Paulson Policy Memorandum

Fixing China's Distorted Urban Land Quota System

Yuan Xiao and Jinhua Zhao

March 2015

THE PAULSON INSTITUTE

About the Authors

Yuan Xiao

Yuan Xiao is Adjunct Assistant Professor of Public Service at the Wagner Graduate School of Public Service of New York University (NYU) and a postdoctoral Research Scholar at Columbia Law School's Center on Global Legal Transformation. Her research interests include property rights, land policy and markets, urbanization in developing countries, and international development.

Xiao previously worked for three years with the World Bank in Washington DC, where she focused on capacity building and training programs in the field of urban management and planning for developing countries. Yuan received a PhD in Urban and Regional Planning from the Massachusetts Institute of Technology (MIT), MA in Political Science from the University of Toronto, and concurrent BA degrees in International Politics and Economics from Peking University.

Jinhua Zhao

Jinhua Zhao is the Edward H. and Joyce Linde Assistant Professor of Urban Planning in the Department of Urban Studies and Planning of the Massachusetts Institute of Technology (MIT). Zhao also directs "JTL," MIT's urban mobility research lab, and is the co-Principal Investigator for MIT's Transit Lab at MIT. He previously taught at the University of British Columbia.

Zhao received his PhD, Master of Science, and Master of City Planning from MIT, and is a graduate of Tongji University with an engineering degree in urban planning. His work has clustered in three areas: (1) the behavioral foundation for transport policies; (2) public transit management, with an emphasis on the use of information technology; and (3) China's urbanization and urban mobility. Professor Zhao has worked closely with several cities to improve their urban transportation systems and policies, including London, Chicago, Boston, Vancouver, Shanghai, Beijing, and Singapore. He publishes regularly in journals, such as *Transportation Research Record* and *Transport Policy.*

Cover Photo: David Gray/Reuters

Introduction

Chinese cities face two related problems: first, a shortage of land available for development, and second, wasted allocation of that land. Taken together, these two problems constrain local economic and social development at a time when cities are growing rapidly. Indeed, more than fifteen years after China decided to marketize land in 1998, China's land market, to a large extent, remains inefficient.

This distortion of China's urban land market derives mainly from problems of supply. There are three main sources of urban land supply in China: (1) the conversion of agricultural land into urban land; (2) the conversion of rural construction land into urban land; and (3) the redevelopment of the existing stock of urban land.

Distortion of China's urban land market derives mainly from problems of supply.

This memorandum focuses on the first and second sources of supply. It begins by exploring the sources of inefficiency in China's current land market. The government has attempted to undertake reforms, but China's one-size-fits-all national land allocation policy does not sufficiently take account of local variations. In practice, the inflexibility of land policies at the local level prohibits market mechanisms from responding to—and correcting—these inefficiencies.

The memo then turns to two specific reform experiments: "Quota linking" is an innovation that has allowed local governments to get around quota restrictions. If they increase the supply of arable land by reducing construction in rural areas, local governments are permitted to increase their quota of land for development in urban areas, thus establishing a "link." "Quota markets" are a further evolution of this idea and have marketized the quota system by permitting officials in selected municipalities to trade their quotas outside local counties and in the entire prefecture.

Both experiments are controversial, yet the Chinese government has decided to move forward and scale them up. By 2013, Beijing had already allowed 29 provinces to proceed with quota linking or quota market experiments.

With these programs now underway, this memorandum offers several recommendations aimed at putting safeguards in place to minimize the adverse effects and side effects of quota markets.

The Problem of Urban Land in China

In China, land is classified as "urban" or "rural" not on the basis of how it is *used* but, rather, by who *owns* it. The Land Management Law of China states that all "urban" land belongs to the state, while "rural" land belongs to collectives. And within the broad category of rural land, there are two sub-categories: agricultural land and "rural construction land," which is defined as land used for development, such as peasant housing, rural factories, and rural infrastructure.

Strict Quotas and Urban Land Shortage

Converting agricultural land into urban land is highly regulated in China through a system of land conversion quotas. This system sets an upper limit on the amount of arable land that one locality can convert to urban use annually. China's *Land Use Master Plan* runs through 2020 and sets the specific quota for a specific year via the annual land use plan of each locality. In this way, China's government is, in essence, using a command and control approach to manage urban land supply.

In China, land is classified as "urban" or "rural" not on the basis of how it is used but, rather, by who owns it.

But this approach does not, in fact, respond to local demand. The system is inflexible, and thus ignores variance in land resources and land demand across locations and over time.

That results in problems across several dimensions: (1) the government's forecast of the overall need for urban land, which is distorted by lack of information on local variance; (2) the quota allocation across localities; (3) the arable land balance within each jurisdiction; and (4) the non-tradability and non-bankability of the annual quotas.

