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THE DEVELOPMENT OF PROPERTY RIGHTS IN LAND:

A COMPARATIVE STUDY

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June, 1984

Notes: David Feeny is a Visiting Scholar at the Economic Growth Center, on Sabbatical leave from McMaster University, Canada.

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ABSTRACT

THE DEVELOPMENT OF PROPERTY RIGHTS IN LAND: A COMPARATIVE STUDY^{*}

In order to examine the trends in the development of property rights in land in nineteenth and twentieth century Asia, a simple supply and demand model of induced institutional change is presented. Over much of the period favorable terms of trade for land-intensive agricultural products caused real land rents to appreciate. This induced an increase in the demand for more secure and precise property rights in land. The particular type of institutional arrangements supplied depended upon the existing set of institutions and property rights, the stock of knowledge, and the political, economic and ideological interests of the governments in power. The model is applied to four Asian countries, Thailand, Burma, India, the Philippines, and the experiences are compared. In all four cases cadastral survey-based land titling systems were introduced. Finally, implications for future research are discussed.

^{*}This paper sketches some arguments about the development of property rights systems in Asia and presents some suggestive evidence. Commentary on both the analytical approach and incomplete empirical content are more than welcome. Previous versions of the paper have been presented at the 35th Annual Meeting of the Association for Asian Studies, March 25, 1983, the Council on Southeast Asian Studies, Yale University, the Economic Growth Center, Yale University, the Center for the Comparative Study of Development, Brown University, and the economics department, Northeastern University. The author has benefited from the comments of the participants at those presentations. In addition helpful suggestions were made by Richard Barichello, Fred Carstensen, Victor Doherty, Robert Evenson, Yujiro Hayami, Samuel Popkin, Carl Pray, Louis Putterman, and James C. Scott.

Over the nineteenth and twentieth centuries, the economies of South and Southeast Asia became increasingly commercialized and participated in the worldwide growth in international commerce. Accompanying trends included an elaboration of the system of property rights in land and gradual dismantling of property rights in man (debt slavery and corvee). Fundamental changes in the system of taxation were also evident.

The paper represents a first attempt as part of a larger on-going project to explain the trends in the systems of property rights with a particular focus on property rights in land. In the process a simple model of induced institutional change is elaborated and tested against experience in South and Southeast Asia. A by-product of the effort is an increased understanding of Asian economic history in the period. An advantage of the comparative approach arises because while each of the economies experienced a similar set of trends in relative prices as integration into the world economy became more complete, there was also a substantial amount of diversity among the countries both in terms of their indigenous systems of property rights and the property rights policies of the colonial powers (for those countries which were directly colonized).

In the first section a model of induced institutional change is presented. Trends in relative product and factor prices are discussed in Section II. Case studies including Thailand, Burma, India, and the Philippines are taken up in Section III. Conclusions are drawn in

Section IV. Finally, implications for future research are sketched in
Section V.

Section I: A Supply and Demand Model of Induced Institutional Change:

Property Rights in Land

Just as the demand for technical change responds to trends in relative factor prices, it is argued in the induced institutional change approach, that the demand for institutional change responds in a similar fashion. The approach is described within the supply and demand paradigm as a means of organizing the analysis.

The demand for institutional change arises when some gain cannot be captured under current institutional arrangements.¹ Changes in relative factor or product prices, changes in the size of markets, changes in technology, and changes in the basic decision rules of government are among the important exogenous influences that create the disequilibria in which current institutional arrangements fail to allow for the full capture of gains. The common sources of the potential benefits for changing institutions have included the achievement of economies of scale, reduction of risk or transaction cost, or the amelioration of externalities, incomplete markets, and market failure. All of these factors affect the demand for institutional change.

In the specific case of the system of property rights, an appreciation in the relative price of a factor will induce an increase in the demand for an institution to define property rights in that factor and induce an increase in the benefits derived from the utilization of that system of property rights. Thus an appreciation of the relative price of a factor will increase the demand for establishing a system of property rights in that factor and increase the use of that

system.

The analysis of the demand for institutional change concerns situations in which there are potential benefits to some party that are only attainable through the creation of a new set of institutional arrangements. The factors that affect the demand for change are then the factors that serve to create the potential benefits for the users of institutional arrangements. Whether change will indeed occur depends, however, on the supply of institutional change -- the willingness and capability of the fundamental institutions of government to provide new arrangements.² The capability depends in part on the cost of institutional innovation. As in the technical change case, the cost depends in part upon the stock of existing knowledge on the design and operation of institutions. The knowledge stock in turn depends upon past experience in production, trade, and distribution as well as the previously existing set of institutions and the nature and degree of research on institutions. Just as investments in basic science research can affect the supply of technical change, investments in educational institutions and research (especially in legal studies and the social sciences) can effect the supply of institutional change through both the creation and borrowing of new ideas in institutional design. In addition to the effects of the stock of knowledge, the cost of supplying new institutions depends upon the factor prices of the factors used in institutional design. Implementation costs will also affect the supply.

The willingness to provide new arrangements does not solely depend on the cost; it also importantly depends on the private benefits and costs of providing the change to the agents who are in a position to

provide change, the elite decision makers of government. The fundamental institutions of a society and the initial distribution of power will thus have a significant impact on the kinds of new institutional arrangements which are supplied. In some cases the elite's incentives will be consistent with actions that serve to maximize social welfare; in other cases their incentives may not be compatible.

The provision of new institutional arrangements has a public good characteristic. In addition to being affected by the demand for change (arising out of the self-interest of subjects) and supply of change (in part reflecting the self-interests of the elite), it is also affected by ideology and conventional wisdom.³ Notions of how the world should and how it does operate affect institutional design. North argues that ideology is used by the state to ameliorate the free-rider problem, to reduce the incentives to act only on the basis of narrow self-interest. Ideology thus facilitates the organization of collective action. In the colonial property rights development setting, different colonial powers had different ideologies concerning the organization of property rights and those ideologies and the conventional wisdoms that accompanied them changed over time.

