerns property taxation in developing countries. The chapter considers the revenue that is potentially available from the taxation of land and improvements to land in developing and developed countries, though the bulk of their analysis is on developing and transitional countries. The chapter focuses not only on raising revenue from property taxes, but also on the important functions that local taxes can perform if imposed on immobile factors. Such local revenue sources can enhance local autonomy and, thereby, the development of efficiencies associated with political and fiscal decentralization. The obvious, and perhaps only, candidate for such a tax is the property tax.

Bahl and Martinez-Vazquez identify a number of attributes, in addition to fiscal autonomy, that the property tax offers local governments. Those benefits include adequate and stable local revenue over economic cycles, correspondence between revenues and public expenditures, and minimal compliance costs for most property owners and taxpayers.

Bahl and Martinez-Vazquez also identify challenges that undermine the full use of the property tax. They note that it is a difficult tax to administer, especially in the less-developed regions of the world, because of inadequate information about the land market, limited financial resources, and the lack of professional talent. Making the property tax successful requires governments to commit substantial support to the functions associated with its administration. This requirement for resources leaves most governments with a dilemma: The resources they need to spend to collect revenue are just not available in many situations. There are also human resource constraints. Professionally trained appraisal cohorts do not develop overnight, and professional appraisers who do appear are likely to move from the public sector to the private sector.

Even when sound tax policy is combined with reasonable property tax administration, Bahl and Martinez-Vazquez acknowledge, serious political issues surrounding property tax remain. They note several situations in developing countries where improved administrative practices resulted in fewer revenues rather than more. Aggressive enforcement and collection procedures may result in an initial increase in the public revenues collected, but over time such actions may become ineffective by creating a political backlash or a culture of noncompliance or outright deception. Essentially, taxpayers respond to aggressive tax administration with equally aggressive noncompliant actions.

Chapter 2 offers several noteworthy observations about the future of the property tax. Among them is the authors' speculation that information technology will make property tax administration less daunting. If property tax administrators take advantage of information technology, they will have access to data on land and land improvements that could substantially improve their ability to track changes in ownership, use, and values, improving the overall accuracy of tax valuation outcomes. Information technologies may also lead to better compliance and collection outcomes.

The chapter confirms that the financial and administrative benefits that can accompany increased reliance on a local property tax have been slow in coming because use of the property tax has also been deliberate in development. In that regard, the chapter is discouraging to true believers in both the property tax and the benefits of fiscal decentralization. However, without describing the needed organizational changes, Bahl and Martinez-Vazquez

illustrate how modest improvements in the key steps of administrative practices dealing with property tax have implications for substantial increases in revenue.

In chapter 3, Sally Wallace focuses on real property as a tax base. She does not consider the use of a traditional property tax, but instead examines the policy issues of applying a capital gains tax to real property. A policy that identifies, captures, and taxes capital gains from real property may seem unrealistic, but Wallace reports that such a tax does produce revenue in several countries.

Chapter 3 is not only about securing a source of increased revenue to feed the public leviathans, but also about the growing economic globalization and resulting mobility and the potential of diminishing revenue from many existing tax bases. Wallace notes that taxing mobile bases for revenue in a globalizing economy, where international boundaries are less important, is a slippery slope and that revenues from mobile tax bases are inevitably moving toward the bottom of the slope.

It is difficult to generalize as to what level of government would suffer the most harm from declining tax revenues, but we assume that in a central-versus-subcentral scheme of governing the subcentral governments are at the greatest risk of a fiscal disadvantage. The problem would be especially severe in the developing and transitional governments, where own-source revenue at the local level is already limited.

Adding to the challenges that a race to the bottom would create for fiscal decentralization are several basic questions about efficient tax policy. First is a concern that current tax schemes distort market and economic efficiency. For example, not taxing capital gains on real assets (property and improvements to property) but taxing gains on other capital assets (financial instruments) may alter the allocation of capital. The outcome could be an underinvestment in taxed productive capital goods and an overinvestment in nontaxed consumption goods.

