DEFINING AND DIVIDING PROPERTY RIGHTS IN THE JAPANESE COMMONS*

Margaret A. McKean**
Department of Political Science
Duke University

The objective of this paper is to examine the process by which commons became common property, the nature of the "property" in common property, and the patterns of ownership of that property in Japan since the emergence of commons. I do this by looking at community rules to figure out how users themselves defined property rights and at legal decisions to figure out how much protection and recognition the larger society gave to these definitions. I will focus attention on the evolution of property rights in the commons during the the medieval period (1185-1600), the ownership and use patterns that prevailed during the Tokugawa period (1600-1867) when the commons came under pressure because of their importance, and then on the changes that resulted after assault on the commons during the Meiji period (1867-1912).

Two-thirds of Japan, or 25 million hectares, is forested or uncultivated meadow; all of Japan's cities, rural residential land, and cultivated fields today comprise only one third of the land. A very large portion of this uncultivated or forested land was managed as commons during the Tokugawa period, much of it owned by villages themselves for this purpose and the rest as an exercise of usufruct on other lands, granted by feudal lords and officials to villages in exchange for protection of those forests. Beginning in 1873 with the Meiji campaign to survey and register all land in Japan for purposes of taxation, the common access rights to a large quantity of these lands were either "lost" or sold, so only 2.5 million hectares is still held and used in common today.[1] In some ways, the changes that lasted centuries in the Japanese case mirror much more rapid and compressed developments now taking place in LDCs. They bear close examination, particularly because the Japanese have arrived at some sort of a modus vivendi between common property regimes and the institutions of modern capitalism. If the world's second largest economy and richest country can leave 10% of all of its uncultivated and forested land under common property management and can integrate this form of ownership into modern property law, then those who insist that common property is archaic or quaint or simply inconsistent with market capitalism need to take a close look at the Japanese experience.

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In much of the discussion of common property management elsewhere in the world, there appears to be tension between de jure and de facto notions of property and ownership, or between "formal" and "informal" institutions, or between "modern" and "traditional" institutions, with common property regimes being equated with de facto or informal or traditional customary patterns that are seen to be inconsistent with formal law and modern market capitalism. Those of us who study common property regimes see value and lessons for all in the rich variety among these regimes, but many of us sadly agree with the critics of these institutions that these regimes are indeed vulnerable and perhaps unlikely to survive much longer. Common property institutions in Japan have had their ups and some very serious downs too, but they seem to have gone through this cycle of rise and decline not once but perhaps twice, and to have reached an equilibrium today. Their history and survival, though rocky in the last century, makes the dichotomies above seem absurd in the Japanese case. Many Japanese leaders, as enamored of rapid industrialization and as uninterested in externalities or environmental issues as anyone before or since, have criticized common property for being "inefficient" or "backward," but common property institutions have nonetheless had legal protection since the 17th century or earlier, and they survived the spread of a cash economy. They are as formal and as legally "real" and in some ways as modern as many other things in Japan.

Emergence of the Cannons in Medieval Japan (1185-1600)

The story of the Japanese commons begins with their presumed formation in the medieval period (1185-1600, if we include Kamakura and Muromachi shogunates* as well as the unification of Japan under Nobunaga, Hideyoshi, and leyasu). The two most important developments for our purposes during the medieval period were (1) the development of a system of property rights (shiki and later kanishi) that allowed for splitting and trading of shares to different kinds of property rights, and (2) the emergence of the nucleated (clustered) self-governing village with secure claims to surrounding commons.

The early (645-900 or so) Japanese government appears to have had prematurely totalitarian ambitions, expecting to be able to declare itself the owner of all land, put peasants anywhere it wanted them on an agricultural grid of equal-sized square fields (even those that turned out to be potholes or ravines), order the peasants to build irrigation works

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* Shogun (great general) and shogunate (hereditary military government headed by the general's family, also bakufu in Japanese) have crept into the English language. The Kamakura or Minamoto shogunate (1185-1333) was based in Kamakura, the Muromachi or Ashikaga shogunate (1333-1567) was located in the Muromachi section of Kyoto, and the Tokugawa shogunate (1600-1867) was based in Edo, now Tokyo. James Clavell's novel Shogun concerned the early years of the Tokugawa shogunate, whose founder, Tokugawa leyasu, and his English visitor, Will Mams, were "Toranaga" and "John Blackthorne" respectively in the novel.

(not warranted by the abundance of land and the shortage of labor), tax the dickens out of them, and live well. The aristocracy's attempts to make the Kyoto-Nara area look like thousands of tic-tac-toe games, with one able-bodied adult per box feverishly growing irrigated rice for taxation, instead chased many peasants off into the hills to practice swidden farming, to grow rice without irrigation (lower yields but with much less effort), and to evade taxation.[2] Except for the Kyoto-Nara plain close to the capital, land was in many ways an open access resource in this early period.

This government of civilian aristocrats eventually learned that it had not gridded enough land to provide for its lavish ambitions, it lacked the draconian means of enforcement to keep peasants on this land, and it would have to award property rights in land to give people the incentive to develop new fields. New property rights went both to peasants and to nobles who demanded independent control of lands they developed in order to support their personal needs.[3] Thus emerged great independent estates (shôen, fully developed by the 11th century), free from both taxation and entry by the central government, and an unusual system of divisible property rights called shiki, later kajishi. Rather than being the conventional rights to land that we might imagine likely – e.g., the right to use or transfer the land – these were rights to income from the land. The central proprietor of an estate held all the rights to income (these were the honke shiki) produced by estate lands, and essentially paid the staff and even the senior peasants living and working on the states by divvying up his own rights and allocating shares to them. These shares, or shiki, rapidly became dissociated from the land itself and became tradable assets. After a century or two, rights-holders might well have bits of shiki to many non-contiguous lands in different estates in different provinces.

A government that lacks means of enforcement is an easy target for takeover by its hired enforcers. Thus after years of bloody and chaotic competition between rival military houses for control of the court, the winning Minamoto family established in 1185 a shogunate, the medieval system of dual symbiotic government by the civilian imperial court and the strongest military house. But the shogunates established only an ephemeral peace, and peasants continued to face civil disturbances along with new intrusions and exactions from shogunate officials who invaded the estates. At the same time, growing population densities and shrinking ratios of land to population increased the intensity of agricultural techniques. Cultivators became increasingly interested in forming nucleated (clustered) settlements – the first real villages in Japan – the better to defend themselves against marauders and the better to pool their labor for irrigation and transplantation of rice.

