

Knowledge, Attitudes and Practices of Kyrgyz Farmers and Rural Leaders about Land Rights Issues

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This report is based upon a scientific survey of 480 farmers in 20 villages of five Kyrgyz oblasts carried out by M-Vector, a private survey firm located in Bishkek in January/February 2004. The survey was designed by the author, who was hired by the project to conduct an independent evaluation of the impact of the Kyrgyzstan Land Reform Project on the knowledge, attitudes and practices of farmers. The views expressed in this paper are those of the author, and do not necessarily represent those of the KLR project staff, Chemonics International, or the U.S. Agency for International Development.

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Executive Summary

An independent evaluation of the knowledge, attitudes and practices of Kyrgyz farmers and local leaders (Akims) was conducted in January/February 2004 by the professional research firm M-Vector. A total of 480 scientifically selected farmers from 20 villages in 5 oblasts were surveyed. The villages were locations where Kyrgyzstan Land Reform Project training had been conducted (in 16 cases directly by project, and in four cases through partner NGOs). In each village, interviewers from M-Vector began with a randomly selected starting point and then used a skip interval to select households. At selected households, farmers were asked if they were owners of land. If not, they were asked if someone else in the household owned land. If no one did, interviewers moved to the next household.

The conceptual base for the survey was that in order for the land rights education effort to be successful, information about land rights would need to be delivered to rural residents in a form that they found understandable and useful. To measure this, receipt of information from mass media, training, and project publications was assessed. Those who received information were asked whether they read it, understood it, found it to be correct, and found it useful. The next step involved an assessment of interpersonal discussion about land rights. In general, where new information on a relevant topic flows into a community, one should expect discussion of that topic to occur. The greater the level of discussion, the more potential impact the information might be expected to have. Five different forms of interpersonal discussion were measured.

After assessing receipt of information and levels of discussion, farmers were given a 10-item knowledge test to determine how much they had learned. Previous studies have shown that a combination of receiving information along with high levels of discussion often leads to increases in knowledge. The 10 items were constructed by the author after an examination of KLR publications and discussion with project staff of what would constitute basic knowledge of land rights. Next, the survey assessed attitudes along four dimensions: perceived importance of land rights, farmers' own self-assessment of their knowledge of land rights, the extent to which they believe they truly make decisions on their farm now, and their attitude toward the land reform process. Positive attitudes would indicate that farmers should be considering how to act in response to land rights information.

Finally, farmers were asked nine questions dealing with specific behaviors or behavioral intentions concerning land rights. These were designed to assess specific actions farmers might have taken.

Akims were asked similar questions, except that their question contained additional questions asking about their perceptions of farmer activity in their villages concerning land rights and land reform.

Results of the survey show that farmers have received information about land reform from a variety of sources, including training, publications, and radio and TV programs. One quarter of farmers had attended a training session. More than twice that many – 57% -- had seen KLR project publications. Only 9% of farmers said they had not received information from publications, radio or TV. The great majority of

the farmers who said they had seen KLR publications said they read them, understood them, found them to be correct, and found them to be understandable. A total of 21% of farmers who saw publications said they did not read them. These farmers tended to be from Chui oblast, an area where many do not yet know exactly where their lands are located. Seventy percent of those who had seen publications had read at least some of them, and one quarter had read all of the publication material. Among Akims, 90% had attended training and 100% had seen publications. These results indicate that information about land rights has circulated widely in the villages.

Analysis of interpersonal discussions indicated that the great majority of farmers had talked with others about land rights issues. A total of 85% had discussed land rights issues with others in their family, 50% had done so with a neighbor, and 38% had talked with a local official about land rights issues. Only 9% of farmers had not discussed these issues with any of the five sources mentioned. These results indicate that considerable discussion of land rights issues has taken place in the villages. The Akim survey showed that 60% said farmers in the village came to them with questions following the village training.

If farmers are receiving information, and discussing it, they should be learning about this topic. The 10-item knowledge test was designed to assess learning about land rights. Results show that farmers had a mean score of 7.6 out of 10, indicating considerable mastery of land rights. An analysis of several of the questions that were specifically emphasized in KLR training and publications indicated that farmers who attended training and read the publications tended to have higher knowledge scores. Other factors associated with a high score were high education, older age, watching TV programs, listening to radio programs, and being male.

The attitudinal variables showed that Kyrgyz farmers are overwhelmingly in favor of land reform and believe that land reform is of “greatest importance.” Perhaps most important, they believe that they truly have the power to make decisions about what to plant on their farms. Their self-rating of their own knowledge varied. Only 7% said they felt they had no knowledge. Another 24% felt they had “surface knowledge” of the topic. This left 69% who felt they had either “middle level,” “good” or “very deep” knowledge. High self-knowledge was a good predictor of subsequent behavior.

Last, nine possible actions farmers could have taken concerning land rights were assessed. The most basic asked farmers if they now make key decisions about what to plant on their land. A total of 94% of farmers said they do. Also, 82% said they had made an investment in their land, such as applying fertilizer, buying equipment, building a structure, etc. Another 33% said they had developed a business plan for their land, and 38% said they had gone to talk with an official about land rights for their particular piece of land. The last four items asked farmers if they had seriously considered leasing their land, or buying or selling their land, or if they had actually done either of these two things. Results showed 49% have considered leasing, and 40% have actually done so. A total of 22% of farmers have seriously considered buying or selling, and 7% have done so. These results indicate that farmers have moved beyond the stage of focusing on their land rights, and are now interested in how to use those rights to make their lands more productive.

An analysis of women (35% of farmers surveyed) showed that they were less likely to have attended training and less likely to have seen publications. They scored 7.2 on the knowledge test compared with men's 7.7. However, women were no less likely than men to have taken specific actions on their land. An analysis of differences by oblast showed that Chui oblast is different than the other four in several respects. Farmers there have less specific knowledge of exactly where their land plot is, and they are less favorable about land reform in general. They are significantly less likely to have made specific improvements on their land than are farmers from other oblasts.