Second, not taxing capital gains may contribute to an uneven distribution of wealth, with higher-income groups likely to benefit from a system that does not tax the capital gains on real assets. A capital gains tax would likely reduce or mitigate the financial bubbles that now confront the housing markets in the United States. In addition, while the primary focus of chapter 3 is not revenue, a substantial revenue flow is associated with a tax on the capital gains dealing with land and improvements. Wallace reports that a capital gains tax on residential housing in the United States would generate \$40 billion annually.

There are economic positives associated with a capital gains tax, but there are also some important reasons a capital gains tax would prove difficult to

implement, even on a partial basis. As with any new tax regime, a capital gains tax would most likely receive little political acceptance, especially if it were applied to residential land and housing. As alluded to earlier, Wallace identifies several countries where versions of a capital gains tax do exist and have been in place for a number of years: Jamaica, Korea, the Russian Federation, and the United States. None of those versions approach a true capital gains tax, however. In the United States, for example, the first \$500,000 gain in the value of a residential home is exempt from the tax, which exempts most residential units.

The country that is closest to having a capital gains tax on land is Taiwan (Republic of China), which taxes capital gains on property and applies them to the gains' progressive tax rates, ranging from 20 to 40 percent on the inflation adjusted gains. Acknowledging the political challenges is important, but it is also important to realize that Taiwan's system has achieved a certain amount of success.

Wallace's chapter is important to policy makers for several reasons. It reminds readers that the world economies are globalizing and that taxes on nonmobile factors have the potential to provide governments with stable revenue sources, which seems especially important for subcentral governments interested in achieving fiscal decentralization. In addition, while there will be opposition to any new tax scheme, chapter 3 offers hope that at least a portion of that opposition can be offset by examining existing versions of a capital gains tax on land.

LOCAL ECONOMIC DEVELOPMENT

The three chapters in this section examine the function of land policies and land use patterns in determining patterns of development, and all offer an unconventional view of land and economic development. In chapter 4, Gerrit-Jan Knaap presents a series of arguments that, when it comes to land use, the market mechanism may not achieve the most beneficial outcome. He argues that the market may actually lead to a distortion of efficient land use during periods of growth or redevelopment in a community. John Chien-Yuan Lin examines the role of land use in the context of redevelopment of urban and nonurban areas in chapter 5. He uses the example of the economic redevelopment of an island in Taiwan that would benefit from a development policy based on sustainable development. In chapter 6, Michael Luger examines in considerable detail the economic and political policies surrounding local economic development and the function that land and land policies can play in development.

Knaap's chapter questions the standard argument that market-derived land prices—and thus a market-based allocation of land—will produce an efficient outcome in land development patterns. As an economist, Knaap understands the importance of market prices in directing resource allocation, but he also realizes that there are asymmetrical outcomes in many markets, and in land markets they can result in situations where land may be misused. The neoclassical economist would recommend that the remedy for such issues is to internalize prices so that they reflect the full cost of the production factor—in this case, land—to an economy or society. Thus, an economist would add compensating taxes and fees to the market price of land and do it in a manner that would allow the market price plus the additional charges to provide the correct market signals on the consequences of land use.

Knaap also offers counterarguments to market pricing along with a series of examples to support the importance of nonmarket-driven processes that affect land use decisions. A useful illustration shows the role of public investment in infrastructures such as roads, water systems, and sewer systems in influencing land and urban development patterns. Knaap offers remarkably striking visual evidence of development patterns that appear to be strongly influenced by the patterns of public investment in infrastructure. The visuals include urban patterns from the nineteenth century and the last few decades of the twentieth century.

