

Protecting Agricultural Lands Under the Threat of Urbanization: Lessons for Developing Countries from Developed Countries

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Introduction – Agricultural Land Protection at the Dawn of the 21st Century?

Urbanization is one of the most significant land use phenomena in the world, if not *the* most significant. And it is has been so throughout the century. Before mid-century a rapid period of urbanization was most pronounced in the developed countries; this process has continued. Since mid-century rapid urbanization, and its consequences, have been visited upon countries in the developing world. Today, as we come to the end of the 20th century countries on every continent are grappling with significant rural to urban migration, population growth within their urban areas, and thus the physical spread of their major urban area, and most if not all of their minor ones (Clark 1998, Farvacque and McAuslan 1992).

As urbanization has occurred agricultural lands in the peri-urban zone have been significantly affected. In most parts of the developing world, agricultural lands have traditionally been close to cities. This land use pattern allows producers easy access to markets, especially where transportation systems may be unreliable and expensive, the products may be perishable, and producers may be small-scale and not have the capital or facilities for storage of agricultural goods. From the urban side, this land use relationship benefits urban residents by providing them with some or all of the food they need for daily life.

Urbanization has, in most cases, caused the spread of the city onto adjoining agricultural lands, often in a pattern of low-density residential development. In some parts of the world (mostly developed countries), this spread has been the site of middle and upper class housing; in other parts of the world (mostly developing countries), this spread has been where a country's poorest people have settled, often in informal or illegal communities (see, for example, Bassett and Jacobs 1997).

From the perspective of traditional land economic theory, however, this land use change has not and should not be a problem. Higher demand uses (urbanization) are competing for a limited resource (land) and displacing a less intensive resource (agriculture). A form of market-based economic efficiency is playing itself out. The result should be that agriculture gets displaced to another location (further out) where its less intensive demands are economically efficient/reasonable (i.e. the bid rent for the land in agriculture reflects its best use),

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and/or the macro-economic structure changes to allow for the provision of food products from other sources (such as imports as a function of regional and/or global trade).

To a large extent this is how: (a) land use in the peri-urban zone has changed over the decades, and (b) the mainstream perspective on this change. But, beginning most pointedly in the 1970s another perspective has emerged. This alternative perspective argues that it can be important, even critical, to consider explicit public policy measures to counteract "natural" market-based land use phenomena. This alternative perspectives argues that for both developed and developing countries public policy to protect agricultural and other low-density extensive land uses may lead to the most prudent and efficient use of land and the public fisc. Why?

Advocates of this alternative perspective note the following about the state of agriculture and thus agricultural land use. First they acknowledge that, as noted, the significant loss of agricultural land to urbanization is a century-old phenomenon. What has traditionally occurred has been either the substitution of new lands for those taken out of production and/or the intensification of production from those lands left in production. This latter point captures the benefits received from mechanization, efficient management practices, the development of pesticides and herbicides, and application of scientific advances in crop breeding and seed development. The net result has been that while land has been going out of production, productivity per hectare has been increasing dramatically. Beginning in the 1960s a number of agricultural scientists began to warn about what appeared to be a flattening out of the curve of increasing productivity per hectare. And this debate continues through to today. A "radical" point of view argues that we have invented our way out of seeming dead ends in agricultural productivity before and we will do it again (e.g. through the use of bio-technology); a "conservative" point of view urges caution, and suggests we not waste land resources until we are sure an alternative exists. So, decreases in rising productivity per hectare, combined with an increasing global population overall and in cities in particular, and a decreasing amount of what some view as a fixed and unique resource, lead those with this alternative perspective to urge a program for agricultural land protection.¹

Advocates for agricultural land protection then further their case with facts about how much land is actually being "lost" to urbanization. In the U.S. in the late 1970s and early 1980s this debate raged, with estimates of farmland loss ranging from a low of 600,000 acres per year to a high of 9 million acres per year (Coughlin and Keene et al. 1981, Jacobs 1995a). How is it possible to have such a wide range of estimates? It depends on what you are counting. Advocates of the alternative perspective tend toward the higher estimate because they take what they perceive to be a more systematic view of peri-urban land loss. They note that land loss is comprised of at least three components: (1) *land directly converted* from

¹ This line of argument is laid out in detail in both Gardner (1996) and McKibben (1998).

agricultural use to urban use (in the U.S. estimates range from 600,000 acres per year to 3 million acres per year), (2) *land indirectly lost* through a decrease in productive capacity, through, for example, soil erosion, salinization, desertification, etc. (which in the U.S. has been estimated to be as much as 3 million acres per year); and (3) *land idled* in anticipation of imminent urban development (which in the U.S. has been estimated to be as much as 3 million acres per year). Regardless of the actual numbers that are attributable to these components of land loss, from a greater-systems perspective the amount of agricultural land being "lost", when combined with uncertainties in productivity per hectare and increasing pressure on land through population growth, seem to justify public policy intervention until it is clear how the uncertainty in the agricultural production system will sort itself out.²