Overall results indicate that farmers have for the most part moved through the first phase of the land rights process – learning about their specific rights to land. Most now consider that they are the owners of their lands, and they are prepared to take specific actions concerning their lands. This means that they are entering a second phase of information in which they will need materials that tell them how to take specific productive actions. In response to a question about what information they need, few farmers mentioned details about the land rights procedure (although some certainly still need this information). Instead, they focused on how to lease, how to buy and sell, how to get credit, how to determine what structures can be built, etc. Beyond the second phase will be a third information phase. Once farmers have made differential investments, and have begun to buy, sell, and lease lands, they will be increasingly different in their information needs. A combination of private and public sources of information will need to be developed in the future to meet third phase information needs.

Introduction

This is a report of an independent survey carried out in January and February 2004 to assess the knowledge, attitudes and practices of Kyrgyz farmers and rural leaders concerning land rights. A total of 480 scientifically selected farmers from 20 villages representing the country as well as one rural leader (akim) from each of the 20 villages were interviewed by professional interviewers from M-Vector survey company of Bishkek. The interviews were conducted in Kyrgyz, Russian and Uzbek – the local languages of the farmers in these regions.

The conceptual strategy behind the survey questions was based on previous rural development and diffusion research indicating that a predictable pattern of activities occurs during the process of rural change. Typically, for educational projects such as the Kyrgyz Land Reform project to be successful, the following activities must occur:

1. Educational information must reach farmers and rural leaders. This may occur via a variety of information channels (printed materials, training workshops, radio or TV programs). This information must be presented in a form that is understandable to them and useful to their needs. Farmers and rural leaders must attend to these messages if they are to be successful.
2. Mass media and workshop messages alone are seldom successful in bringing about change. A process of interpersonal or community discussion is often necessary in order to stimulate local interest and increase knowledge. While the mass media and other channels may call attention to issues, interpersonal

- discussion often results in more attention and learning from mass media. Thus, the degree to which interpersonal discussion has or is occurring as a result of workshops or media efforts is an indicator of project success.
3. Increases in knowledge and discussion tend to lead to polarization of attitudes, although often it is not possible to predict the direction of change of attitudes. Thus, the extent to which attitudes have moved to more strongly held views is an indication that farmers and rural leaders have processed information about a topic and come to a conclusion. Attitudes tend to be strongly held views that are resistant to quick change. Thus, their directions are an indication of overall favorability or unfavorability by an audience toward land rights.
 4. Practices, or behaviors, of an audience occur when knowledge of them is present, when attitudes are favorable for action, and when the opportunity for action presents itself. Behaviors are a strong indication of effectiveness of an educational effort. However, they should be seen as the last step in a continuum of steps. Because opportunities for action are not always present, assessments of behaviors should examine the extent to which people have decided to do something (behavioral intentions) as well as actually having done it.

The survey questionnaire was designed to measure all four of these indicators of project education success. If all four can be found to be present, this would provide a strong indication of project impact.

Variables Used to Measure Land Rights Information Received

Farmers and rural leaders were asked to indicate if they had attended any of the training workshops on land rights that were held around the country. If they attended, they were asked to specify which workshop they attended in order to verify attendance and provide additional information about workshops attended. Next, they were asked to indicate if they had seen any publications dealing with land rights. To make sure there was no doubt, interviewers held up copies of Kyrgyzstan Land Reform project publications to ensure that farmers and rural leaders understood which publications were being assessed. If they had seen any of these publications, they answered a series of questions concerning where they saw them, if they themselves were given copies, and the extent to which they read them, understood them, and found them useful. Next, they were asked if they had received any information about land rights from radio or TV programs.

Variables Used to Measure Discussion of Land Rights in Rural Communities

To assess the degree of interpersonal discussion of land rights issues, farmers and rural leaders were asked about possible discussions with five different types of people. In each case, they were asked "Have you discussed issues relating to land rights with []?" Groups included members of your family, others in your village, the akim, ak sakal, or a local agricultural administration official; a land rights activist (established by KLR Project), or someone from another region.

After assessing information obtained from both interpersonal and media sources, farmers and rural leaders were asked to indicate their "best" sources (they could name

more than one). Those who said they saw publications were also asked to indicate if there was anything in any of the publications that they put to immediate use. “That is, did the information cause you to take some action, such as visiting the akim, ak sakal, the LARC office, or other local officials, asking for your own land rights, registering land, buying and selling land, etc.? Did the information provided help you defend your rights, or identify them in some specific way?”

Knowledge Test

To assess the extent to which farmers and rural leaders actually understood land rights, a 10-item knowledge test was constructed. The questions were designed to assess the extent to which respondents had mastered some of the basic components of their land rights. For example, one of the questions asked, “What body registers rights to land?” Another asked: “Can your land be taken if it is not used for a period of three years?” A question focusing on women’s rights asked, “Can a woman be head of the farm?” All 10 questions are shown in the results section of this report.

Attitudes Toward Land Reform

Attitudes were measured by use of four attitudinal statements. For each, respondents were asked to rate the statement on a five-item scale. The first asked them to rate the importance of land rights now. The second asked them to rate their own knowledge of land rights. The third asked them if they agreed that farmers can now truly use their land as they wish. The fourth asked to what extent they were in favor or opposed to changes in land reform and land rights that have occurred.

Practices and Behaviors

Nine items assessed a range of possible behaviors and behavioral intentions concerning land rights and land reform activities. Respondents were asked if they had sought advice concerning land rights for their farms. They were asked if they had ever been involved in a dispute over their share rights. They were also asked if they now make the key decisions about what to plant on their land. Other specific behaviors included making investments in their land and preparing a business plan. Finally, they were asked if they had contemplated or actually leased land, or had contemplated buying/selling land or actually had bought or sold land.

