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Can Land Titles Help Reduce Rural Poverty in Cambodia?

The Royal Government of Cambodia will issue one million land titles over the next fifteen years. In this article, Brett Ballard and So Sovannarith discuss how land titles can benefit rural households and contribute to poverty reduction.*

The Ministry of Land Management, Urban Construction and Planning (MLMUPC) is implementing a Land Management and Administration Project (LMAP) with support from international donors in order to strengthen land tenure security and land administration systems. Among other activities, LMAP is managing a systematic land-titling programme under which one million titles will be issued over 15 years. In the rural sector, the expected benefits include increased agricultural investment and productivity and the development of more efficient land markets. These and other benefits are expected to play important roles in reducing rural poverty.

Prey Veng, Ba Phnom District, Rak Chey Commune, December 30, 2003. The land titling work begins at the village level as local people provide information about their land parcel(s) to the LMAP adjudication officer. Photo: Courtesy of LMAP.

Earlier this year, CDRI collaborated with MLMUPC to conduct a baseline survey of 1,232 rural households. The data will be used to assess the economic and social impact of land titles after three years. This article reports on key data from 33 villages in four LMAP provinces (Kompong Cham, Kompong Thom, Sihanoukville and Takeo) covering 916 households, including 225 households headed by females. About 25-30 households per village were randomly selected according to landholding sizes and gender of household head. The article also discusses some of the expected benefits of land titles, and concludes with policy and programme recommendations.

Land Titling in Theory and Practice

The rationale for land titling programmes rests on property rights theories and research that link secure land tenure to investment incentives and the development of efficient financial and land markets. According to these theories (Feder and Feeney, 1996), land titles provide people with confidence that they or their heirs will enjoy the benefits of investment. People can also use land titles as collateral to obtain credit to improve agricultural production or start up new businesses. As land values increase, land markets will direct land use toward more productive and economically efficient uses. Increased land values and expectations of security will in turn promote more use of the official registry to record land transfers.

Countries investing in more efficient and equitable land tenure administration tend to develop faster than those that do not make such investments. Moreover, a lack of equitable access to land and secure tenure contribute to extreme poverty, dependence and unsustain-

* This article is based on data from the Baseline Survey Project carried out by CDRI in collaboration with MLMUPC and funding support from the World Bank. A full report of the study will be available in August 2004. Brett Ballard is the Technical Advisor for the Baseline Survey Project. So Sovannarith is a Research Fellow at CDRI.

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able patterns of rural migration (Munro-Faure, 2002). Land titling studies in Thailand and other countries also suggest that the observed impacts on social and economic development and growth can be significant (Onchan and Aungsumalin, 2002).

The distribution of land titling benefits, however, is not likely to be equitable between different social and economic groups in the absence of complementary policies and supporting institutions that enforce land rights and make development services more easily available to small landholders and other vulnerable groups.

Land Distribution in the Survey Group

Households with smaller landholdings have fewer agricultural plots, which are also smaller in size, compared to households with larger landholdings. The number *and* size of plots steadily increases from one landholding interval to another (Table 1).

The most often cited explanation for this pattern begins with the land distribution of 1989, when efforts were made to divide available land equally according to the number of working age household members. Households with more working members received more land, which created an initial degree of structural variation in the distribution.

The legacy of the 1989 land distribution is reflected in the fact that more than 55 percent of the survey households acquired their agricultural land from the State (Table 2). The survey also sheds light on how households with larger initial landholdings have been able to acquire additional land since 1989. For example, households with larger landholdings, which also have more capital assets, labour and incomes than smaller landholders, have a higher percentage of plot acquisitions through both purchase and clearing than do smaller households. It seems that the more land one has, the more land one can acquire.

Another explanation for the distribution pattern concerns the atomization of land through sales and/or inheritance (So, Sophal and Acharya, 2001; Biddulph, 2004). Among households with smaller landholdings, the size and number of plots tends to decrease at a faster rate as families subdivide their land to pass on to children. This proposition is also supported by the survey, which shows a greater frequency of land acquisitions through inheritance among households with smaller landholdings.