While many economists, including urban economists, dismiss the use of procedural rules or legislative actions to control markets, including the land market, Knaap contends that imposed policies may lead to more aesthetically appealing development patterns and more efficient housing patterns and transportation. He again offers as evidence of these assertions visual examples of housing patterns and the accompanying transportation outcomes. The term he uses to describe the improved transportation processes, including pedestrian traffic, is *network connectivity*. He concludes that a market-driven allocation of land will not achieve the most efficient network connectivity possible.

Some of Knaap's stronger arguments originate from research examining the importance of the visual aspects of neighborhood design and investigating how people value different design configurations. The chapter gives evidence that density, open space, signage, proximity to transportation nodes, and even road design are positively capitalized in land values. Moreover, Knaap asserts that those visual aspects are unlikely to develop without applying nonmarket methods to guide decision making. This chapter will be interesting to legal experts, planners, public managers, economists, and noneconomists concerned with land use.

In chapter 5, Lin focuses on the role that a land policy can have in influencing local economic development. Lin considers the possibility of

using unique land configurations as engines to foster economic development. Such configurations are normally associated with naturally occurring wonders of nature, but in Lin's view unique land qualities can also be found in commercially active areas and can result from historical patterns of land use and man-made improvements to land. Lin believes that uniqueness can develop around issues such as air quality, efficient use of resources, and alternative patterns of land use. He believes that a sustainable environmental policy can contribute not only to the quality of life but also to the economic well-being of residents in a community. His views of land use correspond with at least one of the Millennium Development Goals of the United Nations: to ensure environmental sustainability (World Bank 2000). Like those of the United Nations, his views are not limited to rural or remote plots of land; he also reviews the role that unique land and improved areas can play in the sustained economic development of urban areas.

Lin's chapter will especially resonate with those interested in unconventional approaches to economic development such as tourist-led economic transformations of urban and rural areas. Under such approaches, unlike the more familiar method of establishing an economic development policy to create jobs, additional jobs are almost secondary to an improved use of the existing assets of an area. As in other chapters, a key concept in Lin's model is promotion of environmentally sustainable development.

Because Lin looks at economic development in terms of economic and environmental sustainability, his chapter is also useful for individuals and groups who support urban economic development but have seen past efforts at urban renewal fail. He offers a process that may create not only economic benefits to the participants but also political advantages as public and private partnerships are created.

In chapter 6, Luger provides a comprehensive review of the multitude of techniques used to generate economic growth and development within a community. Generally, the processes used by subcentral governments to promote economic development have been specific and direct economic incentives offered to business firms. Examples of those incentives include focused tax breaks, low-interest (subsidized) loans, and acquisition and assembly of land parcels. Of the development techniques identified, the ones most related to land are the policies that assist in the assembly of land for developers and deal with property tax breaks.

The literature and the examples reported in chapter 6 generally come from the United States, but we believe that the reported analysis also applies to developing and transitional countries. We think it quite likely that the strategic arguments and tactical steps used to encourage local governments in the United States to adopt policies that encourage economic development

will become as common in the developing regions of the world. The often-referenced flattening of the world applies to virtually all economic policies, including local economic development schemes.

Luger presents a general framework that can guide decision makers during the analysis of economic development programs. His framework considers the influence of policy choices on hoped-for or intended economic and social outcomes, as well as a conceptual process that facilitates consideration of the unintended outcomes, which generally carry a negative connotation. In many situations the unintended outcomes may be positive but remain unrecognized or underreported. We believe the use of the frameworks articulated in chapter 6 will add structure and conceptual strength to the analysis of local government development policies.

Luger, along with most analysts who publish economic development literature, views the effectiveness of direct economic development incentives with considered reservation. Conversely, he believes that economic development processes are important components of a local government's success, perceived or real, in a competitive world. Like many public policy questions, those concerning the effectiveness of economic development policies have few clear answers. Luger is intrigued with the concept of using the provision of adequate public services as an indirect incentive for economic development. In the long run, for example, a quality workforce trained in demanding public schools might do more for economic development than a direct tax incentive. The author views higher education and the associated research that follows as important instruments of economic development.

