

THE RURAL LAND QUESTION IN CHINA: ANALYSIS
AND RECOMMENDATIONS BASED ON A
SEVENTEEN-PROVINCE SURVEY

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I. INTRODUCTION

There is perhaps no legal issue affecting China's prospects for continuing economic success that is more important than effective implementation of the August 2002 Rural Land Contracting Law (RLCL). With its associated legal measures,

the RLCL defines the relationship of China's majority rural population to their chief source of income and security, and, potentially, of wealth and empowerment: land.

The primary purpose of this article, based on a seventeen-province survey, is to provide a comprehensive snapshot of China's rural tenure conditions as of mid-2005, and thus to give potential guidance on the priorities and future directions of rural land-tenure reform in China. We will first set the context with a broad look at China's evolving rural land regimes since the Communists' ascendance. Much of the article will then deal with presentation of the survey data and an accompanying analysis. Then, against the backdrop of the worsening rural-urban income gap in China that largely motivates the tenure reform efforts, we shall offer a series of policy and law-reform recommendations.

In a nutshell, the survey reveals both encouraging and disappointing trends and phenomena in regard to China's rural land. On the one hand, only a minority of farm households has been issued both the written contracts and certificates that confirm their land rights as provided by law. Furthermore, the issuance process showed only marginal progress during the past four years. A majority of interviewed farmers also indicated dissatisfaction with the compensation paid in land takings under the eminent domain power. On the other hand, the survey shows that the possession of land-rights-confirming contracts or certificates bears a significant positive relationship with—and directly leads to—farmers' decision to make mid- to long-term investments in improving their land. These findings call for further reform of China's rural land practices to improve the security and marketability of farmers' land rights. Reforms should include the full issuance of compliant contracts and certificates to all farm households, as well as a serious enhancement of compensation standards and procedural fairness in land expropriation laws.

China is the biggest success story of economic development and global integration of the last two and a half decades. Its GDP grew at an average annual rate of 9.6% from 1979 to 2004, and it is now the second largest economy in the world after the United States on a purchasing power parity basis.¹

1. Liu Quan, *Corrected Historical GDP Figures Show 9.6 Percent Average Growth From 1979 to 2004*, XINHUA NEWS AGENCY, Jan. 10, 2006, available at

China now boasts the third largest volume of international trade in the world.² China today manufactures a majority of all shoes and TVs made in the world. Meanwhile, the largest number of cell phone users and internet game players are in China and these numbers are still growing at the highest speeds in the world.

But another, worrisome face of China is found in the countryside. The focus of China's economic reforms over the last fifteen years has been on a handful of large urban agglomerations. The vast majority of the 849 million rural Chinese³—more than one eighth of the world's population, who are dependent on an average arable land base of less than half an acre per capita⁴—lag far behind their urban counterparts in virtually all aspects of life. Based on preliminary official figures, urban per capita income reached 10,493 yuan (about \$1,300) in 2005, while rural per capita income was 3,255 yuan (about \$400).⁵ This 3.22:1 ratio represents the worst urban-rural income gap in the modern history of China.⁶

Three further factors underscore the extent of the problem:

http://news.xinhuanet.com/politics/2006-01/10/content_4031606.htm;
The World Factbook, available at <https://www.cia.gov/cia/publications/factbook/index.html> (last visited Oct. 11, 2006).

2. WORLD TRADE ORGANIZATION [WTO], WORLD TRADE REPORT 2004, at 21 (2004), http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report04_e.pdf.

3. See UNFAO STATISTICAL YEARBOOK 2004, at tbl. A.1 (2005), available at http://www.fao.org/statistics/yearbook/vol_1_1/index_en.asp.

4. Around two-tenths of an acre per capita in the more densely populated areas where approximately 83% of the rural population is found. See *infra* note 106.

5. *Income Gap Between Rural and Urban Residents Widens to 1:3.22 in 2005*, XINHUA NEWS AGENCY, Feb. 22, 2006, <http://news.sohu.com/20060222/n241957993.shtml>. See also National Bureau of Statistics of China, Yearly Data, <http://www.stats.gov.cn/english/statisticaldata/yearlydata/> (last visited Oct. 11, 2006) (select "2005" under "Rural Households"; then follow "Chapter 10 People Livelihood" hyperlink).

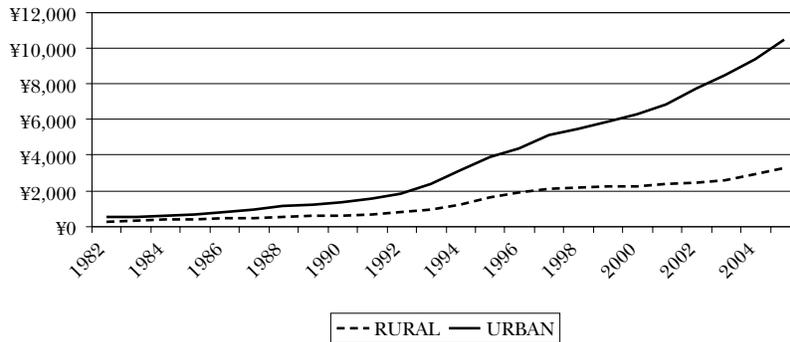
6. Rural-urban gap statistics are cited in dozens of reports by the Ministry of Finance and the World Bank. See Guo Puhui, *Reform of Income Distribution Continues: China's Rural-Urban Income Gap Still Growing*, CHINA BUSINESS NEWS, June 6, 2006, <http://finance.sina.com.cn/g/20060626/01372679578.shtml>; Zhao Manhua, *The Income Gap in China: Rural Areas Need a Lift*, BEYOND TRANSITION, Feb.-Mar. 2001, <http://www.worldbank.org/html/prddr/trans/febmarch2001/pgs13-14.htm>.

In 2005, the central government treated the rural income issue as its top priority and adopted several short-term measures that aim to boost farmers' income. These measures include cash subsidies to farmers and reduction or elimination of agricultural taxes and fees. Despite these measures, the urban-rural divide continues to worsen.

The 3.22:1 ratio does not reflect many free benefits such as basic medical care, elementary education, and social security that are available only in cities.

The income gap has been widening at an accelerating speed. Figure 1 shows the respective pace of rural and urban income growth starting from the early 1980s when China began its extensive economic reforms.

FIGURE 1: URBAN PER CAPITA INCOME VS. RURAL PER CAPITA INCOME (CHINESE YUAN)



Source: China National Bureau of Statistics

China has started suffering serious consequences due to the ongoing income disparity, and there is an increasing concern that its long-term growth and stability will be in jeopardy if no significant improvement is made in the near future. It has been reported that rural healthcare and elementary education are facing an impending crisis as numerous farmers struggle to pay children's tuition or hospital bills.⁷ There are still an estimated 700,000 deaths of children under five in

7. See generally Chinese Government's Official Web Portal, *China Pledges to Boost Rural Development*, Dec. 30, 2005, http://english.gov.cn/2005-12/30/content_141910.htm.

China each year, the great majority in the countryside.⁸ Both Chinese and foreign observers have noted that there has been an increase in incidents of rural unrest, including violent confrontations between governments and farmers.⁹ Land-related conflicts, especially arising from land takings or expropriations by governments, are now the top rural grievance in China.¹⁰

A series of recent central government pronouncements has expressed growing concern over the income gap and its likely consequences, stating that the gap is now at "the 'yellow' alarm level," and that "should there be no effective measures, it will reach the dangerous 'red' level in five years."¹¹ As reported on Jan 20, 2006, Premier Wen Jiabao admitted that the efforts to narrow the rural-urban wealth gap fell short and land grabs by officials were provoking mass unrest in the countryside that could threaten national stability and economic growth.¹²

The Rural Development Institute (RDI), in partnership with various Chinese and international organizations, started working in China in 1987. Due to the tradition of collecting information directly from local-level officials, there has not been much independent, comprehensive information on rural land rights (the Ministry of Agriculture actually claimed that 98% of villages had implemented the second-round of contracting in less than two years after the adoption of the revised Land Management Law (LML)).¹³ That is why RDI insists on conducting sample surveys and rapid rural appraisal interviews

8. Robert E. Black, et al., *Where and why are 10 million children dying every year?*, 361 LANCET 2226, 2227 (2003).

9. See, e.g., Jim Yardley, *Farmers Being Moved Aside By China's Real Estate Boom*, N.Y. TIMES, Dec. 8, 2004, at A1; Joseph Kahn, *China Crushes Protest, Turning 3 Friends Into Enemies*, N.Y. TIMES, Oct. 13, 2004, at A1; Howard W. French, *Protesters Say Police in China Killed Up to 20*, N.Y. TIMES, Dec. 10, 2005, at A1.

10. Zhao Ling, *Rural Activism Seriously Changes: From Tax Disputes to Land Ownership*, SOUTHERN WEEKEND, Sept. 2, 2004, at 5.

11. Yi Fan, *The Gini Coefficient: A Signal that a Harmonious Society Cannot Afford to Ignore*, SANLIAN LIFE WEEKLY, Oct. 28, 2005, http://news.xinhuanet.com/focus/2005-10/28/content_3694957.htm.

12. Joseph Kahn, *Chinese Premier Says Seizing Peasants' Land Provokes Unrest*, N.Y. TIMES, Jan. 21, 2006, at A3.

13. See Hong Chaohui, *The Scarcity of Chinese Farmers' Land and Property Rights*, 1 MODERN CHINA STUDIES 56 (2004), available at <http://www.chinayj.net/StubArticle.asp?issue=040107&total=84> (last visited Oct. 26, 2006).

directly with randomly-selected farmers without the presence of local officials.¹⁴

Besides more than a thousand rapid rural appraisal interviews since 1987, we have now conducted three rounds of nationwide surveys. Prior to the present survey, we cooperated with Renmin University on two large-scale sample surveys, one in 1999¹⁵ and a second in 2001,¹⁶ with respect to the extent and nature of implementation of thirty-year rural land use rights.

More than seven years have elapsed since the adoption of the LML and more than three years since the RLCL was adopted. An accurate assessment of the progress that has been made with respect to the goal of full implementation of the thirty-year rights, and the impact of such progress on China's farmers, can only be derived from systematic monitoring of the implementation process on a national basis.

Accordingly, we designed and conducted a third round of nationwide surveys in the summer of 2005. We believe that, in the context of China's ongoing rural land tenure reforms, systematic monitoring of the progress of each stage of the reforms can also play a vital role in helping to define and shape each subsequent stage of the reform process, including the formulation of additional laws and policies governing rural land use rights.

The 2005 random-sample survey covers seventeen Chinese provinces that contain approximately 83% of China's ru-

14. As distinct from a formal sample survey embodied in a questionnaire fixed in advance, "rapid rural appraisal" employs a semi-structured inquiry, usually by interviewers already substantially familiar with most of the subject areas the inquiry covers, but there is room for intensive follow-up with the interviewee on points on which new and unexpected information arises. Such points may then also be incorporated in later interviews. The farmers interviewed are not respondents to a questionnaire but active participants in this semi-structured interview process. Especially where a survey covers issues on which the performance of local officials might be inadequate or be called into question, it is essential that farmers be interviewed outside the presence of such officials.

15. Roy Prosterman et al., *Implementation of 30-Year Land Use Rights for Farmers Under China's 1998 Land Management Law: An Analysis and Recommendations Based on a 17 Province Survey*, 9 PAC. RIM L. & POL'Y. J. 507 (2000).

16. Brian Schwarzwald et al., *An Update on China's Rural Land Tenure Reforms: Analysis and Recommendations Based on a Seventeen-Province Survey*, 16 COLUM. J. ASIAN L. 141 (2002).

ral population. The survey questionnaire includes many important questions of the previous surveys and has added major modules of questions that reflect the recent legal and policy reforms and changing realities, such as the adoption of the 2002 RLCL, farmers' investments in land, and land takings. The survey was carried out by RDI in cooperation with Renmin University and Michigan State University. Interviews were completed with 1,962 farm households in 1,773 villages, a sufficient national sample to give results that should be descriptive of the situation in the seventeen provinces as a whole with an accuracy of $\pm 2.2\%$ for household level questions and $\pm 2.3\%$ for village-level questions. Particularly, the presence of local officials at interviews was minimized, since the presence of such officials tends to influence farmers' responses to certain questions.

This article focuses upon the findings of the 2005 survey. Section II briefly describes China's successive rural land-tenure regimes since the Communists came to power. Section III presents the national survey results with a preliminary analysis. Section IV presents a series of survey findings on a province-by-province basis. Section V further examines the survey findings on specific issues of central importance: the impact of contract and certificate issuance upon various behaviors, including farmers' investments on their land. Section VI discusses the legal and policy implications of the survey findings and offers a series of recommendations concerning the ongoing reform process. Finally, Section VII offers a brief conclusion looking to the longer term, and the Appendix provides a further description of the survey methodology.

II. A BRIEF HISTORY OF CHINA'S RURAL LAND REGIMES

The Chinese revolution gained much of its support from the deeply aggrieved rural poor, especially the large population of tenant farmers who typically had neither secure nor equitable access to land and who paid high rents to their landlords.

After coming to power in 1949, the Communist Party's initial land reform gave farmers full, individual private ownership of their small farms through the 1950 Land Reform Law

and other accompanying regulations.¹⁷ Under this law, China redistributed over half of its arable land to 50-60 million poor rural households, more than 60% of its rural population, on an equitable basis.¹⁸ Land certificates or titles were issued to farmers as well. Such a “land to the tiller” program proved a huge success in increasing agricultural productivity; annual grain production went up from 113.2 million tons in 1949 to 166.8 million tons in 1953, and further to 192.7 million tons in 1956, altogether a 70% increase. Total farm income rose 85% during the same period.¹⁹

Then, disastrously, China followed in the footsteps of the former Soviet Union and introduced a sequence of legal and policy measures designed to bring about the collectivization of all farming in the mid-1950s. Private ownership of farmland became illegal, with collectives as the new owner, and farmers were severed from connection with any identifiable piece of land. Farmers became collective farms’ “working members” who normally received pay (mostly grain and other agricultural products) based on how much time they showed up for work. Agricultural production plummeted, and fifteen to thirty million consequent deaths occurred during the years 1958-1962.²⁰

From the late 1970s, several regions of China started to experiment with tearing down the collective farms and giving individual farmers limited freedom to farm. After initial success, this system spread rapidly. Technically, the collectives, remaining as the land owners, contracted out land parcels to individual households to use for private farming for a period of time, usually allocating the land on an equal per capita basis. The contracting farmers, in return, were obligated to fulfill

17. Art. 20 of Land Reform Law of P.R. China (1950) provides that land confiscated from landlords, except for that owned by the state in accordance with this law, should be allocated to poor peasants fairly, rationally and uniformly for them to own.

18. CHINA INSTITUTE OF REFORM & DEVELOPMENT, HISTORY OF CHANGES AND INNOVATIONS OF CHINA’S RURAL LAND SYSTEM 31-32 (1999).

19. *Id.* at 32; Zhang Gensheng, RURAL REFORM IN CHINA 3-4 (2001).

20. See Susanne Weigelin-Schwiedrzik, *Trauma and Memory: The Case of the Great Famine in the People’s Republic of China (1959-1961)*, 1 HISTORIOGRAPHY EAST & WEST 39, 41-43 (2003); Xizhe Peng, *Demographic Consequences of the Great Leap Forward in China’s Provinces*, 13(4) POPULATION & DEV. REV. 639 (1987).

their “responsibilities” of quota or taxes to the collectives every year (in the form of grain or cash), based on the quantity of land they had been allocated. This scheme is called the “Household Responsibility System” or the HRS.

The introduction of the HRS unleashed the energy and resources of millions of rural families and jump-started China’s agricultural growth. As a result, between 1979 and 1984, average net income for rural residents increased by 11% annually, compared to an average annual increase of 8.7% for urban residents. The introduction of the HRS resulted in the narrowest income gap (though at much lower absolute levels of income) of the past several decades. The HRS was an enormously successful reform, lifting the living standards of hundreds of millions of rural people, and was the driving force behind the single greatest poverty-reduction achievement worldwide of the past three decades.²¹

However, farmers’ land rights under the HRS were generally insecure and short-term. “Land readjustments” stood out as the top threat to farmers’ land tenure security. Although land use rights were theoretically allocated to farm households for a specific period of years, most villages in China adopted the practice of periodically readjusting or reallocating landholdings in response to changes in individual household makeup, total village population, and loss of land through land takings or expropriations. In those cases that are called “big readjustments,” a village takes back all land from farmers and then redistributes it. A “small” or partial readjustment consists of adding to or taking from a household’s existing landholding when that family’s size changes (e.g., through births, deaths, or marriages), and does not affect the entire village’s landholding pattern. It is not uncommon that a few village cadres or officials choose to conduct readjustments simply in order to exert their influence and authority for other dubious purposes.

Rights to a piece of land subject to periodic and unexpected readjustments cannot be considered either secure or marketable. Farmers will not make mid- to long-term investments on a land parcel which they may not possess the next

21. Martin Ravallion & Shaohua Chen, *Understanding China’s (Uneven) Progress Against Poverty* (World Bank Policy Research Working Paper 3408, 2004).

year or year after, and potential transactions, from a transferee's perspective, are likewise limited to those whose time horizon does not extend beyond the current crop season or agricultural year. With land improvements constrained, the initial benefits brought by the HRS tailed off beginning in the mid-1980s and Chinese farmers' income gains started to lag far behind those of urban residents.