Demographic Variables

Each farmer was asked what type of farm he or she had (private, peasant, cooperative, reorganized joint stock company, etc.), the ownership status of his land (does the farmer know exactly the size and location of his plot, and is the plot marked), and whether or not a certificate of ownership has been issued. The age, sex, and education of each respondent was also obtained. Finally, the oblast and village was noted for each respondent.

Methodology

To ensure that the survey would provide independent results, a private professional survey firm, M-Vector, from Bishkek was hired to carry out the survey work. KLR

project staff participated in a pre-test to ensure that professional survey workers understood the concepts and questions, but KLR personnel were not present for any of the interviews, nor did they guide selection of individuals to be interviewed in any way. KLR staff did provide a list of villages where training had taken place (which included most of the larger villages in the country), but four villages where no training had taken place were also selected for interviews.

From January 19 – February 15, 2004, M-Vector traveled to 20 villages, used the sampling procedure described below to identify farmer owners, and completed 25 interviews in each village, a minimum of 5 of which were with women. Sixteen of the selected villages have been sites for formal land rights workshops. The remaining four received training from partner organizations of KLR. KLR identified villages that proportionally represented areas where the project has conducted training activities. They included:

- South region: Osh and Djalad-Abad: 10 villages x 25 farmers each = 250.
- North region: Issykul and Naryn: 4 villages x 25 farmers each = 100.
- Chui region: 2 villages x 25 each = 50

In addition, in the south region and north region, two additional villages were selected in each region where NO formal direct project training occurred. In each of these villages, a total of 20 farmers were interviewed, for a total of 80. Since training activities and publications distribution had occurred in all 20 of the villages, the data analysis merged all 20 villages. (A preliminary analysis showed no major differences in attending training or seeing publications between the two types of villages.) In addition, in each of the 20 villages, the village akim was interviewed for a total of 20 additional interviews. This brought the total number of completed interviews to 500.

Within each village, an appropriate skip interval was determined to give each farm home an equal opportunity for selection. Then, using the skip interval with a random number start, interviewers contacted farmers at the selected houses and completed the interviews. In order to ensure that at least 5 of those interviewed were women, interviewers could request that an eligible woman be interviewed rather than a man. Those eligible to be interviewed had to be owners of land – that is, must have been given rights of ownership to land whether or not those rights have been exercised. If no one present at a selected house met the criteria, or if those present did not wish to be interviewed, the interviewer selected the next house and continued until an appropriate farmer was found. The skip interval was measured from the originally selected house. Interviewing continued until 25 appropriate interviews were completed.

M-Vector coded the questionnaire data and then provided the independent consultant with the coded data on an SPSS file. The analysis of the data was conducted by the independent consultant.

Results

Farmers were surveyed in 20 villages of five oblasts of Kyrgyzstan. Numbers interviewed are roughly proportional to farm populations of the areas:

Chui Oblast	50 farmers	10.4%
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Issyk-Kul Oblast	70 farmers	14.6%
Naryn Oblast	70 farmers	14.6%
Osh Oblast	170 farmers	35.4%
Jala-abad Olbast	120 farmers	25.0%

Receipt of Information

Results in Table 1 show farmers and akims received information about land rights from a variety of sources. The most commonly mentioned source by farmers was TV (81%), reflecting the fact that the government and the KLR project used this medium to transmit land rights information. However, an impressive 55% have received information from radio programs, and 58% have seen KLR publications dealing with land rights. A total of 25 percent have attended a training workshop or seminar. For akims, as might be expected, many more (90%) attended training, and all have received information via publications and television. Crosstabulations showed that only 9.2% of farmers had NOT received information from publications, television or radio. The great majority had received information from more than one source. For example, more than half of those who saw publications also received information from both radio and television. These data show impressively that information was received by target audiences.

Table 1: Receipt of Information by Farmers and Akims

Question	Farmers (480)	Akims (20)
Have you attended any of the training workshops on land rights held in this area?	25%	90%
Have you seen any publications dealing with land rights?	58%	100%
Were you given copies of any of these publications?	45%	100%
Did you hear any programs on radio about land rights?	55%	85%
Did you see any programs on television about land rights?	81%	100%

Discussions

The combination of delivery of information plus interpersonal discussion often is effective in increasing knowledge about a topic. For this reason, respondents were asked about their discussions of the issue of land rights. As shown in Table 2, 85% of farmers said they had discussed the issue of land rights with family members, and half have discussed the issue with others in their village. Almost four in 10 have discussed land rights issues with an authority figure in the village such as the akim, ak sakal, or local agricultural administration official. Only 9% of respondents said they had not discussed land rights issues with any of the five groups. These figures indicate a high level of discussion of land rights has been going on in rural villages. Among akims, all but one reported discussion of these topics with most of the groups.

Table 2: Discussion of Land Rights Issues by Farmers and Akims

Question	Farmers 480	Akims 20
Have you discussed land rights issues with members of your family?	85%	95%
Have you discussed land rights issues with others in your village?	50%	95%
Have you discussed land rights issues with the akim, ak sakal, or a local agricultural administration official?	38%	95%
Have you discussed land rights issues with a land rights activist?	27%	95%
Have you discussed land rights issues with someone from another region?	16%	85%

To assess the relative contribution of printed/mass media materials versus discussion, respondents were asked to indicate their “best” sources of information about land rights. They were able to name more than one source. Results in Table 3 show that TV was most frequently mentioned as a best source by farmers (44%) while training was most frequently mentioned by akims. This is due at least in part to the fact that only 25% of farmers attended a training session while virtually all akims did. When one recognizes that only a quarter of farmers attended a training workshop, having 16% say that it is their best source indicates that almost two-thirds of those who attended rated workshops a best source. Interpersonal sources were less frequently cited as best sources by the two groups. About one in five farmers named an agricultural administration official as a best source.