But from the mainstream perspective even these two phenomena are an insufficient basis for challenging the logic of market mechanisms. From the mainstream perspective, adequate substitutability will occur, either through new land put into production or through macro-economic adjustments, to deal with the "problems" caused by agricultural land loss. For advocates of the alternative perspective, three additional concerns are what bring the case for agricultural land protection to full bloom. First is the issue of within-nation food security. Many of the nations of western Europe first instituted policies aimed at protection of peri-urban agricultural land in the post-World War II era. Coming out of the war, there was sensitivity to the vulnerability of a nation which did not have at least a minimal control over its own food supply. Without this, nations (and regions within nations) were easily manipulated and disrupted. Quite literally, they could be starved out! This issue of food security is increasingly a pressing one in the developing world. As more countries more fully emerge into the global market there is a hesitancy to leave one's population at the whim of other countries and multi-national corporations.³ Popular publications such as Newsweek (1995) run stories on the issue, pointing out those countries most threatened in this regard.

A second concern added to that about within-nation food security is the stress of urbanization on the public fisc. Especially for developing countries public sector budgets are tight, not rising rapidly, and must be allocated carefully. Low density urbanization in the peri-urban zone is an inefficient demand on the public treasury. As it occurs, demands rise for the provision of both physical and social

² China provides one of the more dramatic current cases in this regard. Hertsgaard (1997) cites data that shows China has lost 86 million acres of farmland to urban growth and soil erosion between 1950 and 1990 -- equal to all of the farmland in Germany, France, and the United Kingdom. These losses are continuing, and are accentuated by rising incomes which are changing dietary patterns (demand for more meat) which is in turn putting more stress on the food production system. Chinese policy makers and international policy analysts are very concerned about the implications of these trends.

³ This was precisely the impetus for my involvement in a consultancy with the Ministry of Agriculture in Albania during the period 1994-1996 (Jacobs 1997a). The rapid land use and market changes which have come to Albania in the post-communist period have left policy makers strongly concerned.

infrastructure. For countries which are often grappling with the need to manage cities which are rarely designed to manage the level of population current rates of urbanization press upon them, the competing demands for water, sewer, road, and electric service at the edge of the city, and the parallel demands to provide for social services such as schools and health care leave urban management officials in a quandary. To the extent they provide these elements of infrastructure they fragment the expenditure of a limited base of public capital; to the extent they do not provide for these infrastructure they often foment the seeds of social discontent from residents who believe they are not receiving the services they should.⁴

Finally, the third concern is environmental. Peri-urban agricultural land provides both agricultural and environmental values. As land is converted, environmental deterioration can (and usually does) occur. This can include (depending on the eco-system) air pollution, soil erosion, water table depletion, ground water pollution, loss of wildlife habitat, and/or threats to unique ecological areas. These can be, both directly and indirectly, unhealthy for the population and expensive to manage from the public's point of view.

So, while mainstream economic logic would suggest that agricultural land loss in the peri-urban zone should not be a matter of concern, in fact, increasingly agricultural land loss is finding itself in the center of policy debates in developing countries. It is not uncommon for several ministries, often for different and disparate reasons, to want the same outcome -- the protection of agricultural land (the ministry of agriculture for food security, the ministry of urbanization for efficient expenditures from the public fisc for infrastructure, and the ministries of the environment and public health to prevent deterioration of environmental quality).

But it is one thing to identify the problem, and quite another to be able to effectively act upon it. Developed countries have focused on this issue for 25-plus years. Despite the significant differences in socio-political-economic circumstances (including significant food surpluses and the fact that many of the developed countries are food exporters), peri-urban agricultural land protection has been a leading policy issue in the U.S., Canada and western Europe, often pushed by citizens demanding a different perspective on land management than that offered forth by the efficiency-focused expert community (Jacobs 1995b).

Approaches Available and Taken to Protect Lands in Urbanization

Context. The public policy options available for addressing the problem of agricultural land protection are relatively finite. In 1970, a noted legal scholar suggested that in a broad sense there are only three public policy systems for the management of land -- regulation, taxation, and forms of direct governmental action

⁴ This was the basis of my involvement in a consultancy in Poland in 1990-1991 (Jacobs 1995c).

(Williams 1970).⁵ The first approach -- forms of land use regulation -- appears to be the most popular, and receives the most attention in the academic and popular press. The second approach addresses the explicit use of land-based taxation -- through, for example, preferential or differential taxation -- to establish a set of quasi-market signals telling owners how they should or should not use land to further public purposes. (This is over and above the use of land-based taxation as a revenue generating method.) The third approach recognizes the influence of public decisions in, for example, infrastructure provision on land use, and the ability of government to purchase land and land rights so as to achieve public ends.

Since Williams wrote, we now recognize several others systems in addition to the three he articulated. One is free market use of land, without government management. Markets are a form of policy. Where individuals have a robust set of private property rights, and exchange land and rights based on market signals, public objectives in land use can be achieved. However, when public policy to manage markets is introduced, such as through land use regulation or differential property taxation, it is reflective of a recognition that markets are failing to provide one of more public goods. Why is this so with regard to peri-urban agricultural lands?