How are these problems manifested?

For one, the targets of arable land protection and the limit on land use conversion set in the *Land Use Master Plan* are very constraining. The quotas barely meet the demand for land required for urban expansion. In theory, the Plan is supposed to forecast long-term development for the next 10 to 15 years. Yet it is hard to accurately project future land expansion, given China's rapid economic and social transformations and their knock-on effects on the overall demand for land.

Accurate statistics on land are difficult to obtain. But one thing that is clear is that local development is outpacing land supply: interviews conducted in China revealed that some rapidly growing cities, such as Tianjin, could use up the 15-year quotas they have been given in just 3-5 years. Unrealistic land usage

targets translate into real difficulties for cities, which must seek to abide by their quota allocations amid a wave of rapid urban development.

Second, quota allocation across localities is highly inefficient. The "rural-to-urban land conversion quota" is allocated administratively to provinces and cities in a top-down, static, and rather arbitrary way. The political importance of this or that city often plays a more critical role in determining quota distribution than their relative economic weight.


Photo: Flickr/Christian Ortiz

Cities that are growing faster and have higher demand for land do not necessarily get more land quotas. For example, the local land bureau of Rui'an in Zhejiang Province, known for a booming private sector and rapid economic growth, faced a situation in which its assigned quotas did not meet even one-tenth of its actual demand for land. Meanwhile, other cities in Zhejiang, which have been growing more slowly, were assigned a nearly equivalent land quota.

Third, China's central government requires that any local governments that have developed arable land must find somewhere *else* in their jurisdiction to create new arable land of the same size. This remedial measure aims to preserve the balance of arable land but constrains a local government's ability to expand areas under development.

Many local governments question the efficiency of this policy, arguing that while it may have the virtue of preserving agricultural land, it does so indiscriminately and does not account for variance or distinct conditions across the country. Some localities have relatively abundant land resources; for others, the potential supply of land is extremely limited. For example, some localities have fertile land, while others have only barren land. The implementation costs and benefits of preserving agricultural land thus vary substantially by locality, depending on their geography and stage of economic development. None of these variations is taken into account by the central government when assigning quotas.

Fourth, since quotas cannot be banked in future years or traded with other cities,[1] relatively slow-growing cities with surplus quotas rush to use their quota by converting agricultural land to urban land even in the absence of actual near-term development opportunities. The land that is converted in this way could sit idle for years—a huge waste of land resources that, paradoxically, is

happening at the same time that rapidly growing cities are crying out for more land.

Overall, then, China's one-size-fits-all national policy is deeply inefficient. It is based on insufficient information about local variation, leading to sub-optimal allocation of land. At the same time, it imposes inflexible constraints on the local authorities and prohibits market mechanisms from responding to, much less correcting, the inefficiency since land cannot be traded or banked for future use.

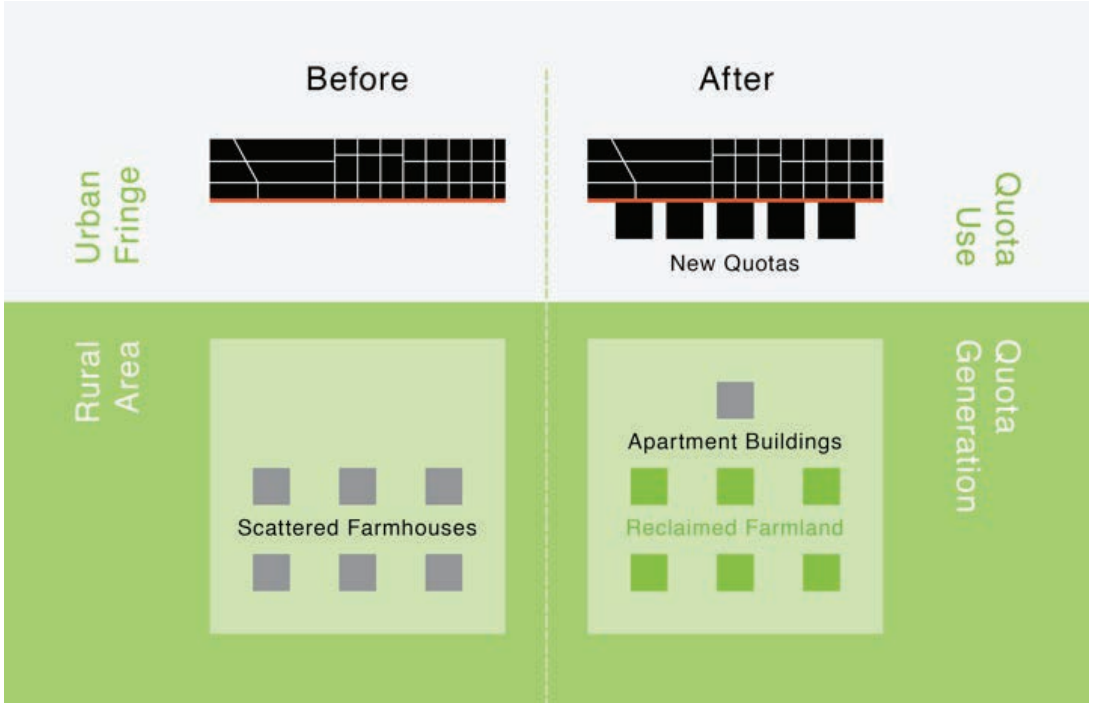
Responding to Inefficiency: The Invention of Quota Markets