As land became somewhat scarce, peasants also discovered the need to exercise management, as opposed to indifferent non-management, over the uncultivated mountainsides from which they gathered fodder, fertilizer, fuel, construction timber, thatch, fiber for clothing, bamboo for household products, wild game, and sundry foods. Villages developed increasingly secure claims to particular commons, recognized by neighboring villages and by local officials of the shogunate, during the medieval period. This is entirely consistent with the theoretical argument that people create

property rights to resources when those resources become valuable enough to warrant enforcement of claims.[4] The shogunate quickly found it necessary to establish courts to deal with disputes among estate proprietors, shogunate officials on the estates, and the cultivators themselves. For example, in 1207 on Kunitomi estate in Wakasa province, the shogunal court determined that rights to mountain hemp – the chief material for their clothing – belonged to the peasants on the estate, not to its own shogunate representative who was trying to claim the hemp instead.[5] Rights to the commons eventually included not only the right to use the products of the commons (e.g, usufruct), but apparently also the right to sell and exchange the commons itself (e.g., land ownership*) .[6] In this way, medieval villages not only began the process of closing the commons and converting open access resources into common property, but also rearranged rights to these commons by swapping and selling commons amongst eachother in order for each to get a desirable assortment of different types of land in convenient locations.[7]

Gradually for many reasons, not the least of which was the desire to exert power over increasingly productive and valuable land, it became undesirable to hold scattered shiki and much more desirable to hold large portions of the shiki to a given piece of land, and to hold shiki to contiguous pieces of land. During the 14th and 15th centuries, the shiki system evolved into a system of myôshu kajishi, also rights to agricultural surplus, now often owned by rich peasants and not just by nobles and warriors.[8]

This system of rights to income had two important implications for common lands. First, the kajishi could be traded more freely than shiki and often ended up in the hands of cultivators or former peasants now involved in agricultural by-employments like brewing sake or money lending, who had a direct reason to invest more heavily in the intensification of agricultural technique. To make this intensification and increased yield possible, peasants turned more frequently to products from the uncultivated lands beyond the fields for fertilizer and other inputs. More systematic use of the commons increased the need to manage it well, define eligible users and uses, and exclude ineligible users and uses. Sound resource management required cooperation by all villagers, and became the impetus to solidary (and occasionally democratic!) self-government by village units. Thus the development of secure private property rights to arable lands simultaneously stimulated the use of commons, led to a richer and therefore more assertive peasantry organized into self-governing villages, and led to the assertion of village ownership of the commons.[9]

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* Japan specialists are reluctant to say that the notion of "ownership," meaning possession of a complete bundle of property rights including the right to alienate for cash, existed in Japan before 1867. I see no reason to limit the term to possession of complete bundles – the owner of a shiki in medieval Japan owned something as tangible and tradable as the owner of a share of ITT does today. It seems clear to me that all the necessary ingredients for "ownership" of assorted property rights did exist, and often in complete bundles anyway by the beginning of, and not just after, the Tokugawa period.

Second, the experience with shiki and kajishi familiarized the Japanese with the idea of breaking *up* the standard "bundle" of property rights in unusual ways and trading in the pieces. I have no evidence capable of demonstrating a causal connection here, but it seems obvious to me that this tradition made it easy, even natural, for Japanese peasants and rulers alike to conceive of dividing rights to land in more complex ways than physical property itself could be divided – the right to surface uses, the right to constrain those uses, the right to change those uses in some radical way, the right to sell, bequeath, or transfer the land – and also to conceive of sharing ownership (by owning shares!) of some of these rights. Interestingly, the parts of the system that changed the least over the medieval period were the rights of actual cultivators (jinushi shiki and saku shiki), who usually maintained their rights intact in spite of tremendous turnover in upper levels of shiki.[10] This survival of lower shiki may signify that tenant cultivators had rights that their landlords (who owned, after all, only the right to sell the land or more precisely the right to sell the right to income from the land) could not interfere with. Such an arrangement would slow down changes in land use and would be considered a drag on efficiency, which would seem undesirable in a country capable of tremendous unrealized material growth, but might be highly desirable in a country that is brushing up against environmental limits. I cannot help but think that this sytem of fragmented, interlocking, and shared property rights would have made valuable contributions to the process of creating legal legitimacy to complex rights in the commons in Japan.

The medieval period ended with the unification of Japan in the late 1500s, through civil wars fought amongst the several strongest daimyo* contending for national leadership. A vitally important feature of unification that concerns us here is the cadastral surveys of the 16th century. In contrast to the attempt in the 7th and 8th centuries to make the land conform to a lovely but unrealistic grid design on paper, these were an attempt to arrive at paper measurements and descriptions that actually conformed to the physical layout of fields on the land, descriptions that also took into account quality of the land and likely yields. As a result of the shiki and kajishi system of divisible property rights during the medieval period, the surveyors often found that the right to cultivate the land and the right to transfer the land were not held by the same person. The surveys abolished whatever remnants of shiki and kanishi that they found, along with distinctions among different classes of rights and cultivators.[11] The surveys simply vested both rights of use and cultivation and rights of transfer to any plot of land to its actual

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* *"Daimyo" has entered the English language according to most recent dictionaries. It means "great name," and refers first to the warrior chieftains who collected bands of vassals together in the 15th and 16th centuries (shugo daimyo and then sengoku daimyo) and competed for leadership, and after 1600 to the approximately 270 feudal lords who were awarded, by the Tokugawa shoguns, domains that each generated more than 10,000 koku of rice per year (one koku is 5.1 American bushels) and who in turn granted fiefs within their domains to their own vassals.

cultivator, and made the village the primary unit of assessment and tax collection, which included tax responsibility for uncultivated meadow and forest not owned by particular individuals within the village. We must not miss the enormous significance of these practices, which, for whatever motives, made the cadastral surveys into a nationwide land reform granting full rights in land to the tiller and granting full ownership of the commons to villages.

Ownership of the Commons in Tokugawa Japan (1600-1867)

The Pax Tokugawa gave the Japanese people a much-deserved rest from incessant warfare — the longest such period of peace known anywhere in the world, for that matter, if we don't count peasant rebellions later in the period. This was the heyday of the self-governing village, and the beginning of the rule by law, if not the rule of law, in Japan.[12] The Tokugawa shogunate, ostensibly a military dictatorship, withdrew the samurai from the land on most domains and forced them into castle towns where they had little choice but to become paper-pushing bureaucrats, civilians in all but name.[13] The removal of swaggering bullies from the countryside made cooperative and peaceful self-government by villages, not to mention lower tax payments, more than the ideal they had been struggling toward. Peace was also good for the economy, and the revised historiography of Tokugawa Japan indicates that most people busied themselves with production and commerce. Although the system was clearly dictatorial and autocratic — life was probably only a little bit less brutish, nasty, and short than before — the Tokugawa shogunate left the governing of domains to the daimyo, and both left the governing of rural life to villages. Higher levels of authority were interested principally in tax revenue and therefore also in protecting property rights by resolving disputes that people and communities could not take care of themselves.