Institutional change then arises through the interaction of the demand for and supply of change in dynamic sequences. The institutional response in one period becomes part of the initial conditions in the next period thus affecting the subsequent path of change. In the property rights case there was often a gradual evolution

of arrangements from simple changes to increasingly elaborate and complicated systems. The approach is summarized in Table 1.

Table 1: Supply and Demand Model of Induced Institutional Change:
Property Rights in Land

Endogenous Variables

Institutional Arrangements: legal provisions defining property rights in land and in particular the degree of security of land rights

Utilization of the existing institutional arrangements: the degree to which cultivators or owners made use of the system

Exogenous Variables

Demand for Institutional Change

Relative Product and Factor Prices
Basic Rules of Government
Technology
Size of Market

Sources of Gains from Innovation

Capital gains
Amelioration of Incomplete Markets, Externalities, Market Failure, and Common Property Resource Problems
Risk Sharing
Achievement of Economies of Scale
Reductions of Transaction Cost

Supply of Institutional Change

Cost of Innovation
Stock of Knowledge
Implementation Costs
Basic Institutions
Ideology
Conventional Wisdom
Private Returns to Elite Decision Makers

Interaction of Demand and Supply: Dynamic Sequences

Section II: Nineteenth and Twentieth Century Asian Trends in Relative
Product and Factor Prices

In the supply and demand model of institutional change briefly sketched in Section I, attention is focused on the important role of trends in relative factor prices in determining the demand for the establishment of more elaborate systems of property rights. Thus in order to apply the model, an examination of those trends is needed.

In an effort to provide some preliminary documentation on these trends both direct and indirect evidence will be utilized. The indirect evidence comes from the trends in the terms of trade, the ratio of the export price of land-intensive agricultural products to the import price of manufactured goods. The terms of trade measure the incentives afforded to an economy by the opportunity of engaging in international trade. The trends in the terms of trade reflect the division of the gains from trade among the two trading partners. The gains from trade are the increases in real income made possible by trading.

In a closed economy (no international trade), real land rents (the charge for the use of the services of land in production) are sensitive to population density. As population density rises there is a tendency for real land rents to appreciate with respect to real wages. At low population densities real wages tend to be high relative to real land rents. This close association between real land rents and population density is, however, broken when the economy engages in large scale international trade. Now relative produce prices are determined on world markets rather than within the economy itself. Real land rents

are now linked to the endowments of land, labor, and capital, production technology, and the external terms of trade. Thus it is possible to use a simple general equilibrium model with two goods (agricultural and manufactured) and three factors of production (land specific to agriculture, mobile capital and labor), to predict the trends in relative factor prices.⁴ While the results for the trends in real wages are somewhat ambiguous and depend on the parameter values of the factor shares, employment shares, and elasticities of substitution, the results for the trend in real land rents are much more clearcut. Real land rents are very sensitive to the trend in the terms of trade (a result of assuming that land is specific to agriculture). This follows because as the relative price of the agricultural product rises, resources move from the other sector (manufacturing) into agriculture. Labor and capital are, however, imperfect substitutes for land. Thus as people seek to expand agricultural output in response to the favorable prices, land rents are bid up. Thus we can use the trend in the terms of trade as a proxy for the trend in real land rents.

Data on the terms of trade are presented in Table 2. The data on the Thai terms of trade have the advantage of directly reflecting the ratio of the price of the agricultural to the manufactured product and cover a long time period. The data indicate a relative appreciation of agricultural prices from the 1860s to 1912, decline over the 1912 to 1925 period, and finally appreciation from the mid-1920s to the end of the 1930s. Overall, the relative price of the agricultural product appreciated over the whole period.

Table 2: Nineteenth and Twentieth Century Trends in the Terms of Trade

Country or Region	Rate of Change in percent per year	Notes and Sources
<u>Thailand:</u>		
1865-67 to 1912	1.41 or 1.55	Export price of rice divided by import price of white or grey shirting, respectively; Feeny (1982, pp. 17 and 131).
1912 to 1925	-3.39 or -1.92	
1925 to 1939	1.03 or 1.18	
1865-67 to 1939	0.47 or 0.85	
1865-67 to 1940	1.52 or 1.95	
<u>Burma:</u>		
1870-71 to 1912-13	1.90	External terms of trade ^a , or Internal terms of trade ^b ; Aye Hlaing (1964, pp. 145-148).
1890-92 to 1912-13	1.62	
1912-13 to 1925-26	-1.33 or -1.44	
1925-26 to 1939-40	-0.41 or 0.82	
1870-71 to 1939-40	0.81	
1890-92 to 1939-40	0.55	
<u>India:</u>		
1861-69 to 1906-14	0.90	Net barter terms of trade, index of export prices divided by index of import prices; Bhatia (1969, pp. 417-419).
1906-14 to 1931-39	-0.79	
1861-69 to 1931-39	0.29	
1903-08 to 1934-39	-0.14 or -0.51	Laspeyres and Paasche indices of terms of trade respectively; Appleyard (1969, p. 190).

Table 2 continued:

1888 to 1914	1.12	Paasche index of terms of trade; Birnberg and Resnick (1975, p. 285).
1914 to 1936	0.08	
1888 to 1936	0.65	
<u>Philippines:</u>		
1902 to 1925	0.51	Paasche index of terms of trade; Birnberg and Resnick (1975, p. 306).
1925 to 1938	-2.86	
1902 to 1938	-0.77	

.....

^a Index of export prices divided by index of import prices.

^b Index of domestic paddy price divided by index of the unit value of
consumer goods imports.