As the last chapter shows, the existing quota control system in China constrains urban expansion. It is inefficient at meeting local demand. And it does not sufficiently protect farmland. Against this institutional backdrop of strict control of land conversion quotas, local governments in China invented the land quota market as a form of adaptation.

The land quota market targets *rural residential land*, not farmland, for urban expansion. In effect, it increases the supply of land for development, on the one hand, while still meeting the central government's requirement to protect farmland, on the other hand. The trick lies in "swapping" built-up areas in the countryside for agricultural land in premium locations.

How is this done? Creating new quotas is a separate process from receiving official quotas. As explained earlier, official quotas are allocated to localities at no cost. But the creation of *new* quotas, by contrast, involves a difficult process of densification in rural areas. For example, sparsely located farmhouses are demolished, and farmers are then resettled into high-density apartments. The reduced built-up footprint in rural areas is turned

Figure 1. Spatial Mechanism of Quota Generation and Quota Use



Source: Authors.

into a "quota" and transferred to urban areas.

Such a transfer does not, in fact, involve a trade of actual land parcels, but rather "virtual" transfers that exchange development permission from the countryside to cities. Figure 1 shows a spatial mechanism for how quotas generated in rural areas are used on the fringes of urban areas.

Once quotas are created, a land quota certificate is issued to the quota developers and then sold to potential land users. Anyone who holds a quota certificate can use it to convert agricultural land to urban development projects. Local governments in China have established a new market—the land quota market—to facilitate these exchanges.

The quota markets, to their credit, have introduced market-like elements into the official quota system—for instance, by allowing the new quotas to be traded across jurisdictions (albeit within certain administrative boundaries), or to be banked for future use. But this is only a short-term fix and does not address the root problems of the official quota system.

There are three problems, in particular:

1. On an annual basis, the operation of the quota markets increases urban land supply by only a small percentage. Over the long term, meanwhile, its potential is also quite limited.

2. The costs and side effects of quota generation are quite troubling, and are often underestimated or ignored by policy makers. These side costs include a direct impact on farmers' lifestyles and an indirect impact on their modes of production.

3. Quota markets are likely to result in the transfer of important resources from rural to urban areas, reinforcing existing imbalances in land resource allocation between poor and rich jurisdictions.

Let us examine each of these problems in turn.

Quota Markets and Land Supply

The increase in supply generated by using new quotas comes *in addition* to the official quota. And according to statistics we collected from Chongqing and Chengdu, two cities that currently run their own quota markets, the central government allows them to experiment with new quotas, but these at most increase urban expansion by 10 percent. But unfortunately, for cities suffering from a quota shortage, 10 percent constitutes a very limited increase, and their long-term potential is also quite limited.

Systematic data are hard to come by, but interviewees from one pilot city in China estimated that in the next five to six years, all potential land saving through quota generation mechanisms would be exhausted. And this estimate is built on two already quite optimistic assumptions: namely that as many as half of all rural

households in the prefecture would participate and their new houses would be at least 3.3 times as dense as they are now.

In sum, the quota markets only provide about 10 percent additional land above the official quota, and in the next five to six years, there will be no more rural residential land to consolidate.

Prospects for Resettled Farmers

While traditional land taking only affects farmers on the urban fringe, quota markets have brought the impact of urbanization to a much larger area. Farmers involved in quota generation projects are often located in deep rural areas. This is because their expectations for compensation in exchange for land are much lower than their counterparts on the urban fringe. For quota developers, that makes transactions in deep rural areas much more cost effective.

Participating in this process of quota generation has had dramatic effects on farmers' lifestyle.

But participating in this process of quota generation has had dramatic effects on farmers' lifestyle. On the upside, their housing conditions have indeed improved. Old, rundown farmhouses strenuously built by farmers themselves over the years have been upgraded to move-in ready new apartments with running water—even elevators in some cases—as part of the quota schemes. (There are also paved roads in and around the residential community with nearby schools and clinics.) In short, they enjoy much better living conditions.