Concerned about the rural land-tenure problem, the central government began to seek a solution. In 1993, a policy directive was issued,²² which set a seeming policy of thirty-year rights for farmers. But this fell far short of general, mandatory enactments issued by the executive branch. Although often followed by the lower government organs, policy directives do not have the binding power of law behind them.²³

The thirty-year policy was embodied in formal law for the first time as a result of the adoption of the revised LML in August 1998, which explicitly mandates that the land be contracted to farm households for a term of thirty years. It further restricts land readjustments by requiring a 2/3 approval of vil-

22. Zhong gong zhong yang, Guo wu yuan guan yu dang qian nong ye he nong cun jing ji fa zhan de ruo gan zheng ce cuo shi [Notice on Certain Policy Measures Regarding Present Countryside and Rural Economy Development] (promulgated by the Central Comm. of the Chinese Communist Party and the State Council, Nov. 5, 1993), available at http://www.agri.gov.cn/zcfg/t20030624_94259.htm (last visited October 6, 2006).

23. The 1993 Policy Measures played off the No.1 Document of 1984, which had required that farmers' land rights be prolonged to fifteen years nationwide. However, the No. 1 Document did not make any rules as to how to assure implementation of the extended term, and made no provisions for documentation. Accompanying statements also suggested ("big stability, small readjustments") that at least "small" readjustments of farmers' land could continue. RDI field interviewing revealed little implementation of the 15-year right. See Roy Prosterman, Tim Hanstad & Li Ping, *Can China Feed Itself?*, Scientific American, Nov. 1996, at 90. The 1993 Policy Measures document announced that use rights would be extended another thirty years upon the expiration of the fifteen-year rights mandated in 1984. Thus, even if mandatory in form, it appeared to speak of implementation that might occur only as of 1999. Beyond that, it stated as policy, in precatory rather than mandatory terms, that "no readjustments for population change within the contract period should be promoted." Notice on Certain Policy Measures Regarding Present Countryside and Rural Economy Development, *supra* note 22. It also stated that a term of more than thirty years could be used for wasteland and other non-arable lands for agricultural use.

lage members. The key provisions are stated in Article 14 as follows:

[C]ollectively owned land shall be contracted to the members of the collective economic entity for agricultural, forestry, animal husbandry, or fishery operations. The contracting period shall be 30 years . . . [T]he contract-issuing party [collective] and the contracting-receiving party [farmer household] should execute a contract stipulating the rights and obligations of the two parties

Within the duration of the contract for operation of land, any appropriate readjustment of the land between isolated households shall be made with the agreement of at least two-thirds of the members of the village assembly or of the representatives of villagers and submitted to the township people's government and the agriculture administration department of the people's government of the county for approval.²⁴

Under these policy and legal reforms, China started the second round of contracting that extended farmers' land use rights to thirty years in the mid- to late-1990s (the first round of contracting being the initial HRS), starting slowly and accelerating with the public discussion and then adoption of the LML in 1998. Provinces adopted various implementation regulations according to the LML. Written contracts or certificates were issued as well as a part of the second round of contracting, especially with the advent of the LML.

Then, in 2002, China passed a Rural Land Contracting Law (RLCL), with sixty-five articles devoted to the subject, rather than one article and part of another, as in the LML. The new law represents a major breakthrough in the process of strengthening farmers' thirty-year rights and is the first piece of modern Chinese legislation to exclusively address farmers' rights to their most important asset. Going beyond the LML, the RLCL requires an end to the practice of land

24. Law of Land Administration (promulgated by the Standing. Comm. Nat'l People's Cong., Aug. 29, 1998, effective Jan. 1, 1999), ch. 2, art. 14, *translated in* LEXIS (last visited Oct. 6, 2006) (P.R.C.) [hereinafter LML].

readjustments in China in all but extreme cases. Its Article 27 provides as follows:

During the contract term, the contract issuing party shall not readjust contracted land.

During the contract term, in cases of where [sic] a natural disaster has seriously damaged contracted land and other special circumstances, and an appropriate readjustment of arable land or grassland between isolated households is necessary, the approval of 2/3 of the members of the Village Assembly or 2/3 of the Villager Representatives must be obtained, as well as approval by the township government and the county government administrative unit responsible for agriculture. The terms of any land use right contracts stipulating that readjustments shall not be conducted must be honored.

The RLCL further requires that collectives and farmers execute written contracts and certificates to confirm the contracting relationship.²⁵ In addition, going beyond the bare acknowledgement of transferability of farmers' land rights that had been in Document No. 1 of 1984 and in the LML, the RLCL spells out in detail the right to lease, assign, exchange, and carry out other transactions of contracted land (except sale and mortgage).²⁶

III. NATIONAL FINDINGS AND ANALYSIS

A. Household Characteristics

Household characteristics of interviewees provide important background information regarding the general profile of farm households in China. The 1,962 survey households report, on average, that a household possesses 3.74 land shares with an average household landholding of 0.92 acre or 5.61 *mu* of arable land.²⁷ Each household has 4.55 members on av-

25. Law on the Contracting of Rural Land (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 29, 2002, effective Mar. 1, 2003), ch. 2, § 2, art. 19, translated in LEXIS (last visited Oct. 6, 2006) (P.R.C.) [hereinafter RLCL].

26. RLCL, *supra* note 25, at ch. 2, § 5, arts. 32-43.

27. That is, land for annual and permanent crops (grazing land for livestock is not included, but is not a prominent part of the agricultural economy in most provinces). One *mu* equals 1/15 of a hectare, or approximately

erage. These numbers represents little change compared to our 1999 and 2001 surveys.²⁸ Using a current agricultural population figure of 849 million, and 4.55 as average household size, would indicate about 187 million agricultural households.

Non-agricultural employment has risen during the last six years: 65.1% of interviewed households reported at least one member engaged in non-agricultural employment in 1999, and 80.0% in 2001.²⁹ Now, that proportion has risen modestly to 83.2%.

TABLE 1: HOW MANY MEMBERS OF YOUR HOUSEHOLD ARE ENGAGED IN NON-AGRICULTURAL EMPLOYMENT?

0	16.8%
1	30.2%
2	31.8%
3	12.6%
More than 3	8.6%

n=1962

The median level of education of all respondents is between seven and eight years, while their median age is between forty-five and forty-six years old. The median level of education of the most highly educated family member is eleven years.

667 square meters. Thus, the average household landholding was 3613 square meters, equal to 0.37 hectare or 0.92 acre. Experience in China and elsewhere indicates that, properly cultivated and used, a piece of land of such a size can produce not only enough to feed a family adequately but also to provide a considerable surplus of grain and income. Compare the discussion of even smaller holdings in Tim Hanstad & Robert Mitchell, *Small Home-garden Plots and Sustainable Livelihoods for the Poor* (UN Food and Agric. Org. Livelihood Support Program Working Paper 11, 2004). It should be noted that a handful of sparsely populated provinces, mostly in the west, that were not included in the survey, have much greater amounts of arable land per household, bringing the national average up to around two acres per household.

28. Prosterman, *supra* note 15, at 516; Schwarzwald et al., *supra* note 16, at 149.

29. Prosterman, *supra* note 15, at 516; Schwarzwald et al., *supra* note 16, at 149.

B. *Some General Land-System Characteristics*

Land readjustments are a major threat to the security of farmers' land rights in China.³⁰ Because the collective villages remain the legal owner of rural land and typically contract out the use rights of land to individual households, a few village cadres, acting on behalf of the collectives, have enjoyed great power in readjusting landholding patterns. Consequently, a household's land could be administratively changed in size or completely replaced by different parcels without any compensation for consequential losses.³¹

The survey shows that 74.3% of the interviewed villages have conducted at least one land readjustment since the first land allocation to households under the Household Responsibility System (HRS) in the late 1970s or early 1980s (see Table 2). In particular, of the entire survey universe, 55.0% of all villages have conducted two or more readjustments.

TABLE 2: HOW MANY TIMES HAS YOUR VILLAGE READJUSTED LAND SINCE THE INTRODUCTION OF THE HRS?

0	25.7%
1	19.3%
2	19.8%
3	14.8%
4	7.5%
More than 4	12.9%

n=1723

Out of the villages which have conducted only one readjustment (19.3%, 333 villages), 206 of them conducted the readjustment at the time of the second round of contracting, which was permissible at the time.

Re-contracting is another form of administrative action by village officials who take back some or all of various households' land—usually a contiguous area—and then lease or as-

30. Li Ping, *Rural Land Tenure Reforms in China: Issues, Regulations and Prospects for Additional Reform*, in LAND REFORM, LAND SETTLEMENT AND COOPERATIVES 3, 59 (P. Groppo ed., 2003), available at <ftp://ftp.fao.org/docrep/fao/006/y5026e/y5026e00.pdf>.

31. Two general types of land readjustments exist in China: "big," or comprehensive readjustments, and "small," or partial readjustments. See *supra* Section II.

sign it for agricultural use to a non-villager (often an outside agri-business person or entity). The primary motivation behind re-contracting is profit for collective cadres, who cannot legally charge a fee when land is contracted to village households but can collect rent or other payments when land is leased to a non-villager.

It is encouraging that, while at the time of the 2001 survey, 18.5% of villages reported re-contracting, in 2005, the proportion had decreased to 13.0%. This decline is consistent with the central government's attempt to restrict re-contracting laid out in Central Document No. 18 issued in 2001.³² This Document, as a policy directive, explicitly stated that collectives or townships should respect farmers' contracting rights and that the practice of "re-contracting" should be strongly discouraged.

Where there is currently re-contracting, the survey indicates that, before a village makes a decision on re-contracting, farmers are consulted or asked to vote in only one out of every five cases. Stated otherwise, in four out of every five villages with re-contracting, a few cadres have negotiated and struck the deals with the non-villagers before informing or seeking input from affected farmers. The lack of transparent or fully participatory process almost certainly facilitates village cadres' ability to pocket and misuse the lion's share, if not all, of the proceeds, as shown below:

TABLE 3: WHAT HAPPENED TO THE PROCEEDS PAID BY THE RE-CONTRACTING NON-VILLAGERS?

All retained by officials of village or township	28.4%
Partially retained by village/township officials and partially paid to the affected households	30.9%
All paid to the affected households	26.3%
Don't know	14.4%

n=231

32. Zhong gong zhong yang guan yu zhuo hao nong hu cheng bao di shi yong quan liu gong zuo de tong zhi [Notice on Improving the Work on the Transfer of Farmers' Land Contract Rights] (promulgated by the Central Comm. of the Chinese Communist Party, Dec. 30, 2001) [hereinafter Notice on Transfer of Contract Rights], available at http://www.agri.gov.cn/zcfg/t20021105_21513.htm (last visited Oct. 6, 2006).

Unfortunately, there are still important blank spots in our knowledge, which represent concessions to the manageable length of survey questionnaires: we do not know what the extent of sharing was under the “partially retained” response. Also, where a villager has no idea what happened to the proceeds and says “do not know,” this may sometimes reflect that the village cadres have not shared any information before or after with villagers and have retained all proceeds, but may sometimes reflect cases where none of the respondent’s land was affected and they simply do not know.

The two-field system³³ and scale farming³⁴ are two other forms of threats toward farmers’ tenure security. As in the case of re-contracting, strong pronouncements were issued by the central government which disfavored the spread of each practice.³⁵ Again and encouragingly, there seem to be fewer vil-

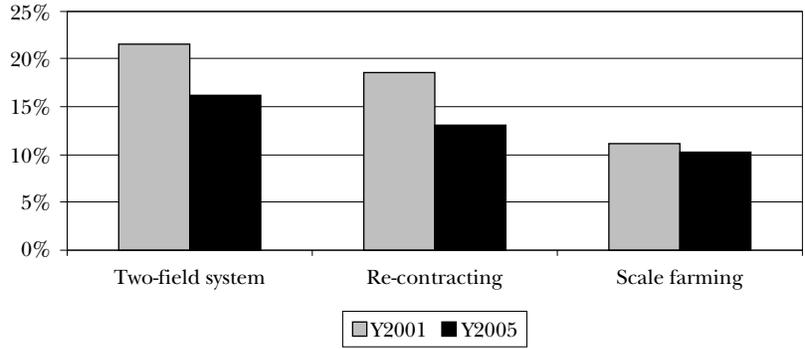
33. The two-field system breaks with the typical pattern of distributing all farmland on a per capita basis. Instead, cultivated land is divided into two categories: consumption land and responsibility land. Consumption land is divided in each village on a per capita basis to meet each household’s basic needs. The remaining land is contracted to farm households as responsibility land through a variety of methods which in many cases results in a non-egalitarian land distribution. Unlike consumption land, on which farmers are only responsible for collective contributions, an additional contracting fee is typically charged for responsibility land. For an analysis of the two-field system and its implementation in China, see ROY PROSTERMAN ET AL., *LAND REFORM IN CHINA: THE TWO-FIELD SYSTEM IN PINGDU*, (RDI Reports on Foreign Aid and Development #86, Nov. 1994).

34. Scale farming involves the consolidation of small, labor-intensive farms into larger, mechanized farms. Scale farming can be accomplished through a variety of approaches, but typically involves the contracting of large areas of arable land to a few farmers or the operation of large-scale farms by the collective land owner. Recollectivization of farmland was the ultimate goal of at least some experiments with scale farming in the early 1990s. For a discussion of scale farming and its relevance to China, see Roy Prosterman et al., *Large-Scale Farming in China: An Appropriate Policy?*, 28 J. OF CONTEMP. ASIA, 74 (1998).

35. Gong ting guan yu jin yi bu wen ding he wan shan nong cun tu di cheng bao guan xi de tong zhi [Notice on Further Stabilizing and Improving Rural Land Contracting Relationships] (promulgated by the Central Comm. of the Chinese Communist Party and the St. Council, Aug. 27, 1997) [hereinafter Notice on Improving Land Contracts] CHINALAWINFO (last visited October 6, 2006) (P.R.C.). This notice prohibits any new adoption of the two-field system and indicates it should be undone (“rectified”) if previously conducted involuntarily. It also specifically condemns prior involuntary adoptions of the two-field system done to promote scale farming and states that scale farming should not be used in most of the countryside due to the

lages currently using such practices than before, as shown by the figure below:

FIGURE 2: FEWER VILLAGES USING THREE RESTRICTED PRACTICES



The overall trend in all three of these areas offers evidence that the central government’s mandates can be effectively carried out at local levels, even on subjects that appear to run counter to the interests of local cadres. A further parallel example (agricultural taxes and fees) is discussed in Section III(I) below.

C. Land Takings

Land takings by governments for non-agricultural purposes through the eminent domain power—state expropriations or acquisitions—are probably the most visible and contentious rural issue in today’s China.³⁶ Under the current legal regime controlling land expropriations and other forms of land takings, farmers do not receive adequate, consistent treatment in terms of sufficiency of compensation and transparency of procedure. As a result, China’s urban-biased development is heavily “financed” by farmland taken for non-agricultural purposes. Further, the bulk of the compensation allowed by current laws and policies—grossly inadequate as it

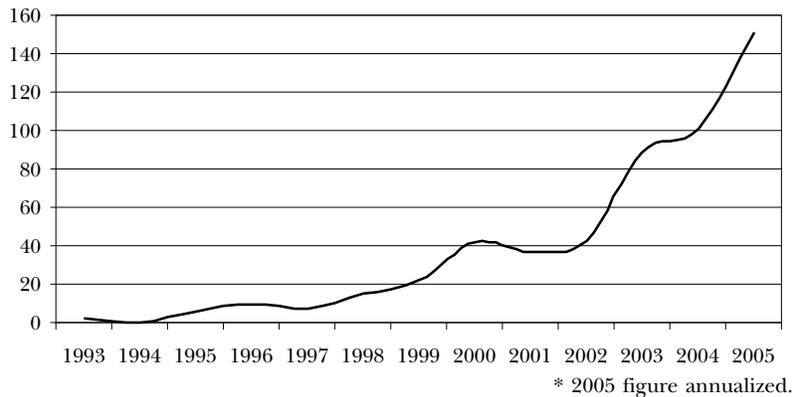
prevailing heavy population pressure on arable land. Moreover, Notice on Transfer of Contract Rights, *supra* note 32, requires that farmers should enjoy the right to voluntarily transfer their contracted land under no duress from local governments or collectives, which has further indirectly suppressed the growth of scale farming in China.

36. See Yardley, *supra* note 9; French, *supra* note 9; *supra* notes 10-11.

is—is routinely intercepted by local governments and village officials. Meanwhile, land-losing farmers have been blocked from the land-taking processes without opportunities to receive proper notice and to voice their opinion or concerns in a meaningful manner. To make matters even worse, affected farmers seldom have access to independent courts for an unbiased ruling when the expropriating agency (typically the Ministry of Land & Resources (MLR) and its local branches) fails to sufficiently address their concerns. Consequently, land-related issues arising from state expropriations or acquisitions have recently become the top cause of rural grievances.³⁷ The news of violent confrontations—sometimes involving deadly shootings by police or security forces—between land-losing farmers and local governments are routinely suppressed by the Chinese government, and the few stories reported by foreign media are likely the tip of the iceberg.³⁸ Against this backdrop, we designed a series of questions that aim to uncover how farmers are treated in land takings.

The picture is disturbing indeed. Interviewees report one or more land takings in 476 of the 1,773 survey villages (26.8%) since the second round of contracting (or since 1995 if the village has not conducted the second round of contracting). When asked when the most recent land taking occurred, the responses show a steep increase, as shown in Figure 3:

FIGURE 3: NUMBER OF (MOST RECENT) LAND TAKINGS



37. See Yardley, *supra* note 9; French, *supra* note 9.

38. See *supra* note 9.

During the last ten years, cases of land takings have grown more than fifteen times, and the growth appears to be accelerating.³⁹ Accordingly, farmers are facing ever-increasing danger of losing their land and livelihood to urbanization and non-agricultural development.