In the case of agricultural lands in the peri-urban zone, individual land owners (where land is owned privately) are responding logically to market signals. In most cases, the market is offering these owners a significantly higher price to take land out of agricultural use rather than to leave it in. From their perspective, the logical response is to facilitate land use change away from agriculture. The problem is that what is logical from the individual's point of view (of both the seller and buyer) may not be seen as logical from the larger social and economic system. Especially when viewed from the perspective of within-nation food security or the potential drain on the public fisc through demands for peri-urban infrastructure, the logic of hundreds, more likely thousands, of individual landowners does not end up equalling the logic of society at large. What we have instead, is what one scholar has called a "tragedy of the commons" (Hardin 1968). The tragedy is that while each individual pursues what maximizes their self-interest and self-benefit, the result is a tragedy for the population as a whole (through the loss of the peri-urban agricultural land base). By another term, what is described above is known as market failure (Harriss 1980).

In choosing to respond to this instance of market failure in land policy makers are confronted by a set of policy tools that carry with them different strengths and weaknesses. Below I discuss one set of these options reflective of Williams (1970) typology. These options are selected because they are among the most popular methods in developed countries for trying to protect peri-urban agricultural lands. Detailed discussion of these and related methods as they are applied to the

⁵ Williams' (1970) typology is one of many; others have been put forth by, for example, Pearce (1980) and Gutterberg (1984).

protection of agricultural land can be found in Coughlin and Keene et al. (1981), and Daniels and Bowers (1997).

Taxation. Taxation policy has generally focused on ways of alleviating the burden of property taxation on landowners. The rationale is that as urbanization increases the value of land, the taxation system reflects this increase in value. When it does, agricultural landowners are taxed as if their land were in urban use, and this can "force" them into a land use transition towards urbanization because they can not afford the tax burden of land assessed in urban use while its actual use is agricultural. Taxation policy can allow landowners to pay reduced property taxes, either through freezing or reducing the assessment of the land, reducing the tax rate applied to the land's assessed value, or setting a fixed tax amount reflective of agricultural use.

The strengths of this approach is that it can be simple to formulate, simple to explain to decision makers and landowners, relatively simple to administer, it allows for the coverage of a wide geographic area, and it can cost very little to actually implement.⁶

These strengths are, however, counter balanced by several substantial weaknesses. Most notably, the benefit received by the landowner is relatively small compared with the benefit that can be obtained from capturing competitive market prices for land in non-agricultural uses. Also, taxation policy generally distributes benefits to land not people. So it provides relief from tax burden without an evaluation of the "deservedness" of the beneficiary. In addition, a taxation relief approach requires that an accurate system of public records maintenance exist to allow the tracking of the granting of benefits, and their monitoring.

The experience with taxation approaches is that they are highly popular; every state in the U.S. authorizes use of this approach by local governments. But evaluations have shown that taxation policy seems to have little long-term impact on the protection of agricultural land in the peri-urban area.

Regulation. Regulatory approaches to land policy are among the most prevalent for land use management. Following the U.S. invention of zoning in the early part of this century, governments around the world have explored the use of zoning-style approaches. Zoning is premised on several underlying concepts. The most important is the incompatibility of land uses and thus the need to separate land uses from one another into distinct land use districts (e.g. agricultural, residential, commercial, industrial). Within each district the types of uses that are compatible with the goals of the district are specified, and lists are developed which stipulate permitted uses, conditional uses and prohibited uses. Prohibited uses are not allowed in the district as they would violate the land use goals for the district.

⁶ What it does is shift tax burden from one set of landowners to another; so urban uses end up paying a higher tax for the goal of protecting agricultural land.

Permitted uses are always allowed, as long as the use meets the land, area and structural specifications for the district (the minimum amount of land, and the relationship of the land use to adjoining uses). Conditional uses may or may not be allowed, and are reviewed on a case-by-case basis. Agricultural zoning specifies the preference for agriculture as a permitted use, and the incompatibility of other non-agricultural residential, commercial and industrial uses.

The appeal of regulatory approaches in general, and zoning in particular, is that it very clearly lays out the plan for land use for an area. A visual representation, in the form of a map, shows the expectation for how land is to be used, and the accompanying text specifies land use activities. Drawing on long-standing principles in ecology, geography and urban planning, a zoning regulation can be relatively simple to conceive and formulate. Through doing so, a large geographic area can be covered -- planned for/regulated -- at relatively little cost, and once adopted implementation should also be relatively inexpensive, requiring only the institution of a structure to process the permits authorized under the regulation and a system of enforcement for violation of the regulation.

But despite the appeal of zoning and related regulations, they have substantial weaknesses when designed to protect lands subject to the threat of urbanization. As the history of zoning shows, zoning is an approach to land use management intended to change with changing socio-economic circumstances (Haar and Kayden 1989, Delafons 1969). The institutional and administrative structure of zoning is such that as land uses, land values, and attitudes towards land use change, the regulation itself is, once established, relatively easy to modify in response to these changing conditions. This can be a positive attribute of zoning when it is used as an urban land management tool, as districts of a city change over time, but it becomes a weakness when the goal of land management is to try to protect a land resource over the long-term.