But this is a significant lifestyle change that many rural residents find hard to adjust to. Interviews and surveys reveal complaints about very specific things: by living in apartments, residents have nowhere to raise their pigs and chickens, climbing upstairs is difficult for the old and crippled, and so on. Having running water is good, but paying for it is not.[2] All of these are examples of adjustment issues as a result of the abrupt transition to an urban lifestyle.

As explained above, since quota developers tend to target the most rural areas first, this yields a counterintuitive phenomenon: the more rural and farther removed from urban areas a village is, the more dramatic farmers' lifestyles change when they must transition to urban dwellings and surroundings. Areas that are the most rural are, ironically, becoming urbanized first, and the resulting shock of the transition for residents is enormous.

This is compounded by the fact that farmers' transition to modern lifestyles takes place *before* their transition to a modern mode of production. Traditionally, Chinese farmers have settled themselves sparsely for the simple reason that they want to be close to their crop fields. After an abrupt

transition to living in concentrated, high-density apartments far removed from their fields, the farmers must deal with increased transportation costs (both in terms of travel time and money).

In some areas, local governments have made temporary arrangements to mitigate these hardships, such as providing shuttles between the new farmer houses and the crop fields. But in most cases, localities simply try to fundamentally transform farming practices—replacing family farming with industrial farming, for example. And yet the success of agricultural businesses and their impact on peasant welfare has yet to be seen.

Photo: Flickr

There are also cases where after farmers have been relocated, the village cannot find agricultural corporations interested in renting the newly vacant land. In such cases, the economic prospects of the farmers in their new locations are uncertain. If they have to continue to farm individually, the problem of transportation costs arises. Unfortunately, when farmers agree to participate in quota generation projects, they cannot clearly foresee such dramatic effects on their livelihoods.

In addition, because of the creation of the quota market, the scale of land acquisitions on the urban fringe is likely to expand. That is because more quotas are available to the government. This means displacing more farmers on the urban fringe than would have been displaced without the quota market.

In sum, the driver behind these drastic changes in the rural landscape, economy, and lifestyle is the government's quest to acquire more quotas for urban expansion. Farmer welfare is of secondary concern.

Land/Resource Imbalances

The third problem is that the supply of land for urban development depends on a given locality's number of land conversion quotas. China's administrative structure of "prefectures governing counties" means that a province allocates quotas to prefectures, which in turn allocate quotas to counties. But how would this structure affect the allocation of official land conversion quotas? And for that matter, how would it then affect the gap between supply and demand of land in different types of districts and counties?

With official quotas, although all levels of jurisdiction claim to have a shortage

of quotas, counties bear the brunt of the shortage. This is because urban districts are politically more important to the prefectures, and suburban and rural counties much less so. Economically, both the center city and suburban counties have fast-growing urban areas. When allocating quotas, urban districts fare proportionally better and counties much worse. For a rural county, this may not be problematic, because they do not, after all, have much demand for urban land. But it is a considerable challenge for suburban counties, which need more land but are not politically powerful enough to obtain more.

This, together with other political and economic factors, results in an unhealthy and unbalanced urban system in China: big cities are too big and small cities are too small.

The linking program can alter the current allocation of land resources and has the potential to support the growth of smaller cities, leading to a more balanced urban system. For example, since the central government requires that new quotas under the program be created and used within the same county, only self-sufficient jurisdictions can have linking programs.

But such counties are not rural ones: they do actually have vast amounts of rural land and many peasant settlements that can be consolidated, so they have little demand for quotas. Nor are they technically urban districts: while they want more quotas, such counties are already quite urbanized and thus have little to gain from generating new quotas.

In short, suburban counties are self-sufficient. Therefore, linking programs can help suburban counties to reduce the gap between their land demand and the supply of official quotas, thereby ameliorating the imbalance between the big and small cities.

Quota markets, however, concentrate land resources once again in big cities. The main drivers behind the formation of quota markets are municipal governments. They benefit much more from quota markets than from the linking programs for the simple reason that they can then trade quotas across jurisdictions.

In quota markets, rural counties become quota generators, enlarging the overall pool of land quotas created. Urban districts, in turn, can buy quotas from both rural and suburban counties. Indeed, because urban land prices are much higher than in suburban and rural counties, quotas are most useful to such urban districts. The result is that there is an outflow of quotas from rural and suburban counties to urban districts, reinforcing the imbalance between the center city and the surrounding counties.

Incomplete Land Reform Yields Intragovernmental Competition

Regulating land supply in a command and control fashion has deep roots in China's planning era. The planned economy did not treat land as a commodity. Land had no market value and was allocated purely through administrative channels.

A major revision to China's Land Administrative Law in 1998 allowed land to be sold on the open market.[3] However, this was at best a *partial* land reform—mostly, it introduced demand-side changes, such as open bidding and auctions for land sales. The supply of land is still strictly regulated in the form of the land conversion quota system, monopolized by the state.