The commons underwent two serious crises during the Tokugawa period, and in many places undoubtedly was mismanaged, but the idea of common property survived and the techniques for sound commons management evolved considerably in some villages. The first of these crises was serious deforestation, lasting from about 1570 to 1670, as daimyo built castle towns and great cities emerged (Edo, now Tokyo, went from a small fishing settlement to the world's largest city, with a population of one million, in just a century).[14] We know that deforestation occured both on common land and on daimyo land (the lord's forest). Observers of the time commented more often about the deforestation on common land, but no one has yet managed to add up the voluminous but scattered evidence from particular cases to see if the destruction was worse on common or daimyo forest.[15] It is certain that deforestation on common land occurred, but it is much more difficult to determine if environmental recovery on degraded commons took place more often after privatization to individuals or through concerted management efforts by villages acting collectively.[16] Nonetheless, Japan's forests recovered, and without the elimination of common forests. Indeed, daimyo enthusiasm for establishing new supplies of high-grade timber may have increased Japan's total forest cover after 1670 above what it had been

before deforestation, to the point where rural communities were beginning to worry that they were converting too much grassland to forest. To convince the daimyo to stop creating incentives for villages to afforest daimyo land and their own land, villagers would occasionally resort to arson on the lord's forest, which usually reminded the daimyo of his need for their cooperation.[17]

The second crisis faced by the Tokugawa commons was massive conversion to cultivated fields. In the first century of the Tokugawa period, the commons probably expanded somewhat as peasants got their commons back from now-defunct officials who had claimed forest and meadow as personal property earlier.[18] But this was only regaining lost ground. Thereafter, new cultivated fields were carved out of the commons at an astonishing rate: Hayami Akira believes that cultivated acreage in Tokugawa Japan doubled from 1600 to 1700 and trebled from 1600 to 1867, reaching a total of 4.4 million hectares (but recall that even today Japan still has 2.5 million hectares of commons).[19] This most frequently occured when villages parcelled their commons for individual use for long periods of time. Although these collective village decisions almost always included specific references to the temporary nature of the parcellization and the need to prevent the conversion of common property into individual property, conversion did take place if the villages decided later to allow it.[20] Given that Japan remained closed to foreign trade until after 1856 and was self-sufficient in resources, we have to conclude that the greatly altered ratio of common to arable land that resulted from the Tokugawa conversions was sustainable within the Japanese eco-system. This is perhaps a testimony to the extraordinary prudence of Japanese villagers about their commons, to have arrived at fairly well-defined common property rights and to have developed careful rules of restraint on the commons even though they were in fact well short of their environmental limits.

At the beginning of the Tokugawa period, cultivators owned their fields, and throughout the Tokugawa period villages or groups of villages owned the commons (as well as non-landed commons, such as irrigation networks, hot springs, and coastal fisheries). As far as I can determine, virtually all uncultivated wasteland had claimants or owners intent upon closing access to others – the only example I have encountered of an intentionally open access or unowned commons in the Tokugawa period was "land for discarding bodies of dead horses," which was open to all the local villages in this instance and therefore did not have to have firm boundaries.[21] Most domains had provisions for assigning an owner to "wasteland" that began to undergo use (usually the individual or the village who did the work, the rule of assignment that we usually see everywhere).[22]

Owning the commons consisted of owning not only the products of the commons, but also the right to decide how best to use the commons, and the right to transfer commons to private owners or other villages. The village also owned any investment in "improving" the commons – for example, a village or a multi-village irrigation network would own the sluices and pipes and waterwheels and dams involved, and would pay rent to the private landowners (almost certain to be beneficiaries of the irrigation network and therefore co-owners of the irrigation system too) whose lands the system

traversed. In that the commons required an investment in labor — to enforce use rules, to patrol for intruders and violators, to cut firebreaks for the annual burning of grasslands, or to engage in joint harvesting — the village also owned a piece of each household's labor as well. (Most villages forbade commuting this labor obligation with cash or hiring others to perform the work in one's stead.)

Each village was collectively responsible for paying the tax (to the holdier of the fief or domain) on its arable and non-arable lands. The land registers were public documents that recorded ownership of land, and villages used these as a rule of thumb to assign tax burdens to individual households, in normal circumstances asking families to pay tax in proportion to the assessed value of their arable lands. Similarly, the village paid a (much lower) tax on its common land, and was free to determine its own rules for assessing individual shares of that tax from member households. The land registers and tax records that demonstrated a history of having paid the tax on a piece of common land were important evidence in documenting a village's claim to common pasture and forest in disputes. Tokugawa legal records demonstrate clearly that common property benefitted from legal protection, that villages were jural persons entitled to take their grievances to court, and that the courts accorded this form of ownership and property the same weight that it did any other.[23]

The description above is a simple and tidy one, but reality included a few additional complications. First, villages could own usufruct rights on land owned by others (other villages, daimyo, wealthy individuals, shrines, and temples). After the daimyo discovered that their own rapacious demand for timber was deforesting their holdings, a practice emerged whereby a lord would award use rights in his forests to a village in exchange for that village functioning as forest guards watching for other intruders.[24] Shrines and temples made similar arrangements to protect their holdings. These negative policies may have stopped further deterioration, but only afforestation on a nationwide scale could bring the forests back. The daimyo thus developed the world's first scientific forestry effort aimed at sustainable yields, and the use rights granted to local villages now included participation in domain-initiated social forestry programs (also probably a first). That is, in exchange for planting and protecting tree seedlings for 30 to 100 (1) years, the planter-protectors — or their heirs! — would receive a share, usually two-thirds, of the profits earned after harvest.[25] In this way, a village with guard status came to own permanent use rights in forests on domain or other large expanses of private land, and a village (or for that matter a single individual) with an ownership share in particular trees planted on land owned by others essentially owned temporary partial use of a forest.

Second, in most domains the daimyo claimed ownership of particular trees (cypress, cedar, cyptomeria, and several other valuable species), no matter what land they happened to grow on.[26] Thus a village could own its commons and almost everything that could be removed from it, but not certain trees. The daimyo's agents might well come along and mark these trees, and watch timber markets to see if such trees appeared for sale without their permission. But as in the situation described above where daimyo had to

grant rights to villagers in order to win their cooperation in protecting other daimyo resources, the daimyo would often grant permission to villagers to cut such trees for a small fee, in effect acknowledging the need to pay someone to protect the tree to maturity and then to engage in the labor of cutting it and transporting it to market.[27] Thus just as the daimyo's ownership of his own forests could become attenuated by a village's ownership of use rights in the forest, so a daimyo's claim to own particularly valuable trees on others' land could be attenuated by the daimyo's need for villagers' help in protecting and ,then cutting those trees.

Third, many expanses of common land were owned not by one village but by several. This may have been an artifact of the multi-village leagues that emerged in the 16th century – the villages in such a league would sometimes make formal agreements with eachother about the boundaries and use of shared commons[28] – but it may also have resulted from ecological or political difficulties that would result from trying to divide some commons into smaller pieces. The disputes over common land that most frequently reached Tokugawa courts concerned disputes between villages. Some of these clearly involved honest disagreements: a stream that marked the boundary between two commonses changed course slowly over the years; the tall pines that marked a boundary fell down and got confused with another group of trees; a village stopped using a distant part of its commons and literally forgot for years that it was there until another village began to use it; villages began to use different place-names and became unable to match their customary names with those recorded on original documents. Other disputes involved brazen aggrandizement by one village against another: removing and reburying boundary stones, planting a new line of trees in the hope that 20 years later it would look like a convincing boundary, just lying and hoping the courts could find no independent disconfirmation of one's fabrication. Boundary problems – except on mountain ridges, which tended to stay put – were always frequent prior to advent of modern surveying equipment.[29] There was an understandable trend during the period for multi-village commons to be divided, by mutual agreement or by the courts, into single-village commons to eliminate such controversies.[30]

Finally, a village with abundant commons could decide to grant access and use rights, on terms of its choosing (for a fee or not, for a limited term or not, for particular products or all, via certain entry roads or not), to other villages in more desperate straits. For example, Shimmaki village in Kazusa province granted temporary access to Osakabe village to enter its commons for a fee and subject to limits on use: a maximum of 60 loads of grass to be cut during a two-month period during the summer at the rate of one horseload per day, and three days' entry to collect firewood to be collected by a maximum of 43 horses, according to a 1667 arrangement that granted Osakabe precisely 43 horse-entry tickets for this purpose. Shimmaki filed suit against Osakabe a century later for ignoring the limitations on use. Osakabe argued feebly in its defense that Shimmaki was misremembering the 1667 document, now burnt, but the 1774 court found the publicly deposited copy of the 1667 document and fined Osakabe accordingly.[31] Granting access to other villages was a way of making temporary additional gains (either in good will one hoped would be remembered and reciprocated

later or in plain cash) from a large cannons that the village did not currently need full use of, without selling away the opportunity to make fuller use of it later.