More important, though, are two other matters. First is that the effectiveness of a regulation requires a social situation where there is a general respect for the rule of law. This means that most people will obey the specifications within the regulation just because it exists. Relatedly, it is necessary to have an enforcement mechanism (administrative and judicial) that will be effective in quickly identifying and addressing violations of the regulation. If the purpose is to assure land use compatibility, then illegal incompatibility, when it occurs, can not be tolerated or the conceptual legitimacy of and for the regulation will be challenged.

The second matter has to do with the instance of bribery. Where land regulations exist they provide a framework for the distribution of valuable permissions, in the form of land use permits. When there is significant market pressure to convert land out of low-density uses, such as agriculture, to higher-density, urban uses, individual landowners have a strong impetus to pursue that option through all available means, including side payments to administrative

officials. This can be a particular problem in developing countries where administrative officials are poorly paid, and the value of the side payment is large relative to an official's formal salary.

Modified Regulation -- TDR. In response to the advantages of zoning, American policy designers have invented an approach that is intended to preserve zoning strengths while attempting to deal with its weaknesses.

Transfer of development rights, TDR, are an approach that seeks to achieve strict regulatory control of private property, while providing the landowner with a degree of market-based compensation. Overlaid onto a zoning regulation, land in an area is divided into two districts, a transfer district and a receiving district. In the case of agricultural land, landowners in the agricultural transfer district have their land restricted because of its value for land protection. In restitution they are allowed to transfer (through sale) the reduced value of their land to landowners in the receiving district. Landowners in the receiving district are permitted to acquire rights from landowners in the transfer district for the purpose of developing property at higher densities than would normally be allowed. The price for the transfer of rights is determined solely between the buyer and seller, and reflects market conditions. The role of government is to establish and distribute the rights, and to monitor their transfer through a public data base.

When it works as designed, TDR provide for (1) income to the landowner through *market-based* (as opposed to public) compensation, (2) land protection to the public-at-large through strict regulation of land, and (3) more efficient development of land in receiving districts.

Because of their potential, TDR have been enthusiastically received in the USA, and enthusiastically explored by other countries.⁷ And while there have been some significant implementations of the concept in the U.S., on the whole TDR has generated more talk than execution. Why?

The answer is politics. TDR work when supply and demand are in equilibrium. The transfer and receiving districts must be of the right size for this to occur. But in practice, too many TDR feasibility studies result in transfer districts that are too large, and receiving districts that are too small, so supply far outstrips demand. This happens because policy designers know what areas they want protected, but they are much less willing to designate higher densities in receiving districts to counterbalance their protection goals. TDR programs have succeeded where there is a strong development market, a well defined, often small, transfer zone, widespread public recognition of the importance of the resource to be

⁷ I have been invited twice to contribute to Italian discussions on this matter, and to contribute to a trans-European magazine on nature conservation which is distributed to all western and eastern European countries departments of environmental management, as well as related interest groups (Jacobs 1994, 1997d, 1997e).

protected, willingness among land owners in the receiving district to acquire available development rights, and political decision makers are willing to take risks (see, for example, Johnston and Madison 1997).

Modified Land Purchase -- PDR. In a further attempt to preserve the conceptual strength of regulation, while acknowledging the need for further certainty in land policy related to peri-urban agricultural lands, another modification which has been developed has been purchase of development rights, PDR. PDR are conceptually similar to both TDR and outright land purchase. The main difference with TDR is captured within the name -- instead of transferring development rights, rights are purchased (Buckland 1987, Daniels 1991). The main difference with outright land purchase is that only the property right related to land development is purchased from the landowner.

Under PDR, like under TDR, an area is designated for long-term land protection. Then, a fixed amount of money is allocated for development right purchase on the parcels in the protection area. As in TDR, land owners in the PDR district are subject to strict zoning regulations. They then apply to the public sector to have the development rights on their property purchased. The choice on this matter is theirs. No one forces them to accept the compensation for the strict regulation, nor to accept it at any particular time.

The assumption of PDR is that the conditions which must exist for TDR either do exist, are too uncertain, or are too politically unacceptable. The point of the PDR approach is to secure agricultural land protection into the foreseeable future through modifying the property rights structure that underlies land ownership itself.

While PDR programs do clearly and successfully secure the protection of land resources, they are not without disadvantages. The most prominent is their cost. Studies in the U.S. have shown that in rapidly developing peri-urban areas the development right is the most prominent of the rights in the private property bundle, and can represent anywhere from 85-95% of the full market value of the land (Coughlin and Plaut 1978). Thus, the use of PDR can be quite expensive.

Then there is the issue of what is being acquired for the expenditure of public funds -- i.e. is the money spent the best use of the funds? When a development right is purchased, all other rights remain in the private property bundle, and there is no necessary guarantees that agricultural uses of the property will actually continue. So while a development right has been acquired, it is treated, in effect, as a non-development right, where the public acquires the guarantee that land use will not change but there need not be any further guarantees about management of the land for agricultural purposes.