On the basis of the trends reflected in these terms of trade indices, one would expect that in periods during which the terms of trade were improving, real land rents would have been appreciating and that the overall trend in real land rents would have been one of appreciation. Evidence confirming the predictions will be discussed below.

Much the same trends in the terms of trade evident for Thailand are also apparent for Burma (see Table 2). From the 1870s to 1912 the ratio of the price of rice or paddy to the prices of imported goods rose. From 1912 to 1925 the terms of trade declined and then rose for one series and fell for the other over the 1925 to 1940 period. Again, overall the terms of trade appreciated.

Data on the Indian terms of trade presented by Bhatia and by Appleyard and Birnberg and Resnick for the later period, give much the same impression as the Thai and Burmese indices: an appreciation from the 1860s to 1910s and decline in the interwar period (see Table 2). These terms of trade indices for India are not ideal in that manufactured goods were both exported and imported, as were agricultural products. Still the bulk of the exports are land-intensive goods relative to the import bundle. More disaggregated indices would be desirable.

Finally, Birnberg and Resnick present evidence on the terms of trade for the Philippines (see Table 2). There appears to have been an appreciation over the 1902 through 1925 period, sharp decline from 1925 through 1938, and decline for the overall period.

The sample of trends in the terms of trade presented in Table 2 points to an appreciation over the period from the mid-nineteenth century until World War I. Therefore one would expect that over the period there would have been increased production and specialization in export activities and an appreciation in real land rents. Each of the predictions will be examined.

Data on the trends in rice exports and cotton goods imports for Thailand and Burma are presented in Table 3. Indeed rice exports appear to have increased, especially in periods during which the terms of trade were increasingly favorable. Similarly there was a rapid expansion of cotton goods imports (the leading import in each of the countries). While rice export data are only an indirect indicator of paddy production trends, there is evidence that production responded to the price incentives reflected in the terms of trade. The conclusion is corroborated by the accounts and measures (largely for the twentieth century period) of the rapid increases in the area under paddy cultivation in both Burma and Thailand.⁵

Thus it appears that production trends followed the terms of trade. But that happened to real land rents, measured in rice or manufactured goods? In Table 4 several crude measures of real land rent trends are presented. The use of the price of land rather than actual rent assumes that the trend in land rents is reflected in the trend in land prices.⁶ While data on actual land rents would be preferable, long time series on rents are generally not available. For purposes of fleshing out the broad trends, however, the real land price series should be more than adequate.

Table 3: Growth of Agricultural Exports and Manufactured Goods Imports

	Quantity of rice exports	Value of rice exports	Value of cotton goods imports	Notes and Sources
<u>Thailand:</u>				
1864 to 1910	4.43	5.64	4.36	Feeny (1982, pp. 127-130)
1910 to 1925	1.78	4.14	6.10	
1925 to 1940	-0.85	-3.80	-3.19	
1864 to 1940	2.84	3.41	3.16	
<u>Burma:</u>				
			Quantity of cotton piece goods imported	
1870-75 to 1905-10	3.21	5.95		Aye Hlaing (1964, pp. 95, 105 and 110)
1876-80 to 1911-15			3.51	
1905-10 to 1920-25	1.06	3.88		
1911-15 to 1921-25			-2.95	
1920-25 to 1935-40	1.21	-3.29		
1921-25 to 1936-40			2.72	
1870-75 to 1935-40	2.25	3.27		
1876-80 to 1936-40			2.21	

The results presented in Table 4 conform to our predictions. When the terms of trade appreciated, real land prices appreciated, when the terms of trade declined, so did real land rents. Thus it appears to be reasonable to use the terms of trade as a proxy for the trend in real land rents when direct evidence is unavailable. This conclusion is further corroborated by the widespread reports of an appreciation of land prices over the mid-nineteenth to early twentieth century period.

Table 4: Rate of Change in Real Land Prices in Percent per Year

Country	Land Price Deflated by Price of Rice	Land Price Deflated by Price of Manufactured Goods	Notes and Sources
<u>Thailand:</u>			
1915 to 1925	-0.31	-1.09 or -0.14	Deflated by price of white or grey shirting respectively; Feeny (1982, pp. 20 and 33)
1925 to 1940	2.58	4.17 or 4.55	
1915 to 1940	1.41	2.03 or 2.65	
<u>Burma:</u>			
1889-90 to 1920-21	3.25	2.52	Deflated by domestic paddy price; deflated by unit value of consumer goods imports; Aye Hlaing (1964, pp. 128 and 147-48)

Section III: Case Studies

Given the generally favorable terms of trade movements over the last half of the nineteenth century and given the concomitant appreciation in real land rents and the expansion of the production of land-intensive agricultural products, the simple supply and demand model of institutional change predicts that there would be an increase in the demand for more elaborate and secure systems of property rights in land and a greater utilization of the institutional arrangements of that system. The evidence on the trends in the demand for property rights in land and the responses of the central authorities to those demands will now be examined. In the process a number of rather sweeping generalizations will be made, tending to blur the diversity of experience among regions and over time within each country. It should be understood that as the modern transportation system spread, the relative price of agricultural products rose in previously less commercialized areas and the whole process was repeated.

The strategy here is to describe the "traditional" indigenous system of property rights in land that existed in the early nineteenth century period and then to trace the major changes that occurred over time. The trends in Thailand, Burma, India, and the Philippines will be briefly sketched.

Thailand

The early nineteenth century system of property rights in land in Thailand was essentially one of usufruct rights. As long as the cultivator continued to use the land he (or she) had the right to

exclude others from using it, sell it, pass it on to his heirs, or use it as collateral to obtain a loan. The maintenance of the rights depended on the payment of land taxes. If the land was abandoned for more than three consecutive years, rights were forfeited.