Since the village was a corporate owner of its common property rights, how the village defined its members was a terribly important issue. It is almost certain that from the very beginning, the membership unit was the household, represented by whoever was recorded as the household head (always male), rather than the individual, since all economic accounting had been done in household units since the institution of household registers (koseki) in the 7th century.[32] In the 16th century when self-governing villages emerged, village documents and contracts began to be signed by all cultivators (little as well as big, those without surnames or seals as well as those with them), who were clearly acquiring citizenship rights in the village. With the cadastral surveys of the late 16th century, all of these households became owner-cultivators, possessing both freehold or fee-simple ownership of their arable land (except perhaps for the lord's confounded trees), and a share of the village commons.

The Tokugawa shogunate and the domains tried to freeze owner-cultivators in place and prevent tenancy by forbidding all sales or arable land in perpetuity, but there were simple routes around this provision in a society that also protected the property rights of moneylenders. A prospective seller would simply offer his land as collateral and "borrow" money for a fixed term from a buyer, and when the seller/borrower failed to repay the loan the buyer/creditor acquired the land both in substance and in the tax registers. Conversely, of course, land-hungry buyers would seek out vulnerable farmers who needed quick cash in hopes of foreclosing on them. In some domains, the seller/borrower was allowed to change his mind, for a period of years or perhaps without limit, and could have his land back at any time he came up with the loan amount.[33] Thus trade in arable land, concentration of landholdings, and tenancy and destitution among cultivators did occur during the Tokugawa period.

The most common pattern in Tokugawa Japan was for village citizenship to be awarded to the farmers who owned arable land and paid tax on it to the domain (the honbyakusho. descendants of those who won both cultivation rights and landowning rights in the cadastral surveys). At the beginning of the Tokugawa period this rule, applied to fairly egalitarian villages of owner-cultivators, had democratic results. But as concentration of land, the emergence of tenancy, and migration between villages took place, this rule would begin to exclude the unfortunate. A village that followed this rule quite strictly would exclude from citizenship and from entitlement to the commons all members of headless households (households without an adult male), non-farming households, branch (bunke) households that had not been given rights independent of their main house (honke), recent arrivals, vagrants and wanderers, low-caste persons,[34] and perhaps even tenant farmers (kosakunin. those who had cultivation rights and tenants but no longer the attached landowning rights).

This might sound very exclusive, even cruel, but one must remember that there was actually some flow between categories. Households were headless

only temporarily sometimes, branch households could acquire legal independence after demonstrating their viability, recent arrivals who began paying taxes could eventually acquire status as regular residents (thus taking the place of extinct or departed households), and there was enough trade in land so that some landowners and tenants exchanged places (and many farmers were both at once). Some villages coped with the flux in these categories by allowing tenant households eligibility in the commons too. After all, large numbers of village residents ineligible to use the commons could pose quite a problem for commons management, and eligible users might have preferred to extend some rights to them rather than cope with sabotage and mutiny.[35] Legally, the jural person that owned the commons was the village itself, but since the village was free to define its membership by its own rules, and could exclude some persons who lived in the village from citizenship and from the commons, it might be more accurate to say that the common property user group (iriai shûdan) owned the commons. (As we will see, this distinction would become legally important after 1867.)

Moreover, headless households, impoverished tenant households, and other families that might otherwise lose their rights to the commons might actually thereby win especially privileged access to the commons instead! Villages in the Tokugawa period were collectively responsible for paying their assessed tax to the domain, and to collect that sum from their members by whatever means they liked. It was therefore in the villages' interest (and in the richest families' interest) to make sure plenty of households had adequate surplus from which to pay taxes. We have documented instances in which villages used their commons as a welfare insurance scheme to help households that had become too poor to pay their proper share of taxes.[36] The village (meaning all of the other taxpaying households) would take on the tax burden of the defaulters – who presumably had no substantial land or other assets within the village by this point – and allow them to relocate to the commons itself. There they would be allowed to build a hut to live in, reclaim enough land for a few upland fields, plant and harvest them for a few years on a tax-free and rent-free basis, draw their necessary inputs of fertilizer and such from the commons, and get a chance to regain solvency. Instead of the occasional access to the commons allowed most villagers, they were actually allowed to live entirely off of the commons for several years! With luck and time and this kind of generosity from the village, they would be able to return to the village settlement later, live in a proper house, rent desirable cropland again, pay taxes, and acquire whatever citizenship rights, including access to the commons, the village awarded households. The reclaimed fields in the commons would be allowed to go fallow and return to meadow and woods.

In a village with this custom, the eligible users of the commons therefore included a regular class of users with full ownership and decision-making rights in the commons who mutually agreed to limit their access to the commons in order to sustain the productivity of the commons, and a special class of extremely unfortunate but therefore highly privileged users, who might receive unlimited access to the commons at the same time they lost decision-making privileges about the commons. Given that anyone in the first group might fall into the second ("there but for the grace of god go I," a very Rawlsian perspective), the first group was willing to make

provision for the second. And in this situation, all villagers, whether full citizens or not, owned a share of eligibility for welfare support from the commons.

The village, or more correctly the group of eligible users of the commons, determined what could be extracted from the commons and what limitations and rules applied. I have written about these kinds of rules in detail elsewhere,[37] but in brief the user group owned the products of the commons collectively and apportioned them as it saw fit. For a product in great demand, the users might enter the commons as a group (one or two persons per household) for a very brief period, remove the thatch or trees or fuelwood, and then divide it into equal-sized bundles, and randomly assign each user household a bundle. If the product in question was available in abundance, the user group might allow eligible individuals to enter the commons at will and take whatever amount they wanted for their individual use, though they would be expected to obey rules about the tools they used or how many horse-loads or person-loads they would be allowed to take. Thus the entitlement to products from the commons could range from an equal share per household, to different-sized shares based more on a household's ability to invest labor in the commons. (The existence of mixed arrangements is is one reason it is so difficult to figure out if the commons had a egalitarian or inegalitarian distributive. effect on communities.)