Luger's review of the recent U.S. Supreme Court case *Kelo v. City of New London* on land takings is also important because it considers the political repercussions associated with that decision and reminds everyone that while policy battles are fought in the courts, policy wars are decided by elected legislative bodies. Consequently, several state governments in the United States have attempted to limit the impact of the court decision by adopting laws that minimize the ability of a government to participate in a taking.

INSTITUTIONAL REFORM

The next three chapters cover institutional reforms associated with land and its management. Each of the reforms—estimation of the value of land and improvements to land; information technology applied to land records, land management, and land registration; and land record and titling programs—represents important yet practical challenges in land use.

In chapter 7, two real estate finance economists, Peter Colwell and Joseph Trefzger, address institutional reform, particularly the importance of accurate and reliable valuation of land and improvements. Their chapter underlines how essential it is that accurate estimates of value are used in ad valorem property taxation, financial compensation for land takings, and even arm's-length market transactions. The current processes of estimating the market value of land and improvements to land have emerged over a four-decade period, and as the technology of appraisal changed, the institutional function of appraisal also evolved.

The chapter reviews the technological advances, including software, computing capacity, and statistical innovations, now used in estimating the value of land and improvements to land, or real estate valuation. It is clear that this technical progress is revolutionizing the valuation practice and profession. The regression models and methods currently employed in real estate valuation are substantially more robust and nuanced than early models. However, the authors acknowledge that many complex valuation challenges remain to be resolved, in part because the academic community, including econometricians, statisticians, economists, and real estate economists, has not invested significant effort in resolving land and building appraisal questions.

Even with the noted shortcomings, hedonic regression models dominate valuation models. The application of regression models to valuation has benefited from the advances in computing power, including the declining cost of acquiring power. In the United States that low cost has allowed small appraisal districts the opportunity either to develop their own hedonic model or to contract for such results from commercial appraisers. While not directly discussed in the chapter, the growing affordability of computing power is one reason that an ad valorem property tax may become more realistic in developing and transitional regions.

Colwell and Trefzger observe that econometric modeling has yet to exploit the insights that spatial econometrics brings to real estate valuation. This includes developing models or employing variables that can robustly distinguish between subtle spatial characteristics. They also caution against the blanket application of spatial variables to estimate land values. Their concern is that without careful model development, regression modeling that uses spatial variables may report values but not necessarily explain the cause. They also caution against the application of geographical information systems (GIS) to valuation models. Their primary concern is the "black box" nature of the GIS, in which values are determined more on averaging processes than on econometric foundations. One intriguing observation offered in the chapter is that population characteristics (socioeconomic) may become important and accepted variables in real estate valuations.

This review of the technological applications currently used to value land and improvements to land, along with the discussions of developing technologies, is recommended to professional appraisers in the public and private sectors, as well as academics who are developing new or enhancing current econometric models to assist valuation. The chapter also offers an insightful evaluation of many emerging and still unresolved valuation questions with regard to takings, partial property rights, and the correlation of multiple appraisal methods.

In chapter 8, Ian Williamson reports on the startling increase in the application of information systems and information technology to land records and land administration processes. The image of the dust-filled land office is clearly inaccurate in most countries. The emerging technological advances that are applied to land records have transformed the land office into a dynamic and exciting center of information and policy.

The use of land records is not new; in most of the world's regions landownership documents have existed for generations. Generally, they have been formally recorded physical documents, but in some situations informal records serve similar roles. For most property records, formal or informal, the focus has been on identifying location and ownership.

Williamson describes the transformation of land records from text to digital form and highlights the resulting advantages. First, they no longer require a physical presence to access and evaluate land information. Remote site access allows a more diverse group of researchers to study land issues and analyze land use patterns. The digitization of land records is substantially more than just having easier access to land records, however, and the electronic recording of land records now extends beyond just listing location, ownership, and ownership transfers.