Over the first half of the nineteenth century there was a gradual increase in the degree of commercialization of the Thai economy and increasing ties to regional and world markets.⁷ During the fourth reign (1851-1868) land rights were made more formal through the issuance of title deeds based on paddy land tax receipts. In 1867-68 titles for paddy land for which the tax was based on the area harvested were introduced. In 1882-1883 for some major Central Plain rice producing provinces titles based on the area owned rather than harvested were issued for the first time. The titles could be obtained by presenting to officials the tax receipts for the previous ten years. Documents were also available to give cultivators of newly cleared areas the rights to exclude others while developing the land for three years at which time rights were forfeited if the area had not been developed.

The appreciation of land prices continued and deficiencies in the property rights system became apparent. Frequent land disputes occurred (the expected gain from obtaining ownership rose and justified the transaction cost of disputation). During the 1880s the government responded by issuing standard forms and prescribing standardized procedures. The lack of a central place for land records meant, however, that more than one set of titles could be issued for the same piece of land and disputes became increasingly frequent.

The response was the passage of a more comprehensive land law

in 1892. It created nine types of land, including land held by religious institutions, royal land, residential land, agricultural land, land used for mining, forest and jungle land, and waterway land. The agricultural land category included three types of orchards and gardens, upland land, two types of paddy land, and garden lands. Provisions were made for transferable title deeds which could be used as collateral and there were documents and procedures for the registration of such transactions. Homesteading provisions were included as well as procedures for converting old documents to the newly created ones. The 1892 land law replaced the earlier rather ad hoc system with a more comprehensive one.

However, major deficiencies in the legislation and its administration remained. The lack of central land title offices and precise descriptions of the boundaries of the land in question meant that disputes over ownership could not be easily resolved and land could not be unambiguously identified. These problems became very conspicuous in the Rangsit area (to the northeast of Bangkok, a major commercial rice-exporting region in the Central Plain) during the boom of the 1890s when a number of very bitter land disputes arose. As a result the Royal Survey Department was diverted from its work on mapping and in 1896 began cadastral surveys, initially concentrating on the Rangsit area but later expanding into most of the major rice-exporting areas in the Central Plain.

In 1901 the Torrens system of land titling with central provincial land record offices and cadastral surveys was formally adopted. From 1901 to 1909 eleven land record offices were established.

By 1909-10 593,069 title deeds had been issued in the Central Plain (637,001 for the whole kingdom) and the area surveyed was 1,605,000 ha (1,671,000 ha for the whole kingdom). The work was carried out by European experts (mainly on loan from the Indian Civil Service) who in addition to conducting the survey work also provided training to the Thai staff. After 1909 the Royal Survey Department was transferred back to its original mapping duties and the rate of increase in the surveyed area plunged. The number of title deeds on file (primarily in the Central Plain) did, however, continue to increase; the rate of increase of title deeds on file for the whole kingdom was 4.69 percent per year over the 1905-06 to 1941 period.

The system was incompletely realized. A lack of diligent record keeping and administration reduced the benefits. Not all farmers obtained or were able to obtain the proper documents for land which they held. Areas outside the Central Plain were especially incompletely served by cadastral surveys.

After 1909 there were a number of minor changes to the system implemented during the pre-World War II period. Administrative procedures were changed and fees were instituted on land transfers. Restrictions were placed on the sale of public lands in 1916 and 1919 with the intent of curbing land speculation. Finally, in 1938-39 a new schedule of agricultural land taxes was established.

A more major change was made in 1936 when the 1901 law was amended to allow for the registration of claims on unsurveyed lands. While traditionally claims on apparently unclaimed lands were registered with the village headman, the 1936 law required registration at the Land

Department. The 1936 law represented a compromise between the elaborate European cadastral survey system of the 1901 law and the incomplete implementation of that system. The compromise was extended in 1954 when a new comprehensive land law was enacted. It provides for a variety of land documents that give different levels of security of land rights. Occupation certificates are issued by village headman and commune leaders and allow the holder to temporarily exclude others from using land as long as it is being developed. Reserve licences issued by district officers also give rights for temporary occupation subject to utilization. Exploitation testimonials (again issued by district officers) confirm that utilization of previously reserved land has taken place and confer rights that are transferable and inheritable. Finally full title deeds issued by cadastral survey and providing for the recording of land transactions are issued by officials in the provincial capital. The 1954 code is the basis of the current system of land rights in Thailand. The major changes in the Thai property rights system are summarized in Table 5.

Even within the parameters of the compromise embodied in the 1954 code, the system is still incomplete. Ingram reports estimates for the late 1960s of the area covered by three types of land documents. Only 12 percent of the total area had full title deeds, 4 percent had reserve licenses, 18 percent had exploitation testimonials, and 65 percent had no formal legal documentation at all.⁸

Disputes over conflicting claims to the same piece of land played an important role in causing the government to develop more systematic and elaborate systems of land rights in Thailand. In the

Table 5: Major Change in the Thai System of Property Rights
in Land, 1850-1954

Period	Institutional Change
Early Nineteenth Century	Usufruct Rights, existing system
1851-1868	Issue title deeds based on the area harvested
1882-1883	Issue title deeds based on the area owned
1880s	Prescribe standardized forms and procedures in an effort to reduce land disputes
1892	Enact a comprehensive land law with provision for title deeds and use of land as collateral
1901	Institute a Torrens system of land registration and conduct cadastral surveys
1936	Amendment to 1901 law allowing for ownership based on registration with the Land Department of claims on unsurveyed lands
1954	Enact a new land law providing for a variety of documents and levels of security of land rights

Source: Feeny (1982).

early twentieth century period differential access to the formal system and the ability of powerful government officials to manipulate the land records system allowed elites to obtain ownership to land which under the traditional system would have been controlled by homesteading cultivators. Today intra-familial manipulation of the system has allowed some heirs to gain at the expense of others.⁹ The traditional system of equal inheritance by all surviving children is frequently subverted by more literate and knowledgeable siblings, resulting in a clash between the use of the "modern" system and traditional inheritance practices. The central government has been increasingly involved in the adjudication of local disputes which in former times would have been settled by local officials.