Table 3: Best Sources of Information about Land Rights for Farmers and Akims

Best sources of information	Farmers: All sources named	Akims: All sources named
Media or Formal Training Sources		
Training	16%	75%
TV	44%	50%
Publications	16%	35%
Radio	16%	25%
Interpersonal Sources		
Akim	6%	30%
Ak Sakal	11%	10%
Local agricultural administration official or community leader	19%	20%
School teacher	1%	
Social department	<1%	
Other person on my farm	4%	
Meeting of villagers	<1%	
Someone outside the region	2%	
Someone from another farm	4%	

The 237 of 480 farmers who said they had seen KLR publications were asked additional questions about their value. Four questions asked whether they read the material in the publications, whether they understood it, whether they regarded it as correct, and whether they found it useful. As shown in Table 4, about 30% of farmers did not read or only glanced at the publications. This indicates that simply showing people publications does not guarantee that they will be read. (On the other hand, 70% did read them). Also, about one in four did not understand them. The majority of those who did not understand them were the same ones who said they did not read them. A total of 72% said information in the publications was correct (no one said it was incorrect – the remainder weren't sure). Almost three-fourths of those who weren't sure were the same people who said they didn't read the publications. Finally, almost three-fourths of respondents thought the publications were useful to them (and two-thirds of those who didn't find them useful were those who didn't read them). The results strongly suggest that the publications had value to the great majority of farmers, who read them, understood them, and in most cases still have them. (Eighty-two percent of those who were given publications say they still have them). For the akims, use of publications was even higher. All of them read at least some of the publications; all of them found them to be understandable and correct, and 95% thought they were useful.

Table 4: Readership, Understanding and Usefulness of Publications

	Farmers % n=237 of 480	Akims % n=20
Did you read the publications you received <u>completely</u>?		
Read none	21%	0%
Glanced at them	9%	0%
Read some	25%	5%
Read most	21%	15%
Read all	24%	85%
Were the publications that you saw <u>understandable</u>?		
Material was NOT understandable to me	22%	0%
I could understand some of the material	20%	0%
I could understand most of the material	26%	15%
I could understand all of the material	33%	85%
In general, did you find that the information in the publications was <u>correct</u>?		
Yes	72%	100%
Was the information in the publications <u>useful</u> to you?		
Yes	73%	95%

One question in the farmer survey examined the link between reading publications and taking some sort of action. The 237 farmers who said they saw a publication were asked “Was there anything in any of the publications that you put to immediate

use? That is, did the information cause you to take some action, such as visiting the akim, ak sakal, the LARC office, or other local officials, asking for your own land rights, registering land, buying and selling land, etc.? Did the information provided help you defend your rights, or identify them in some specific way?" All but 38 of the 237 provided an answer to the question (12 said they took no action). A total of 35% said they discussed what they read with members of their family, and 11% said they discussed what they read with other farmers. Six percent said they went to the akim with a question. Six percent said they checked to see if their land was registered, and another 4 percent said they registered their land. Another 12 percent said they investigated leasing land. Only 1% said they bought or sold land. Finally, 17% said that reading the publications had helped them to protect their land rights. These results show that about half of the farmers engaged in further discussions with family or neighbors as a result of reading the publications, while 29% took some action such as contacting the akim, investigating leasing, or checking to see if their land was registered. These responses reinforce the idea that publications or programs stimulate interpersonal discussions that can lead to changes in practices.

Knowledge Test Results

In order to assess actual knowledge levels of farmers and akims, both were asked a series of 10 questions about land rights. The questions were generated by reviewing land rights materials covering leasing, buying and selling, land registration, use requirements and other aspects. The questions were open-ended and no choices were offered respondents. Results shown in Table 5 indicate a widespread knowledge of basic facts about land rights by both farmers and akims. Farmers and akims scored low on one item that asked who should pay the land tax for leased land. Although the law says that the owner is responsible for paying this tax, the low percentage selecting this answer perhaps reflects the reality that the leasee is often paying the tax (leasee was frequently selected as the answer). In all other cases, a majority – and often an overwhelming majority, selected the correct answer. Overall, farmers had a mean correct score of 7.6 out of 10 items, while akims had a mean score of 8.9 for the same items. The standard deviation for farmers was 1.52, indicating fairly uniform knowledge levels across respondents. Only 17 farmers of 480 had a score of less than 5 on the test. Forty-one had a perfect score. For akims, none scored lower than 7 on the test.

Table 5: Results of 10-item Knowledge Test for Farmers and Akims

	Farmers % correct	Administrators % correct
Is registration of the rights to land obligatory?		
Yes	96%	100%
Do you have a right to sell your land to foreign citizens?		
No [Significant information source use predictors: training, reading publications completely, watching TV]	80%	90%
Can the land be taken if it is not used within 3 years?		
Yes [Significant source use predictors: training, reading publications completely, TV]	62%	85%

Can a woman be head of a farm?		
Yes [Significant source use predictors: reading publications completely]	83%	100%
Do you have the right to lease land from the Land Redistribution Fund?		
Yes	86%	100%
Is it possible to build permanent structures on irrigated land?		
No [Significant source use predictors: training, reading publications completely, TV].	71%	95%
What body registers rights to land?		
Gosregistr [Significant source use predictors: training]	57%	80%
Who gives lands of the Land Redistribution Fund into lease?		
Ayil okmotu (local self-government)	84%	100%
Who should pay the land tax for leased land?		
Owner [Significant source use predictors: akims].	40%	40%
What document proves your ownership of land?		
Certificate of rights to private land	91%	95%