There is another note that must be made for the year 2004. Due to rampant land takings pushed by local governments in violation of existing laws and policies, the central government instituted a six-month moratorium of all land takings from April to October 2004.⁴⁰ Clearly, the upward trajectory resumed after the moratorium. The urgent need for reform of land-taking laws and practices is underlined by the further findings discussed here.

The Chinese Constitution grants the state the authority “to expropriate land, in the public interest, for its use.”⁴¹ The LML also provides that “[t]he State may, in the public interest, lawfully requisition land owned by collectives,” without offering any further details on what could constitute “public interest.”⁴² However, this constitutional mandate of “public interest” is made inoperative by the broad requirement in the LML that all uses of land for non-agricultural purposes must use state-owned land.⁴³ The operation of the LML is in effect an authorization of state expropriation of rural land for all purposes, including pure commercial purposes as disclosed in the survey results, resulting in a state monopoly of the non-agricultural land market. Under the present legal regime, a farmer has no power to negotiate or make a private transfer of his or her land rights for a non-agricultural use. If a commercial developer is interested in converting a piece of agricultural land for non-agricultural use, he or she has to ask the responsible

39. The survey interviews began in mid-July and were completed in mid-August of 2005. Thus, the 97 cases found are for approximately the first seven months of the entire year. For rough comparability, we have annualized this to 150 land takings in total for the year as reflected in Figure 3.

40. Guo wu yuan ban gong ting guan yu shen ru kai zhan tu di shi chang zhi li zhen dun yang e tu di guan li de jin ji tong zhi [Urgent Notice on Further Regulating Land Market and Strictly Controlling Land Administration] (promulgated by St. Council, Apr. 30, 2004) (P.R.C.).

41. XIAN FA art. 10, §3 (1982) (P.R.C.)

42. LML, *supra* note 24, at ch. 1, art. 2.

43. All land not owned by collectives is state owned. LML, *supra* note 24, at ch. 5, art. 43.

government agency or local government to exercise its eminent domain power so that the use nature of the land can be legally changed.

The survey finds that the following list of purposes were reported for the most recent land taking:

TABLE 4: PURPOSES OF THE MOST RECENT LAND TAKING

Road construction	51.2%
Factory	15.8%
Development zone / industrial park	13.1%
School	7.6%
Urban/suburban apartments or houses	2.8%
Irrigation facility	1.1%
Gas station	1.0%
Others	7.5%

n=476

Three purposes—“road construction,” “school,” and “irrigation facility”—could probably generally be deemed as reflecting “public interest” in a widely accepted sense.⁴⁴ However, the remaining purposes—apart from “Others,” which remains unknown—do not seem to border upon “public purpose” or “public interest.” Rather, they are typically schemes where local governments and business developers act in concert to take farmers’ land away as cheaply as possible, as shown below.

In cases of land takings, the village collectives are to receive and keep the largest category of compensation (that for loss of land), and may receive a second category of compensation (for resettlement) depending on circumstances. Only the third category (for loss of standing crops) goes to land-losing farmers.⁴⁵ However, there is little law on how much villages can retain out of the funds before distributing them to farmers.

44. Although even here, follow-up questions (not feasible in a survey instrument of any acceptable length) might have indicated exceptions, such as (hypothetically) an expensive, residential private school serving the urban well-to-do.

45. Art. 26 of the LML Implementation Rules (promulgated by St. Council, Dec. 27, 1998) (P.R.C.) provides:

Out of the 476 “most recent” land takings where we sought details, 320 (67.2%) were cases where farmers received some actual cash compensation. Of these, 245 were in the form of lump sum payments, 60 installment payments, and in 15 cases both lump sum and installment payments were made. The following details emerged:

Lump-sum payments—in 212 cases compensation was paid only to land-losing farmers, while the compensation was shared among all households of the village or village group in the remaining cases. For the 212 cases, the amounts ranged from 21 yuan per mu to 130,000 yuan per mu with a median of around 8,000 yuan.

Installment payments—in 61 of the 71 cases, payments were made only to land-losing farmers, while the payments were spread among all households of the village or village group in the remaining 14 cases. For the 61 payments only to land-losing farmers, each installment ranged from 15 yuan per mu per year to 16,000 yuan per mu per year, with a median of around 1,000 yuan. For almost half of these cases (45.1%), the installment payments were to be made for a period of less than five years. Two-thirds of them (67.5%) were for less than ten years.

Importantly, in about a third of cases where cash compensation was promised, the promise has not been fulfilled.

Given the number of variables (including non-cash compensation, where we asked for types, but could not get into details as to amounts or cash-equivalencies), the “bottom-line” response as to farmers’ satisfaction with their total compensation is of great interest. Excluding 75 “do not know” responses (15.9%), the ratio of farmers-satisfied to farmers-dissatisfied re-

The compensation for loss of land belongs to rural economic collectives; compensation for fixtures and standing crops belong to the owners of the fixture and standing crops.

Resettlement subsidies should be used for resettlement purpose only. Where rural economic collectives are responsible for resettlement of people, the resettlement subsidy is to be paid to the rural economic collectives; where other resettlement units are responsible for the resettlement, the resettlement subsidy is to be paid to such units; where resettlement is to be arranged on an individual basis, the resettlement subsidy is to be paid to the person to be resettled or paid for insurance or social security purpose after the person to be resettled approves.

sponses was 136 : 258. Thus 65.5% of those with knowledge said farmers were dissatisfied.

Compounding the adverse consequences, 26.2% of villages conducted a land readjustment following the most recent land taking, representing an illegal attempt to “spread the pain” of the taking among most or all villagers. Post-land-taking readjustment essentially reduces landholding sizes of other village households not directly affected by the land taking so that households originally affected by the taking would receive at least some replacement land and would presumably not be upset enough by their inadequate compensation to cause trouble.

The lack of an adequate process is as distressing as the inadequacy of compensation measures. Table 5 shows why.

TABLE 5: REGARDING THE MOST RECENT TAKING, WERE YOU INVOLVED IN ANY OF THE FOLLOWING? (MULTIPLE CHOICES)

Was notified of the forthcoming taking in advance	70.6%
Was consulted about the amount of compensation	21.8%
Demanded a hearing on compensation <i>The result of demanding a hearing:</i>	7.8%
■ <i>In cases where a hearing was demanded, a hearing did take place.</i>	80.6%
■ <i>In cases where a hearing took place, compensation was increased afterwards (10 cases only).</i>	31.1%
Filed a grievance with the government on compensation <i>The result of filing a grievance:</i>	4.7%
■ <i>The government ignored the filing.</i>	42.5%
■ <i>Compensation unchanged.</i>	22.6%
■ <i>Compensation increased, but farmers unsatisfied.</i>	19.5%
■ <i>Compensation increased and farmers satisfied (3 cases).</i>	15.4%
Filed a lawsuit with a People’s Court for more compensation (5 cases only) <i>The result of filing a lawsuit:</i>	0.9%
■ <i>Compensation unchanged.</i>	60%
■ <i>Compensation increased and farmers satisfied. (2 cases only)</i>	40%

There seems to be gross inadequacy in terms of how much farmers get to participate in the processes and influence decisions. For instance, just over one out of five affected farmers was consulted on the pivotal issue of compensation. The detailed reform recommendations in response to these deficiencies are discussed in Section VI below.

D. *The Nascent Rural Land Transfer Market*

Land represents the single greatest asset for the world's rural poor. Where, however, due to uncertainties and legal restraints, the rights to land cannot be freely transferred or dealt in the market, the land's value is greatly diminished. The Peruvian economist Hernando de Soto has aptly called such land "dead capital," and has pointed out the key role that measures to bring such capital "alive" can play in the overall process of economic development.⁴⁶

Although Chinese farmers' land rights have been theoretically transferable for continuing agricultural uses for more than two decades, the market in such rights was severely constrained. The insecurity of farmers' land rights, due to the presence of unpredictable land readjustments and poorly compensated takings, has meant that nearly all transactions have been at will or for one year at a time. With secure land rights in a developed land market, experience elsewhere in Asia suggests that Chinese farmers' land rights—discounting for the thirty-year term and considering them for agricultural purposes only—should bring more than half-a-trillion dollars of value to farmers.⁴⁷

46. HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE* 6 (2000).

47. Our field research has determined approximate land value in sales, for agricultural purpose only, in other Asian settings that are roughly similar to much of rural China, except having relatively developed land markets. Thus, in India's Karnataka state, average market values of around \$2,500 per hectare (one hectare = 2.47 acres) are found; in India's West Bengal state, around \$5,000 per hectare; and in densely populated East and Central Java, Indonesia, around \$10,000 per hectare. (These are based, respectively, on a 400-household RDI sample survey, 2001; on a 500-household RDI sample survey, 2001; and on RDI field interviews, 2000, and estimate of the National Land Agency of Indonesia, 2002). If we use a very rough figure of \$5,000 per hectare and multiply that by China's 135 million hectares of agricultural land, we get a total of \$675 billion. We should, however, discount for the

As noted above, the transferability of farmers' land rights was initially stated in the No. 1 Document of 1984 and reiterated in the 1998 LML, which confirms that "the right to use land may be transferred in accordance with the law."⁴⁸ The latter remained, however, at best self-referential, since there was no separate "law" on the subject until 2002. At that point, the 2002 RLCL fully opened the door for a rural land transfer market by devoting an entire chapter to how farmers' use rights of their contracted land may be leased, assigned, exchanged, or otherwise transferred.⁴⁹ A series of survey questions related to private transfers of rural land use rights provides a detailed picture of the current state of such markets.

Based on the data collected, one may make a general observation that the rural land transfer market in China's countryside is still at its very early stage. Roughly a third of rural households have been parties to a land transfer (transfer-out or transfer-in), which is the same as what we observed in 2001.⁵⁰ Scrutinized more closely, nearly half of these transactions cannot be construed as market transactions because they are at will, verbal transfers among relatives of the same village without any lease rental or lump-sum price paid.

There are some, albeit ambiguous indications, in the 2005 survey data that a land market may be developing. For example, the transfers-out reported in 2005 seem to involve longer contract terms and larger land areas than in the 2001 survey.⁵¹

value of thirty-year rights compared to that of full private ownership. Applying the common formula, net present value

$$(NPV = \sum_{t=1}^T \frac{C_t}{(1+r)^t} - C_0)$$

which bases present value on discounted future streams of income, and for any likely range of discount rates, thirty-year rights (in Year 1) should have somewhere between 75% and 95% of the value of full private ownership. This suggests a value of somewhere between \$500 and \$650 billion.

48. LML, *supra* note 24, at ch. 1, art. 2.

49. RLCL, *supra* note 25, at ch. 2, § 5, arts. 32-43.

50. SCHWARZWALDER ET AL., *supra* note 16, at 163.

51. The same pattern is not evident for transfers-in. The sample design used here, surveying a single household in most villages, means that there is no necessary balance between transfers-out and transfers-in, whether measured in terms of frequency, duration, compensation or land area involved. Such a balance might be expected if a large number of households were surveyed in each village.

FIGURE 4: HOW MUCH OF YOUR LAND IS TRANSFERRED OUT?

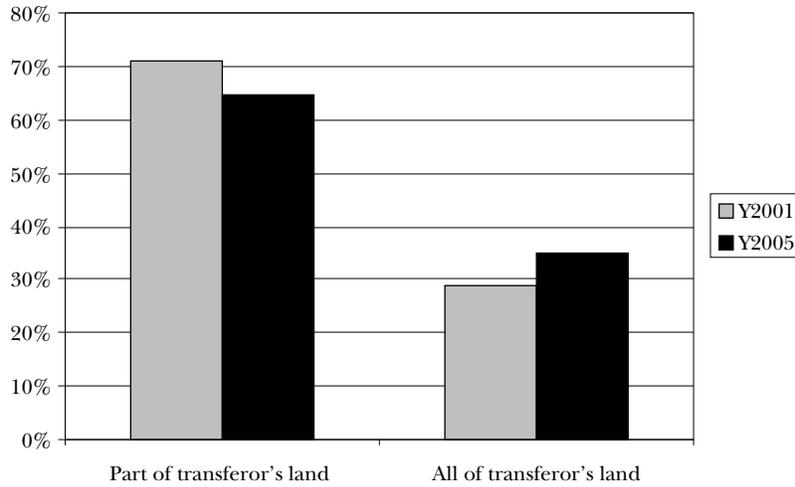
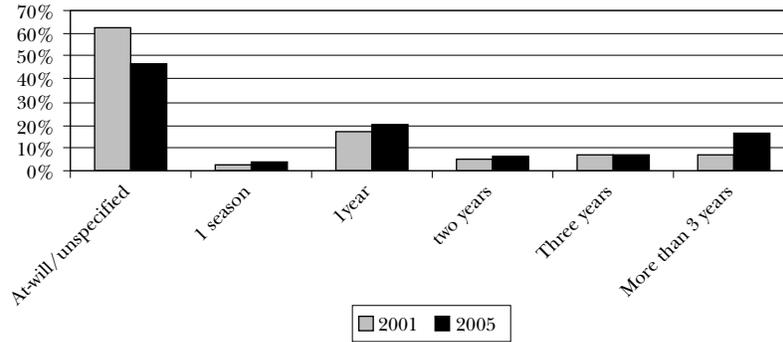


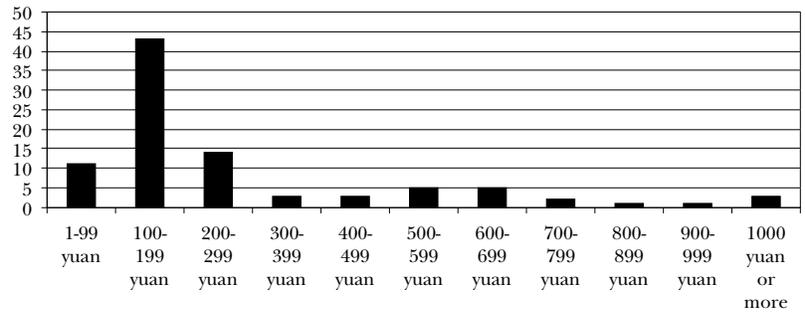
FIGURE 5: HOW LONG IS THE TRANSFER-OUT PERIOD?



For the 303 households that had transferred-out, half received no compensation. For the remaining half of transfers-out involving consideration, the two main forms are cash (102 cases) or grain (43 cases). Figure 6 reflects in larger categories the more detailed survey data on cash compensation per mu per year, where the median amount was between 130 and 140 yuan. This median figure equals between \$15.85 and \$17.07 per mu, or \$238 to \$256 per hectare; and an annual return of

\$250 per hectare, if capitalized at 5%,⁵² would yield a principal value for the asset of \$5,000.⁵³ If we look at the comparative land values described in footnote 44, this may suggest that, for those transfers that do involve actual consideration, a meaningful market is beginning to form.⁵⁴

FIGURE 6: NUMBER OF TRANSFERS-OUT ACCORDING TO THE AMOUNT OF CONSIDERATION (CASH PER MU PER YEAR)



E. Issuance of Land Contracts and Certificates

The Peruvian economist Hernando de Soto argues that formal documentation of land rights is an important part of the process of bringing land which is “dead capital” to life, allowing that land to have value, although there is not uniform agreement on this conclusion among development researchers and practitioners.⁵⁵ Certainly in most settings written documentation of farmers’ rights improves transparency and predictability, reduces disputes among interest- or right-holders, and should be expected to improve marketability of land rights to those who are neither relatives nor part of the same village community. Such documentation is also likely to be es-

52. That is, what principal sum, yielding 5% return per year, would yield \$250 per year.

53. China’s 10-year treasury bonds currently yield around 3%. See Li Qing & Cui Bin, *2006 Macroeconomics and Bond Market Outlook: Bond Yield Curve Flattens*, FIN. TIMES, Jan. 20, 2006, http://www.chinabond.com.cn/china_bond/cjxw/content.jsp?sId=5972.

54. For the transfers-in, our survey data show a median cash consideration of 117 yuan per mu per year, equal to \$214 per hectare.

55. DE SOTO, *supra* note 46, at 49. See also *infra* note 78.

sential for any formal use of rural land as collateral, once the present prohibition on mortgage of arable land is removed.⁵⁶

At least in many country settings, formal documentation of land titles or rights may also serve as a necessary foundation for mid- to long-term investments or improvements on land. From regulations as early as in 1997, the Chinese government has required that written documentation be issued to farmers to confirm their thirty-year rights.⁵⁷

There are generally two types of documentation: the rural-land-use-right contract ("contract") and the rural-land-contracting-and-use-right certificate ("certificate"). A contract is designed at any level and is completed at the village level. It will be signed or sealed by both the collective and the contracting farm household. The specific content of the contracts issued in different villages varies greatly. Meanwhile, a certificate is typically designed by the provincial government and includes universal content and format. It is sealed by the county government and requires no signature from the contracting farmer.