Where implementation has progressed, the resulting digital records now describe the associated rights of land and land use. Examples of additional dimensions of land parcels include the concepts of height and time. Examples of increased information include carbon credits, unit trusts, waste discharges, and complex commodities that are now associated with land. Williamson argues that the inclusion of information beyond ownership information is a necessary progression and relates to the complex land market emerging in developed and some of the developing regions of the world.

The use of supplementary land information, according to Williamson, will facilitate the growing desire to use land in a manner that encourages sustainable economic and environmental development. Such development is more probable when the effects of a landowner's action on other landowners are articulated before land decisions are made. With additional and readily available information, land use and land management are likely to become

more comprehensive, including the consideration of partial land rights. Likewise, the development of land markets that are now trading in partial rights will become more transparent. The new markets allow such rights to resemble commodities and result in new methods leading to the securitization of those rights.

Chapter 8 highlights the growing openness of land information and land records, which are now accessible by almost anyone with access to a computer and the Internet. Data include information about the natural, built improvements and the intangible matters connected to land use. Williamson emphasizes that land markets become more efficient when information about land and land use is accessible to citizens and government policy makers.

In chapter 9, John Bruce reviews the critical role that land records play in the development of economic and property rights reform. Bruce acknowledges the contribution of economist Hernando de Soto in bringing land titles to the forefront of current development debates and practices. De Soto made the case that titling land would facilitate access to capital markets for people in poverty, because with titled land they would have an asset that could be collateralized in a mortgage process. As Bruce notes, that reasoning was not new to most international assistance organizations; for example, it is a key part of the most recent *World Development Report* (World Bank 2006). The widespread effort to title land is a significant institutional watershed in many countries, especially for the underprivileged throughout the world. (In chapter 10, Daniel Bromley raises a series of questions about the implied institutional changes associated with land titling.)

International organizations have been working for a long time to aid developing and transitional countries in their efforts to validate individual property rights. Bruce stresses that such groups are more focused on property rights now than at any other time in their history. However, the increased emphasis on land titling has been questioned. Bruce reviews several recent works that raise substantial challenges to the assertion that private ownership of land increases the productivity of land.

The World Bank, where Bruce has worked as a legal expert in land issues for several decades, is not in a position to compel countries to do much regarding land titling. What the World Bank can do—and is doing—is to create incentives that encourage changes in practices and laws. Another approach of the World Bank is policy lending, which requires the recipient government to meet certain criteria before lending takes place or all of the funds are released to the target country. In the case of titling, the release of lender funds is triggered by the actions of the government to facilitate the titling of land.

The bank uses direct investment in projects that assist in the development of land titling in Eastern Europe, East Asia, and Latin America. There has been less involvement in Africa, arguably the most challenging area of the world for economic development and land registration, due to obstacles that include the culturally and historically important role that communally held land represents there.

Bruce identifies other challenges that complicate the process of land titling, including insufficient political stability to ensure that land rights will be enforced once they are established and the sharing of land policy and administration among numerous public institutions, each of which has some control over the status of land. The problem with having numerous land authorities is that no institution sees the situation exactly like the others. No institution has the ultimate authority to act, but one institution can limit the decisions of the other institutions. Bruce describes several situations where multiple national agencies operate parallel titling functions that undermine the efforts of other agencies. He also identifies some of the technical problems of land titling.

CHANGING VISIONS OF LAND

The study of land is the study of a dynamic factor of production. Society views land in a continuous cycle of change. The economic role of land is changing, as is the way we treat land. Chapters 10 through 13 highlight the differing and evolving views of land and its importance. In chapter 10, Daniel Bromley challenges some of the assumptions that now motivate land reform issues. An important set of themes is that land continues to matter to the human condition, but the way land is viewed has changed dramatically over the centuries, and its role in the economy will continue to change. In chapter 11, Anthony Bebbington considers the role that information plays in land use decisions. He uses a case study from Peru to describe how land use decisions are becoming international in their implications. In chapter 12, Kuo-Ching Lin describes the evolving role of land in Taiwan, which owes much of its early development to agricultural innovation in land use and land reform. The new challenge, however, is to maintain a role for land in a rapidly changing economy where the market suggests that if agricultural production is left only to the market, it will likely dramatically decline. Finally, in chapter 13, Robert Evenson reviews the role of agricultural innovation in the development of developing and transitional countries.