A number of factors were associated with higher knowledge scores. Those who attended training, saw TV programs or listened to radio programs, and read publications or said they understood them all had significantly higher knowledge scores. In addition, those who were more educated and males scored higher. Males scored higher because they only infrequently said they “don’t know” to a response; instead, they guessed. Females, on the other hand, were more inclined to say “don’t know.” A regression analysis showed that five variables made a significant and independent contribution to knowledge. Listed in order of power: (1) Watching land rights TV; (2) Higher education; (3) Being older in age; (4) Being male; and (5) Attending training workshops. TV’s effect was somewhat surprising. However, it must be remembered that 81% of farmers reported seeing programs on TV, and only 25% attended a training seminar. Despite the statistical significance of differences in knowledge, it should be noted that in terms of mean scores, there were not great differences between groups. Men, for example, had a mean score of 7.7 while women scored 7.2. The important finding seems to be that in general, most farmers had at least some sources of information and learned some basic facts about land rights from those sources.

An analysis of 7 of the 10 individual knowledge test items that were answered correctly by 80% or fewer of respondents was conducted to examine the relationship between KLR project activities and correct answers. [Since almost everyone got the other three items correct, there weren’t enough incorrect answers to permit an analysis of differences in information source use]. Results showed that for 4 out of the 7, attending a training seminar was significantly linked to getting the answer correct. Similarly, for 4 of the 7, a higher level of reading of KLR publications was significantly associated with getting the correct answer. Watching land rights TV programs was significantly related to correct scores on 3 of the 7 items. Listening to a land reform program on radio was not associated with getting the correct answer on any of the seven items, and talking with the akim was linked significantly to correct scores for only one of the 7. Attending training and reading KLR publications both

seem to be important to increased knowledge. Results for individual items are shown in column 1 of Table 5.

Attitudinal Variables

Results from the four attitudinal measures indicate that both farmers and akims have strong positive attitudes about the land rights issue, their knowledge of it, and the extent to which they have active control over their lands. The first question examined how respondents “would rank the issue of land rights now.” Results show that 100% of akims rated this issue as being of “greatest importance,” the highest possible rating. For farmers, 57% selected “greatest importance,” and another 36% said the issue was of “some importance.” Only 3% were negative, and the remaining 4% were neutral. This indicates that the issue is seen as being worthy of substantial public attention.

The second attitudinal measure asked respondents to rate their own knowledge of land rights at this time. As might be expected, akims rated their knowledge as being much higher, but the important finding is that two-thirds of farmers rate their knowledge as “middle level,” “good,” or “very deep.” Considering the relative newness of information about land rights and the substantial differences between the old land tenure system and the new one, this result is striking. It should also be noted that those who rated their knowledge as high also in fact did better on the knowledge test.

The third attitudinal measure asked respondents to agree or disagree with the statement: “In most respects, farmers in this region truly can use their land as they wish.” Results show very strong agreement with the statement, indicating that farmers’ ideas about their power to make decisions about their land have changed dramatically in response to changes in land rights. For farmers, a majority, 52%, selected “strongly agree” and another 33% selected “partly agree.” For akims, it was 60% “strongly agreeing” and 15% partly agreeing. Five akims strongly or partly disagreed (25%) – both akims surveyed in Chui oblast were in this group. Two of 7 from Osh also disagreed either strongly or partly, and 1 of 4 from Jala-abad disagreed.

The final attitudinal measure asked respondents to indicate support or opposition to the statement: “How much in favor are you of the changes in land reform and land rights that have occurred?” Results show farmers express strong support for the changes, with 43% indicating “strongly support” and another 35% “partly supporting” the changes. For akims, 90% strongly support and the remaining 10% partly support the changes. These figures indicate that support for land reform in Kyrgyzstan has largely been achieved – only 12% of farmers indicated any level of opposition.

Attitudinal results are shown in Table 6.

Table 6: Attitudes of Farmers and Akims Toward Land Rights Issues

	Farmers (480)	Akims (20)
How would you rank the issue of <u>land rights</u> now?		
Not at all important	1%	0%
Not very important	2%	0%
Neutral	4%	0%
Somewhat important	36%	0%

Of the greatest importance	57%	100%
How would you rate your own knowledge of land rights at this time?		
Almost no knowledge	7%	0%
Surface knowledge	24%	0%
Middle level of knowledge	39%	15%
Good knowledge	26%	45%
Very deep knowledge	4%	40%
Please indicate the extent to which you agree with the following statement: “In most respects, farmers in this region truly can use their land as they wish.”		
Strongly disagree	4%	15%
Partly disagree	6%	10%
Neutral	5%	0%
Partly agree	33%	15%
Strongly agree	52%	60%
How much in favor are you of the changes in land reform and land rights that have occurred?		
Strongly opposed	4%	0%
Partly opposed	8%	0%
Neutral	10%	0%
Partly support	35%	10%
Strongly support	43%	90%

Changes in Practices or Behaviors

Farmers and akims were asked about seven specific behavioral activities relating to land rights issues and two items assessing “behavioral intentions.” Research typically suggests that when there is extensive mass media/training coverage of an issue, much interpersonal discussion, and positive attitudes, one might expect to see behavioral changes. Those precursors are all present in Kyrgyzstan.

The first item asked if farmers had sought advice from local officials or advisers concerning land rights for “your farm.” Officials or advisers might include the akim, ak sakal, or local agricultural officials. Results show that 38% of farmers surveyed said they had contacted one of these officials to ask about some aspect of land rights. This is a strong indicator that the flow of information into the villages has begun to result in concrete actions. A second behavioral item concerned land disputes. A total of 16% of farmers said they had been involved in a dispute over their land share rights. Within this group, 37% of the disputes were between the farmer and an administrator, 23% involved the farmer and a person in the same village, 17% involved the farmer and a neighbor, and 7% involved the farmer and a relative. In 60% of the disputes, the farmer reported a positive outcome. Only 11% were negative. Twenty-one percent were not resolved, and the remaining 8% are still pending. This level of disputes indicates that real changes are happening in villages, and conflicts are being addressed and resolved.