Experience with Agricultural Land Protection. All of the above approaches address how the public sector could approach protection of land threatened by

urbanization; how is it actually done? Two recent studies provide an illustration of this for a sample of developed countries (Jacobs 1997a, Alterman 1997).

In my study I examined the approaches of The Netherlands, Sweden, France, The United Kingdom, four provinces in Canada, three states in the U.S., and Japan. What I found is that those countries that are *most* successful at the protection of agricultural land (the Netherlands and Sweden) do so through (1) a central government stipulation requiring comprehensive land use planning by local governments, which is then implemented through (2) a system of strict land use regulation (zoning), (3) public purchase of agricultural land which is threatened with conversion, where the landowner is required to sell to the government, and (4) a purchase price for agricultural land that reflects its value as food production land, not as if it were put to use for housing or non-agricultural businesses.

A second group of places that are also successful (e.g. the United Kingdom and the U.S. state of Oregon), but not as much so as the first group, approach agricultural land protection through (1) a central government stipulation requiring comprehensive planning by local governments, combined with (2) a strict system of planning permission (analogous to zoning). The key to the success of the British system is the fact that the landowner does not "own" the right to develop land; this right must be given to them by the government. The Canadian provinces of British Columbia and Quebec also (1) require comprehensive planning by local governments, and combine this with (2) a strict system of land use regulation (zoning). But the outcomes of their efforts appear to be less successful than that of the United Kingdom and the U.S. state of Oregon.

Finally, a third group of places (e.g. the Canadian province of Ontario, and the U.S. states of Wisconsin and New York), have developed policy for the protection of agricultural land that has not been particularly effective at preventing the conversion of such land to non-agricultural uses. These places are using the approach which in part, like the other more successful places, relies on a central government stipulation requiring local planning by local governments. But then, instead of requiring strict land use regulation, these places offer tax breaks to individual land owners to lower land taxes in exchange for an explicit agreement that owners will not develop agricultural land. Often these approaches also seek to encourage farmer associations. Once formed these associations are eligible to receive additional benefits from the local, regional and/or national government.

In summary, there is strong similarity to the approaches used by the most "successful" countries, provinces, and states in developed countries. In general, it requires comprehensive planning by local governments, a system of strict land use regulation, and a way to purchase agricultural land threatened with conversion. However, the research brings out an even more important point about peri-urban agricultural land protection policy. The research shows that these places have *not* been successful in preserving agricultural land primarily because they used a

particular policy strategy. Instead, they choose to use a particular strategy policy because they had a strong social consensus about the need to protect agricultural land, and the political will to act upon this consensus. Thus, a common factor of a successful public program to preserve agricultural land does appear to be the actual policy strategy or approaches used, but instead how the strategies or approaches are used in a political-policy environment which wa them to succeed (Jacobs 1997a).

Alterman's (1997) analysis and conclusion is similar. She examines agricultural land protection strategies in the U.S., two Canadian provinces, Britain, the Netherlands, France and Israel. She notes that success in agricultural land protection seems to be less strongly related to the characteristics of particular approaches that are taken and instead is more a factor of the socio-political environment that favors these land policies.

Alterman goes on to suggest (1) that the changing global nature of agricultural production as a result of new international agreements (NAFTA and GATT) challenge the rationale and basis of many countries' approaches to agricultural land protection, and (2) that the real issue in farmland protection is not the protection of farmland *per se*, but the containment of urban areas. She notes that urban containment is the flip side of the same coin, but has proved to be a much more difficult issue to confront, address and resolve as a policy issue.

The Future

The future of land policy for the protection of agricultural land in the urban zone -- its form and direction, in developed and developing countries -- is confused and uncertain (Jacobs 1995b, 1993). It is structured by a paradox that seems to be pulling policy in at least two different directions at once. On the one hand, modern land policy emerged because of a widespread recognition of the failure of a land management approach that vests individuals with strong control over property rights, and gives markets sway over land use decisions. On the other hand there is a global reinvigoration of interest in market mechanisms as an approach to public policy, and with it a renewed commitment to the social utility of robust private property rights.

Since the election of Ronald Reagan to the U.S. Presidency and Margaret Thatcher to the Prime Minister's position in Great Britain in the early 1980s, the promotion of market-based approaches as a structure for public policy have become increasingly common, in both theory and practice. Privatization of formerly public services (from garbage collection to schools and prisons), the increasing use of cost/benefit analysis as a basis for determining the appropriate realm of public services and policy, and the interest in transferable pollution discharge permits for water and air are three sets of examples of this.

In the area of land-use policy, one way the prominence of market-based approaches has been evident has been in the rise of the so-called private property rights movements.⁸ Ostensibly born in the late 1980s this movement actually has roots in the early 1970s, with conservative and libertarian critiques of the rise of the centralized, regulatory-based environmental movement (e.g. McClaughry 1975, 1976). The property rights movement asserts the centrality of private property to democratic structure. Drawing from the writing of democratic theorists of the 1600s and 1700s, private property advocates argue that the U.S. and other western democracies were established on the premise of freehold property being an essential element in the design of the democratic state and an independent democratic citizenry. According to these advocates, to the extent freehold property is seriously threatened, impinged upon by modern land use regulation and policy, then the very nature of democratic structure is undermined. So, from the perspective of these advocates it is necessary to remove government regulation entirely so as to allow individual owners and market processes to determine optimal land use relationships.