Bromley addresses how we think about land and how our views have had a profound effect on the development of accepted wisdom with respect to production and markets. Land has had an important role in the development

and evolution of economic theories and models. Giants in the field of economics, including David Ricardo, Thomas Malthus, Karl Marx, and Henry George, have developed theoretical contributions from an analysis of land as a factor of production. Those economists viewed land and its role in a society as an asset to be managed in order to maximize production and earn an economic return.

Individuals of influence who were not trained to think as economists, like Henry David Thoreau and John Muir, also used their views of land to shape collective views. Those individuals contributed to the view of land not as a consumption asset but as an “amenity” that provides nonmarket-driven returns. Briefly, this latter set of players provided the foundation for the model of sustainable development. Bromley’s quick review of the 80-year history of the journal *Land Economics* confirms the current role of land in the framework of sustainable development.

Bromley raises concerns about the standard assumption that the titling of land will benefit land occupants in some of the poorest regions of the world. He offers evidence that calls into question the robustness of some of the work he cites in support of the assertions around land titling. He suggests that the informal titling systems contribute to multiple uses of land and that formal titling might undermine the current efficiency of those uses.

Bromley concludes his chapter with a series of challenges. He argues that we need to rethink the economic development model that dominates current policies concerning land use, and he questions the benefits of land titling in some regions of the world. He also argues that the concept of land is in a constant state of flux. He states, “Land is always in the process of becoming.”

Bebbington offers a partial confirmation of several of Williamson’s arguments and a firsthand look at the emerging intricacies of land use decisions. He explains that the complexity surrounding land use and land use decisions is increasing. One reason is that information on land and its use is now being shared beyond local communities within a country and even beyond national borders. In the not too distant past, public and private land use and the use of resources from the land were local concerns, perhaps regional issues, but rarely countrywide issues. For example, owners of land or mineral rights could make choices and then implement those choices relatively independent of forces outside of the host community or ownership of the firm. Bebbington presents a model and some case illustrations on why that description is no longer an accurate reflection of how the process works with respect to land and land use markets.

Bebbington reviews the concept of sustainable development, the normative paradigm that argues that economic transformations and development should consider issues beyond the use, consumption, and transformation of

physical resources. That paradigm is different from past economic development practices in the following way: In the past, macro- and microeconomic strategies were tilted toward benefiting actors who were inclined to think of development only in terms of its effect on factors they controlled. They were focused on the economic return on the physical asset they controlled, and they were less likely to consider the effects of their decisions on factors beyond their own assets. Sustainable development suggests that the factors in the calculus of analysis around land use should include human capital, social capital, physical capital, financial assets, and cultural capital.

Bebbington uses the concept of social dimensions to reconsider how resources are used in rural areas. He argues that as decisions about land use are debated in the context of social dimensions, the scale of the discussions—and the accompanying arguments—will go well beyond the borders of rural areas and the boardrooms of the owners with the rights to extract natural resources from an area. The new ease with which information about land use can be shared is altering the land use process. Using a case from Peru, Bebbington illustrates how citizens in a rural area were able to frame a debate on land use, specifically mining, that went far beyond the area where the mine was planned. The information from that debate found its way to the Internet, and eventually even the outcome of the national election was influenced by the questions raised over mining in the rural highlands.

Bebbington's chapter illustrates how land use decisions now go well beyond the borders of the area and even the country where land concern is sited. We are not naive enough to argue that an inappropriate taking of land would be reversed by adverse information blogged around the world, but the examples of sustainable development in Bebbington's chapter do suggest that land issues are no longer just local issues.