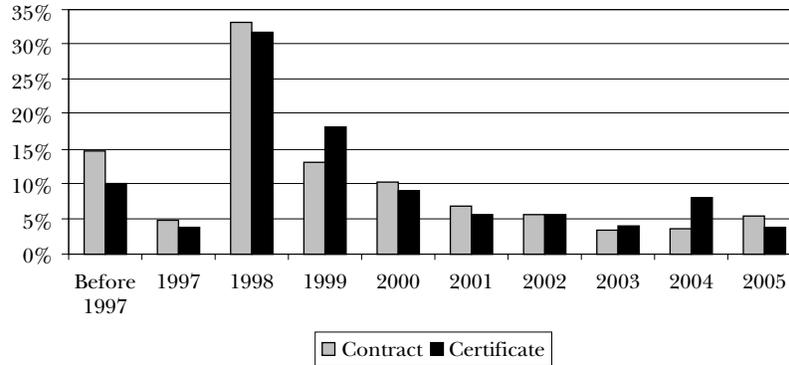
The 2005 survey found that close to half of all respondents had been issued a written land-use-right contract (45.2%). The rate of certificate issuance is also around half, 52.7%. Around three-fifths of farm households, 63.2%, had been issued a contract, a certificate, or both.

It appears that the majority of the contracts and certificates were issued during the three-year period of 1998 to 2000. Thereafter, the rate of issuance declined, although issuance has continued at a lower level, as shown in Figure 7. Given that there is still ample work to be done—51.5% of households had not yet received a land contract, and 47.3% of households had not yet received a land certificate—and that important new legislative guidelines (the RLCL) were adopted in August 2002 (effective date, March 1, 2003), it is troubling that a new peak-period of issuance has not emerged.

56. See the recommendation made below on mortgage of rural land rights (Section VI(B)(3)).

57. See Notice Improving Land Contracts, *supra* note 35.

FIGURE 7: TIMING OF CONTRACT AND CERTIFICATE ISSUANCE



There is another matter, however, that may be as important as the issuance rate of contracts or certificates: that is the quality of those that have been issued, or what we shall call their “compliance.” At the time of the interview, 42.8% of interviewees possessed the physical contract, and were asked to produce the contract for further examination. Likewise, 48.2% possessed the physical certificates, and were asked to produce them. The important question is whether the contract and certificate provisions thus examined contain essential content, some of which is required by the 2002 RLCL and other recent regulations.⁵⁸ The table below shows the extent of the presence of nine important provisions, the first seven of which (six of the seven in the case of certificates, since this is a unilateral document and requires no signature from farmers) we shall take as the hallmarks of “compliance.” Only 6.7% of survey households possessed compliant contracts, and 8.3% compliant certificates. Altogether, 10.4% of farmers—roughly one out of ten—possessed at least one of the documents in compliant form.

58. RLCL, *supra* note 25, at ch. 2, § 3, art. 21.

TABLE 6: WHICH OF THE FOLLOWING ARE CONTAINED IN THE CONTRACTS AND CERTIFICATES? (MULTIPLE CHOICE)

	Contracts	Certificates
1. The thirty -year contract term	91.1%	89.8%
2. The starting and ending dates of the term	90.4%	86.1%
3. The signature or seal of the collectives	96.1%	95.4%
4. The signature of the farmer	90.5%	N/A
5. The total size of the contracted land	90.1%	94.1%
6. The size of each individual land parcel	62.8%	67.1%
7. A map or sketch of the contracted land	19.6%	20.6%
8. Specified four directions of the land	53.1%	55.6%
9. A provision prohibiting readjustments during the contract term	21.6%	24.5%

F. *Farmers’ Knowledge of Land Laws and Policies*

Past experiences indicate that farmers are more likely to assert and uphold their land rights in the face of possible violations if they know and understand what kind of rights and remedies they have under the law. Moreover, knowledge of land laws and policies tends to be associated with farmers’ confidence and investments in their land as noted in Section V.

Almost all farmers (91.7%) told us that they are aware of the central government’s “thirty-year without change” policy. It appeared that about one in five interviewees (19.8%) have actually heard of the RLCL. A larger group (nearly half of all respondents) answered as to one or more of nine possible channels through which they heard of farmers’ land rights.⁵⁹

59. This was the whole group of those who initially thought they might have heard of the RLCL, but of whom only a minority then recalled receiving information in a time frame (2002-2005) consistent with actually hearing about the RLCL, rather than, for example, the LML.

Of this group, approximately 30% had heard through one channel, another 30% through two channels, and nearly 40% through three or more channels. TV (48.1%), publicity pamphlets (38.4%), publicity by village cadres (38.3%), villagers' meetings (32.8%), and newspapers (24.5%) are cited as the top channels for such knowledge.

We further designed a series of questions assessing the extent of substantive understanding of the important rural land laws and policies for the entire universe of 1,962 interviewees. We found that farmers' knowledge of a specific legal rule or policy varies a great deal from subject to subject. Table 7 shows the results:

TABLE 7: PERCENTAGE OF FARMERS WHO CORRECTLY UNDERSTOOD THE FOLLOWING STATEMENTS OF CURRENT LAND LAWS AND POLICIES (MULTIPLE CHOICE)

Farmers' arable land should be contracted for thirty years without readjustments	78.9%
When someone in a farmer's household dies, the deceased's contracted land need not be returned to the collective.	50.7%
When someone in a farmer's household moves to the city and changes residential registration, his or her contracted land need not be returned to collectives.	35.4%
Farmers may transfer ⁶⁰ or lease their contracted land without collectives' consent.	56.6%
Farmers may grow whatever crops they like on their contracted land.	83.0%
Collectives may not take back farmers' contracted land and re-contract to non-villagers without farmers' consent.	79.9%
Farmers may file lawsuits in court when their land rights are violated.	85.7%

n=1962

60. "Transfer" here does not include assignment of the full remaining term of the thirty-year right or sale. The former may be done only with the collectives' consent, and the latter (since the farmer is not the owner of the land) is legally impermissible.

The responses to the first three questions are revealing. Although the large majority of farmers have heard of the general thirty-year-no-readjustment principle, many of them still fail to grasp the essential implications, such as the right to retain a family member's proportional share of the household's land after their death or after he or she moves to a city. Meanwhile, although an encouraging 85.7% (1,681 farmers) claim to understand that they have the right to sue in case of violations of land rights, and 258 of the farmers affected by takings (a large majority) are unsatisfied with the compensation from land takings, there were only five lawsuits filed due to those grievances (see *supra* Table 5). It is clear that the publicity in regard to farmers' land rights remains gravely inadequate.

G. *Other Aspects of Implementation of Thirty-Year Rights*

The formal process that grants farmers thirty-year land rights is called the second round of contracting. Accordingly, it is important to find out whether the survey villages carried out such a process.

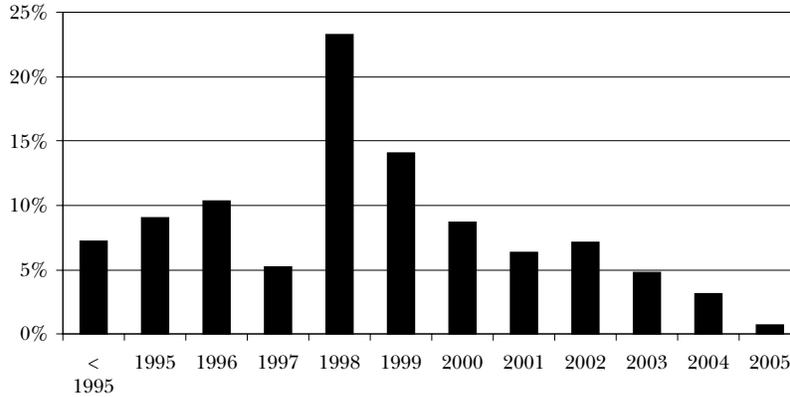
Many of those farmers who have not yet received contracts or certificates may not in fact expect to receive them, even though the law is clear that both documents should be issued. Thus 82.6% of interviewees reported that their villages "conducted" the second round of contracting or implemented the thirty-year-no-readjustment policy, even though only 63.2% have received a contract, a certificate, or both. (38.0% have received both documents, which would be required for full implementation of the law).

Central government policies, embodied in Document No. 16 of 1997, allowed villages to conduct a small readjustment as part of implementation, but prohibited the conduct of big readjustments. Approximately three-fifths (59.8%) of the survey villages that were said to have "conducted" the second round of contracting did in fact conduct a land readjustment as part of the implementation process, with slightly less than half of that 59.8% conducting a big readjustment. Both the proportion of villages conducting a land readjustment as part of the process, and the share of these readjustments that were big ones parallel the findings of the 2001 survey.⁶¹

61. Schwarzwalder et al., *supra* note 16, at 167.

The timing of the readjustments was concentrated in 1998 and 1999, mirroring the peak years of contract and certificate issuance. The incidence of that frequent step in carrying through the second-round of contracting declined steadily, as seen in Figure 8.

FIGURE 8: TIMING OF THE READJUSTMENTS RELATING TO THE SECOND ROUND OF CONTRACTING



Respondents in 79.3% of survey villages indicated their villages implemented a contract term for thirty years, while 4.2% (74 villages) adopted a term of fifty years (previously-entered-into contracts for a longer term than thirty years are validated by the RLCL).⁶² Again, however, it should be borne in mind that farmers in only 63.2% of survey villages have yet received contracts or certificates documenting these rights. Also, 123 villages (6.9%) were said by respondents to have adopted a contract term of less than thirty years—nearly all for fifteen years or less—which is an action that flouts both the LML and the RLCL.

Another important indicator of whether thirty-year rights are being faithfully implemented is the existence of any post-second-round-of-contracting readjustments. As discussed earlier, administrative readjustments of farmers' contracted land has been a long-time threat to tenure security. It is vitally important to assess how well the recent laws that restrict land re-

62. The total number of villages which has implemented fifty-year rights is eighty six, of which eighty are in Guizhou.

adjustment have fared in reality. The survey reveals that 30.3% of villages that had conducted the second round of contracting have carried out such a readjustment. Compared to the figure (17.9%) in 2001, the proportion of villages with post-second-round-of-contracting readjustments has increased substantially between 2001 and 2005 (note that the landmark 2002 RLCL was adopted during that period to provide farmers with stronger land rights). This is alarming and clearly a step backward for secure, long-term land rights. Because the 2002 RLCL and several policies preceding it virtually outlaw all readjustments except in “special circumstances” such as natural disasters,⁶³ and given that there were only six cases of readjustments arising from natural disasters, there were probably 423 villages that have conducted illegal readjustments.

The survey further shows the reasons that were offered for post-second-round-of-contracting readjustments:

TABLE 8: MAIN REASONS FOR POST-SECOND-ROUND-OF-CONTRACTING READJUSTMENTS

Population changes	72.8%
Land takings	13.3%
Consolidation of small land parcels	4.7%
Introduction of scale farming	2.5%
Natural disasters	1.4%
Households gave up land due to high taxes	1.4%
Re-contracting to non-villagers	1.1%

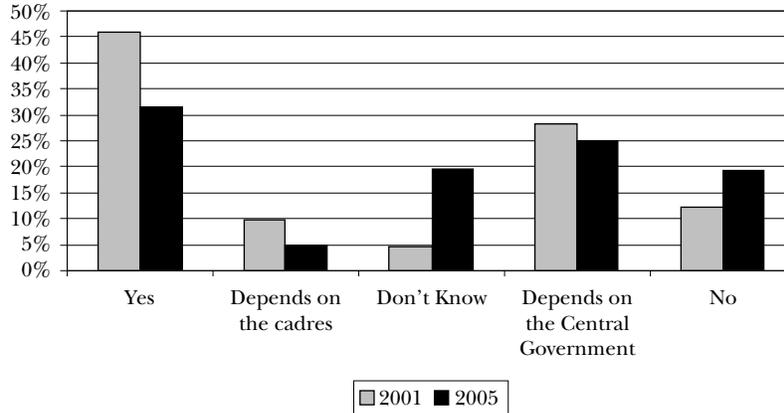
n=429

Farmers’ confidence in the security of their land rights is another indicator of the success of implementation. To determine the extent of farmers’ confidence, the survey asked if farmers expected readjustments to continue during the thirty-year use term established by national policies and laws.⁶⁴

63. RLCL, *supra* note 25, at ch. 2, § 4, art. 27.

64. The question was asked of all farmers who reported awareness of the thirty-year land use right policy, comprising 1511 valid responses.

FIGURE 9: DO YOU EXPECT LAND READJUSTMENTS TO CONTINUE DURING THE 30-YEAR TERM?



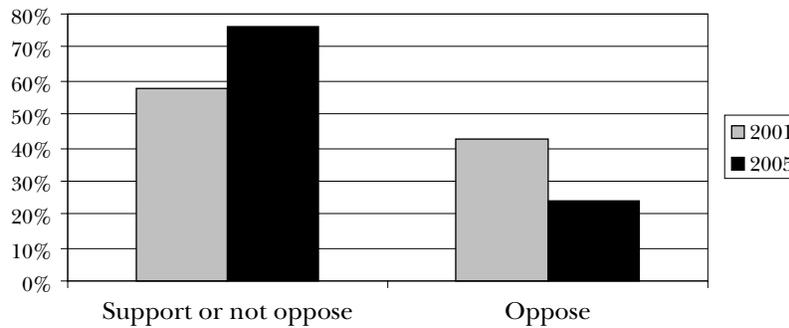
The five choices—“yes,” “depends on the cadres”, “don’t know,” “depends on the central government,” and “no”—represent five degrees of confidence in an ascending order, with “don’t know” being the neutral group. If this chart is viewed alone, one may conclude that there is a modest improvement of farmers’ confidence in their land rights. Most notably, the percentage of farmers who expect future readjustments has fallen from 45.8% to 31.4%, while the percentage of farmers who categorically rule out future readjustments has increased from 12.2% to 19.2%. However, this falls far short of a comprehensive measure of subjective confidence due to one important fact: to make data comparable to the 2001 survey, we have chosen not to include the newly salient land takings issue in the “confidence” inquiry⁶⁵ in the 2005 survey. Given the rampant land takings and the extensive negative impact brought by their publicity, farmers’ actual confidence may well be noticeably lower than the present data suggest. Bear in mind also that only 26.2% of the most recent instances of land takings were accompanied by a readjustment; thus takings are largely a separate and incremental source of tenure insecurity.

How much opposition would implementation of a strict prohibition of land readjustments face? In both the 2001 and

65. As we might have, for example, by instead asking the question as “Do you expect land readjustments to continue, or believe that you might lose your land through a land taking, during the thirty-year term?”

2005 surveys, we asked a series of questions as to degree of support or opposition, or neutrality, regarding such a strict prohibition. We grouped farmers' responses into two groups: (1) Support or Not Oppose, comprised of those who expressed "strong support," "support," or "indifference" towards a prohibition on readjustments; and (2) Oppose, comprised of those who expressed "strong opposition" or "opposition" to such a prohibition. Those who responded that they were unclear with regard to such a prohibition were not included in the analysis. The results are presented in Figure 10.

FIGURE 10: FARMERS' ATTITUDE TOWARD STRICT PROHIBITION OF READJUSTMENTS



Clearly there has been a substantial move towards the "support or not oppose" position, with 76.1% now in that grouping (versus 57.5% in 2001). The opposition, meanwhile, has declined to 23.9% (versus 42.5% in 2001). Thus, fewer than one out of four farmers would now oppose the strict prohibition of land readjustments.

H. *Farmers' Investment*

Studies in other country settings show that land rights secured by written documentation likely motivate farmers' mid-to long-term investments in improving their land, as discussed in Section V(A) below. These investments in turn increase the volume and value of agricultural productions, thus raising farm income and stimulating rural economy.

Here, farmers were asked about whether they have made one or more of six specific mid- to long-term investments on their land.⁶⁶ The result is shown in Table 9.

TABLE 9: INVESTMENTS ON LAND (MULTIPLE CHOICE)

Fixed greenhouse	1.7%
Removable greenhouse	8.0%
Fixed vine trellises	3.3%
Fishery ponds	2.9%
Orchards/nursery/tea garden	11.9%
Farms for domesticated animals (pigs, chickens, etc)	4.9%

n=1962

Table 10 shows the year of all such investments made from 1994 onward:

TABLE 10: YEAR OF INVESTMENTS (MULTIPLE CHOICES)

Year	Cases of investments	Note
1994	16	≈ 1.1 per 100 households per year
1995	28	
1996	16	
1997	23	
1998	45	≈ 2.3 per 100 households
1999	76	≈ 4.6 per 100 households per year
2000	113	
2001	93	
2002	79	
2003	33	≈ 1.0 per 100 households per year
2004	13	
2005 (1/2 yr)	4	

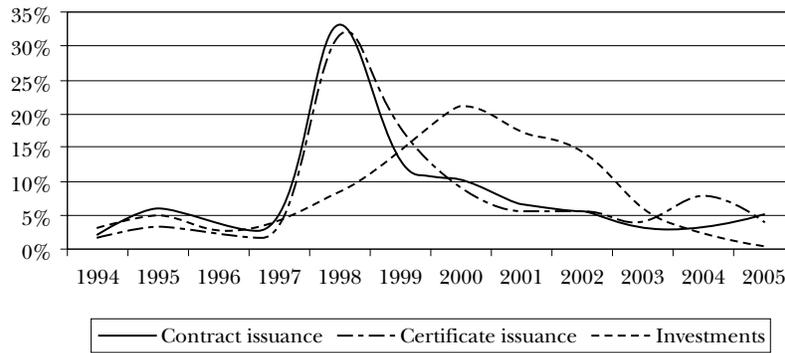
For the purpose of analysis, we have divided the years in Table 10 into four periods: 1994-1997, 1998, 1999-2002, and 2003-2005. There is clearly a story to tell. The adoption of the LML or the second round of contracting around 1998 seems

66. They were also asked as to unspecified "Others," as to which 4.1% answered yes. We exclude those responses as too uninformative, and also possibly including investments made by the village collectives. The six named types of investments are ones virtually never made except by the individual farm households.

to be the defining moment. There are only sporadic or infrequent investments before 1998. After the transitional year of 1998, there is a huge jump in investments which was sustained for a period of four years. After that, investments appear to revert back the pre-1998 level. The high-investment period closely follows the period when the bulk of contracts, certificates and the second round of contracting (including its publicity) were accomplished. The correlations between contract/certificate issuance, publicity, and investments are explored in detail in Section V.