The impact of titling on land size is an important consideration. Evidence from Thailand suggests that the number and size of plots per family tends to decrease along with titling, though there are of course other intervening factors. This observation is especially relevant for Cambodia, given concerns about the increasing rate of near landlessness (less than one half hectare) and landlessness in the rural sector (Biddulph, 2004). As smallholders sell land plot by plot (e.g., distress sales), or subdivide plots to sell a certain portion, they reduce their potential production capacity and move toward possible landlessness at an accelerating rate.

Table 1: Household Agricultural Landholding Summary

Landholding (ha)	HH	Total Plots	Total Area	Area /HH	Plots /HH	Area /Plot
< 0.5	201	465	55.37	0.27	2.31	0.11
0.5 – 0.9	223	843	156.11	0.70	3.78	0.18
1.0 – 1.9	229	1,092	322.66	1.41	4.76	0.29
2.0 – 2.9	122	653	294.25	2.41	5.35	0.45
> 3.0	132	826	634.50	4.80	6.25	0.76
Total	916	3,879	1,462.89	1.59	4.23	0.37

Table 2: Agricultural Land, Mode of Acquisition

Land Size	State	Inherit	Purchase	Cleared
< 0.5	53.1	33.2	11.8	2.0
0.5 – 0.99	57.9	23.1	15.7	3.1
1.0 – 1.9	62.1	18.8	13.8	5.3
2.0 – 2.9	55.3	17.5	16.3	10.8
> 3.0	46.6	20.8	17.6	15.0
Total	55.6	21.7	15.2	7.4

Gender The land distribution pattern discussed above holds for both male- and female-headed households. However, male-headed households average 4.4 plots per household and 0.39 hectares per plot, while female-headed households average 3.8 plots and 0.30 hectares per plot. Moreover, 34 percent of the female-headed households compared to 18 percent of households headed by males own less than 0.50 hectare of agricultural land. Conversely, 17 percent of the female-headed households compared to 31 percent of the male-headed households own more than two hectares.

The mode of land acquisition also varies according to gender of household head. Female-headed households have a higher proportion (71.1 percent) of plot acquisitions from the State than do male-headed households (51.1 percent). The proportion of plots acquired through inheritance is much lower for female-headed households (11.2 percent) than male-headed households (24.6 percent). This is not surprising given traditional customs in rural Cambodia.

The percentage of plot acquisitions by purchase and clearing is also lower for female-headed than for male-headed households. The lower percentages for inheritance, purchase and clearing suggest that female-headed households are less able to acquire additional plots than male-headed households. Female-headed households at each landholding interval also have fewer assets, less labour, and less income than do male-headed households. Fewer farming assets and less labour suggest a constraint on the amount of land than can be farmed, while less income suggests a constraint on buying more land.

Access to and Use of Credit

The survey group reported a total of 743 loans during the six months prior to the survey. About 60 percent were obtained in the informal sector, which includes relatives and friends (43.7 percent) as well as moneylenders (16.0 percent). Another 31 percent were obtained in the formal sector, either from ACLEDA (6.1 percent) or a Micro Finance Institute (MFI) (24.9 percent). About 9 percent of the loans were obtained in the "semi-formal" NGO sector.

Productive investments were the purpose of 36 percent of loans, including agricultural production (14.4 percent), small businesses (12 percent), and animal rais-

ing (9.6 percent). Male-headed households borrowed more for agriculture and business activities, female-headed households more for animal raising. Health care (21.7 percent) and food shortages (17.9 percent) accounted for almost 40 percent of all loans. A similar percentage of male- and female-headed households borrowed for health care, while a greater percentage of female-headed households borrowed to cover food shortages. The remaining loans (24.5 percent) were for other activities, including social ceremonies, home construction and transportation.

Planners expect that land titles will stimulate an increase in the number and amount of loans for agricultural investment and other income-generating activities. This assumes that interest rates and transaction costs associated with borrowing in the formal sector are competitive with the informal sector and that people have the propensity and capacity to borrow. This being said, we expect to see an increase in the volume of credit activity in areas where formal institutions are more accessible. We also expect to see some variation in the frequency, size and use of loans according to landholding size and gender of household head.