The planned economy did not treat land as a commodity. Land had no market value and was allocated purely through administrative channels.

Until 2004, China's land conversion quota system offered guidelines but was not binding. But since 2004, the central government has formalized the quota system with strict controls, a step taken in response to the pressures of rapidly disappearing arable land and increasing social tensions with farmers that flowed from land conversion. Now, the priority for the country's planned land provision system is to preserve farmland—a critical shift from encouraging land development for industrialization in the early era of reform.

Beijing's basic assessment is that China's agricultural land must be preserved in order to feed a populous country of some 1.4 billion people. This emphasis on self-sufficiency is especially notable given that quality arable land has been disappearing quickly while the size of China's developed area has been expanding quickly. In its official statements, the Chinese government has declared that its land use planning is "fundamentally a planning system that upholds the strictest arable land protection and the most frugal land use."[4]

That concern for strict land preservation for food security has direct implications for urban expansion. In the planning process, the state sets up a target for the size of arable land to be preserved. That projection of the size of new urban land development is, in turn, based on the target of arable land protection, rather than on the projection of economic and population growth.

This creates a challenge for officials looking to ascertain how much urban land can be used. Chinese policy forces them to look at this issue from the flip side of how much arable land they must preserve in the bargain.

The total quota in *China's National Land Use Master Plan Outline (2006-2020)* is calculated on the assumption that China must preserve 1.818 billion *mu* (or 121.2 million hectares) of arable land for food security (15 *mu* are equivalent to 1 hectare). This target is set against the base year of 2005, when the national total of arable land is 122.0827 million hectares (1.83124 billion mu). In other words, the *Land Use Master Plan* has prescribed that over a period of 15 years, the country's total amount of arable land should be reduced only slightly and must remain at a little over 120 million hectares or 1.8 billion *mu*.[5]

Preserving arable land while simultaneously expanding urban land is a difficult balance that Beijing aims to achieve by two means: limiting urban expansion and creating more arable land.

Preserving and Creating Land

First, to limit the increase of newly developed land, the national *Land Use Master Plan* projects targets for the total size of built-up areas and the newly added developable land for the country in coming years. The plan prescribes that between 2006 and 2010, the entire country's built-up area should have increased by 5.69 percent and, in the 15 years between 2006 and 2020, should increase by 16.66 percent. Between 2006 and 2010, 1.57 million hectares (or 23.50 million mu) of newly added developable land is provided through the conversion of arable land.

Second, local governments are required to create new arable land every year. The goal is summarized as "take one, create one" (*zhan yi bu yi*)—that is, for every one *mu* of arable land taken for development, there must be one mu of new arable land created somewhere else.

This is achieved by a combination of techniques including land consolidation, land reclamation, and land cultivation. The central government has said explicitly that its goal is to maintain the same amount of arable land.[6] The government also set a numeric target—for instance between 2006 and 2010, the country aimed to create 1.14 million hectares (or 17.1 million *mu*) of new arable land.

Beijing clearly recognizes that urban expansion will inevitably continue to consume arable land, and therefore set a target to govern how much land should be converted and how fast this conversion should happen. But at the same time, Beijing insists that preserving a certain amount of arable land is critical to maintaining the country's food security. Since projected urban expansion will consume more arable land than is considered to be acceptable for assuring food security, the government's remedial measure has been to create new arable land through land consolidation to offset the loss.

This mismatch of land supply to demand is a classic result of a plan-based resource allocation system. Enforcing

the same standards regardless of local variations is a common practice in China, and land conversion policies are no exception. The often-cited reason for this approach is to maintain equity—in other words, adopting differentiated policies might lead to social and political discontent. But sheer practicality is another reason the state uses to rationalize its approach—the huge costs of investigating local conditions are burdensome; if policies are not based on a careful study of local conditions, they may lead to a sense of unfairness and thus even more discontent among competing localities.

Photo: Flickr

And yet the current approach does not solve the underlying problem of land management. Officially, the breakdowns are based on "overall consideration of factors such as economic and social development levels, development trend, resource and environmental conditions, current status, and the potential of land use."[7] In reality, however, the determination of quotas is subject to political bargaining and lobbying. And the command-and-control method of quote allocation lacks transparencey.

In the face of prevalent quota shortages, how do local governments get more quotas? Although the quota control system looks rigid on paper, there is always room for negotiation. Interviews with local land bureau officials in China reveal that the quota allocated to a locality at the beginning of each year, as prescribed in the annual plan, is only an *initial* allocation. In fact, higher levels of government often reserve some quota as a "contingency" for "special case" projects not included in the annual plan.