The impact of this private property rights movement has been substantial. In the U.S. they have promoted and secured the passage of significant state-based legislation, and their advocacy has reshaped the nature of debate on land use and environmental matters at the national and state levels (Jacobs 1998a, 1998c, 1997c). Part of the reason for this is that the underlying historical argument and interpretation of the property rights movement is not altogether wrong, and more importantly it strikes a chord with the American people (Ely 1992, Jacobs 1997c).

While the private property movement has had the most impact in the U.S., it has made inroads into the thinking about land policy in western Europe, and its fundamental ideas about the relationship of the integrity of private property to markets and democracy are part of the reforms put forth by international reform agencies, such as the World Bank, in less developed countries throughout the world.⁹

But the problem with a land use management system that is more private property/individual owner driven and market driven is that it brings us back full circle to where the problem of agricultural land protection begins. The "crisis" in agricultural land protection comes about because individual land owners respond rationally to market signals and make decisions to sell land which lead to land conversion. This decision benefits the individual land owners, in spite of whether the decision is in the greater social interest. So, to the extent a more market driven/private property rights approach is embraced as a "solution" to the problem of agricultural land loss, the likely outcome is no change in the rates of land loss.

⁸ Anderson and Leal (1981), Kayden (1992), and Jacobs (1998b) discuss various aspects of the market based approach; Jacobs (1998c), Brick and Cawley (1996) and Yandle (1995) discuss the property rights movement in the U.S.

⁹ The conference I attended in 1996 in France which resulted in the publication of Jacobs (1997b) was conceived by its organizers as a way to bring the lessons of the U.S. private property rights movement to western Europe, and to galvanize parallel action in European capitals.

What is the upshot of this analysis for developing countries? While it is difficult to generalize across geographic regions, cultures, and socio-political systems, related work in areas of eastern Europe offers cautions.

Since the fall of communism and the change to market and democratic systems, people in eastern Europe have acquired the freedom to move about their countries freely. This is an important symbolic freedom. In addition, since the changes most of the eastern states are seeking to foster individual initiative. In many places, the initiation of illegal housing of all types represents both the freedom of individuals to move about, *and* the freedom of the individual to exercise initiative. In addition, in most formerly eastern countries an important program is the establishment of a system of private property rights. Any attempt to control illegal housing, via planning and "regulatory" authority, "smacks" of the former centralized control of the state, *and* requires a body of administrative personnel able to implement such authority. Right now in most of these countries the state, regional and local governments are (a) short of personnel because of their fiscal crises, (b) short of administrative legitimacy to exercise control over land, and (c) often untrained in the policy options appropriate to the conditions of their country (if it is even clear what those options are).

One observer writing about the Baltics was quite skeptical about the possibility for success for land policy management: "as the switch to a market economy takes place and private ownership becomes the rule there is little to suggest that the local government will be any more successful in controlling sprawl than we have been in the West. Indeed, the inexperience and mounting pressures may soon result in even worse consequences" (Grava 1993: 25). In a similar vein, Maier (1994: 26) ponders what the Czech Republic can learn from the western experience. His conclusion: "now it is the central opinion that none of the planning models as they have evolved in developed countries, with mixed market, post-affluent societies can be passively transferred to the turbulent under-affluent environment of a post-communist country."

Can developing countries learn from the experience of the developed countries? Yes and no. The most important lesson is that it is possible, under the best circumstances, to develop and implement policy that prevents the inappropriate conversion of agricultural land. But directly transferring the approaches of western countries is often inappropriate because: (a) developing countries are not rich enough to use the land purchase approaches of certain western countries, and/or (b) the administrative legitimacy and administrative capacity of government in developing countries makes the use of a strict regulatory approach unlikely to succeed. The experience of selected western European countries suggests that the issue of protecting agricultural land can be addressed, but only when there is a clear national consensus about the matters that underlie policy -- the nature of property rights (who owns them, and who has a right to say to whom what to do with their

the desired pattern of land use and development, and the relationship of the city to the countryside.

Ultimately the issue of the future of land policy for agricultural lands threatened by urbanization does not yield a clear answer. Agricultural lands will continue to be threaten as urbanization continues. Is this a problem? Many think not. The mainstream view sees urbanization as a rational phenomenon moving land uses around, and combined with managerial, technological and biological innovations in agriculture does not foresee any food crises from these changes. The alternative view sees it as a problem, from the perspective of food production, urban form and public fiscal management, and environmental resource management.

Developing countries need to invent their own approach to agricultural land protection policy. Agricultural land is a unique natural resource which can be crucial to the economic and social security of a nation. And market systems alone will not adequately address the need for a sufficient agricultural land base. Markets encourage individual landowners to maximize their own self-interest, without consideration of the larger social interest. Because of the some of the unique features of land, this often means that absent public intervention and shaping, a country's agricultural land base will shrink and deteriorate.