In chapter 12, Lin, an agricultural economist, reviews land use issues in the host country of Taiwan, which has been historically recognized as a leader in land reform and a country that owes much of its economic success to innovative agricultural practices. At the same time, Taiwan is under significant pressure concerning its land use. Its population density is the third highest in the world. Land prices are very high, and the subsequent financial return to agricultural investment is low. The market pressure is to convert land to activities with higher returns, which generally means conversion of land to urban uses. The result in Taiwan is a fundamental policy issue addressing whether and how land use patterns will change.

That policy issue will not be easily resolved. Regardless of the low return on agricultural investments and the market's demand for alternative uses of land, the political pressure to maintain an agricultural sector in Taiwan is strong. The ever-present agricultural lobby is a powerful political force in

most regions of the world. However, in Taiwan the constant threat of Chinese intervention creates additional political support for the security-based production of food, especially rice. The result is that some direct and indirect subsidies go to farming. Nevertheless, even that political support is shifting. For many years there was at least a political equilibrium in the governmental support of agricultural land use, but that equilibrium has shifted.

The changing political pressure is coming from several sources. Since Taiwan gained access to the World Trade Organization, it has faced countervailing pressure to curtail the support of rice farming and is now importing rice. Plans are forming to make a shift away from agricultural subsidies, but to do so slowly and to give financial protection to the displaced farmers. There is also pressure to reforest land in Taiwan due to the recent storms that caused substantial damage in many urban areas. After those storms, it was obvious that continuing to remove trees from steep hillsides or build residential or commercial buildings on floodplains without safety and financial risks was not feasible.

Lin's chapter describes the challenges that will eventually face many countries as the world economy continues to see trade barriers lowered. Subsidies to marginal agricultural operations will become more difficult to maintain. Price pressures on land, as population increases, will further reduce the return to farming. However, Lin is not certain that the market process will have the final say in land use. He recognizes the importance of nonprice or policy-directed outcomes.

Addressing the effect of technology on the production of food and fiber for human consumption and use, Evenson (chapter 13) discusses the impact of the green revolution and the gene revolution on the productivity of land and the resulting consequences for regional and country economic development and change.

A review of technological and biological breakthroughs and their consequences is important, since not all segments of society have embraced their implementation. There has always been a concern that technological advances would be available only to large farms and that small and undercapitalized farms would be left behind and further disadvantaged. Furthermore, there was a concern that the size of existing successful farming operations would increase. A related concern was that farm workers would see a reduction in real wages. Evenson thoughtfully responds to each of those major concerns.

The patterns of technological adoption have not followed the feared path of benefiting only large agricultural operations. In fact, large operations did adopt technological advances earlier than small operations, but over time the improvements in productivity have become widespread. Failure to adopt has

had much more to do with country- or region-specific concerns than with the inherent size of agricultural operations. Farm size in some regions has actually declined, and the wages of farm workers have increased, as has the number of farm workers. Chapter 13 reports a variety of data showing that both revolutions have increased the return on agricultural investment across a wide spectrum.

That does not mean that the adoption of technology has not had negative consequences. The use of fertilizers, insecticides, and herbicides has increased and has had negative implications for sustainable land use. However, Evenson grades the influence of both green and gene revolutions as positive when measured by a host of socioeconomic factors. His chapter concludes with a review of the trend in the use of funds from the U.S. Agency for International Development away from support of the agricultural sector.

CONCLUSIONS

This volume offers a review of important issues surrounding land and land use. On many dimensions, the chapters offer optimistic outlooks for the future of land. Technology is changing the way land is now managed and used; and the evidence of improvements in land records, agricultural technology, estimation of land values, and dissemination of information about land use is encouraging. The suggestions to consider land decisions without an absolute reliance on the market are worth considering, and nowhere is that notion more evident than in the frequently repeated need to consider sustainable development as an acceptable policy goal.

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