Projected over the 187 million rural households, the estimated total number of mid- to long-term investments in the six categories for the four-year peak period (1999-2002) would be 34.4 million—versus 7.9 million for the four-year period (1994-1997) before the second round of contracting and the accompanying publicity. As strikingly shown in Figure 11, the peak years of investments closely follow, with about a two-year time lag, the peak years of contract/certificate issuance.

FIGURE 11: TIMING OF CONTRACT ISSUANCE, CERTIFICATE ISSUANCE AND INVESTMENTS



The reasons for the post-2002 drop-off in investments may include some satisfaction of “pent-up” investment desires, the growing time-lag since publicity or document issuance, and the increased negative publicity on poorly compensated land taking, as well as the growth of illegal readjustments.

Table 11 shows with what resources the farmers made the investments, with personal labor and personal savings by far the most prominently cited.

TABLE 11: SOURCES OF THE INVESTMENTS (MULTIPLE CHOICE)

Personal labor	75.4%
Personal savings	76.5%
Money borrowed from bank or credit union	14.7%
Money borrowed from relatives	16.5%
Money borrowed from friends or neighbors	7.5%

n=600

I. *Other Income-Related Measures*

Starting from 2004, the central government began to address the vexing problem of the massive rural-urban income gap through various forms of subsidy and tax relief. One of the short-term measures adopted was reducing or even completely eliminating agricultural taxes and fees, sometimes called farmers' "burden." To broadly assess whether tax reductions were being implemented, we asked whether agricultural taxes in 2004 decreased compared with those of 2003, and the pattern of responses (see Table 12) was clear, with over three-quarters of respondents experiencing a decrease and almost none experiencing an increase.

TABLE 12: TAX BURDENS IN 2004 COMPARED TO 2003

Increased	2.1%
Decreased	77.2%
Remained the same	20.4%
No taxes at all	0.3%

n=1957

As shown in Table 13, three-quarters of farmers (58% + 17%) believed that the tax reduction would continue in 2005. This included one out of six who expected 2005 taxes to be nil. Indeed, the Chinese government has announced that agricultural taxes will be entirely eliminated by the end of 2006.⁶⁷

67. *A Solution in Two Words: Abolish the Agricultural Tax*, XINHUA NEWS AGENCY, March 5, 2005, <http://news.eastday.com/eastday/news/node51462/node51471/userobject1ai913326.html>.

TABLE 13: EXPECTATION OF 2005 TAX COMPARED TO 2004

Increase	0.9%
Decrease	58.0%
The same	24.1%
No taxes at all	17.0%

n=1924

The financial impact of eliminating taxes has been calculated by the Chinese government as 22 billion yuan, which (dividing by an estimated 187 million farm households) comes to a rough average of 118 yuan per household in tax relief.

Another short-term measure employed in 2004 to ameliorate the income disparity is to offer subsidies to farmers, as shown in Table 14. More than one third of farmers received no subsidies at all, while 83.6% received none or less than 100 yuan per household. Given the enormous income disparity (roughly 7,000 yuan per capita, equal to over 31,000 yuan per average 4^{1/2}-person rural household) and the rising costs of farming (higher fertilizer and seed prices were reported in 2004 and 2005), the impact of tax reduction and subsidies upon the urban-rural income gap is minuscule.⁶⁸

TABLE 14: AMOUNT OF SUBSIDIES RECEIVED IN 2004

Less than 50 yuan	31.0%
50-100 yuan	16.8%
101-200 yuan	10.3%
201-300 yuan	2.8%
More than 300 yuan	3.2%
No subsidies	35.8%

n=1955

IV. SELECTED PROVINCIAL-LEVEL FINDINGS

Analysis of the survey results at the individual province level indicates substantial disparities among the seventeen survey provinces in regard to various aspects of the implementa-

68. See Chen Xiwen, *After the Governmental Benefits of Agriculture Run Out*, CAIJING (Beijing), Aug. 8, 2005, at 42; Roy Prosterman & Brian Schwarzwaldler, *Subsidies Won't Help China's Rural Communities*, ASIAN WALL ST. J., Mar. 5, 2004, at A9.

tion of the thirty-year rights and the RLCL. Caution should be exercised here because the relatively small sample size in each province has compromised the data accuracy to some extent, as discussed in the Appendix below.⁶⁹

A. Implementation of the Second Round of Contracting

On the question of whether villages are reported by interviewees to have “conducted” the second round of contracting, the differences among provinces are substantial and worthy of further policy discussion. The four provinces with the poorest performance in terms of conducting the second round of contracting are Jiangsu (58.7%), Shanxi (63.6%), Hubei (70.2%), and Jiangxi (73.8%). Guizhou (93.6%) has the highest percentage of villages that have conducted the second round of contracting, which is consistent with the observation made in the 2001 survey.⁷⁰

Figure 12 gives the combined province-by-province breakdown as to what percentage of farm households have been issued a contract, certificate, or both.

FIGURE 12: PERCENTAGE OF FARMERS WHO POSSESS EITHER CONTRACT OR CERTIFICATE, OR BOTH

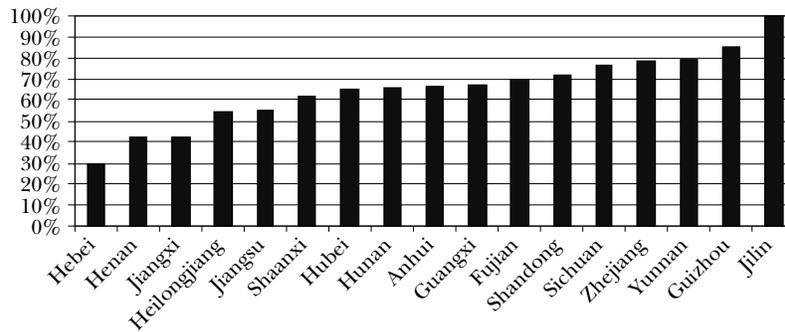


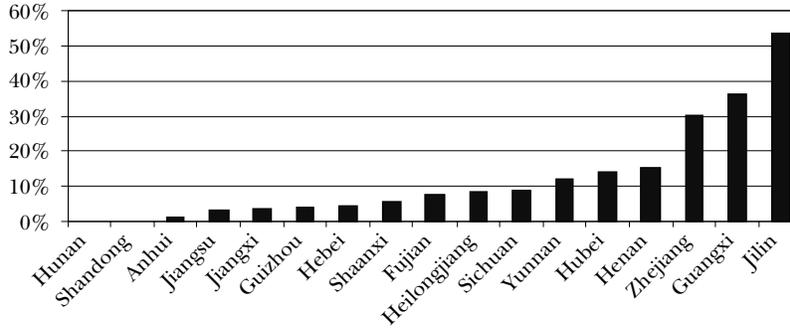
Figure 12 shows that three provinces (Hebei, Henan, and Jiangxi) stand, distressingly, at substantially less than 50%. Jilin, by contrast, is at 99% for issuance of at least one of the two documents.

69. At the provincial level, the survey data has an accuracy of +/-8.9% for household level questions and +/-9.8% for village level questions.

70. Schwarzwald et al., *supra* note 16, at 197.

Looking at quality and not just quantity of issuance, Figure 13 reveals the combined province-by-province breakdown as to what percentage of farm households have been issued a compliant contract, compliant certificate, or both:

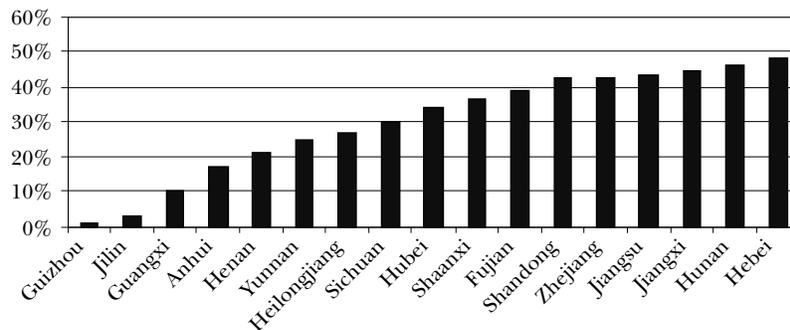
FIGURE 13: PERCENTAGE OF FARMERS WHO POSSESS A COMPLIANT CONTRACT OR A COMPLIANT CERTIFICATE, OR BOTH



The overall picture here is ominous. The issuance of compliant documentation in eleven of our seventeen provinces is under 10%, while Jilin, again, has the best performance in this regard (53.6%) and greatly exceeds the national average (10.4%).

Figure 14 shows the percentages of villages that have conducted land readjustments since the second round of contracting.

FIGURE 14: PERCENTAGE OF VILLAGES THAT HAVE CONDUCTED POST-SECOND-ROUND-OF-CONTRACTING LAND READJUSTMENTS

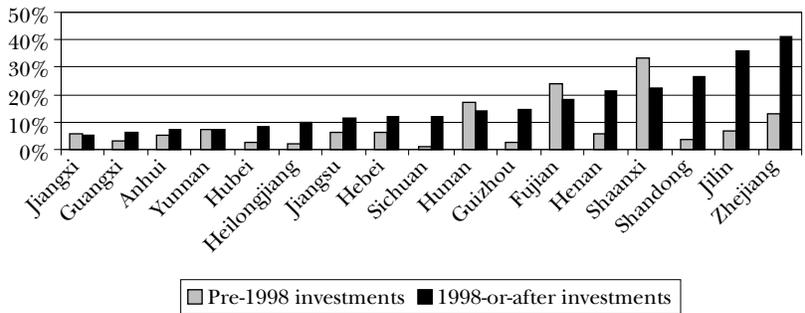


Because administrative land readjustments are generally prohibited as discussed in Section III(G), this figure reflects the disturbing finding that a substantial number of villages in all but two provinces (Guizhou and Jilin being the exception) have still been conducting readjustments at the expense of tenure security.

B. Investments

Figure 15 shows the percentage of farmers making mid- to long-term investments on their land, divided into pre-1998 and 1998-or-after:

FIGURE 15: PRE-1998 INVESTMENTS VS. 1998-OR-AFTER INVESTMENTS



This Figure is a revealing one, and allows us to “dig deeper.” Setting Figure 15 side-by-side with Figure 13 alerts us to several important facts. First is that there is noticeable, but still far-from-complete, congruence at the provincial level between issuance of compliant documentation and making of investments. Zhejiang and Jilin have two of the three best records in issuing compliant documents, and also the two highest percentages of 1998-and-after investments. But Guangxi, also with a top-three record in issuance of compliant documents, ranks low in investment. Anhui and Jiangxi, with poor records on compliant-document issuance, also rank low in investment. But Shandong, with a poor record on documentation, does relatively well on investment.

This should remind us that, at the individual farmer level, there is far from a one-to-one correspondence between compliant documentation and investment. Twenty-nine percent of

farmers with compliant contracts have made 1998-or-after investments (see Table 18), but fifty-two percent of them have never invested. Eighty percent of farmers with no contract at all have never invested, but 12% of them have made 1998-or-after investments. Moreover, there are only 111 farmers in the compliant-contract group, and a much larger 1019 in the no-contract group, both of which can be expected to be (+/- 2.2%) approximately reflective of the ratios in the broader rural Chinese population.

There are, moreover, a number of other factors that may influence farmers' investment besides documentation—including pre-1998 investment, which was far less than the rate of "peak period" investment (but still reached about one-quarter of the "peak period" rate). RDI is, for example, aware that in Shaanxi province, shown in Figure 15 as having the highest pre-1998 investment rate, a heavily publicized provincial campaign was aimed at getting farmers to plant apple trees, and this was combined with reiterated official assurances that, in any subsequent readjustment that might occur, farmers who planted trees could select any land to be given up, and thus could protect the security of their orchard land.⁷¹ And, in fact, our provincial level data for Shaanxi shows that the great bulk of the investments made there have been in the "orchard/nursery/tea garden" category. Variations of this tenure-security-without-compliant-documentation phenomenon almost certainly play out in other settings. In cases of good documentation and low investment (such as Guangxi), negative phenomena may play out, including poor infrastructure and lack of access to markets for higher-value crops.

It still seems fair to say that, if on the whole a universal issuance of compliant contracts and certificates could likely bring about a doubling or tripling of "baseline" investment behavior by the 90% of Chinese farmers not yet reached by such documentation, it would be a worthwhile thing to do.

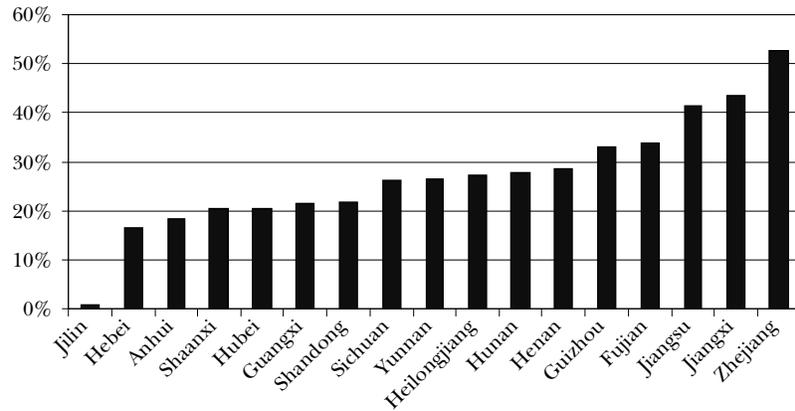
C. *Land Takings*

As discussed in Section III(C), *supra*, land takings through the state eminent domain power have burgeoned, resulting in

71. Roy Prosterman et al., *Report of Fieldwork in Shaanxi* (unpublished RDI memo).

increasing numbers of land-losing farmers every year in China and causing a great number of controversies, conflicts or even violent confrontations between the land-losing farmers and powerful local governments. A close look at how each province performs in this category may yield valuable information on adjusting reform priorities.

FIGURE 16: PERCENTAGE OF VILLAGES THAT HAVE EXPERIENCED LAND TAKINGS SINCE THE SECOND ROUND OF CONTRACTING

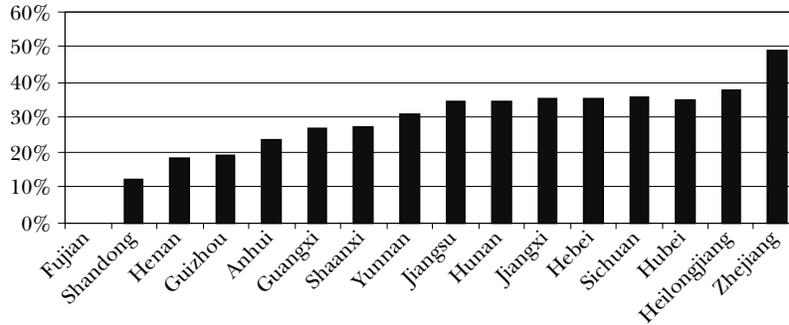


Zhejiang is the most economically prosperous of all seventeen provinces in our survey,⁷² and more than half of the villages there appear to have experienced land takings after they had conducted the second round of contracting. In Jilin, by contrast, only one village out of 114 survey villages is reported to have had a post-second-round land taking. In all of the remaining provinces, over fifteen percent of villages are reported to have experienced such land takings.

A key indicator of the perceived fairness of land takings is what proportion of farmers indicates satisfaction with the final compensation package. Figure 17 shows the percentage of farmers indicating such satisfaction by province.

72. Zhejiang province has the fourth largest economy in the country and the largest one among the seventeen survey provinces. See National Bureau of Statistics of China, *supra* note 5.

FIGURE 17: PERCENTAGE OF FARMERS SATISFIED WITH COMPENSATION



Jilin is omitted from Figure 17 as there was only one post-second-round-of-contracting land taking. Fujian appears to suffer the worst problem in terms of satisfaction as there is not a single farmer satisfied with compensation out of thirty-six cases. Apart from Fujian, the proportion of farmers with knowledge indicating that compensation was satisfactory falls under twenty percent in Shandong, Henan, and Guizhou. Even the best-performing province as to satisfaction with compensation, Zhejiang, falls short of fifty percent.