The user group also governed the extraction of products from the commons for cash sale. The relationship beteween the commons and the cash economy is problematic. Most scholars agree that the arrival of a cash economy threatens common property management, and there is no doubt that in Japan the conversion from subsistance agriculture to cash crop agriculture with tax payment commuted to cash went hand in hand with the decision in many villages to divide the commons into individually owned parcels. In fact, one might even argue that in the Japanese ecosystem (where rainfall is generous and fairly reliable and the climate moderate), the only services provided by the commons that could not be guaranteed after parcelling would be insurance against risk and watershed management (requiring healthy vegetative cover with some large proportion in forest). As farmers became richer, they might feel less need for the commons as insurance, and the continuing high price of wood (combined with very secure long-term individual property rights and the already-accomplished discovery of deforestation as an outcome worth avoiding) guaranteed sensible maintenance of forests on private land as well. As long as one is not a romantic idealist, one could actually argue that there were few reasons for Japanese villages to maintain their commons as common property in the face of the spreading cash economy. The fact that so many did is in part testimony to the soundness of the management routines they developed over time — meaning that privatization did not seem so advantageous by comparison — and to the flexibility with which they confronted the cash economy.

In most communities, products from the commons could not be appropriated by individuals and sold for cash, although they could be harvested collectively and sold for cash by the village itself. The commons was considered a source of supplementary inputs to agriculture as an

occupation that most villagers engaged in, and not as the basis for non-agricultural occupations. There have to have been cases where villagers entered the commons to harvest bamboo or exotic mushrooms or fibers or game for re-sale and became able to live entirely on such enterprises. There were probably also villages in less densely populated areas but with good access to transport (if these two traits are ever found together) with such extensive commons that this activity did not harm other eligible users. But normally, allowing extraction for sale by individuals could make those members of the user group indifferent to sustainable agricultural uses, indeed tempt them to ride free because they had no intention of remaining much longer in the user group. Thus most villages, at least those not on the point of social collapse, would have forbidden individual cash earnings from the commons.

A village that frowned on individual cash earnings from the commons was still free to decide in particular circumstances to harvest a product from the commons for cash sale, with the funds either going to the group for its expenses or being divided into equal shares per household. The harvest itself would almost certainly have been undertaken collectively in order to mute individual incentives for over-cutting. This might have happened when the (Community faced an unusual and occasional need for cash, or when a particular commons happened to be an excellent source of some product that could be cropped and sold on a sustainable basis for the market without damage to the more fundamental purposes of the commons. Villages might also rent out a commons with a particular product to others who contracted for the right to extract that product – this was the standard arrangement for charcoal-making, and it was also used to accommodate cultivation of fields within the commons. Thus villages did have ways of using their commons for cash income for the village as a whole, and of converting large amounts of the commons to special uses when the market was tempting enough. There is also evidence that in some communities individual eligible users of the commons actually sold their entry tickets to others (probably with village permission in some instances, without it in others), an adaptation that essentially puts access to the commons on the market.[38]

It is easy to see that using the commons for cash income in response to new market opportunities could pose a threat of overuse, though this might not necessarily take place on the commons. It is probable that some individuals reacted to market temptations not by illicitly stealing from the commons, but by converting some of their arable land to the new opportunity, hoping to make up the difference by extracting more of the allowed products (fertilizer or fodder) from the commons for more intensified use of the unconverted arable land. But the same motives could lead to more degradation on private holdings than on the commons, as people tantalized by the rapidly rising prices they could get in return for cash crops or products from private woodland "mined" their private lands to exhaustion and used the commons instead to support their own subsistence.[39] For instance, a farmer could consider acquiring more animals than he had needed before for hauling and plowing if local trade increased the need for pack-horses and existing rules on the commons would allow him to feed extra horses (extra horses that the rules never envisioned him having). Or a farmer might try to incorporate an additional cash crop into his fields and raise yields with

extra fertilizer from the commons. But cohesive communities with face-to-face contact where many individuals used the commons were also capable of assessing damage to their commons if it materialized, and of changing their rules so that no one could extract such threateningly large harvests of formerly unregulated products from the commons.[40]

With these patterns of ownership, protected by law, honored by the courts, property rights and sound management on Japanese commons survived the Tokugawa period even though villages chose to convert much common land into private fields. Markets had proliferated during the 15th century, and during the Tokugawa period the cash economy reached all corners of Japan. Internal markets linked all of Japan together. The deforestation of the 17th century was reversed without abolishing the commons, and indeed afforestation was also accomplished on common land. With property rights in the commons already securely theirs, those villages whose over-harvesting had contributed to deforestation – those with bald mountains, silted rivers, and flooded fields – had both motive and means to rescue the productive value of their commons. Many proved capable of understanding the causes of overuse and designing rules and enforcement schemes to restrain use, and thereby restored their forests. Japan continued into the 19th century with healthy forest cover on vast expanses of common land.

The Assault on the Commons in the Modern period (1867-present)

Tokugawa shogunate collapsed in 1867 and was replaced by a government of young, dynamic, energetic, patriotic modernizers, bent on saving Japan from Western imperialism (by using precisely the same methods as the imperialists if necessary). They were determined to "modernize" Japanese institutions, whatever that meant, by adopting the best and strongest ideas and institutions from all over the world. The Meiji period (1867-1912), named for its new emperor, offers an extraordinary story of political change and industrial development based at least as much on sheer will as on tangible assets.

The Meiji reforms included rewriting the law into a new Civil Code and conducting (again...) a massive registration of lands to improve the collection of taxes. These two developments worked in tandem, or in some ways against eachother, to bring common access rights to village commons into the modern era with full legal protection, but also to make it extremely difficult for villages to register ownership of land on which they had common access rights as their common property in order to make it eligible for that protection. The new policies dealt separately with common use rights or iriai* rights (protected in the civil code) and with

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* From this point on I will use the Japanese term, iriai, to refer to the village-owned rights of common access and use that evolved before 1867. Iriai land therefore refers to the land to which iriai rights attach (no matter who owns the land itself), and the iriai user group refers to the community of households with full iriai rights (not necessarily the same as all residents in a community, because an an iriai user group has the right

registration of land ownership (the target of the land registration campaign). Such a separation had not been problematic in the past, but many difficulties now emerged from these two policies.

The Civil Code guaranteed the protection of individual private property rights, just as Western law did and as the new Meiji constitution required, but it also protected two forms of collective private property. The first was iriai rights, the portion of pre-1867 village common property rights consisting of entry, use, and extraction of the products of the land. This was conceived here as separable from land ownership and therefore **theoretically** possible on any land to which iriai rights of entry, use, and extraction had been attached before 1867, no matter who ended up owning the iriai land itself after the land registration was completed. Articles 263 and 294 of the civil code provided that iriai rights would continue to exist and would function according to local custom, meaning that the iriai user groups that continued to possess iriai rights would each determine their internal rules. Unfortunately, Japan's lawmakers turned quickly to other matters and never got around to spelling out the forms of iriai ownership or its consequences in various contexts. This omission would later force many iriai user groups into the courts to have judges do what legislators forgot to do.

A crucial consequence of declaring that iriai rights would operate according to local custom was that almost anywhere in Japan, then, iriai rights belonged to households and not to individuals, could be sold only collectively and not by individual rights-holders, could not be claimed by newcomers just because they had moved into a new community where there was an existing iriai user group, and were forfeited when a user moved away. Iriai rights-holders made decisions about their membership and their resource use collectively, using a unanimity rule; because individuals could not sell their shares, most groups adopted a unanimity rule in order to make it impossible for the group to sell the rights of any individual member without that member's consent.