So how does this discussion conclude? Some perceive a need to act; some even suggest this need is urgent. And yet the bases for action -- what to do, when to do it, and how to do it -- remain unclear.¹⁰ It is easy to be skeptical about the likely future of land policy, especially when that policy is dealing with issues like agricultural land protection in the peri-urban zone where there is strong market pressures for land use change, strong land owner/user motivation to want to facilitate this change, and uncertain institutional circumstances for managing this change. However, to do nothing ensures that the current situation of agricultural land loss will definitely continue. And to try to do something can result in no more failure than the current situation. So, why not try? Why not experiment, and be as creative with land policy options as political and institutional circumstances allow? Is there really any other choice?

REFERENCES

1. Alterman, Rachelle. "The Challenge of Farmland Preservation: Lessons from a Six-Nation Comparison," *Journal of the American Planning Association* 3, 2, 1997. (p. 220-243).

¹⁰ Meadows (1998) provides a stimulating discussion of long-wave economic and social theory and the counter-intuitive nature of complex systems. One implication of her discussion is to not get too discouraged by current trends, as their evolution is unlikely to be a straight line projection.

2. Anderson, Terry L. and Donald R. Leal. *Free Market Environmentalism*. San Francisco, CA., Pacific Research Institute for Public Policy and Westview Press, 1991.
3. Bassett, Ellen M. and Harvey M. Jacobs. "Community-Based Tenure Reform in Urban Africa: The Community Land Trust Experiment in Voi, Kenya," *Land Use Policy* 14, 3, 1997. (p. 215-229)
4. Brick, Philip D. and R. McGregor Cawley, eds. *A Wolf in the Garden: The Land Rights Movement and the New Environmental Debate*. Lanham, MD: Rowman and Littlefield, 1996.
5. Buckland, Jeffrey G. "The History and Use of Purchase of Development Rights in the United States," *Landscape and Urban Planning* 14, 3. 1987. (p. 237-252).
6. Clark, David. "Interdependent Urbanization in an Urban World: An Historical Overview". *The Geographical Journal*, 164, 1, 1998. (p. 85-95).
7. Coughlin, Robert E., and John C. Keene et al. *The Protection of Farmland: A Reference Guidebook for State and Local Governments*. National Agricultural Lands Study. Washington, D.C., U.S. Government Printing Office, 1981.
8. Coughlin, Robert E. and Thomas Plaut. "Less-than-fee Acquisition for the Preservation of Open Space: Does it Work?", *Journal of the American Institute of Planners* 44, 4, 1978. (p. 452-462).
9. Daniels, Thomas L. "The Purchase of Development Rights: Preserving Agricultural Land and Open Space," *Journal of the American Planning Association* 57, 4, 1991. (p. 421-431).
10. Daniels, Tom and Deborah Bowers. *Holding Our Ground. Protecting America's Farms and Farmland*. Covelo, CA., Island Press, 1997.
11. Delafons, John. . *Land Use Controls in the United States*. 2nd ed. Cambridge, M.I.T. Press, 1969.
12. Ely, Jr., James W. *The Guardian of Every Other Right: A Constitutional History of Property Rights*. New York, Oxford University Press, 1992.
13. Farvacque, Catherine and Patrick McAuslan. 1992. "Reforming Urban Land Policies and Institutions in Developing Countries", *Urban Management Program Policy Paper*, No. 5. Washington, DC: The World Bank, 1992.

14. Gardner, Gary. "Shrinking Fields: Cropland Loss in a World of Eight Billion," *Worldwatch Paper 131*. Washington, D.C., Worldwatch Institute, 1996.
15. Grava, Sigurd. "The Urban Heritage of the Soviet Regime: The Case of Riga, Latvia," *Journal of the American Planning Association* 59, 1. 1993. (p. 9-30).
16. Guttenberg, Albert Z. "The Elements of Land Policy--Toward a Comprehensive Classification," *Ektistics* 51, 1. 1984. (p. 13-18).
17. Haar, Charles M. and Jerold S. Kayden, eds. *Zoning and the American Dream: Promises Still to Keep*. Chicago, IL: Planners Press, 1989.
18. Hardin, Garrett. "The Tragedy of the Commons," *Science* 162 December, 1968. (p. 1243-1248).
19. Harriss, C. Lowell. "Free Market Allocation of Land Resources: (What the Free Market Can and Cannot Do in Land Policy)," in A. M. Woodruff, ed. *The Farm and the City: Rivals or Allies*. The American Assembly. Englewood Cliffs, NJ: Prentice-Hall, Inc, 1980. (p. 123-144).
20. Hertsgaard, Mark. "Our Real China Problem," *The Atlantic Monthly* 280, 5. 1997. (p. 97-114) (non-inclusive).
21. Jacobs, Harvey M. 1998a. "The Impact of State Property Rights Laws: Those Laws and My Land," *Land Use Law and Zoning Digest* 50, 3. 1998. (p. 3-8).
22. Jacobs, Harvey M. "Market-based Land-Use Regulatory Approaches in a System of Decentralized Governance: The U.S. Experience," in *La Politica Urbanistica in Regime di Autonomia Fiscale (Fiscal Autonomy and Urban Development Management)*, F. Curti, ed. Milan, Italy: (forthcoming). 1998.
23. Jacobs, Harvey M., ed. *Who Owns America? Social Conflict Over Property Rights*. Madison. WI, University of Wisconsin Press, 1998.
24. Jacobs, Harvey M. . "Agricultural Land Protection for Albania: Lessons from Western Europe, North America, and Japan." Working Paper No. 6, Albania Series, Land Tenure Center. Madison, WI: Land Tenure Center, University of Wisconsin-Madison, 1997.
25. Jacobs, Harvey M. "La Controverse sur les Droits De Propriété aux Etats-Unis: Un Avenir Incertain (The Controversy over Property Rights in the United States: An Uncertain Future," in *Droits De Propriété et Environnement (Property Rights and Environment)*, M. Falque and M. Massenet, eds. Paris: Dalloz, 1997. (p. 306-317).