How much contingency quota is available and what projects can be considered to be "special" is, not surprisingly, subject to negotiation. For instance, state-owned enterprises and industrial parks often get special treatment and use contingency quotas beyond what is in a locality's annual land use plan.

Indeed, since official quotas are rarely sufficient to meet development needs—and since political negotiations do not always lead to the desired result of increasing the size of a locality's quota—local governments in China have had to innovate. They often find out-of-the-box ways to obtain more quotas for land development.

One innovative way to do so, for example, is to utilize the quota linking programs and quota market experiment. These are unconventional ways to meet the dual challenges of urban expansion

and farmland protection. But it reflects local policy innovation as a means to tap into the existing built-up sections of China's rural areas.

The policy antecedent to quota markets is the so-called "quota linking program." "Linking," in this context, involves a simple idea: the location of quota *generation* and the location of quota *use* are pre-determined and then paired up. In other words, if local governments are able to increase the supply of arable land by reducing construction in rural areas, they are permitted to increase their quota of land for development in urban areas, thus establishing a "link."

To control the scale of this activity and mitigate potential risks, the central government allows such linking programs to operate only within a limited area *inside* the boundary of a county. The condition for using such linkage is that projects must be pre-determined and paired up, but, unfortunately, quota transfer *within* a county greatly restricts the market area and transaction efficiency of the quotas.

The central government is delegating more authority over land use to local governments.

The central government has authorized two municipalities in western China, Chongqing and Chengdu, to take this experiment a step further and establish quota markets. This means relaxing two requirements: First, the "linking" requirement is relaxed so that quota use projects do not have to be pre-determined; instead, a quota certificate serves as the medium of exchange. Second, a quota can be traded outside the county and in the entire prefecture. Chengdu has 18 counties and districts, and Chongqing has more than 40. This means the market area for quotas is significantly enlarged.

The policy shift from strict quota control to quota linking programs and then further to quota market experiments, has demonstrated some important intra-governmental dynamics in China. These are critical to understanding where China might be going with its land policies.

One important implication is that the central government is delegating more authority over land use to local governments, who better understand conditions of local demand and supply. From a centralized system of official quota control, these experiments are allowing localities to tap into rural residential land through quota creation. Beijing has thus begun to recognize the fact that land is, in essence, a local resource that is difficult to control from the center.

The institutional evolution from "linking programs" to "quota markets" offers a rare opportunity to look inside the process of how local governments operate and then compete with one another for resource allocations. What it reveals is a process of moving control up the chain, from relatively

poor county governments to rich, powerful municipal governments. China's peculiar "prefectures governing counties" administrative structure is in conflict with the demand for resources in growing cities that are being rapidly urbanized.

And this arrangement has peculiar origins. "Municipality over counties" is a special administrative arrangement in the Chinese system of government. A municipal government in China governs not only those urban districts that constitute the city but also the surrounding suburban counties and rural counties. The system is comparable to a *metropolitan region* in the United States and the Europe rather than to a US or European *city* per se.

The political dominance of municipal governments over county governments enabled the center city to grow at the expense of the adjacent counties.

But although a Chinese municipal government governs its entire metropolitan area, it directly manages urban districts and derives most of its revenues from these urban districts. Nearby counties have their own governments, but are subject to the municipal government's writ in the areas of public finance and personnel.

This system of making counties part of a prefecture is of only recent vintage in China. Until the 1950s, shortly after the founding of the People's Republic of China in 1949, both counties and municipalities were still directly under the jurisdiction of a *provincial* government.

The current structure of "prefectures managing counties" evolved over a period of 30 years, and became an established political structure by the early 1980s. The rationale for this change in administrative structure was to enable an urban-biased development strategy and to focus on industrialization. And in the "prefectures governing counties" structure, a municipal government could easily access resources from nearby counties to support the development of the center city.

Agricultural products, mineral resources, and even the flow of cheap labor from counties to the center city were essential to urban development. Thus the political dominance of municipal governments over county governments enabled the center city to grow at the expense of the adjacent counties. In China, this phenomenon is sometimes pithily described as "cities eating up counties" (*shi chi xian*).

Over several decades, China's transition from an agrarian economy to an industrialized and increasingly urban one has had an important impact on the prefecture/county relationship. When the "prefectures governing counties" structure was first instituted, center

cities and their nearby counties had very different development focuses.

The center city focused on developing industries, while the counties emphasized agriculture. But today, both center cities and counties are entering an era of significant urbanization. This means that even county seats and large towns are becoming cities themselves. And the tension between municipal and county governments has, to a certain extent, evolved into a city versus city competition. In other words, as county seats and towns *themselves* become cities, they are competing with municipalities for the same resources: capital, skilled labor, and not least, developable land.