The next item addressed the extent to which farmers now feel free to make their own decisions about what to plant on their land (instead of following prescriptions of government or a manager). A total of 94% of farmers agreed that they now feel free

to make their own decisions. This is a very strong indicator of a change in farmer behavior. Supporting this item is the next one, which asked if the farmer had actually made an investment in improvements to his/her land such as irrigation, equipment, fertilizers or other soil conditions, fences, etc. A total of 82% said they had made such investments, a concrete indication that they are making individual farm decisions about their land.

The final four items focused on both behavioral intentions and actual behavior concerning two key land rights issues: leasing of land and the buying or selling of land. For leasing, farmers were first asked if they had “given serious thought” to leasing their land to others, or to leasing the land of others. Almost half, 49%, said they had given serious thought to doing this. The next question asked if they had actually done this: leased their land to others or leased the land of others. Forty percent – 4 of 10 – said they had already done this. This is a very strong indicator that leasing – an important component of land rights – is not only understood, but is being implemented. Selling and buying of land is much less common at present. A total of 22% of farmers said they had given “serious thought” to buying or selling land, but only 7% said they have actually done so. There were some regional differences here. While leasing is most common in Chui oblast with 54% saying they have actually leased their land or leased the land of others, buying or selling considerations are rare there. Only 6% of those in Chui oblast say they have considered buying or selling land, and only 2% have actually done so. In contrast, 38% of farmers from Jalal-abad say they have given “serious thought” to buying or selling, and 9% have already done so. In Osh, 34% have given “serious thought” to buying or selling, and 11% have already done so. Table 7 shows results for behavioral items.

In order to examine the relationship between knowledge, training, and adoption of practices, a score was created by adding together all of the nine changes in behaviors or behavioral intentions of farmers. The relationship between the behavior score and knowledge or training items was then examined. Results show that those who listened to land rights programs on radio or saw them on TV were significantly more likely to have changed their behaviors. Similarly, those who read publications completely and understood them were significantly more likely to have changed their behaviors. The most powerful predictor of change was farmers’ own self-rating of their knowledge – the higher their rating, the more likely they have been to change behaviors. The second most powerful factor was interpersonal discussion. The more interpersonal discussion, the more changes in behavior. High education and older age are also associated with greater changes in behavior. However, women and men were not significantly different in their adoption of new practices.

Table 7: Results for Nine Items Measuring Behavioral Intentions and Behaviors with Respect to Land Rights Issues for Farmers

Behaviors	Farmers 480
Have you sought advice from local officials or advisers concerning land rights for your farm? Officials might include the akim, ak sakal, or local agricultural officials	
Yes	38%
Have you ever been involved in a dispute about your land share rights?	

Yes	16%
In most respects, do you or other members of your family now make the key decisions about what to plant on your land?	
Yes	94%
Have you invested in improvements in your land such as irrigation, equipment, fertilizers, or other soil conditioners, fences, etc.?	
Yes	82%
Have you prepared a business plan for what you want to do with your land?	
Yes	33%
Have you given serious thought to leasing your land to others, or leasing yourself the land of others?	
Yes	49%
Have you actually leased your land to others, or leased the land of others for yourself?	
Yes	40%
Have you given serious thought to selling your land, or buying other land for yourself?	
Yes	22%
Have you actually sold any land or bought any land?	
Yes	7%

Akims also were asked questions about farmer activity concerning land rights following training workshops that were held in their areas. All of them agreed that awareness of land rights issues was raised following the training workshops held in their areas. Sixty percent said that farmers contacted them following the seminars to ask for advice. This reinforces the farmer responses indicating that they commonly sought out advice from the akims. The top three areas of questions for the akims concerned: (1) leasing of land (35% of questions), (2) selling and buying land (20% of questions) and (3) questions about documents needed to do something with their land (15%).

Akims were also asked to estimate the knowledge that farmers in their villages have about the issue of land rights. Responses indicate that 55% believe farmers “know a little” about land rights, and 45% believe farmers “know very well” information about their land rights in the area. This reinforces the farmers’ own beliefs that they have from “some” to “good” knowledge about land rights issues.

Akims were also asked about specific practices relating to land rights that farmers might be adopting in their areas. A total of 90% of akims believe that farmers are now taking “a much greater role in making decisions about what to plant and where to sell their produce.” Concerning leasing of land, akims were asked if they believe that “many farmers in this village are now leasing their lands to others, or leasing the lands of others.” Ninety percent agreed that this is occurring in their villages. However, like farmers, akims do not believe there is much buying and selling of land going on yet in their villages. Only 30% said that buying or selling is going on in their villages. Another 65% said it was not going on, and the remaining 5% didn’t know. These results fit very well with results from the survey of farmers.

Male and Female Farmers

The Kyrgyzstan Land Reform Project has devoted considerable attention to reaching women with messages about their land rights. For this reason, the sample of farmers included 35% female farmers so that their access and use of information could be compared with that of males. Results show that female farmers are less likely than males to have their particular plot of land marked off. As shown in Table 8, only 37% of females have specifically marked the piece of land that they own compared to 55% of males.