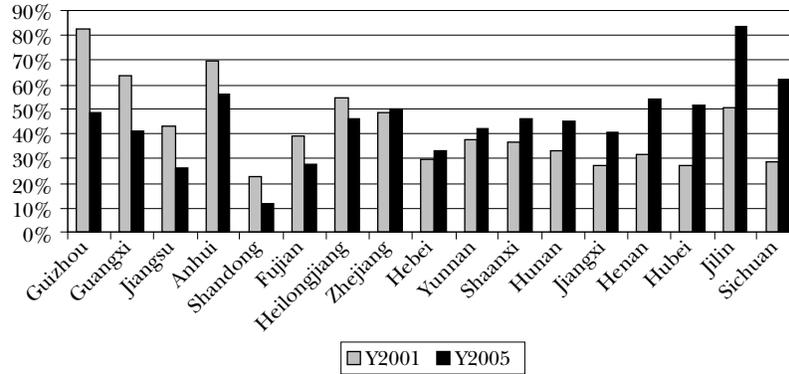
D. *Farmers' Confidence*

In this survey, we measured farmers' confidence by asking farmers whether they expect future readjustments during the thirty-year contract term or not.⁷³ At the province level, Jilin is once again the exemplar as 83.8% of its farmers are relatively confident that readjustments will not occur. By contrast, the proportion in Shandong, Jiangsu, and Fujian are all below thirty percent. Figure 18 shows the percentage of farmers who are relatively confident that land readjustment will not occur during the thirty-year contract term, including a comparison with the 2001 survey results.⁷⁴

73. As already noted, a shortcoming of the present survey (due to the desire for comparability to the questions asked in the 2001 survey) is that we did not assess the impact on "confidence" of the greatly increased incidence of taking.

74. Farmers with relatively high confidence are the ones who responded "No" or "Depend on central government" when asked the question "Do you expect readjustments to continue during the thirty-year term?"

FIGURE 18: FARMERS WITH RELATIVELY HIGH CONFIDENCE



V. THE IMPACT OF “LAND TITLING”

Why are documented land rights relevant? Centrally, the survey shows that, in China, land rights confirmed by written contracts or certificates have a significant positive relationship with farmers’ investments on land. More precisely, the improved security of the documented land rights caused a dramatic increase in investments that tend to improve the volume and value of agricultural production. This link between formalized tenure and land investments holds the potential to increase rural income, accelerate the eradication of rural poverty, and unleash an unprecedented spending power from the largest still predominantly dormant consumer market in the world, consisting of over 800 million people. This stimulus can drive a beneficial cycle broadening China’s consumer base and consumption demand growth at many levels, from low- to high-end consumer products. This was seen on a smaller scale in the early 1980s, when China adopted the HRS that gave farmers limited but individualized land rights. Less than two years after the initial reform was under way, China embarked on its first rural consumption boom in 1982, as TVs and bicycles made their way into tens of millions of rural homes.⁷⁵

But just one out of ten rural households presently possesses a land-rights document in the most efficacious “compli-

75. Important implications may also exist for the stability-related issue of the treatment of farmers affected by land takings for non-agricultural purposes. See *infra* Section V(B).

ant” form. So the next big question is: what would happen if all or nearly all of these more-than-800-million rural Chinese enjoyed secure, long-term and marketable land rights, or even became true “owners” of their land?

A. *A Primer on the Investment Impact of Land Tenure Security*

The experience of many countries has shown the potential impacts of secure, long-term land rights in providing not only a source of income, security, and status, but also a foundation for broader rural economic development and political stability.⁷⁶ Secure, long-term land rights confirmed in right-specifying documents have been considered a necessary condition for farmers making mid- to long-term investments on land when they are reasonably certain that they will be able to recoup the full value of the investments.⁷⁷ These investments may help improve soil condition (e.g., organic fertilizers, irrigation facilities, land leveling), employ advanced farming technology and equipment, or diversify into value-added crops. As a result, all of these will likely lead to substantial increases in the volume, productivity, and value of agricultural and other land-based production. The effects of land titling have been documented by a majority of existing studies.⁷⁸ In the case of

76. See generally DE SOTO, *supra* note 46; KLAUS DERINGER, *LAND POLICIES FOR GROWTH AND POVERTY REDUCTION* (2003); ROY L. PROSTERMAN & JEFFREY M. RIEDINGER, *LAND REFORM AND DEMOCRATIC DEVELOPMENT* (1987).

77. See generally DE SOTO, *supra* note 46; DERINGER, *supra* note 76; PROSTERMAN, *supra* note 76; Feder, Gershon, and David Feeny, *Land Tenure and Property Rights: Theory and Implications for Development Policy*, 5(1) *THE WORLD BANK ECONOMIC REVIEW* 135 (1991) (showing that the security of land rights improves land prices, the intensity of cultivation, and the use of credit).

78. See generally Emmanuel Jimenez, *Tenure Security and Urban Squatting*, 66 *REV. ECON. & STAT.* 556 (1984) (finding that formal-sector unit dwelling prices are about 18% to 58% more than in the informal squatter-settlement sector); Lee J. Alston et al., *The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier*, 12 *J.L. ECON. & ORG.* 25 (1996) (finding general support for predictions regarding the effects of title and investment on land value, the role of expected change in value in increasing demand for title, and the contribution of title in promoting land-specific investment); Timothy Besley, *Property Rights and Investments Incentives: Theory and Evidence from Ghana*, 103 *J. POL. ECON.* 903 (1995) (finding that better land rights facilitate investments in Ghana); Quy Toan Do & Lakshmi Iyer, *Land Rights and Economic Development: Evidence from Viet Nam* (World Bank Policy Research Working Paper No. 3120, 2002) (indicating that the additional land rights led to significant increases in the share of total area devoted to multi-

China, this may be the most promising way of mobilizing farmers' own enthusiasm to expand the economic pie in rural areas and ensure long-term rural income growth.⁷⁹ As noted in our earlier discussion, the seven-year period (1949-1956) when Chinese farmers had long-term, documented private land rights (full ownership, in that case) saw grain production increase by seventy percent and farmer income increase by eighty-five.

One of the most recent and provocative studies was conducted in San Francisco Solano, Argentina by two Argentine

year crops, as well as some increase in irrigation investment in Vietnam); Guo Li et al., *Tenure, Land Rights, and Farmer Investment Incentives in China*, 19 AGRIC. ECON. 63 (1998) (finding that the right to use land for long periods of time encourages the use of land-saving investments).

There are studies in a small number of country settings, however, that have shown no or negative impact from land titling. See, e.g., Ben Cousins et al., *Will Formalising Property Rights Reduce Poverty in South Africa's 'Second Economy'? Questioning the Mythologies of Hernando de Soto*, 18 PROGRAMME FOR LAND AND AGRARIAN STUD. POL'Y BRIEF (2005), available at <http://www.plaas.uwc.ac.za/publications/Policy%20brief%2018.pdf> (suggesting that in South Africa many of Hernando de Soto's policy prescriptions may be inappropriate for the poorest and most vulnerable in society). The results of these studies should not be regarded as inconsistent with those studies cited in previous paragraph, but rather as reflecting established customary tenure regimes and other special circumstances that lead to a different set of expectations and results in those particular settings.

79. Joyce Palomar, *Land Tenure Security as a Market Stimulator in China*, 12 DUKE J. COMP. & INT'L L. 7 (2002) (concluding that legislation to clarify ownership rights and improvements to China's land title registration system can make investors more secure in their ownership interests, and may yield increased foreign investment and a demand for China's mortgage-backed debt in the international securities market); Roy Prosterman, *A Property Rights Solution to China's "Income Gap,"* ASIAN WALL ST. J., 106 Oct. 12, 2005, at A7 (reporting that if Chinese farmers receive secure land rights, it should be possible for farm incomes to increase by 120-150% over the next 10 years); Klaus Deininger & Songqing Jin, *Land Rental Markets as an Alternative to Government Reallocation?* (World Bank, Policy Research Working Paper No. 2930, 2002) (finding that land rental markets are more effective than administrative land readjustments in redistributing land to people with lower endowments and also have a larger productivity-enhancing effect than administrative readjustment); Klaus Deininger & Songqing Jin, *The Impact of Property Rights on Households' Investment, Risk Coping, and Policy Preferences: Evidence from China* (World Bank, Policy Research Working Paper No. 2931, 2002) (concluding that in China, greater tenure security had a positive impact on agricultural investment).

universities and Harvard Business School.⁸⁰ The story is of special interest because it involved comparison of the behavior of a “titled” group and an “untitled” group of land possessors under circumstances where the sole difference between the two groups was the possession of a title document by one group and not by the other. More than two decades earlier, a substantial number of squatter families had occupied an area of unused land on the outskirts of Buenos Aires, Argentina. The area contained, in terms of legal title, various tracts of land with different owners.

The Argentinean legislature then passed an expropriation law to take the land for compensation, intending to title the individual parcels to the squatters. A number of the individual owners accepted the compensation, giving up their title to the government, which then gave formal title to the individual squatters who had occupied that land. The other individual owners challenged the adequacy of the compensation in court, and the litigation dragged on, with the squatters who happened to occupy parcels on that land remaining without title.

The researchers found a substantially greater improvement in housing (these were urban land parcels) had been subsequently made by the titled possessors than by the possessors without land titles, quantified as “an overall housing improvement of 37 percent associated to titling.”⁸¹ There appeared to be other impacts as well: the titled households had added fewer members (including having added fewer children than the untitled households) and the children in titled households went to school longer than children in the untitled households.

It is of interest, moreover, that a large majority of both the titled and untitled group of occupants claimed to have subjective confidence that they would remain in possession.⁸² Thus it appears to have been the documentation of rights alone that made a difference in investment (and other) behavior.

80. Sebastian Galiani & Ernesto Schargrodsky, *Property Rights for the Poor: Effects of Land Titling*, available at <http://200.32.4.58/~eschargr/PropertyRights-March13-2006.pdf> (Mar. 2006) (last visited Oct. 26, 2006). See also Matt Moffett, *Barrio Study Links Land Ownership To a Better Life*, WALL ST. J., Nov. 9, 2005, at A1.

81. Galiani, *supra* note 80 at 18.

82. Galiani, *supra* note 80 at 17.

B. *Issuance of Land Contracts or Certificates v. Investments*

On one hand, just over three-fifths (63.2%) of interviewed farmers were issued land contracts, land certificates, or both. On the other hand, just over one quarter of interviewed farmers have made one or more mid- to long-term investments on land of the six kinds considered. In this subsection, we explore the relationship between documentation and mid- to long-term investments. To further explore the correlation between the documentation issuance and investments, we have here divided the facts as to farmers' investments into four groups based on their timing in relation to the year of 1998: "no investments made," "investments made prior to 1998," "investments made in or after 1998," and "investments made both before and in or after 1998." As discussed earlier, the year of 1998 is significant as the year that saw the peak period of the second round of contracting and documentation issuance, and the adoption of the revised Land Management Law that formally embodied farmers' thirty-year land use rights. Besides the group of farmers who made investments before 1998 and the group who made investments in and after 1998, there are also a small number of people who made investments both before and after. For present purpose, we treat this group as a neutral group as they apparently have made investments regardless of the presence or absence of the second round of contracting.

To reduce "background noise" in the data, we have filtered out all contracts or certificates that were issued before 1998,⁸³ most of which were designed and issued prior to any clearly articulated second round of contracting and which are often not well-recognized and respected in regard to both their format and content. Accordingly, the contracts or certificates are only the ones issued in or after 1998 unless otherwise specified.

Table 15 shows the correlation between contract issuance and investments.

83. These comprise 19.3% of issued contracts and 13.9% of issued certificates.

TABLE 15: RELATIONSHIP BETWEEN CONTRACT ISSUANCE AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
Contract not issued	80.0%	6.6%	12.3%	1.1%	100% (913)
Contract issued	64.9%	8.0%	22.2%	4.9%	100% (684)

n=1597

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	55.250	3	.000

There is a statistically highly significant relationship⁸⁴ between contract issuance and investments (at the 99%-plus confidence level). Or, to put it in a way perhaps more easily grasped: for the no-contract group, there was an 86% increase of investments (12.3/6.6) in or after 1998, while for the contract-issued group, the increase was 178% (22.2/8.0). Moreover, the absolute proportion of 1998-or-after investors among the contract holders was 22.2%, much higher than that (12.3%) of the no-contract group.

Table 16 shows the correlation between certificate issuance and investments.

84. By convention, two-sided Pearson Chi-Square values of 0.05 or below (listed under "Asymp. Sig. (2 sided)" in Table 15 above) represent statistically significant results at the 5% level; values of 0.01 or below are statistically significant at the 1% level.

TABLE 16: RELATIONSHIP BETWEEN CERTIFICATE ISSUANCE AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
Certificate not issued	77.3%	8.5%	12.7%	1.5%	100% 836
Certificate issued	69.9%	6.1%	19.8%	4.2%	100% 791

n=1627

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	29.022	3	.000

Again, the relationship is statistically highly significant, here between certificate issuance and investments. For the no-certificate group, there is a 49% increase in investments in or after 1998. However, for the certificate-issued group, there is a 225% jump. Note that while the jump is greater for the recipients of certificates than in the case of contracts, the absolute proportion of 1998-or-after investors appears to be greater for the contract holders: 22.2% of contract holders made 1998-or-after investments in their land versus 19.8% of certificate holders.

Moving to greater refinement, taking into account separately those who received neither contracts nor certificates, those who have received only contracts, those who received only certificates, and those who have received both, we obtain the further results seen in Table 17.

TABLE 17: RELATIONSHIP BETWEEN CONTRACT/CERTIFICATE ISSUANCE AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
Neither contract nor certificate issued	78.7%	7.6%	12.5%	1.2%	100% (649)
Only contract issued	68.8%	11.8%	16.0%	3.5%	100% (144)
Only certificate issued	82.1%	4.0%	12.6%	1.3%	100% (223)
Both contract and certificate issued	63.5%	7.0%	24.1%	5.4%	100% (532)

n=1548

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	66.257	9	.000

It appears that the combination of both contract and certificate issuance has the strongest correlation with investments so far. For the no-contract-no-certificate group, the increase of investments made in or after 1998 is 64%. But for those who have received both contract and certificate, investments made in or after 1998 increase by 244%. Moreover, the absolute proportion of 1998-or-after investors in this latter group is 24.1%—nearly one in four has made one or more of the six specified mid- to long-term investments.

Thus far, we have reviewed evidence from our survey as to the correlation between the bare fact of issuance, or not, of a contract or certificate and the making of an investment. To further understand the relationship between documentation and investments, the survey includes a series of questions that determine if the contract or certificate issued contains certain provisions or content in accordance with applicable laws. Ac-

cordingly, there are “compliant” contracts or certificates⁸⁵ and “noncompliant” contracts or certificates.

Table 18 explores the relationship between investments and the issuance of a contract which is either “noncompliant,” or “compliant,” respectively. A “compliant” contract is one which is found, upon inspection, to include all seven of the following: the thirty-year term, its start and end dates, the signature or seal of the collective, the signature or seal of the contracting farmer, the total contracted land area, the area of each land parcel,⁸⁶ and a map or sketch of the contracted land.

TABLE 18: RELATIONSHIP BETWEEN COMPLIANCE OF CONTRACT AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
No contract	80.2%	6.7%	12.0%	1.2%	100% (1019)
Incompliant contract issued	68.3%	7.6%	20.2%	3.9%	100% (565)
Compliant contract issued	52.3%	10.8%	28.8%	8.1%	100% (111)

n=1695

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	70.513	6	.000

The pattern shown here is striking. For the no-contract group, there was a 79% increase of investments in or after 1998 (12.0/6.7); the noncompliant-contract group increased by 166%; the compliant-contract group increased by 167%. Moreover, the absolute proportion of 1998-or-after investments in this latter group is 28.8%, compared to absolute pro-

85. “Compliant contracts” contain choices 1-7 of Table 6; “compliant certificates” contain choices 1-3 and 5-7 of Table 6.

86. It is almost universal for a Chinese household’s land to be divided into several separate parcels, typically five or more, located in different agro-ecological micro-zones of the village.

portions of 12.0% in the no-contract group and 20.2% in the noncompliant-contract group.

A similar pattern is found for certificates:⁸⁷

TABLE 19: RELATIONSHIP BETWEEN COMPLIANCE OF CERTIFICATE AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
No certificate	77.1%	8.5%	12.9%	1.6%	100% (933)
Incompliant certificate issued	74.1%	5.5%	17.6%	2.9%	100% (660)
Compliant certificate issued	59.2%	9.9%	24.3%	6.6%	100% (152)

n=1745

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	38.519	6	.000

For the no-certificate group, the increase in investments was 52%, and for the noncompliant-certificate group, 220%. For the compliant-certificate group, the increase was 145%. But the absolute proportion of 1998-or-after investments in this latter group is by far the highest, 24.3%. Again, this is a striking pattern, though somewhat less so than the pattern for compliant contracts.

We could extend this presentation further with variations in the definition of “compliance,” showing intermediate increases in 1998-or-after investment behavior. For example, contracts or certificates that had no map or sketch, but a more vague form of land description that briefly stated what ad-

87. As stated previously, a “compliant” certificate includes all of the seven elements, except for the signature or seal of the farmer, since the certificate is a unilaterally issued document. *See supra* note 58.

joined each parcel in each of “4 directions,”⁸⁸ with all other features of “compliance” as previously defined, are correlated with heightened levels of investments, but less than those found for the fully “compliant” contracts and certificates which are the subject of Table 18 and Table 19. Drop the criterion requiring a completed “4 directions” land description as well, and investment behavior recedes further.

It is evident that the issuance of documentation, including non-compliant documentation, is associated with a substantial increase in mid- to long-term investment in and after 1998. Issuance of compliant documentation is associated with the highest level of mid- to long-term investment in and after 1998. Formal documentation of farmers’ land rights is thus found in our survey to have a strong positive correlation with Chinese farmers’ investment in the land.

Further, it is quite clear that we are seeing causation here, not just a “correlation” in which both the issuance of documentation and the making of investment might be the twin results of some third factor. As in medical tests of the effectiveness of new drugs, we are seeing a desirable response (investment in the land) which is “dose related.” Certificates are much more effective than nothing; contracts are somewhat more effective than certificates; both together are more effective than either alone; compliant certificates are much more effective than noncompliant ones; and compliant contracts are much more effective than noncompliant ones (and somewhat more effective than compliant certificates); etc.