Simply put, China still has a strict official land quota system aimed at controlling urbanization but it is increasingly an antiquated by-product of the era of central planning. The land quota markets were a recent attempt to introduce more flexibility into the system, but have only marginally improved it. That is, among other things, a reflection of the realities of intra-governmental competition between powerful municipal governments and weak (but urbanizing) county governments.

In the short term, the land quota market experiments have actually had a *negative* impact on the livelihoods of farmers resettled as a result of the quota generation process. In the medium term, it may simply draw resources further away from poor jurisdictions to rich jurisdictions. Over the long term, it will not solve the underlying problems of the official quota system.

Fixing the Problem

Although the quota linking and quota market experiments are controversial in China and their ultimate effects are yet to be fully assessed, the central government has nonetheless decided to move forward with promoting them on a large scale. By 2013, Beijing had allowed 29 of China's provincial-level governments to pursue quota linking or quota market experiments.

Since this decision has already been made and the policy is unlikely to be reversed wholesale, it is important to at least introduce safeguards that minimize the adverse effects of expanded quota markets.

By 2013, Beijing had allowed 29 of China's provincial-level governments to pursue quota linking or quota market experiments.

Several recommendations follow:

First, farmers need to have a voice in the design and implementation of projects to upgrade housing for their resettlement by the quota generation process. Issues such as the size of the backyard, the provision of elevators or stairs, and separate units for residents of different ages can be solved at little cost in the design phase. Such simple changes will, in fact, significantly reduce the transition shock to China's farmers.

Second, the overall design of quota markets must take into account the future livelihood of farmers. This will require that the decision to generate quotas not be made without careful evaluation of whether development will actually attract agribusinesses to affected villages and the likelihood of business success.

Agribusinesses should be required to provide a minimum protection to peasants, regardless of the profitability of the business. This can be done in kind or in cash. In Chongqing, for example, peasants are given a minimum of five hundred kilos of grains annually. Alternatively, the local government can require that agribusiness provide such protection in the form of a deposit. In case of business failure, the deposit would be non-refundable and used to pay peasants. The purpose of this idea is that even if the business goes bankrupt, peasants will not suffer great loss.

In the long term, making agribusiness profitable will require more fundamental property rights reform—the current system of property rights for rural land prohibits agribusinesses who rent land from peasants to use it as a collateral for loans. And that, in turn, often yields financial constraints on operating such businesses and limits their profitability.

Third, to address the imbalance in resource allocation between small cities under county governments and big cities under prefectural governments, Beijing should, in the medium term, give small cities more support. There are various ways to do this but an important step would be to lower the prices that small cities must pay for the new quotas. Another such step would be to allocate more official quotas to small cities, thus helping to reduce the gap between supply and demand for urban land.

More fundamentally, the current administrative structure in China should be reformed to better suit the rapid urbanization and growth of cities. One useful reform would be to change the "prefectures governing counties" structure to a "provinces governing counties"[8] structure, something that could be achieved by making the formal bureaucratic ranks of municipalities and counties equal. (In China's elaborate bureaucratic hierarchy, different levels of government—provinces, prefectures, counties, and so on—are assigned a rank that determines their authority relative to one another.)

An extensive discussion of administrative reform is beyond the scope of this memo. But the case of land use policy demonstrates the potential utility of such a realignment for more efficient and effective resource allocation.

Ultimately, since quota markets are but a temporary solution if China is to fix its official quota system—indeed, it might even be phased out in a few years—policymakers need to think about how to fix the system more fundamentally.

For example, Beijing should allow cities to "bank" quotas—in other words, keep them in reserve for future use—and permit local governments *themselves* to determine when and how to use them. Beijing should also allow cities to trade quotas with one another.[9] These innovations have been among the most useful by-products of the quota market experiments.

Localities can partially correct inefficiencies of the current system through this kind of trading activity: those with abundant land can sell their quotas to those that lack quotas. Local governments are in a much better position than Beijing to understand land supply and demand in their jurisdiction and better able to respond to market changes. If Beijing worries about the risks of such a system, it could move to *regulate* trading by setting up more transparent trading protocols and processes, and effectively reducing political rent seeking.

As in many other policy domains, Beijing needs to deepen, not inhibit, market-based reforms. China began the current phase of land reform in 1998 and now needs to establish the rules for fair competition and negotiation. At least at an initial trial stage, one can imagine different provinces experimenting with different trading platforms. It

is important that Beijing monitor and evaluate these experiments and facilitate information exchange and learning across and between provinces.

In the medium term, if the initial quota allocation is, in fact, *not* changed, then Beijing should consider developing a *national* trading system of farmland preservation quotas. This would include two "types" of trading: the first would involve trades of the allocated land quota; the other would involve trades of newly created arable land. As described earlier, the limited land conversion quota is but one problem. Another crucial challenge to local governments that use the quotas is that they must create *new* arable land comparable in size to the arable land they have used.