Table 8: Male vs. Female Farmers: Status of Knowledge of Their Individual Plots

	I have land but don't know size or location	I have land and know size, but not location	I have land and know size and location	I have land, know size, and location is marked
Males	1%	3%	41%	55%
Females	8%	5%	51%	37%

Female farmers were less likely to say they had attended a training session (29% of males had attended but only 19% of females had). For this reason, females also were less likely to have seen KLR publications (62% of males said they had seen them compared to 50% of females). However, of those who had seen the publications, females were as likely as males to have received copies. Males and females were equally likely to discuss land rights issues with others in their village, and equally likely to take the nine specific actions regarding land rights. Females scored lower on the knowledge test, but this was in part due to the tendency of females to say "I don't know" while males guess. Males had a mean score of 7.7 on the test compared to 7.2 for females. While significantly different statistically, this is not a great difference. Results for the specific knowledge items are shown in Table 9. As might be expected females did better on the specific question regarding their rights than did males. However, in general males scored a few percentage points higher for each item.

Table 9: Knowledge Test Results for Males and Females

	Male % correct	Female % correct
Is registration of the rights to land obligatory?	97	93
Do you have a right to sell your land to foreign citizens?	80	79
Can the land be taken if it is not used within a period of 3 years?	66	56
Can a woman be head of the farm?	82	87
Do you have a right to take land into lease from the Land Redistribution Fund?	90	79
Is it possible to build permanent structures on irrigated lands?	75	64
What body registers rights to land?	59	52
Who gives lands of the Land Redistribution Fund into lease?	85	82

Who should pay the land tax for land that is leased?	42	35
What document proves your rights of ownership to land?	92	88

Females were no different than males in their attitudes toward land rights issues. They strongly support land reform, and believe that it is a very important issue.

Table 10: Specific Behaviors and Behavioral Intentions for Males and Females

	Males % taking action	Females % taking action
Have you sought advice from local officials or advisers concerning land rights for your farm?	40	34
Have you ever been involved in a dispute about your land share rights?	18	11
In most respects, do you or other members of your family now make the key decisions about what to plant on your land?	95	94
Have you invested in improvements in your land such as irrigation, equipment, fertilizers or other soil conditioners, fences, etc.?	84	79
Have you prepared a business plan for what you want to do with your land?	34	33
Have you given serious thought to leasing your land to others, or leasing yourself the land that others have?	53	43
Have you actually leased your land to others, or leased land from others for yourself?	41	38
Have you given serious thought to selling your land, or buying other land for yourself?	21	24
Have you actually sold any land or bought any land?	6	8

In terms of specific behaviors and actions taken, females are not too different from males. As shown in Table 10, females are less likely to have been involved in a land dispute, and are less likely to have “strongly considered” leasing (although they were equally likely to have actually leased lands). In general, males were a few percentage points ahead in taking specific actions except for buying and selling, where women were a few points ahead.

Results of the analysis of males and females suggest that while females have been slightly less likely to attend training seminars, once they do, they are as likely as men to understand publications provided. In most respects, they hold attitudes similar to the men, and also have taken about the same specific steps. Thus, a strategy that focuses on encouraging women to attend training results in the same readership and understanding of publications as for men. The difference in test scores is due in part to differences in the way men and women answer questions.

Differences Across Oblasts

There are a number of differences among the five regions surveyed in terms of ownership, knowledge, attitudes, and behaviors. As shown in Table 11, in Chui oblast 40% of respondents do not have a clear idea of where their specific plot of land is located, while this percentage is much less for other regions.

Table 11: Oblast by Status of Individual Plots

	I have land but don't know size or location	I have land and know size but not location	I have land and know size and location	I have land and know size; location marked
Chui oblast	18%	22%	10%	50%
Yssyk-kul	0%	0%	59%	41%
Naryn	10%	1%	29%	60%
Osh	1%	1%	29%	69%
Jalal-abad	4%	3%	44%	49%

In Chui oblast, 24% of respondents do NOT support land reform activities, and another 18% are neutral. This is at least twice the rate of any of the other oblasts, and it appears to have affected some of the other results. Of those who oppose land reform or are neutral (and who saw KLR publications), 54% did not read KLR publications they saw, compared to 13% of those who favor land reform. Similarly, half of those who oppose land reform either said they did not understand the publications at all or understood only some of them (compared to 24% for those who favor land reform). A total of 69% of those who oppose land reform or are neutral said they did not find the publications useful while 75% of those who favor land reform said they found them useful. Finally, 60% of those from Chui oblast rated their knowledge of land reform as “almost none” or “surface.” This is twice the rate of any other oblast. One other difference between Chui oblast and other regions is that farmers in Chui are much less educated. Slightly less than half have not completed 10/11 schooling, three times the rate of the other regions.

At least for Chui oblast, one's opposition to land reform did not affect attending training, but certainly did affect use and evaluation of project publications. It did not affect interpersonal discussions, and it did not affect knowledge test scores – Chui oblast scores were not different from those of any other region. Those opposed to land reform are much less likely to have made improvements to their lands or have a business plan. However, they are no different in considering or actually leasing their lands.

Table 12 shows the dramatic difference between Chui oblast and the other regions in terms of making improvements to land. Chui oblast farmers are also less likely to be seriously considering buying and selling. However, in other respects they are not much different from farmers in other oblasts.

Table 12: Oblast by Actions Taken

	Made improvements	Business Plan	Considered Leasing	Actually Leased	Considered Buy/Sell	Actually Bought/Sold

Chui	18%	20%	52%	54%	6%	2%
Yssyk-kul	86%	4%	49%	41%	9%	1%
Naryn	71%	29%	56%	36%	24%	1%
Osh	94%	44%	37%	34%	19%	11%
Jalal-abad	97%	43%	63%	43%	38%	9%

Conclusions

Evidence from this survey indicates strongly that the main goals of the first phase of the Kyrgyzstan Land Reform project have been accomplished. With the possible exception of a small minority in Chui oblast, farmers have received information about land reform, for the most part understand it, have discussed it with others, and have taken concrete action to register their lands. They are strongly in favor of land reform.