There is a clear explanation for the causal mechanism involved. Documented land rights—and the better-documented the better—lead farmers to believe that they will retain possession of their present parcels of land long enough to make a profit from investments that take multiple years to recoup.⁸⁹

88. For example, under four columns for “E,” “W,” “N,” and “S,” a given parcel is said to be adjacent to “Wang’s land” under the East column, “Li’s land” under the West column, etc.

89. Based on numerous field observations by the authors, contracts which are supposed to be signed-off on by both the farmer and the local cadres—the latter representing the chief potential threat to tenure security, via illegal land readjustments or poorly compensated land takings – may also provide somewhat more reassurance than certificates (even though they may contain the same information) signed or sealed at higher levels.

This causal process is also confirmed by RDI's own extensive rapid rural appraisal interviewing of Chinese farmers over a period of many years, in which they have repeatedly given insight into why farmers who do invest do, and why those who don't invest do not.⁹⁰

Thus, formal documentation of land rights clearly has had a significant positive effect in promoting Chinese farmers' investments in land. The survey also finds that another factor that may further reinforce the positive effect that documentation has on farmers' investment behavior is publicity given to laws and policies on farmers' land rights. In Table 20, for the group of farmers who report having heard of farmers' land rights, we examine the number of different publicity channels through which they have learned of the rights.

90. Roy Prosterman & Brian Schwarzwald, *From Death to Life: Giving Value to China's Rural Land*, CHINA ECONOMIC QUARTERLY Q1 2004, at 19 (interviews with Chinese farmers indicate that they likely make greater and longer-term investments in land if rights to land are secure), available at <http://www.ft.com/cms/s/ecebe7ca-053a-11d9-8f8e-00000e2511c8.html>; Tim Hanstad & Li Ping, *Land Reform in the People's Republic of China: Auctioning Rights to Wasteland*, 19 LOY. L.A. INT'L & COMP. L. REV. 545 (1997) (discussing farmers' investment behavior on non-readjustable "wasteland" covered by written long-term contracts, versus their investment behavior on arable land, the latter at that time readjustable and not documented).

TABLE 20: RELATIONSHIP BETWEEN CERTIFICATE ISSUANCE, PUBLICITY, AND INVESTMENTS

	No investment	Investment(s) made before 1998	Investment(s) made in or after 1998	Investment(s) made both before 1998 & in or after 1998	Total (count)
Certificate not issued and heard of land rights through one channel	77.3%	7.3%	14.0%	1.3%	100% (150)
Certificate not issued and heard of land rights through multiple channels	69.2%	10.0%	15.6%	5.2%	100% (211)
Certificate issued and heard of land rights through one channel	73.6%	7.0%	17.1%	2.3%	100% (129)
Certificate issued and heard of land rights through multiple channels	56.8%	7.0%	29.5%	6.7%	100% (400)

n=890

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	40.012	9	.000

The pattern shown in the above table is most interesting. When certificates are not issued, there is not much difference

between exposure to one publicity channel or multiple channels. However, once certificates are issued, there is a 144% increase of investments made in or after 1998 for the one-channel-exposure group. The increase in investment, however, is significantly greater (321%) for the multiple-channel-exposure group. Moreover, the multiple-channel-exposure group reflects an absolute proportion of 29.5% as 1998-or-after investors. The same relationship exists for contract issuance, publicity and investments.

Thus publicity, especially through multiple channels, does appear to have a notable “enhancing” effect on investments when combined with documentation issuance.

C. *Issuance of Contracts or Certificates v. Other Important Factors*

In this and past surveys, we have studied farmers’ confidence in their security of land rights by measuring their expectation of future land readjustments (the caveat as to our measurement of “confidence” in 2005 noted in Section III(G) above should be kept in mind).

The following table shows the correlation between compliance of contract and confidence measured by farmers’ expectation of future readjustments.

TABLE 21: COMPLIANCE OF CONTRACTS VS. CONFIDENCE

	No contract	Incompliant contracts	Compliant contracts
Lowest confidence (readjustments will definitely continue)	32.7%	37.5%	23.6%
Low-mid confidence (readjustments depends on cadres)	5.2%	4.2%	3.6%
Neutral (Don't know)	20.2%	17.6%	9.1%
Mid-high confidence (Readjustments depend on central government)	26.5%	20.2%	25.5%
Highest confidence (Definitely no more readjustments)	15.3%	20.5%	38.2%
Total (count)	100% (880)	100% (550)	100% (110)

n=1540

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	47.8887	8	.000

Compliant contracts are correlated with the largest percentage (38.2%) of respondents with the highest confidence. The percentage (20.5%) of the highest-confidence respondents in the noncompliant-contract group is also higher than that (15.3%) of the no-contract group.

The correlation between compliance of certificates and confidence is similar, as shown in Table 22:

TABLE 22: COMPLIANCE OF CERTIFICATES VS. CONFIDENCE

	No certificate	Incompliant certificates	Compliant certificates
Lowest confidence (readjustments will definitely continue)	37.0%	29.4%	21.8%
Low-mid confidence (readjustments depends on cadres)	6.7%	2.7%	2.7%
Neutral (Don't know)	19.9%	17.4%	13.6%
Mid-high confidence (Readjustments depend on central government)	21.9%	30.8%	21.8%
Highest confidence (Definitely no more readjustments)	14.5%	19.8%	40.1%
Total (count)	100% (805)	100% (637)	100% (147)

n=1589

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	84.128	8	.000

The survey findings further reveal an interesting correlation between documentation issuance and farmers' satisfaction with land-taking-related compensation. It appears that having any contract or certificate is correlated, and having a compliant contract or a compliant certificate is strongly correlated, to farmers' satisfaction with compensation, as shown in Table 23.

TABLE 23: RELATIONSHIP BETWEEN CONTRACT/CERTIFICATE ISSUANCE AND FARMERS' SATISFACTION WITH COMPENSATION IN THE MOST RECENT LAND TAKING

	Neither contracts nor certificates issued	Either in-compliant contract, or in-compliant certificate	Either compliant contract, or compliant certificate
Satisfied	19.1%	34.1%	39.3%
Unsatisfied	63.6%	52.7%	42.9%
Don't know	17.3%	13.2%	17.9%
Total (count)	100% (162)	100% (182)	100% (28)

n=372

	Value	Df	Asymp. Sig. (2 sided)
Pearson Chi-Square	12.089	4	.017

The “story” to be told as to the above, however, may reflect causation that goes in either direction, or some combination: farmers with a document, and *a fortiori* farmers with a well-drafted, compliant document, may be better able to stand up for their claims to adequate compensation in case of a taking. On the other hand, officials or collective cadres who have not yet issued any document reflecting farmers’ land rights may—perhaps as a matter of ideology or rent-seeking—be more inclined to ignore farmers’ claims to adequate compensation in the case of a taking than officials or cadres who have issued a document, while the least inclined to ignore farmers’ claims may be officials or cadres who have gone through the process of issuing a well-drafted, compliant document.

VI. RECOMMENDATIONS

A. *Two Tasks of Absolute Urgency and Importance*

Among all recommendations, there are two prominent issues that require immediate remedial action.

1. *Complete the issuance of compliant contracts and certificates to all farmers, combined with widespread publicity*

The practical importance of formal documentation of land rights, in accordance with Chinese law, is clear from the survey results. The survey shows that possessing written contracts or certificates—or even better, both contracts and certificates—correlates strongly with farmers' decision in making mid- to long-term investments in the land, and does so in a manner that strongly indicates a causal relationship. This finding alone would amply justify a strong push by the central government to see the issuance of contracts and certificates through to completion. But, besides investment, other important factors such as farmers' confidence in tenure security and their satisfaction with compensation in cases of land takings are correlated with the presence of documentation—although with a less clear “story” as to causation in the case of takings.

The survey further shows that the issuance of contracts and certificates slowed in the past four years, leaving nearly two out of five farm households without either document. The first task should be to make sure that 85-90% of all farm households receive at least a contract or a certificate. There seems no reason not to set a goal of 75-80% of households (versus 38% as found by the survey) possessing both. The central government should clearly signal now that the achievement of such quantitative goals by an individual locality within a pre-determined timetable will be one of the key issues on which the adequacy of officials' performance will be judged, and that it will widely publicize success and failure on this both within and beyond government circles. We would suggest March 1, 2008 as a time-bound goal, the fifth anniversary of the effective date of the RLCL, for reaching 85-90% of household with at least one document, and a goal of one or two years later for the 75-80% joint issuance.

Equally important is that the contracts or certificates to be issued comply substantially with the controlling laws and regulations. Specifically, a contract or certificate should contain all the essential information that constitute “compliant” documentation as defined *supra* Section III(E).

The above holds true in regard to farm households that have yet to receive a particular document. However, for those who have been issued a contract or certificate, one may ques-

tion whether issuing a substitute “compliant” document is necessary. A reasonable alternative would be attaching a “standard supplementation form” to the existing documentation. This would then cure the defects of the existing documentation.⁹¹

To achieve the optimal effect from documentation issuance, widespread publicity should be conducted at the grass-roots level to educate farmers with respect to their land use rights. This is due both to the “enhancing” effect of multiple-channel publicity on farmers’ investments when they possess contracts or certificates, and farmers’ current lack of knowledge about many of the key rights provided by laws. A combination of TV, publicity cards, newspaper, village meetings and other publicity forms should be utilized to generate maximum educational impact. Any public information campaign should focus on the rural land use rights that are created or defined by the RLCL, especially those land rights about which farmers frequently have mistaken beliefs, as reflected in the present survey. Preferably, important elements of this publicity should continue over an extended period of time.

2. *Improve compensation standards and procedural fairness of land-taking laws*

Due to the serious takings issues that plague many parts of the countryside, the central government recently prescribed some strong medicine by issuing the No. 28 Central Document that calls for strict enforcement of land administration rules and improvement of land expropriation procedures.⁹²

Several issues stand out in regard to the land takings reform. First of all, the compensation standards need to be drastically improved. The 1998 Land Management Law arbitrarily provides that the total compensation for the land taken (most of which does not go to the land-losing farmers) may not exceed thirty times the average annual value of agricultural pro-

91. This may be more easily done for existing documentation which was issued according to a province-level standard (most often certificates, though sometimes contracts). The more varied and localized the forms used, the more difficult to devise a “standard” supplement that will not amount in effect to reissuing the whole document.

92. Guo wu yuan guan yǔ shen hua gai ge yen ge tu di guan li de jue ding [Decision on Deepening Reform and Exercising Strict Land Administration] (promulgated by the State Council, Oct. 21, 2004) 2004 ST. COUNCIL GAZ. Issue 35, page 11 (P.R.C.).

duction for the three previous years.⁹³ In practice, a maximum cap approach is used to justify lower compensation to land-losing farmers. In an attempt to correct this deficiency, the No. 28 Central Document announced that local governments should allocate additional money to farmers if “the maximum sum of land compensation and resettlement subsidies under the existing legal standards is still not sufficient to maintain farmers’ original living standards.”⁹⁴ Regardless of what valuation standards are involved, this suggests that the overarching principle should be that the living standard of the affected people should not be lowered as a result of land takings. But this can easily be read too narrowly—it is difficult, for example, to use “original living standard” as a basis for arguing that a farmer can and should capture any portion of the wealth represented by peri-urban or other locational advantages and the potential for shifting the land to non-agricultural uses (a segment of the land “market” which current law does not allow the farmers to access directly).

But, after the standard for the appropriate amount of compensation is decided, the law needs to make sure that the bulk of the compensation actually goes to the land-losing farmers. Studies have shown that farmers typically receive merely 10-20% of what developers pay⁹⁵ while the rest is retained or intercepted by collectives or local governments. This was facilitated by the LML Regulations which, as noted earlier, require that the largest portion of compensation (that for lost land) go to the village collectives, and typically any portion supposedly for resettlement go there also (or to a separate resettling en-

93. LML, *supra* note 24, at ch. 5, art. 47.

94. It should be noted that several provinces or province-level municipalities have promulgated local rules that significantly enhanced the compensation standards. *See, e.g.*, Beijing Shi jian she zheng di bu chang an zhi ban fa [Beijing Municipality’s Method of Compensation and Settlement for Land Takings] (promulgated by the Beijing Mayor, May 21, 2004), *available at* <http://www.cin.gov.cn/indus/other/2004061403.htm> (last visited October 3, 2006).

95. Roy Prosterman & Brian Schwarzwald, *Rural China: The Next Wave*, CLSA ASIA-PACIFIC MARKETS SPECIAL REPORT (Sept. 2003) (finding that local government routinely retains three fourths of the actual land value in expropriations) (report on file with authors). *See also* Xiaolin Guo, *Land Expropriation and Rural Conflicts in China*, 166 THE CHINA QUARTERLY 422, 428 (2001) (studies show that less than 20% of money paid by developers goes into the hands of affected farmers).

tity, if there is one), while only the portion for farmers' standing crops (by definition, one times or less the value of annual production) is required to be given to farmers—and even that is usually paid over to the village cadres to distribute. One of the key policies embodied in the No. 28 Central Document is that “land compensation should be primarily used for the land-losing households.” But the “primarily used for farmers” requirement still leaves vast room for abuse, and should be improved to “primarily paid to farmers.” Since secure thirty-year land rights represent 75-95% of the economic value of full private land ownership,⁹⁶ farmers should be allocated at least 75% of the total compensation, and the share for collectives and local governments should not exceed 25%.⁹⁷

Finally, trusting local governments and officials to faithfully enforce the laws as to takings has proven unsuccessful. Laws and practices should be revised to increase farmers' participation in a process that brings government, commercial developers, collectives and farmers together to resolve relevant issues in a far more transparent and democratic manner. Access to channels of follow-on dispute resolution must, as the survey results also make clear, be greatly improved. Many of the recommendations in subsection VI(B) also bear on these process issues.

B. *Seven Complementary Measures*

1. *Narrow the scope of “public interest” in land-taking laws*

“Public interest” in land-taking laws should be clearly and narrowly defined. A note should be made here that the holding of the recent U.S. Supreme Court case, *Kelo v. City of New*

96. Nor, we would argue, should the thirty-year rights, which might well be extended or renewed, be treated as a depreciating asset. In Hong Kong, where farmers have fifty-year rights, all calculation for takings compensation is based on the full fifty-year term.

97. Another important complementary measure could be the use of an escrow agent in lieu of directly providing the compensation to the collectives. This would involve designating an independent state bank as the unit responsible for receiving the payment of required compensation from the state or the land developer and for receiving all documentation from the collectives and land-losing farmers. Upon completion of the transaction, the escrow agent would then be responsible for distributing the compensation directly to affected households, greatly decreasing the possibility of illegal interceptions by collectives or local governments.

London,⁹⁸ is barely applicable to the Chinese context. The real meaning of the case may not be quite as broad as many people think, if the opinions are read closely (especially the concurring opinion by Justice Kennedy). But even read as its broadest, *Kelo* would not support the current practice in China.⁹⁹

The substantive and procedural due process that ensure fairness of compensation, and the democratically elected decision-making body to which a court could defer its decision on how much the public interest is actually served by a project, are largely lacking in China. Therefore, the logic underlying *Kelo* cannot be meaningfully applied in China.

China's civil law tradition suggests that the best approach to defining "public interest" is probably for policies and laws to specifically list the purposes for which land can be taken. While such a list can be nearly exhaustive, it is certain that some exceptions may arise. Therefore, the list should be illustrative rather than exhaustive, with the important requirement that any taking for a purpose not specifically authorized by the list must be approved by the State Council.¹⁰⁰

2. *Narrow the scope of land readjustments*

Specifically, the scope of "special circumstances" under which readjustments are allowed under the RLCL should be narrowly defined. The RLCL generally prohibits readjustments, but its Article 27 provides that readjustments may be permissible under "special circumstances such as natural disas-

98. *Kelo v. City of New London*, 545 U.S. 469 (2005) (condemnation of private properties for a commercial developer in order to revitalize ailing economy held to serve "public use" within context of Takings Clause of United States Constitution).

99. As revealed in section III(C), building commercial factories or gas stations were deemed for "public interest," triggering the expropriation processes. The line between public or private interest has been blurred so much in practice that a broadened definition of "public interest" simply does not help resolving the issue.

100. Defining "public interest" or "public purpose" by an exclusive list is not uncommon and might provide clear guidance to all parties. *See, e.g.*, Peraturan Presiden no. 36 tahun 2005, *Tengadaan Tanah Bagi Pelaksanaan Pembangunan Untuk Ketentangan Umum*, [Presidential Regulation no. 36, 2005, *The Acquisition of Lands for the Purpose of Development*] promulgated June 13, 2005, available at www.tempointeraktif.com/hg/peraturan/2005/06/13/prn,20050613-01,id.html.

ters” when contracted land has been seriously damaged. Other than specifying natural disasters as one case of qualifying “special circumstances,” the text of the law gives no explicit standard to be applied in determining if “special circumstances” exist. This might invite abusive interpretations that run afoul of the fundamental no-readjustment principle.