In the Thai case the appreciation of land prices led to an increase in the demand for a more systematic set of procedures for defining property rights in land. The government in fact responded to the demands and gradually a new system of property rights evolved. What factors contributed to the willingness and capability of the government to supply the institutional change?

In part the new system evolved as a practical solution to the land disputes that became so common as land became more valuable. The cost of supplying a new set of institutions was lowered by the availability of European systems and officials -- by the existence of a stock of knowledge and practice on the organization of property rights in land. Over time that system was increasingly indigenized. While it has never been vigorously exploited in Thailand, a better cadastral system also gave the government an enhanced land tax revenue base.

Finally, private and social interests coincided. Members of the elite, government officials, participated in the land boom and benefited from the more secure system of property rights in land. They had an incentive to supply the new system because they too would share in the gains. By separating land ownership from land use, members of the elite could become non-cultivating landowners with secure title and thus capture the capital gains. Under the traditional usufruct system this was not possible.

During the 1850 to 1912 period the Thai government made another fundamental change in its property rights systems. It gradually dismantled a system of property rights in man (corvee and debt slavery). The change was facilitated by a significant decline in real wages over the period.¹⁰ The development of more efficient wage-labor markets and immigration of Chinese workers made corvee a less attractive form of taxation. With the general rise in commercialization, money taxes could be substituted for taxes in kind and in labor services. The rise of property rights in land created a new asset for use as collateral. The motivations of the monarch in abolishing slavery included humanitarian goals and the desire to be seen as progressive in an international setting in which slavery was increasingly condemned. Domestic political factors were important as well. By gradually abolishing slavery and corvee, the king could remove the control of labor services from powerful opposition noble families and thus consolidate his position with respect to the nobles. Thus both economic (decline in real wages, rise in factor and product markets) and political factors (both domestic and international) underwrote a sweeping transformation of the Thai

property rights system from one of property rights in man to one of property rights in land.

Burma

The property rights systems in land and man in pre-colonial Burma were not unlike the systems in Thailand.¹¹ There were systems of property rights in man in the forms of corvee and debt slavery. Traditional property rights in land were largely usufruct rights, rights were retained only through use, although technically land had to have been abandoned for 12 years before it was available for the use of others. Land could often be sold, mortgaged, or inherited, although in some districts land could only be sold to someone from the same district. There was a significant amount of regional variation in the property rights system. As in the Thai case all land belonged to the king but the populace was allowed to clear land and retain it and obtain title documents. An additional category of land was the absolute property of the king and was often allocated for crown service or to local officials. Vacant lands were available for clearing and usufruct rights. Finally, glebe land rights did not depend on continued occupation.

The British were perplexed by the system of shifting cultivation practiced by Burman farmers and were opposed to the frequent abandonment of fields. In fact Furnival reports that the traditional usufruct system under which a cultivator could only exclude others from using land while it was in fact in use, in interaction with the fallow system of shifting cultivation, did sometimes result in insufficient

fallow periods. As a result of British opposition to the abandonment of fields and in a desire to create a peasant proprietary system, special homesteading and fallow tax rates were built into the land rights and revenue system. British motivation included the desire to build a land tax revenue base to support government operations. Policy can also be seen as a reaction to previous experience in India in that officials wanted to create a class of peasant cultivators. The overriding basis of land policy was a belief in the efficiency of private property rights and a laissez-faire ideology.

Newly cleared land was initially exempt from land taxes. Low tax rates applied to land that was registered as being fallow. On unregistered fallow land higher tax rates were charged. After occupying land for 12 years and paying the land taxes, title deeds were issued and land could then be used as collateral.

The use of the British system of property rights in land increased significantly during the rice export boom of the late nineteenth century. From the 1870s on farmers decided with increasing frequency to pay taxes on fallowed land in order to retain their rights. As land was used for collateral, land alienation became increasingly frequent over the 1908-30 period and rapidly increased during the depression of the 1930s. In the late 1930s and early 1940s, the colonial government responded with tenancy legislation, thus restricting the property rights in land which they had earlier created.

In Burma the ideology of the colonial power interacted with the indigenous systems of property rights and farming to create a new system with alienable rights in land but also with provisions for

homesteading and fallow periods. The motivations included the creation of a society of peasant cultivator-owners who would have the incentive to cultivate efficiently. The desire to avoid concentration of ownership was somewhat thwarted by the 1930s trend in land alienation.

As in the Thai case, the increase in land prices did create demands for more secure property rights in land and greater utilization of that system. Because the provision and operation of that system was in the ideological and economic interests of the colonial government, changes in the property rights system and the administrative system with which to operate it were forthcoming. The institutional arrangements designed for Burma also reflected compromises that explicitly took into account the traditional fallow practices and traditional rights to clearing "waste" land.

India

Any generalization about the system of property rights in land in India and the trends in that system are quite hazardous and will probably fail to do justice to the regional, ethnic, and temporal diversities found there. With that major caveat in mind, the broad trends will, nonetheless, be examined.¹²

The traditional system that the British encountered was one of inalienable hereditary resident cultivator rights. In Bengal a class of revenue collectors known as zamindars acted as intermediaries between the cultivators and the rulers. In Oudh the talqudars acted as intermediaries above the village level with land revenue collection rights.

British law and practice varied considerably within India and over time. In general, however, the British sought to make land private alienable property with individual property rights being assigned to the person responsible for paying the land tax. Like Indian governments before them, the British East India Company and the colonial government relied heavily on land tax revenues. The development of property rights in land was thus inextricably linked to revenue policy. As the British administrative "frontier" moved within India for over 100 years, experience in "older" areas affected practice in the newly governed regions. Thus Madras experience affected Bombay, Uttar Pradesh experience impacted upon the Punjab, and Bengal practice was transferred to Banares. Local conditions also affected the system adopted and in particular its actual practice. In addition, the degree to which the colonial government thought that it was expedient to co-opt the loyalty of the indigenous elite in governing the country often profoundly affected land settlements. Thus the post-Mutiny period witnessed a number of policy reversals.