Now they are ready for the second phase: they need detailed information about how to take advantage of the fact that they now make the key decisions about their farms. In the survey, farmers were asked what types of information they need now. The following list indicates the general topics that are of greatest interest:

- Leasing of land (how to lease, conditions, taxes, etc.)
- Buying or selling land (how to buy, sell)
- Taxes (tax issues for leased lands and owned lands)
- Production and marketing choices
- Credit
- Official legislation changes concerning rural lands
- Inheritance rights (passing land along to the next generation or other members of the family)
- Exchanging or acquiring land
- Rules about building structures on land that is owned

These items indicate that the issues of how to identify one's plot of land and how to get it registered are no longer of greatest concern. Because of the KLR project and efforts of the government and other groups, farmers are now more aware of the rules regarding registration of their lands and their ability to make decisions about their farm enterprises. Ninety-three percent know the exact size and location of their land share, and more than half know that Gosregistr is the place they go to formally register their land. Now, interest has shifted to how to take advantage of one's ownership of land or the ability to acquire additional land. Success of the land reform effort now depends on the ability of farmers to understand these important matters.

In the future, if the second phase of communication is successful, farmers will enter the third phase. As they diversify their farms, making individual decisions, setting up individual leasing arrangements, and changing their product and marketing mixes, they will begin to demand much more specialized information. The tax, leasing and structure questions will become more complex. Unlike the first phase, which began with farmers who had experienced a Soviet-style agriculture that emphasized

uniformity in almost every respect, the third phase will be characterized by complexity and diversification. To see how this might look, one can examine the transformation of U.S. agriculture from the traditional family farm structure with a rather uniform set of crops and production methods, to a specialized and niche-based agriculture in which information and linkages play a crucial role. Information for this third phase will likely be provided by both public sector and private sector information providers. However, it will be important to examine information needs and perhaps subsidize those that are important to the country's development, yet cannot be supported by the private sector alone.

The approach taken in Kyrgyzstan to educate farmers about their land rights has been characterized by a multi-language, multi-channel approach that has utilized mass media as well as large-scale use of local training workshops provided both by the project and by partner NGOs. This approach succeeded in a number of respects. First, the training program itself reached one quarter of those living in communities where training was held. This includes a large proportion of total villages in Kyrgyzstan, reached either by training directly provided by the project or additional training sessions run by NGOs in other villages. Second, farmers were also well-reached by radio and especially by television (which reached 81 percent). Regression analysis shows that listening to land rights programs on radio, watching them on TV, or reading land reform publications, all significantly predict higher knowledge of land reform on the 10-item knowledge test.

The provision of information stimulated local discussion among farmers and with community leaders. Since previous research indicates that there is an important relationship between this discussion and the use and understanding of mass media information, this is a key finding. Eighty-five percent of farmers discussed this issue within their families, and 4 in 10 talked with the local "akim." Regression analysis shows that discussion of the issues is significantly related to higher knowledge test scores as well as having taken specific actions.

Attitudes toward land rights issues indicate that farmers believe that land rights is a very important issue, and they are strongly in favor of land rights issues. Seventy-eight percent either partly support or strongly support changes in land reform and land rights that have occurred. In addition, and perhaps most important, farmers in overwhelming numbers now believe that "In most respects, farmers in this region truly can use land as they wish." Fifty-two percent of farmers strongly agreed with this statement, and another 33 percent partly agreed. Only 10 percent disagreed. This is a strong indication that the first phase of education has been successful and that farmers are now ready for the second phase.

Finally, the nine items measuring actual changes in behavior by farmers (or behavioral intentions) indicate that farmers have begun to take concrete steps to take control of their lands. Sixteen percent have been involved in land disputes, often challenging local officials. Most of these cases have been resolved in favor of farmers. An amazing 94% now say that they make the decisions about what to plant on their farm. A total of 82% say they have already made an investment in improving their lands, such as irrigation, equipment, fertilizer or fencing. Almost half have at least seriously thought about leasing their land, or leasing the lands of others, and 40

percent have done so. Buying and selling of land have lagged behind other activities, with only 7% having done so, but this can be expected to increase over time.

In sum, the survey provides strong evidence that a transformation has occurred in understanding and acceptance of change in land rights among Kyrgyz farmers. They are now ready to move to the second phase.

Appendix 1: Regression Results Predicting Knowledge Test Score and Action Score

Regression to predict Knowledge Score.

The knowledge test score was created by awarding one point for each correct answer given by farmers on the 10-item knowledge test. A stepwise regression was conducted to see what relevant factors might be associated with doing well on the 10-item knowledge test. Nine possible predictor variables were included in the equation.

They were:

- education
- attending training
- seeing publications
- age
- sex
- discussion score of 5 items
- listening to programs on radio
- seeing programs on TV
- self-ranking of land rights knowledge

Results are shown below. The critical value of .05 was used to determine which variables could be selected.

Variable	R	Cum. R ²	Adj. R ²
Seeing programs on TV about land rights	.209	.044	.042
Highest level of educational attainment	.270	.073	.069
Age	.316	.100	.094
Sex (males did better on test)	.347	.121	.113
Attended training workshop	.362	.131	.122

Regression to Predict Action Score.

The action score consisted of nine possible actions farmers could take, with one point awarded for each one. The mean score was 3.8. Ten possible predictor variables were entered in a stepwise regression. The ten were:

- Attended training course
- Discussion score (5 items)
- Self-rated knowledge score
- Sex
- Age
- Education
- Seeing publications
- Hearing radio program
- Seeing TV program
- Attitude: farmers can do what they want

A critical value of .05 was necessary to be entered into the final equation. Results are shown in the table.

Variable	R	Cum. R ²	Adj. R ²
Self-rated knowledge	.322	.104	.102
Discussion	.382	.146	.143
Education	.417	.174	.169
Seeing TV program	.442	.195	.188
Age	.454	.206	.198

One-way analysis of variance showed that farmers who said they read publications completely and understood them were significantly more likely to have higher action scores.