The second form of collective property protected by the Meiji Civil Code is a very simple extension of individual property that we encounter in most societies: individual shares of collective property rights (kyôyûshoyûken), a form of property ownership that can extend from the office coffee pool to a consumer cooperative to huge joint stock corporation. In this form of collective property, individuals may buy and sell their shares without consulting eachother or the group, and their place of residence is irrelevant. The shareholders may vote, again according to a decision rule of their choosing (not necessarily a simple majority vote), to

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to determine its own criteria for membership). Using the Japanese term should also reduce confusion between iriai rights that are not individually tradable and collective property whose individual shares are tradable. Even if I consistently used two different English terms for these two forms of ownership, these terms and their synonyms in English (collective, common, communal, shared, joint) would seem so similar as to make it difficult for readers to remember which form was which.

make decisions about the disposition or operation of their joint property. Whenever the decision rule requires less than unanimous agreement it becomes possible for this kind of collectivity to sell property even when some members dissent; they still own their shares and can sell them individually if they like.

The difference between this form of collective property ownership and iriai rights may seem like a minor technical matter, but the difference has been the subject of immense conflict, including bloodshed, in the last century. There have been lawsuits between iriai households and newcomers to town who wanted a share (and cut it down), between iriai households and former iriai households who moved away but still wanted a share of products or income from the commons, between iriai households and persons who asserted that they have acquired title to individually salable shares of collective property, and between iriai households and registered iriai representatives who began to treat the commons as their exclusive personal property. If the iriai user group can convince the court that it is an iriai user group with iriai rights, the courts invariably decide in favor of the iriai group, because the law so clearly permits an iriai user group to base its decision rules on custom.[41]

The land registration campaign that began in 1873 (chiso kaisei) was intended to determine and record the ownership of land itself — the right to use, change the use of, or transfer the land, except as attenuated by the existence of any iriai rights that might be attached to that land. The initial objective of the land registration campaign was not to destroy iriai rights nor to alter the uses of land to which iriai rights were attached. The primary objective was simply to get land titles straight for purposes of taxation. The first step in land registration was to distinguish between government (kan) and people's (min) land, and the government issued an initial set of guidelines and instructions that clearly indicating that village iriai land should, when in doubt, be registered as people's land.

However, the government's finances were shaky, and nationalization of land was a very attractive mechanism for acquiring assets that could then be sold off to build the government's treasury. It also provided opportunities for graft, and many Meiji leaders were able to purchase from the government prime land (land near the imperial palace in Tokyo, what later became Ueno park, most of the forests of the Kiso and Izu regions, and so on) very cheaply, even by the standards of the day.[42] Recognizing that the original criteria for land classification would result in very little national land, the government changed the guidelines, so that only villages whose iriai land had been disputed in the Tokugawa courts for which there were extant records would be able to save their iriai land from nationalization. Villages that had lived peaceably or had solved disputes on the commons through compromise without resorting to the Tokugawa courts, or whose records had been destroyed (a very frequent problem for Tokugawa and even modern records, because most structures in Japan have always been wooden), lost out.[43]

If iriai land survived the kan-min classification, it was technically possible, but extremely difficult, for an iriai user group to register its

land in the names of the appropriate iriai households, and even to specify the ways in which iriai rights are acquired, transferred, or forfeited.[44] Instead, most groups opted to register their iriai land in the names of a few representative individuals (the most frequent choice), as shrine land, or as the collective property of a list of individuals rather than households (bringing with it the risk that these property rights might become collective property whose individual owners may sell their shares, and not iriai rights at all). The problem here was that although iriai rights were supposedly real, the mechanisms for land registration made it virtually impossible to register ownership as iriai land rather than the other form of collectively owned land. Thus the burden would always fall on the iriai user group to protest any confusion of iriai rights with collectively owned individual rights, and to drag out the historical evidence that what preceded the inappropriate registration of title was in fact a long record of iriai usage.

Another policy of the Meiji government was to consolidate the 70,000 villages of the Tokugawa period (which were private taxpaying citizen-surrogates more than they were arms of the government) into a smaller number of larger municipalities in order to permit closer supervision and ensure more uniform adoption of national policies at the local level. The amalgamation (gappei) policy also turned out to be a clever method of destroying iriai rights, which were classified as private property rights in the civil code. In transforming the private possessions of private entities into the public property of new municipalities, this policy vaporized iriai rights, which as private property rights could not be held by public bodies.[45]

No law, national government regulation, prewar supreme court (Daishin'in) ruling, or postwar Supreme Court verdict ever abolished or renounced the existence of iriai rights per se. On the contrary, many government statements repeatedly acknowledged the existence of iriai rights, not only on private land but also on public land and even on land owned by the imperial family. However, having nationalized much land, the government found its freedom of action considerably constrained on land to which iriai rights attached, and its policies shifted toward the attempt to eliminate iriai practices on government land.

As with all rights, the only iriai rights that mattered were those held by assertive user groups that protested infringement of their rights. As national and prefectural authorities pressed harder, assertive farmers protested with the tried and true methods that we see around the world: massive cutting, overuse, resource degradation, and even arson on their former commons. They felt that if they couldn't have the use of their resources then nobody else would either, and they also calculated that the authorities might come to their senses and restore these use rights as a preferred alternative to destruction and political turmoil. That is precisely what happened in Yamanashi Prefecture (the "paradise" or "Mecca" of iriai rights according to Hôjô Hiroshi) after farmers used these methods to protest a central government regulation requiring them to ask the permission before they exercised their iriai rights, and an accompanying prefectural regulation denying farmers the right to sell what they took from

the cannons if they had not asked for permission to enter their commons.[46] Yamanashi prefecture soon found itself contracting with the fanners to protect government forest (formerly the farmers' iriai forest) rather than destroy it, a policy similar to what daimyo had to do centuries earlier to preserve their forests as well.[47]

To summarize the Meiji assault on the commons: the Meiji government honored the existence of iriai rights in the civil code and in many of its formal statements, but otherwise launched a massive attack on these rights. It nationalized a great deal of land in ways that made it very difficult to preserve iriai rights on that land, it amalgamated villages into new public municipalities that could not possess private iriai rights, and it set about trying to eliminate iriai usage on public lands. Many iriai user groups have dissolved and their iriai rights have vanished, because they did not have the energy or the resources or the documentation to win. It is perhaps remarkable that 2.5 million hectares of land in Japan are still regarded as land to which iriai rights attach, given the extraordinary hurdles that these iriai rights holders have faced to document their rights, register their land, fight amalgamation, and then protest interference with their rights in practice.