Finally, an additional important variable in the determination of the land system was the prevailing ideology of the responsible British officials in London and in India. The rise and decline of utilitarian thought was reflected in British policy in India.

As a sweeping generalization, two basic paradigms of British practice may be distinguished. In the zamindar system land rights were given to the tax collectors as a landed gentry who then became the landlords to the cultivators. In the ryotwari system, land rights were instead invested in the peasant cultivators themselves.

The zamindar system was first created by Lord Cornwallis in Bengal in 1793 and was congruent with his Whig belief in the superiority of government by a landed gentry who would in turn supervise the cultivators to ensure efficient practice. The relatively low transaction cost of this strategy made it quite attractive. Rather than having to determine the ownership of each piece of land and keep track of each individual land transaction, large areas could be administered by dealing with a single landowner. The political advantages included the enhanced loyalty of the traditional elite. Cornwallis encountered a very entrenched class of zamindars in Bengal who had thwarted earlier attempts at direct settlement with the cultivators. It is easy to understand his choice of settlements.

The zamindar system was first used in Bengal. An important component of the Bengal zamindar settlement, the distribution of land rights to zamindar revenue collectors as landlords, was copied in parts of Madras and in Uttar Pradesh. It was later extended to a number of areas after the 1857 Mutiny in an effort to restore order and loyalty.

The ryotwari system was gradually developed in Madras in the 1790s by Munro and copied in the Bombay Presidency in the 1830s. It arose in part because there was no existing class of local zamindars. Its heavy demands on knowledge of the area and the ability to conduct detailed settlement surveys were met by the availability of military officers like Munro who had extensive experience in Madras and a knowledge of the indigenous language. In addition the land revenue system in Madras was designed to allow the cultivator to designate (at the beginning of the year) the fields for which he would be responsible

for the payment of land taxes, an attractive feature in a region subject to variable rainfall.

While the Northwest was originally settled through the zamindar system, the ryotwari system was introduced in the 1843-53 period of utilitarian reforms. After the Mutiny, the zamindar system was reinstated in Oudh and the Punjab. In addition to political expediency, the policy reversal was also the result of a growing dissatisfaction on the part of British officials with the imposition of alien (British) concepts of property and their growing appreciation and knowledge of indigenous institutions and concepts of property.

The ryotwari system required detailed cadastral surveys and a much more complex administrative machinery. Ricardian rent theory affected the thinking of Mill and many other British officials in the early nineteenth century. In the Bombay Presidency the implementation of that thinking was especially vigorous.¹³ A complex cadastral survey was begun in 1835. It classified land into nine soil quality categories and also based its relative land quality rankings on climate, market access, distance to village, village population, and likely availability of manure. While the detailed land and title surveys gave relative rent rankings, the government still needed a way of determining the absolute rent. Officials decided to use trial and error. If taxes were set above the level of rent, land abandonment and declines in cultivation would follow. If taxes were set below the rents, cultivation would expand. By examining the revenue history of an area, the absolute level of taxes needed to capture the Ricardian rents for the government could be determined. Technically the land belonged to the government and the

cultivators paid taxes as rent on the land. Officials believed that efficiency would be enhanced by assessing rents that were approximately equal to the Ricardian rent.

McAlpin (1984) argues that the agricultural sector in the Bombay Presidency (or at least those areas that have been carefully studied) performed well. Capital accumulated, cultivation increased, and land prices rose. Clear titles were issued and tenure was made more secure. Taxes were rationalized and lowered in the process. How much of the success was due to the adherence to Ricardian rent theory and how much was due to the favorable agricultural prices experienced is, however, difficult to determine.

The introduction of secure property rights in land in India created new credit markets. Over the nineteenth century the economy experienced the spread of "law and order", a marked reduction in transport costs, a rise in commercial agriculture, and a rise in land prices. In some areas land taxes were set at high levels and zamindars fell into arrears, often losing land to moneylender and commercial castes. Land alienation often significantly altered the distribution of land holdings that had originally been envisaged by the British.

Colonial officials also increasingly became concerned over tenant rights. Beginning in 1886 a series of laws to grant greater security to tenants were passed. Many of these provided for hereditary tenant rights after twelve continuous years of occupation. Naturally landlords could easily circumvent the restrictions by "rotating" their tenants.

In India we can see that political expediency, utilitarian and

Whig ideologies, indigenous systems, and the practical considerations of transaction cost in creating and administering a land rights-revenue system all interacted to produce a number of distinct systems which then had their own individual evolutions. Creating alienable land also had a quite significant impact on the Indian society as well as the operation of its agricultural markets.

Philippines¹⁴

In pre-Spanish times there was traditional communal ownership of land and a fairly elaborate system of property rights in man. Individuals had usufruct rights in land. There were several categories of debt slavery under which slaves owed their owners fixed shares of their crop output.

The Spanish viewed debt slavery as the product of anti-social usury and moved to abolish it. They also introduced private individual property rights in land and alienability. Title to the formerly communal lands was generally issued to the indigenous chief. In addition, some royal land was donated to religious estates and some was made available for homesteading under the provision that unless it was kept in use, the title would revert to the crown. Over time the alienability of land often resulted in mestizo moneylenders accumulating control of land through loan defaults.

While in the technical sense land was the property of the state until the late nineteenth century, in practice private ownership, sale, lease, and inheritance prevailed. With the sugar export boom of

the nineteenth century and rise in land values which accompanied agricultural commercialization, land disputes became more common. In response the colonial government began issuing clear land titles in 1885. Confusion, however, remained.