Agricultural Investments, Productivity, and Land Use

The average expenditure for rice production per household tends to increase along with landholding size. For example, the lowest two landholding intervals have average household expenditures of 13.03 and 21.57 ten thousand riels respectively, while the upper two intervals have 31.6 and 51.98 ten thousand riels respectively. Male-headed households expended about 50 percent more than female-headed households. Moreover, male-headed households in each interval consistently spent more than female-headed households for nearly every input.

Nearly 90 percent of expenditures for rice production[1] are financed by "own sources," followed by loans from relatives and friends (8.3 percent) and then credit from "programmes," including savings and loan groups, MFIs and commercial banks (2.3 percent). The sources of financing for various inputs vary across landholding size. For example, for labour inputs the upper two intervals borrowed more from family and friends and credit programmes than did the lower intervals. This suggests that the shift away from "own sources" in the direction of formal credit for agricultural investments may begin with larger landholders borrowing from family and friends. If so, we may expect some delays before smallholders reap any credit benefits from land titles because they may not be prepared to make an immediate leap into the formal sector.

Table 3: Productivity and Expenditures (ten thousand riels)

Landholding (ha)	Yield (kg/ha)	10,000 riels/ha	Kg/10,000 riels	10,000 riels/hh	Kg/hh
< 0.5	2,051	51.3	39.98	160.1	640.3
0.5 – 0.99	1,676	32.4	51.72	228.1	1,180.0
1.0 – 1.99	1,464	29.4	49.80	343.1	1,708.5
2.0 – 2.99	1,145	18.5	61.89	333.7	2,065.2
> 3.0	1,016	19.5	52.10	628.1	3,272.3

Productivity The survey data (Table 3) affirms the inverse relationship between farm size and productivity observed elsewhere in Asia and Cambodia (Sophal and Acharya, 2002): small farms tend to be more productive in terms of rice yield per hectare than large farms, regardless of the gender of the household head. One often cited reason for this pattern is that small plots are often subdivisions of more fertile land. Other reasons are that small farmers may use better techniques and exercise better management, and that family labour and other owned inputs are applied more intensively on small farms.

According to the survey data, small farmers also apply purchased inputs more intensively than do larger farmers. For example, the two smallest intervals expended 51.3 and 32.4 ten thousand riels per hectare for all inputs, while the two largest intervals expended 18.5 and 19.5 ten thousand riels per hectare.

Although small farms may be more productive per hectare than larger farms, small farms are not as productive in terms of investment. The survey shows that farms with less than 0.5 hectares obtain 39.98 kg per ten thousand riels of expenditure, while farms with 2.0–2.99 ha and more than 3.0 ha get 61.89 kg and 52.1 kg of rice respectively. This suggests that investment efficiency is just as important, if not more so, than the level of investment. In terms of land titling impacts, then, increased access to formal credit for agricultural investments needs to be complemented by extension services and infrastructure development that can improve the productivity of capital.

The higher land productivity of small farms also does not translate into higher levels of total production per household. Households with less than 0.5 ha of land produced only 640.3 kg of rice, despite their productivity advantage. The largest farms produced a total of 3,272 kg per household, even though they were only half as productive as the smallest farms. As a result, smaller farms are at a comparative disadvantage because they must continue to use remaining household resources (after farm expenditures) to make up for food shortages rather than to invest in other activities. Moreover, if small farmers borrow to invest in farming that does not produce at least enough rice for home consumption, they will sink deeper into debt over time. This again highlights the need for affordable credit, better extension services and infrastructure development in order to optimise land-titling benefits.

Land Use The percentage of plots allocated for wet season rice production decreases as land size increases, while the percentage for dry-season rice steadily increases with land size. The percentage of plots allocated for *chamcar* (non-rice crop land) production is fairly constant across all landholdings, while the percentage of idle plots increases with land size. The percentage of plots allocated for plantation (trees crops) and mixed crops is quite low across all landholdings. Thus there is considerable scope for future crop diversification in

many of the survey areas.