Nonetheless, many iriai rights holders continued to fight, even though they did not always win. In 1916 the supreme court (Daishin'in) ruled that registration of land as government-owned in the Meiji period automatically extinguished iriai rights on that land, and subsequent rulings relied on this precedent.[48] The struggle continued, the postwar civil code preserved iriai rights as before, and new disputes continued to require the courts to determine the conditions under which iriai rights survived. The fanners in the valley north of Mount Fuji, whose eleven-village commons had been commandeered by the Japanese Imperial Army before the war and began to be used by the American occupying forces as a practice ground in October 1945, demanded compensation for iriai uses made dangerous or impossible by the military drills, and won. In fact, the Japanese government, whose Self Defense Forces took over the practice ground after the end of the American occupation, has paid many millions of dollars over the years to the Kitafuji iriai rights holders for rental and property damage, even though the land under the Kitafuji commons is government property.[49] Slowly, a new trend in case law began to emerge, and scholars deeply concerned with the contest between personal rights and government prerogatives investigated the question of iriai rights and began lending legal assistance to litigants in court.[50] Finally, in 1973, the Supreme Court overturned the 1916 ruling (which was of questionable validity anyway after 1947, given the fact that Japan now had a new constitution that the prewar court had not been charged to defend) and ruled quite clearly that iriai rights can exist on national land.[51]

Since the 1973 Supreme Court ruling, iriai rights are as secure as their owners' supply of energy for exercising them — they no longer face official opposition. Of course, Japan is now a heavy importer of food, fuel, and most other raw materials, and as long as those imports remain inexpensive, and the nation rich, Japan's forests and meadows are not heavily used for their natural products. They will always be needed for

their environmental services – watershed management, cleansing of air, perhaps even a bit of biodiversity and natural habitat. And in a nation whose population has quadrupled, thanks to imported sustenance, in 140 years, these lands are rapidly appreciating in value for tourism. Iriai user groups that still retain their rights have proven flexible and imaginative, and clearly self-interested, in switching from agricultural uses to orchards, ski lifts, condos, hotels, as well as (subsidized) meat and dairy production. Japan's transformation, industrialization, and urbanization in the last century are so dramatic that some agricultural uses of the commons actually have value as tourism resources also. Japanese families will travel for hours to go see living insects (especially crickets and fireflies) and farm animals, villages with thatched roofs, or traditional crafts. Sadly, many commons have been converted into highly commercialized attractions of this sort, complete with megaphones and bumper cars. This is a testament to the imagination and tenacity of iriai rights holders, and to the durability of iriai rights, though not to the environmental or aesthetic sensibilities of the Japanese.[52]

Today, after a century of confusion and struggle, it is clear that iriai rights holders own surface rights to the uses and products of the land, including the rights to non-agricultural opportunities. If some other entity owns the land, its use rights are constrained by the existence of iriai rights on the land, which have tangible value that destroyers or purchasers must pay for. If the national government wants to alter the use of land it itself owns and in so doing destroy the value of iriai rights on that land held by local people, it must compensate those people. If a hotel chain wants to build on land it has purchased, to which iriai rights are attached, it must also buy or rent the iriai rights it interferes with. If a manufacturer wants to build on the shore of a productive fishery, it will have to buy the fishing rights it destroys from the fishing cooperative that owns them (moreover, the fishing coop will have to agree unanimously to the sale in order not to be simply stealing the rights allocated to particular users).

Lessons

The evolution of property rights in the commons in Japan carries several messages to today's world. First, the resilience, durability, and flexibility that commons have demonstrated suggest that this form of property rights is not fundamentally defective or inconsistent with "modern" institutions. Japanese specialists on iriai rights argue that even this form of non-tradable rights (as opposed to the non-iriai form of individually owned shares of collective property) does not inhibit investment on the land or efficient land use. They point out that the real assault on the commons since 1867 has come not from natural economic forces persuading iriai user groups to sell their iriai rights and thereby sell off the commons, but from government policy to nationalize the land, amalgamate villages in order to extinguish iriai rights, and in other cases make iriai rights very difficult to substantiate in court. Indeed, with increasing land values today, iriai rights holders are now very reluctant to sell. Instead they have developed modern forms of use (group contracting for

isntance) to capture greater gains. The fact that the land is owned in cannon, and the fact that in Japan iriai rights are owned by households, spatially based, and not tradable, do not seem to have inhibited investment in new uses or changes in use.

A second message is that the surrounding society must regard these rights as legitimate and offer them protection in order to capture the environmental benefits they can generate. Medieval and Tokugawa authorities in Japan had no apparent emotional or intellectual difficulties with this — indeed, they treated iriai rights as a rather obvious form of private property — and as a result a sturdy legal basis for iriai rights evolved in Japan. The Meiji modernizers who fell hook, line, and sinker for the conventional paradigms of exponential development (which have now fallen into disfavor), had mixed feelings about the issue, but it appears that their attitude was what caused the real difficulties, not the reality or the existence of iriai rights. Slowly this has changed, and iriai rights are a part of today's Japan, with a niche in property law and the favor of the courts. Strong legal protection of common property rights is essential in any setting for the system to work.

A third message can be derived from the confusion during the last century over two different forms of collective ownership. The Japanese government created a legal mess for itself that it probably did not have to create. It would take considerable empirical research to determine whether the household-owned, spatially-based, non-tradable iriai form actually produces different economic and environmental consequences from the more familiar individually-owned tradable collective property. In theory, it is probably highly desirable to have co-owners with similar needs for resources from the commons, with the ability to limit their numbers even when faced with newly-arrived potential claimants (this is part of the exclusion that is crucial to limitation of use on a commons). These considerations make me suspect that the iriai form has much to recommend it when environmental health is the fundamental objective, but one still might be able to design some sort of amalgam of the two forms. In any case, the lesson that is clear from the Japanese case is that if both forms of collective property ownership are going to exist, the legal system must make it easy for the iriai-type of user group to form and register itself officially, and the law should be specific and elaborate about how these rights are to function, so that user groups can spend their time exercising their rights rather than fighting for them.

A fourth message comes from the cleverness of a common property rights system in segmenting different rights, so that it becomes possible for the interested community to own the rights that concern them. Individuals can own products or access to products, but the community owns the environmental services provided by the commons. The more important those environmental services became in a congested world, the more we **must** remove some of the rights that used to be in the fee-simple bundle from the landowner, and the more we have to intrude upon what the landowner would like to think is his sovereignty. The particular uses that are capable of generating tremendous negative externalities if owned in a segmented fashion need to be owned by a group large enough to contain or internalize the externalities. We are

moving toward this, Whether we realize it or not, in industrial societies when we develop zoning and imaginative policies like transferable development rights: the landowner owns the land and some use rights, but the entire community may own the development rights. This is the fundamental idea behind tradable pollution permits: a manufacturer owns his factory, but the community owns the air he pollutes and limits access to that commons. We also see this in debt-for-nature swaps, in which an environmental group essentially buys the development rights in an LDC tropical forest for the price of some portion of that country's debt.

A final message from the Japanese experience is for people anywhere. If you need to hold a resource in common, either as insurance against risk or to provide vital environmental services, it can be done, and here is one successful model of the knowledge, the technique, and the legal support that are needed. The story of nationalization of land in Meiji Japan and of the resulting compacts and court cases that have affirmed iriai rights reminds me very much of what India and Nepal have done (nationalization and now de-nationalization of village forests) and what is routine in many developing countries. Governments in these countries may also be on the point of discovering, as various Japanese governments from the early aristocracy to the shogunates to modern constitutional monarchy have also done, that the best way to get sustainable use (and all-important tax revenue) out of a resource one cannot patrol personally is to assign a good portion of the rights to the resource to those who live there, turning them from potential overusers of a resource not theirs to vigilant protectors of a resource now very much their own. Indeed, the wave-like course of elite-peasant relations in Japan seems to suggest that whenever governments forget this lesson, civil disorder and resource degradation teach it to them again, and once again they must devolve property rights on the people best equipped to enforce limitations on access. To some observers this looks as though the government is co-opting protesters, and to others it looks as though the common property rights activists are blackmailing the government. To me it looks like a healthy devolution of property rights and power, and I like it not just because it suits my democratic ideals, but more importantly because it has the practical benefit of turning resource saboteurs into resource protectors. It would be nice if LDC governments and the international donor community that influences them could also learn this lesson, in a few years rather than in a few centuries, so that environmental damage does not have to continue much longer before we initiate repair and recovery.