26. Jacobs, Harvey M. "Le Culte de la Propriété aux Etats-Unis (The Cult of Ownership in the United States)." *Études Foncières* No. 77. 1997. (p. 55-58).
27. Jacobs, Harvey M. "Programmi di Trasferimento dei Diritti Edificatori in USA: Oggi e Domani (Programs for the Transfer of Development Rights Programs in the U.S.: Present and Future)." *Urbanistica* No. 109. 1997. (p. 62-65).
28. Jacobs, Harvey M. "The Transfer of Property Rights in the USA," *Nauropa* No. 85. 1997. (p. 18).
29. Jacobs, Harvey M. "Ethics in Environmental Planning Practice: The Case of Agricultural Land Protection," in *Planning Ethics: A Reader in Planning Theory, Practice and Education*, S. Hendler, ed. New Brunswick, NJ: Center for Urban Policy Research, 1995. (p. 154-173).
30. Jacobs, Harvey M. "Planning the Use of Land for the 21st Century," in *Classic Readings in Urban Planning: An Introduction*, J. M. Stein, ed. New York, NY: McGraw-Hill, 1995. (p. 158-164).
31. Jacobs, Harvey M. "Zarządzenie Użytkowaniem Ziemi W Celu Ochrony rodowiska W Strefach Podmiejskich," ("Land Use Management for Protecting the Suburban Environment: The Lessons of the U.S. Experience for Poland,") in *Gospodarka Samorządów Terytorialnych W wiecie Do wiadcz Ameryka skich*, L. M. Salamon et al. eds., Lodz, Poland: Fundacja Promocji Czystych Technologii, 1995. (p. 120-138).
32. Jacobs, Harvey M. "I Programmi di Trasferimento dei Diritti Volumetrici nell'Esperienza Statunitense," ("Transferable Development Rights Programs in the American Experience"), in *Tra Citta E Campagna: Perturbantizzazione e Politiche Territoriali*, F. Boscacci and R. Camagni. eds. Milan, Italy: Fondazione Cariplo per la Ricerca Scientifica, 1994. (p. 307-327).
33. Jacobs, Harvey M. "The Changing Nature of Settlement Policy in the U.S.: A Theoretical and Case Study Review," in *The Greening of Rural Policy: Perspectives from the Developed World*. S. Harper, ed. London, U.K.: Belhaven Press, 1993. (p. 135-150).
34. Johnston, Robert A. and Mary E. Madison. "From Landmarks to Landscapes: A Review of Current Practices in Transfer of Development Rights," *Journal of the American Planning Association* 63, 3. 1997. (p. 365-378).
35. Kayden, Jerold S. "Market-based Regulatory Approaches: A Comparative Discussion of Environmental and Land Use Techniques in the United States," *Boston College Environmental Affairs Law Review* 19, 3. 1992. (p. 565-580).

36. Maier, Karel. "Planning and an Education in Planning in the Czech Republic," *Journal of Planning Education and Research* 13, 3. 1994. (p. 263-269).
37. Meadows, Donella H. "The Long Wave," *Whole Earth* No. 93. 1998. (p. 100-108).
38. McClaughry, John. "Farmers, Freedom, and Feudalism: How to Avoid the Coming Serfdom," *South Dakota Law Review* 21, 3. 1976. (p. 486-541).
39. McClaughry, John. "The New Feudalism," *Environmental Law* 5, 3. 1975. (p. 675-702).
40. McKibben, Bill. "A Special Moment in History", *The Atlantic Monthly* 281, 5. 1998. (p. 55-78) (non-inclusive).
41. Newsweek. "Who Will Feed Them?" *Newsweek* (April 24; international edition): A2. 1995.
42. Pearce, B. J. "Instruments for Land Policy: A Classification," *Urban Law and Policy* 3, 2. 1980. (p. 115-155).
43. Williams, Norman Jr. "The Three Systems of Land Use Control," *Rutgers Law Review* 25, 1. 1970. (p. 80-101).
44. Yandle, Bruce ed. *Land Rights: The 1990s Property Rights Rebellion*. Lanham, Maryland: Rowman and Littlefield, 1995.