About 90 percent of all plots are cultivated, although the percentage decreases with increasing land size. The percentage of cultivated plots among female- and male-headed households is similar across all landholdings. Not surprisingly, the percentage of idle plots (7.6 percent overall) increases with land size, while the percentage of leased-out plots (1.6 percent) is fairly uniform. Female-headed households have a slightly higher percentage of idle land, and also lease out a higher percentage of their plots than do male-headed households. The most often cited reasons for leaving land idle include a lack of labour (34 percent), no profit (16 percent) and insufficient capital (9 percent).

Research in Thailand suggests that land titles stimulate some farmers to shift from low cost/low return crops toward commercial crops that require more investment but have potentially higher returns over time (Ongchan and Aungsumalin, 2002). Although agricultural and market conditions are different in Cambodia, we expect farmers also to begin diversifying, even though the full impact may require more than three years to observe. We also expect that the scope and scale of diversification will increase more rapidly on larger landholdings. The rate of land utilization may also increase as farmers invest more in agricultural production, though perhaps slowly in the absence of policy measures that promote higher land utilization rates (e.g., taxes on larger idle plots). The impact of titles on land use will vary with factors such as the availability of credit and extension services, infrastructure investments (e.g., irrigation) and market prices.

The benefits from land titles also depend on household characteristics. Landholding size and the gender of the household head are good indicators of a household's potential to benefit from the titling programme.

Land Values and Land Sales

The survey shows that estimated land values per hectare decrease as landholding size increases for both male- and female-headed households. This may be explained by a greater concentration of better quality land on small farms, as reflected in their higher productivity. Land values, however, may also vary according to location, (eg., access to main road, distance from home).

Despite the higher land values per hectare, the average value of each plot is lower for smaller farms than for larger farms. This is a direct function of plot size. One implication of this observation concerns access to credit. If the size of a loan depends in part on the amount of collateral available, larger landholders may be able to obtain larger loans than smaller landholders. This would give them an investment advantage over small holders.

Land Sales There were 252 land sales reported since 1989, representing about 6.4 percent of all the plots in the sample. A disproportionate number of sales occurred in the two lowest land size intervals. The two lowest intervals own 33.7 percent of all the plots in the sample, yet account for 50.8 percent of plots sold. The two upper intervals own 38 percent of the plots, but account for only 29 percent of plots sold. Somewhat surprisingly, female-headed households own about 46 percent of the plots in the bottom two intervals, but accounted for only one third of the sales among them.

The most often cited reason for land sales is health care (24.9 percent), followed by business investments (18.6 percent) and plot characteristics, including "too small, not profitable," "poor soil" or "too far away" (9.7 percent). Another 8.5 percent involved sales to offset food shortages. Other reasons include loan repayments, funerals, migration costs and climate-related shocks.

Titles alone, however, will neither slow nor accelerate the rate of land sales among any of the intervals. For example, we expect land sales for the above reasons to continue at a similar, if not higher, rate in areas where affordable health care, extension and credit services are lacking. This is of particular concern for smaller landholders on the verge of landlessness. On the other hand, if people use land titles to secure loans to invest in business or other activities, we may expect to see a decrease in land sales for this reason, unless of course investments fail and people sell land to repay loans. In such cases, titles may enable people to obtain a better price for their land, although this may be small consolation for those who have no viable employment alternatives after farming.

Land Transfers At least 65 percent of reported land sales in the LMAP survey area are documented by changing names on land certificate application receipts. The number of reported sales that go unrecorded at the official registry is certainly higher, since people also use other informal methods to document transfers. Planners expect an increase in the percentage of land transfers that are facilitated through the official registry system, particularly in active land markets where values are increasing. Such expectations assume (1) transaction costs associated with official registration will be lower than current costs, (2) people will have increased confidence in land tenure security and (3) people will have sufficient knowledge of the procedures and capacity to access the system.

Conclusion

The degree to which secure land tenure rights can contribute to socioeconomic growth and poverty reduction in the rural sector depends largely on the capacity of public administration to govern and enforce property rights. The impact of titles is likely to be strongest when people believe in the government's capacity and commitment to enforcing land rights in a fair and transparent manner. People in the baseline survey areas expressed a great deal of initial faith in the land titles that LMAP is currently issuing.

The benefits from land titles also depend on local circumstances, including (a) the level of land market activ-

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