In practice, this is extremely challenging for dense and fast-developing cities. So Beijing should allow less endowed local governments to create arable land by "buying" it from those lucky enough to have more abundant farmland. This would correct the inefficiencies of the current strict central government policy and lead to more efficient allocation of farmland. Instead of every city trying to preserve farmland to meet the central government's requirement, farmland would be concentrated in areas where land is more abundant and where development pressures are less intense.

In the longer term, the changes required to make China's land system efficient would be much more fundamental. China needs to revisit its underlying assumption that the country must preserve 1.81 billion *mu* of farmland for food security. In fact, many doubt the accuracy of this number, and deeper questions persist about the effectiveness of preserving a certain amount of agricultural land for food security. For example, preserving land for agricultural purposes does not guarantee that this land will be farmed productively. Indeed, our fieldwork in China reveals that, in many places, the returns on agricultural activity are so low that peasants would rather idle their plots than waste their labor.

This would involve a considerable change since it would mean revisiting the cornerstone of China's land use planning framework. As such, it would require extensive technical discussions and considerable political will. It would also have a huge impact on many related polices, and thus could not be undertaken lightly or easily. Still, if the central government ever does consider alternative frameworks, it ought to weigh the benefits of putting serious political muscle behind this critical change.

Endnotes

[1] There are limited experiments on relaxing this constraint, such as in Shandong province, see http://sdgb.shandong.gov.cn/art/2013/12/3/art_4563_2111.html.

[2] As covered in many Chinese news articles. In English, see Wilson, Saul. 2014. "Redesigning Rural Life: Relocation and In Situ Urbanization in a Shandong Village." Undergraduate Thesis, Cambridge, MA: Massachusetts Institute of Technology.

[3] The law was established in 1986 and there have been three major revisions in 1988, 1998, and 2004.

[4] "Measures on Drawing Up and Auditing of Land Use Master Plans Order No. 43," Article 4, Chapter 1. Ministry of Land and Resources, 2009, http://www.mlr.gov.cn/xwdt/zytz/200902/t20090211_114407.htm.

[5] Annex 1 of National Land Use Master Plan (2006-2020).

[6] "Land Administration Law of the Peoples Republic of China," Article 33, Chapter 4. National People's Congress, 2005, http://www.gov.cn/banshi/2005-05/26/content_989.htm.

[7] Chapter 6 of Land Administration Law of the People's Republic of China.

[8] This experiment has been carried out in Hainan Province.

[9] There were pilots that allowed trading across cities in the 2000s but were cancelled for various reasons. These experiments need to be carefully studied and to differentiate between failure due to the principle and failure due to implementation.

About Policy Memoranda

Paulson Policy Memoranda are concise, prescriptive essays. Each memorandum is written by distinguished specialists and addresses one specific public policy challenge of relevance to the aims of The Paulson Institute.

Policy Memoranda offer background and analysis of a discrete policy challenge but, most important, offer realistic, concrete, and achievable prescriptions to governments, businesses, and others who can effect tangible and positive policy change.

The views expressed in Paulson Policy Memoranda are the sole responsibility of the authors.

About The Paulson Institute

The Paulson Institute, an independent center located at the University of Chicago, is a non-partisan institution that promotes sustainable economic growth and a cleaner environment around the world. Established in 2011 by Henry M. Paulson, Jr., former US Secretary of the Treasury and chairman and chief executive of Goldman Sachs, the Institute is committed to the principle that today's most pressing economic and environmental challenges can be solved only if leading countries work in complementary ways.

For this reason, the Institute's initial focus is the United States and China—the world's largest economies, energy consumers, and carbon emitters. Major economic and environmental challenges can be dealt with more efficiently and effectively if the United States and China work in tandem.

Our Objectives

Specifically, The Paulson Institute fosters international engagement to achieve three objectives:

- To increase economic activity—including Chinese investment in the United States—that leads to the creation of jobs.
- To support urban growth, including the promotion of better environmental policies.
- To encourage responsible executive leadership and best business practices on issues of international concern.

Our Programs

The Institute's programs foster engagement among government policymakers, corporate executives, and leading international experts on economics, business, energy, and the environment. We are both a think and "do" tank that facilitates the sharing of real-world experiences and the implementation of practical solutions.

Institute programs and initiatives are focused in five areas: sustainable urbanization, cross-border investment, climate change and air quality, conservation, and economic policy research and outreach. The Institute also provides fellowships for students at the University of Chicago and works with the university to provide a platform for distinguished thinkers from around the world to convey their ideas.

THE PAULSON INSTITUTE

The Paulson Institute
5711 South Woodlawn Avenue
Chicago, IL 60637
paulsoninstitute.org

THE PAULSON INSTITUTE