There are two particular circumstances that should not be treated as “special circumstances.” One is population change, the other land takings. In regard to population changes, it is common for a household or a village to experience fluctuations of the number of family or village members. Any imbalance between the size of land and the number of people should be addressed by the market for transfer of land rights between farmers, rather than administrative readjustments that jeopardizes everyone’s tenure security in their contracted land.¹⁰¹ Moreover, conducting a readjustment after a land taking, thus “spreading the pain” among a larger group of households, should be excluded as it is used to justify the inadequacy of compensation to land-losing families, again widely jeopardizing tenure security. Regardless, the RLCL is designed to strengthen and protect farmers’ thirty-year land rights from irregular and unexpected readjustments. Therefore, a term such as “special circumstances” must be construed in the light most favorable to farmers’ land tenure security. Additionally, the survey data shows that fewer than one out of four farmers would oppose the strict prohibition of readjustments (see Figure 10). It follows that the scope of the “special circumstances” should be narrowed rather than expanded.

3. *Allow farmers to use their land rights as collateral for mortgages or credits*

Presently, Chinese law specifically prohibits farmers from mortgaging their land rights.¹⁰² This presents a great obstacle

101. There have been at least seven provinces that have promulgated provincial RLCL Implementation Regulations. In the case of Shandong province’s Implementation Regulation, its Article 14 requires that a household must actually “lose land” before a readjustment can be initiated, thus eliminating “population change” as a ground for readjustments.

102. *Zhonghua Renmin Gongheguo Dan bao fa* [Guaranty Law] (promulgated by the Standing Comm. Nat’l People’s Cong., June 30, 1995, effective Oct. 1, 1995), art. 37, 1995 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ. 419 (P.R.C.).

for farmers to obtaining necessary credit or financing for purchase of land rights or making investments in the land by using their land as collateral. As experiences in many countries have consistently proven, access to credit is an essential factor in farmers' ability to make long-term, productivity-enhancing and income-generating investments on their land. In the United States, for example, 70% of the credit extended to new businesses stems from mortgaging real property rights as collateral for loans.¹⁰³ This issue is made more acute by the survey finding that only 14.7% of the investments that farmers made were able to be financed to any degree through borrowing from a bank or a credit union (see Table 11).

China's national legislature has spent several years in drafting its first comprehensive Property Law, and the most recent version has included a provision that permits mortgages of rural land rights under certain conditions. This is an encouraging sign and, if the law is finally adopted, it will greatly improve the value of rural land and encourage both investments and transactions in land.

4. *Provide legal aid to farmers in need*

As shown by the survey data, Chinese farmers' perception of their rights often differs significantly from official laws and policies concerning those rights. Farmers cannot enforce their rights if they are not aware of them. Currently, village level cadres maintain a high degree of control over some channels of publicity. A concerted effort must be made to find alternative channels through which such information can be disseminated. Besides publicity of laws, RDI experience in Russia, Ukraine, and other country settings indicates that one effective method of disseminating legal information to farmers as well as to local cadres is through the establishment of rural legal aid centers.¹⁰⁴

Independent legal-aid services specialized in land laws should be established, initially as a pilot project, and later as a model for the entire province or country if it proved success-

103. JEFF GATES, *THE OWNERSHIP SOLUTION* 223 (1998).

104. Leonard Rolfes, Jr. & Gregory Mohrman, *Legal Aid Centers in Rural Russia: Helping People to Improve Their Lives*, 102 *RURAL DEV. INST.* (2000).

ful.¹⁰⁵ In any event, the legal aid centers should allow for a constant rural presence and be accessed conveniently by farmers. They should be staffed by qualified lawyers and paralegals, and must enjoy considerable independence even though they might receive governmental funding. Only then can they adequately represent farmers whose rights are infringed by governments or their officials.

Experience suggests that disputes may often be resolved in the farmers' interests by negotiation (and education) when the other side perceives that the farmer has competent legal representation.¹⁰⁶ The next recommendation also bears upon the relatively less-common situation where a legal-aid lawyer has to take a case to court.

5. *Consider establishing a specialized land panel or bench within the People's Court.*

The RLCL contains an entire chapter that extensively details farmers' rights to go to court and obtain a wide range of remedies when their land rights have been violated. Our impression from extensive rapid rural appraisal interviewing, however—reinforced by the current survey data on the extremely limited utilization of the People's Court in disputes over takings compensation—is that farmers find it very difficult to bring a land dispute to court, and are often rebuffed in the uncommon cases where they do seek judicial redress.

China might consider creating a specialized court to resolve land disputes adopting appropriate elements from the models used by Hong Kong and the state of New South Wales, Australia.¹⁰⁷ However, setting up land panels within existing

105. The establishment of rural legal aid centers falls within existing Chinese policies. For instance, in June 1997, a notice issued jointly by the Ministry of Agriculture and the Ministry of Justice called for judicial departments at various levels to provide legal aid to farmers. *Notice on Legal Aid to the Poor in China's Rural Areas*, PEOPLE'S Daily, June 23, 1997, at 2.

106. See, e.g., Li Changjian et al., *New Thoughts on the Protection of Farmers' Rights Through Legal Aid*, available at <http://www.jjrbncb.com/news/ywtt/200607/19648.html> (July 25, 2006) (last visited Oct. 26, 2006). See also news report at <http://www.hmrb.com.cn/2006/7-20/95656.html> (Jul. 20, 2006) (last visited Oct. 26, 2006).

107. See generally Isaac Ng, *Compulsory Purchase and Compensation in Hong Kong: A Study of the Role of the Land Development Corporation in Urban Renewal*, 20 PROPERTY MANAGEMENT 167 (2002); JAMES CRAWFORD & BRIAN OPESKIN,

People's Courts might be more effective and convenient, while providing farmers with improved access to the legal system, utilizing the skills of judges and others with training (and steadily accumulating experience) in the resolution of land disputes and increasing the efficiency of land dispute resolution.

A specialized land panel within the People's Court should have exclusive original jurisdiction over cases involving requests to adjudicate disputes such as these over distribution of land by collective units to farm households; deprivation of such land and other land contracting disputes; land-takings issues (especially compensation issues); and disputes between farmers as to leases or transfers.

To promote accessibility, the court should operate in the form of "circuit" courts, with rotating panels traveling to townships throughout each county to hear land disputes according to a pre-announced hearing schedule. Meanwhile, it is equally important to widely publicize relevant land laws and procedures so that farmers understand their choices and become informed participants of the system.

6. *Establish an information collecting and monitoring toll-free telephone hotline.*

A telephone hotline is an effective way for the government to link itself to the people and to learn from their actual experience. It can take advantage of the now-ubiquitous access to cell phones, including in the countryside. Such a hotline should preferably be operated by a national ministry (e.g., the Ministry of Agriculture) and be open to the entire country. Certain provinces may set up pilot projects as well. Farmers could call a uniform, publicized number to report possible violations of farmers' land rights. Hotline operators must receive specialized training on relevant laws and on asking of appropriate questions. Anonymous calls should be allowed in order to encourage farmers to expose sensitive problems.

After receiving calls, the operators should record the information on the calls promptly. The call records should be sorted out and entered into a centralized database. A frequent

bulletin should be published to analyze and summarize the calls based on number of calls, geographical origins, nature and content of calls, and so on, with a section describing hot issues and hot areas. The bulletin should be received and reviewed by high levels of the central government and forwarded to provincial-level agricultural and land resources agencies. With respect to areas suffering repeated problems or saturated with farmers' complaints, the central government may consider conducting additional independent fieldwork, circulating information about the problems, and requiring the local governments which are responsible to remedy the issues without delay.

7. *Continue monitoring the local implementation progress*

To measure implementation in its various dimensions, the central government should conduct continuing assessments through farmer interviews and periodic surveys. Steps must be taken to ensure the objectivity and representativeness of the findings, such as random selection of counties, townships, villages and households, and direct farmer interviews without the presence of local officials (particularly collective cadres). Such assessment tools are essential to provide the government with an accurate and frequently updated picture of the extent of RLCL implementation, and on other land-related issues at both national and local levels. This may become the basis to evaluate and appropriately revise the implementation efforts based on the evolving circumstances.

VII. CONCLUSION

The road to completely secure and marketable land rights for China's 849 million rural residents will be long and hard, but one must bear in mind how far China has come and how much progress has been made during the last two and a half decades. China actually represents a prime example of what a little land tenure security—represented by the incremental advantages that even readjustable individual land rights have over collective farming—can do to dramatically improve millions of people's lives.

As China's urban-rural divide continues to worsen, land takings accelerate, and the competition from foreign agricultural producers intensifies due to the WTO accession, the ru-

ral land question has become ever more important. Powerful evidence supports the view that any solution to these issues must include, as a central element, providing farmers with greater land tenure security. This requires significant legal and policy reforms, and their concrete implementation at the grassroots level.

Looking beyond the recommendations made in Section VI, and after substantial implementation of the thirty-year rights has been accomplished, China should consider going beyond a tenure system of thirty-year rights by either providing farmers with full private ownership rights to land, or nationalizing agricultural land and giving farmers perpetual use rights. Both approaches would remove the main threat to tenure security, that is, a few local officials or cadres who typically claim to be acting on behalf of the “collective” but are often acting primarily for their own benefit. The experience of the “land to tillers” program that made millions of poor Chinese peasants into small but real owners of land in the late 1940s and early 1950s shows that private land ownership not only can trigger enormous economic gain but also accords with the political ideology of a socialist state. As Premier Wen Jiabao put it well, a reasonable policy would seem to be that farmers’ land rights will “not be changed forever.”¹⁰⁸

108. *Transcript: Premier Wen Jiabao Responds to Domestic and Foreign Journalists’ Questions*, XINHUA NEWS AGENCY, March 14, 2005, available at <http://news.sina.com.cn/c/2005-03-14/10106077756.shtml> (last visited Oct. 26, 2006).

APPENDIX: SURVEY METHODOLOGY

As in the 1999 and 2001 seventeen-province surveys noted above, the two basic goals in designing and carrying out the 2005 survey were: (1) to conduct a survey of sufficient size to provide highly accurate data at the national level on implementation of farmers' thirty-year rural land use rights; and (2) to make the survey sample large enough to provide useful data on the relative progress of implementation at the level of individual provinces.

Starting with the need for a sufficiently large sample size to give useful results at the provincial level, we concluded that a sample size of 120 farmers or 100 villages in each province would be desirable. Such a sample provides results that should be descriptive of the situation in the entire province to an accuracy of $\pm 8.9\%$ for household level questions and $\pm 9.8\%$ for village level questions.¹⁰⁹ Because we decided that the survey should include seventeen provinces, that meant that our nationwide sample would be 2,040 households in 1700 villages. In fact, 1,962 valid survey responses in 1773 villages were returned by interviewers, a sufficient national sample to give results that should be descriptive of the situation in the seventeen provinces as a whole to an accuracy of $\pm 2.2\%$ for household-level questions and $\pm 2.3\%$ for village-level questions.¹¹⁰

Two major factors were considered in selecting the actual survey provinces from China's thirty-one provinces and province-level municipalities. First, the survey provinces should represent all or nearly all of China's major agricultural provinces. Second, the rural population of the survey provinces should represent a large proportion of China's total rural population. Based on these selection criteria, all four of China's province-level municipalities were eliminated, as were several

109. That is at the "95% confidence level", i.e., the results should fall within that range in ninety-five out of 100 cases if it were possible to take a complete census of every farm household in the province.

110. The $\pm 2.2\%$ and $\pm 2.3\%$ figures are calculated as follows:

$$\Sigma = 1.96 \times \sqrt{.25/n}$$

Once again, this should be the range of accuracy in ninety-five cases out of 100. See *supra* note 104. Such a survey, giving results to within a range of $\pm 2.2\%$ or $\pm 2.3\%$, is quite large, and met our goal of a high degree of accuracy at the national level.

western provinces with relatively low agricultural populations, including Tibet, Qinghai, Xinjiang, and Gansu.

The seventeen survey provinces include 83% of China's rural households.¹¹¹ The seventeen survey provinces were: Hebei, Jilin, Heilongjiang, Jiangsu, Anhui, Shandong, Zhejiang, Jiangxi, Fujian, Hunan, Hubei, Henan, Guangxi, Guizhou, Sichuan, Yunnan, and Shaanxi.

Once the seventeen provinces had been selected, Renmin University students from each of the survey provinces were selected as interviewers. Priority was given to students from the Land Management Department with previous training in rural land issues. Students attended a series of training sessions provided by Renmin University and RDI.

The training emphasized several key elements derived from the 1999 and 2001 survey design and implementation processes as well as experience gained in RDI's direct interviews of over 1,000 farm households conducted throughout China since 1987. First, students were instructed on how to create a survey atmosphere in which farmers felt comfortable responding to questions freely and honestly by asking farmers for their voluntary participation in the survey and treating them with respect and courtesy. Second, students were taught to use language and concepts that are easily understood by farmers. Third, and most important, the training emphasized that interviews should only be conducted away from local cadres, whose presence could influence farmers' responses to the survey questions. In addition to the training provided prior to the survey, one graduate student from Renmin University's

111. The household-size and rural-population issues are technical, but difficult, largely due to the "floating population" of those born in the countryside who spend much of their time working in the cities, but without formally changing their place of residence. The responses as to household size almost always will include such household "members." In light of the "floating population" and "household size" issues, we are using estimates based on (1) FAO estimates as of 2004, a total agricultural population of 849 million, and (2) our survey figure of 4.55 members as average agricultural household population (almost identical with our 2001 survey figure of 4.52). See UN-FAO STATISTICAL YEARBOOK 2004, *supra* note 3. Both figures appear to include "floating" population that has not changed to urban registration. This would indicate approximately 187 million agricultural households (849 million / 4.55). Approximately 83% of these households are present in the seventeen survey provinces. See CHINA AGRICULTURE STATISTICAL YEARBOOK, 2004, pt. 2(1).

Land Management Department was designated as team leader for each survey province.

Each student was asked to complete a minimum of twelve survey questionnaires, and some students completed more than twelve survey questionnaires. The survey questionnaire employed in this round of surveys contained most elements of the questionnaire used in 1999 and 2001, with substantial additions as well as refinements based on the results of field research directly conducted by the authors during the intervening years, and in light of the subsequent adoption in 2002 of the RLCL.¹¹²

Each interview was conducted with a randomly selected village.¹¹³ Within each village, one or two households were randomly selected for interviews. For each set of twelve questionnaires completed, survey interviews were conducted in a minimum of five randomly selected townships in two or more counties. A total of 1,962 valid survey questionnaires were returned, encompassing 1,773 villages¹¹⁴ of the seventeen provinces.¹¹⁵ The number of valid responses per province is expressed in Table 24.

112. See, e.g., Roy Prosterman et al., Rural Development Institute, Report of Fieldwork in Jiangxi, Nov.-Dec. 2003 (Nov. 2004) (unpublished memorandum on file with authors) (findings based on 56 field interviews in Jiangxi Province); Li Ping et al., Rural Development Institute, Report of Fieldwork in Hunan, Oct. 2004 (Dec. 2004) (unpublished memorandum on file with authors) (findings based on 21 field interviews in Hunan Province).

113. In most of the villages, only one household was randomly selected. Two households were randomly selected in 189 villages as a validation check on responses regarding village-level phenomena and to capture some of the variation in household level behavior.

114. It should be noted that, since village cadres carry out tasks on a village-wide basis, the farmer's response to nearly all of the factual questions with respect to such matters addressed by the survey should be representative of the situation in that village as a whole. This is so directly in questions such as "Does your village have Flexible Land?" and indirectly in questions such as "Have you signed a thirty-year land use contract?" From a statistical standpoint, therefore, it is important that the number of villages in our sample is comparable to the number of households. Data from the 189 two-respondent villages indicates that there is no statistically significant difference between the two responses, as to such village-wide attributes or events, within a given village.

115. The 1999, 2001 and 2005 surveys are not panel surveys—that is, the farm households interviewed as part of the 1999 or 2001 surveys were not re-interviewed in 2005. A different cross-section of counties, villages, and households was involved in each survey. Comparisons between responses to

TABLE 24: VALID SURVEY RESPONSES BY PROVINCE

Province	Valid Surveys
Anhui	116
Fujian	120
Guangxi	118
Guizhou	137
Hebei	118
Heilongjiang	120
Henan	105
Hubei	106
Hunan	100
Jiangsu	79
Jiangxi	139
Jilin	121
Shaanxi	120
Shandong	124
Sichuan	113
Yunnan	120
Zhejiang	106
Total	1,962

To ensure that the combined results from all of the provinces, discussed in Section III, are representative on a national level—or strictly speaking, are representative for the seventeen survey provinces that contain some 90% of China's rural population—the survey results from each province have been weighted according to the share of rural population contained in that individual province relative to the total rural population contained in the seventeen survey provinces. No weight-

the 1999, 2001 and 2005 surveys do not represent changes in the status or opinions of particular families during the interval between surveys. These comparisons are between three different, but nationally representative, groups of respondents. Changes in responses between the surveys are indicative of national, not individual household, trends.

ing is necessary—or possible—however, when we separately present the results for each individual survey province.¹¹⁶

Thus, in summary, the national survey results discussed in Section III and throughout the paper are expected to be accurate for the combined rural population of the seventeen provinces to within $\pm 2.2\%$ in 95 out of 100 cases for household level questions, and $\pm 2.3\%$ for village level questions. The individual province figures discussed in Section IV, below, represent the raw, unweighted percentages, and are expected to be accurate for the rural population of that province to within approximately $\pm 8.9\%$ in 95 out of 100 cases for household level questions and $\pm 9.8\%$ for village level questions. The survey was conducted during the last half of July and the first half of August 2005. The results therefore reflect the situation in the countryside as of that time.

116. When analyzing the village level questions such as “Does your village have Flexible Land?” the results for the 189 villages that had two interviews are calculated as the average of the two responses.