The next major step came with the new colonial government of the United States. In response to the confusion in the documentation of land rights, a Cadastral Act was passed in 1913, followed by a survey which took six years to complete. Provisions were made for the homesteading of vacant lands and the mechanism was frequently used during the sugar export booms. The desire to avoid land taxes did, however, lead to a failure to acquire formal title to occupied lands. Like the systems in Thailand and Burma, literate elites were often able to manipulate the formal system to acquire legal title to lands that had been cleared by others, thus contributing to a more unequal distribution of land.

Section IV: Conclusions

Several inductive conclusions follow from the brief discussion of the trends in property rights systems. First, the rising value of land induced increased interest in acquiring land and utilizing the system of property rights in land. The increased interest in acquiring land led to disputes over ownership that often exposed weaknesses in the prevailing system of identifying and administering land rights. A number of attempts at administrative solutions typically followed, often finally resulting in the institution of a full cadastral survey.

In this context it is useful to distinguish between the ef-

fects of rising land values on land already under cultivation and the effects of rising land values in inducing an expansion in the area under cultivation. In the former case traditional or existing institutions to define property rights in land came under less pressure for change. In settled communities ownership boundaries tended to be well known and thus there was less uncertainty about how land disputes would be adjudicated. De facto rights were often enforceable even in the absence de jure documents. Under these circumstances the major advantage of obtaining formal documentation of land rights was the improved access to credit that it afforded.

On the frontier where settlements were new, boundaries were not well known to all and there was great uncertainty about the outcome of land disputes. In a sense the formal procedures and documents of the government partly substituted for the local knowledge and enforcement mechanisms that existed within the settled communities. Thus on the frontier the demand for more precise and secure property rights in land tended to be greater. New institutional arrangements were in fact frequently provided in response to the demand articulated through land disputes.

Second, differential access to the increasingly formal and legalistic system provided an important avenue through which unequal patterns of land ownership could emerge. Elites were often very successful in manipulating land records in their favor. This appears to have happened in Burma, the Philippines, Cochin China, and the Rangsit area in central Thailand.¹⁵ Inequality was also created (although frequently eroded through alienation) by the initial distribution of

land to elite groups in the Philippines, Bengal, and Northwest India. On the other hand, alienation appears to have promoted land concentration on Burma.

Third, in many cases a major motivating factor of the government in the creation and administration of the land rights system was the desire to collect land-tax revenues. The taxpayer was defined as the owner, thus often converting an indigenous political intermediary of the traditional system into a full owner under the new system.

Fourth, in virtually all cases the legal provisions "exceeded" administrative practice in the degree of sophistication and precision of the land rights. This occurred for two reasons. First, the transactions cost of establishing and operating the systems were considerable and much higher than enacting the enabling legislation. Cadastral surveys took years and even decades to complete and as we can see from the Thai evidence are often still incomplete. Second, colonial powers (and thus the stock of knowledge of institutions from which the Thais directly borrowed) came from different economic and institutional (as well as ecological) environments. Relative land scarcity and relatively high land values had often prevailed for centuries. In addition higher stocks of human capital made more administratively demanding systems of land rights feasible. Naturally there was a tendency to introduce something like the "home" system which was often overly sophisticated. Often explicit compromises were made (for homesteading for instance) in the legislation and additional compromises emerged in the implementation of the systems and subsequent revisions in the legislation. The 1954 Land Code in Thailand can be seen as an

example of such a compromise.

Finally in all the cases it appears that the rise in the terms of trade and growth of population were indeed associated with a rise in real land prices. That increase was in turn associated with an increase in the demand for more precise land rights and a greater utilization of the existing system to increase the security of land rights. A more secure system of land rights gradually evolved. Greater security typically came in two forms. First, there was reduced uncertainty about the outcome of the adjudication of landownership disputes. Second, owners had greater assurance that they would be able to retain long run rights in the land.

The evolution of the system of land rights was affected by political expediency, ideology and conventional wisdom, transaction cost, and the system that immediately preceded it. In short, both the supply of and demand for institutional change played an important role in the nineteenth and twentieth century development of property rights in land in Asia.

Section V: Implications for Future Research

The paper provides an interpretation of the comparative development of property rights in land in South and Southeast Asia during the nineteenth and twentieth centuries. The implications of the approach have, however, not been fully exploited. It is then useful to indicate the future research needed in order to construct a more complete interpretation.

First, the stock of qualitative and in particular quantitative evidence on the trends in property rights systems, relative product prices, and relative factor prices needs to be augmented. Quantitative measures of institutional change need to be created to facilitate crude hypothesis testing. Measures of the degree of utilization of the land rights system such as the percent of the area under cultivation that is titled are an example.

Second, a number of implications of the model need to be explored. For instance the demand induced model of institutional change is based on the premise that innovations in institutional arrangements are made in order to capture gains previously unobtainable. In the case of property rights in land those gains include the capital gains resulting from the appreciation in land rents, enhanced incentives to invest in land productivity-increasing improvements, and improved access to credit markets. From the point of view of the state, property rights in land provided a lucrative source of tax revenues as well as potential political benefits in the form of loyalty to the regime.

Evidence on the magnitude and trends in each of the gains should be sought. Greater precision and security of land rights should

enhance incentives for land development. Thus it would be important to examine evidence on rates of investment in land development and productivity differentials between areas with more and less secure land rights. Of course to the extent that land rights are first provided in more fertile and commercialized areas, there is a simultaneity problem complicating any inferences that may be drawn.

Similarly another benefit of more secure land rights is the ability to use land as collateral thus improving access to credit markets. Thus one should observe longer debt maturities and/or lower real interest rates resulting from land titling. (Once again there is a simultaneity problem.)

