The International Dimension of Farmland Protection:
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), 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

¹ This line of argument is laid out in detail in both Gardner (1996) and McKibben (1998).
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 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.\textsuperscript{2}

\textsuperscript{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.
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

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\(^3\) This was precisely the impetus for my involvement in a consultantcy 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.
provision of both physical and social 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.\footnote{This was the basis of my involvement in a consultantcy in Poland in 1990-1991 (Jacobs 1995c).}

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 (Daniels and Bowers 1997, Jacobs 1995b).

**Experience with Agricultural Land Protection**

Two recent studies provide a basis for examining the experience of developed countries with agricultural land protection (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 an 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 for 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, the common factor of a successful public program to preserve agricultural land does not appear to be the actual policy strategy or approaches used, but instead how those strategies or approaches are used in a political-policy environment which wants 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) will 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 peri-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 been 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.\(^5\) 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. McClauhry 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, 1998b, 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.\textsuperscript{6}

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.

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.

\textsuperscript{6} 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.
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: 264) 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 of 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 them), 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.\(^7\) 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?

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\(^7\) 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.
References