Finally, if the appreciation in real land rents followed the appreciation of the terms of trade and induced the development of more secure property rights in land, what happened when the terms of trade declined and why was a reversal in the property rights developments not observed? Several tentative answers suggest themselves. First, real land rents in fact depend on more than the terms of trade and in particular the downward pressure on land rents was in part blunted in many cases by technical changes which served to increase the productivity of land. Similarly irrigation development and falling transportation costs helped to offset the downward pressure on land rents that occurred when the terms of trade declined. Furthermore, institutional change is not instantaneous. It is subject to lags. Thus the periods of declining real land rents may not have been of sufficient duration to have induced major changes in the institutional arrangements. One should, however, still observe declines in the marginal

rate of utilization of the "sticky" institutional arrangements. In addition, each new institutional arrangement becomes part of the status quo with vested interests now often committed to its maintenance. Thus the incentives for parties who seek to reverse earlier institutional innovations need to be powerful. As a result, one might not expect a dismantling of the system of property rights in land during the periods of declining terms of trade and real land rents but instead to observe a period of quiescence.

In sum more work is needed in order to fully elaborate and test the induced model of institutional change against the nineteenth and twentieth century Asian experience. While the use of economic history as a laboratory for the testing of theory can be a powerful research tool, especially in the mainly non-experimental disciplines of the social sciences, it is also important to briefly apply the analysis to the contemporary world.

Many of the historical transformations described are still occurring today. Technical change in the forms of mechanization and of modern fertilizer-responsive varieties of rice are powerful forces contributing to the evolution of labor market institutions for the recruitment and supervision of harvesting labor in Indonesia and the Philippines. Hayami and Kikuchi (1981) describe the disequilibrium in traditional harvest labor institutions created by the higher yielding varieties. With the introduction of those varieties traditional harvest shares for harvest workers substantially exceeded real wages in the local economy. Mechanization of harvest operations, the hiring of extra-village harvest wage labor teams, or the innovation of new share-

harvest arrangements are the three primary responses to the disequilibrium, with the choice depending in large part upon the degree of village social cohesion. In the process the division of the gains from the introduction of the new varieties is being assigned.

Increasing population density and the spread of transportation and communication infrastructure are creating disputes over land ownership in many areas in the less developed world today. For instance in northern Thailand the spread of cultivation by ethnic Thai lowlanders up the slopes of the mountains is coming into conflict with the swidden cultivation practices of ethnic minority hill tribesmen. The situation is further complicated by the open access nature of the forests in Thailand.¹⁶ While in theory forest lands belong to the state with some provision for traditional use of forest products for home consumption, the state's property rights in increasingly scarce forest land cannot be adequately enforced. Because forest land which is brought under cultivation is not supposed to be converted into private property, farmers have few incentives to invest in land development and little security. When titles or other land registration documents are issued, the unequal access to Thai bureaucracy generally means that ethnic Thai are favored in the distribution of property rights in land. The general insecurity in land rights has meant, according to recent World Bank observers, that farmers have continued to use environmentally damaging extensive means of cultivation when all parties recognize that it would be in the long run interests of the farmers themselves, as well as the people downstream who suffer from increased flooding and siltation, if more intensive modes of cultivation were used. Property rights issues

lie at the heart of many open access and/or common property resource disputes in the Third World today. Innovations in institutional arrangements to ameliorate these market failure problems in the use of land, water, forest, and fisheries resources should therefore be a high priority on the political economy research agenda. The supply and demand model of induced institutional change outlined above is one approach.

NOTES

¹Seminal demand-induced models of institutional change include Hayami and Ruttan (1971), Davis and North (1971), and North and Thomas (1973).

²Works that explicitly or implicitly include the supply of institutional change include Ruttan (1977, 1978a, 1978b, 1978c, 1979, 1980, and 1981), Feeny (1976, 1978, 1982), Guttman (1978, 1980), Hayami and Kikuchi (1978, 1981), Kikuchi and Hayami (1978, 1980), North (1981), and Roumasset (1978).

³See North (1981).

⁴The general equilibrium model is developed in Hueckel (1972) and applied to the Thai case in Feeny (1976, 1982).

⁵For the Burmese case see Adas (1974) and Cheng Siok-Hua (1968); for the Thai case see Ingram (1971) and Feeny (1982).

⁶The assumption that the trend in real land rents is accurately approximated by the trend in real land prices assumes that there was no sharp decline in the real rate of interest. For the Thai case it appears to be a very reasonable assumption; see Feeny (1982).

⁷Trends in Thailand's international trade and in particular the Sino-Thai trade in the first half of the nineteenth century are described in Sarasin (1977); see also Ingram (1971). Developments in Thai property rights are described in Feeny (1982).

⁸(Ingram (1971, p. 266); see also Feeny (1982), Johnson (1969), Hooker (1975), Gisselquist (1976), Engel (1978), Kemp (1981), Yano (1968), and Chalermrath (1972).

⁹Engel (1978).

¹⁰Real wages in rice declined by 1.04 percent per year over the 1864 through 1912 period; for more on the trends in Thai human property rights, see Feeny (1982).

¹¹The discussion for Burma is based on Furnival (1909), Baden-Powell (1892), Trager and Koenig (1979), Adas (1974), and Andrus (1936). The focus here is on lower Burma.

¹²The discussion for India is based on Metcalf (1964, 1979), Stokes (1959), Cohn (1959, 1961), Kessinger (1974), Baden-Powell (1892), Rothermund (1978), and McAlpin (1984).

¹³See McAlpin (1984).

¹⁴The discussion for the Philippines is based on Phelan (1959) and Larkin (1972).

¹⁵For the Cochin China case see Popkin (1979); for the Thai case see Feeny (1982) and Thai National Archives, Sixth Reign, Ministry of Agriculture Documents 5/1 - 5/12.

¹⁶For more on land disputes and forest resource problems in northern Thailand see Kunstadter, Chapman, and Sabhasri (1978) and Feeny (1983).

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