ENDNOTES

1. Watanabe Yozo and Nakao Hidetoshi, Nihon no shakai to ho (Tokyo: Nihon hyôronsha, 1975), 45-48, and Kawashima Takeyoshi, "Iriai ken kenyû no genjô to mondaiten," parts 1 and 2, Jûrisuto (682: 1979), 70-76, and (683: 1979), 120-127.

2. William Wayne Farris, Population. Disease, and Land in Early Japan. 645-900 (Cambridge: Harvard University Council on East Asian Studies, 1985).

3. Kbzo Yamamura, "The Decline of the Ritsuryô System: Hypotheses on Economic and Institutional Change," The Journal of Japanese Studies (1:1, Autumn 1974), 33-38.

4. The theoretical arguments are laid out in Harold Demsetz, "Toward A Theory of Property Rights," American Economic Review (57:2, May 1967), 347-359; and Armen Alchian and Harold Demsetz, "The Property Rights Paradigm," Journal of Economic History (33:1, March 1973), 16-27. The best-known applications in the Western context are Terry L. Anderson and Peter J. Hill, "From Free Grass to Fences: Transforming the Commons of the American West," in Garrett Hardin and John Baden, editors, Managing the Commons (San Francisco: W.H. Freeman, 1977), 200-215 (this is a revision of "The Evolution of Property Rights: A Study of the American West," Journal of Law and Economics (18:1, April 1975), 163-179); and Douglass C. North and Robert Paul Thomas, The Rise of the Western World: A New Economic History (Cambridge: Cambridge University Press, 1973).

5. Oyama Kyôhei, "Medieval sheen." in Kozo Yamamura, The Cambridge History of Japan: Volume 3 — Medieval Japan (Cambridge: Cambridge University Press, 1990), 110-113.

6. Kristina Kade Troost, "Common Property and Community Formation, Self-Governing Villages in Late Medieval Japan, 1300-1600," (unpublished Ph.D. dissertation, Harvard University, 1990). See also Troost, "Common Property and Community Formation: The Origins of Self-Governing Villages in Late Medieval Japan, 1300-1500," paper presented at the Washington and Southeast Regional Seminar on Japan, Williamsburg, 27 April 1991.

7. Troost, "Common Property and Community Formation," (1990), describes a swap between the villages of Imabori and Suganoura.

8. The shiki system disappeared completely when the shogunate became too weak to defend an estate proprietor's right to his honke shiki and therefore the point of origin of derivative shiki. But productive land still had value — more than before in fact — and the value of its surplus came to be represented as myôshu kajishi. These rights could be bought and sold by persons unrelated to the estate, and they therefore undermined the authority of the estate proprietor in a way that derivative shiki had not.

9. On the emergence of the self-governing villages (sô), their claims to land, their surprisingly democratic inclusion of small fanners (kobyakusho) along with rich ones as full members, and their multi-village political leagues (sô-ikki), see Nagahara Keiji, "The decline of the shôen system" and "The medieval peasant," Chapters 6 and 7 in Kozo Yamamura, editor, The Cambridge History of Japan: Volume 3 — Medieval Japan (Cambridge: Cambridge University Press, 1990), 260-343, and Nagahara Keiji with Kozo Yamamura, "Village Communities and Daimyo Power," in John Whitney Hall and Toyoda Takashi, editors, Japan in the Muromachi Age (Berkeley: University of California Press, 1977), 107-123. The argument that the need to manage the commons was a major impetus to the formation of self-governing communities is the principal thesis in Troost,; "Common Property and Community Formation," (1990 and 1991).

10. Ishii Ryôsuke, A History of Political Institutions in Japan (Tokyo: University of Tokyo Press, 1980), 56-60.

11. The cadastral surveys were conducted first in some areas by individual daimyo and were then completed by Toyotomi Hideyoshi in 1582-1598, just in time for Tokugawa leyasu to take over the reins of power in 1600. There is considerable controversy over who ought to get how much credit for these, how careful and accurate they really were, and how consciously egalitarian they were meant to be. Hideyoshi was of peasant origin, and it is tempting to think that he intended the cadastral surveys not only as a device for ensuring regular tax collection but also as a way to give land to the cultivators all along. However, his desire for peasant cooperation with his new regime offered an equally practical incentive for some egalitarianism, and there is other evidence that Hideyoshi was above all pragmatic, not ideological. See Mary Elizabeth Berry, Hideyoshi (Cambridge: Harvard University Press, 1982), especially 102-146; and Philip C. Brown, "The Mismeasure of Land: Land Surveying in the Tokugawa Period," Monumenta Nipponica (42:2, Summer 1987), 117, note 3.

12. Dan Fenno Henderson, Conciliation and Japanese Law: Volume I — Tokugawa (Seattle: University of Washington Press, 1965); and Henderson, Village "Contracts" in Tokugawa Japan: Fifty Specimens with English Translations and Comments (Seattle, University of Washington Press, 1975). A crucial source of information about Tokugawa law is the multivolume collection of law and cases collected by John Wigmore. Begun when Wigmore went to Meiji Japan to teach law and assist with the preparation of new law codes, the first four volumes appeared in 1892. The translation project was suspended for forty years, and in the meantime the 1923 Tokyo earthquake and fire destroyed many of the documentary collections Wigmore had found for future translation, along with many important original documents and even the four original Wigmore volumes published in 1892. The translation project revived later, drawing upon copies of the 1892 volumes that had been stored outside of Japan, and on materials that survived the 1923 earthquake. The Wigmore collection, Law and Justice in Tokugawa Japan (Tokyo: University of Tokyo Press, 1967-present), is cited below as Wigmore, with information about the particular volume used in each citation.

13. Actually, Hideyoshi's sword hunt, the most ambitious gun control campaign I am familiar with, made this civilianization possible. Hideyoshi forced rural samurai and gun-toting farmers to decide whether they would till the land and live on it — without weapons — or bear two swords and be samurai in towns. And even the samurai would surrender their muskets, so that only the shogunate would have guns (these had come into Japan via Portugal in 1542 and had spread almost instanteously nationwide in service of civil war).

14. This deforestation crisis and Japan's recovery from it are described in Conrad Totman, The Green Archipelago: Forestry in Preindustrial Japan (Berkeley: University of California. Press, 1989).

15. See Chiba Tokuji, Hageyama no bunka (Tokyo: Gakuseisha, 1973), 160-165; and Karen Wigen [Lewis], "Common Losses: Transformations of Commonland and Peasant Livelihood in Tokugawa Japan, 1603-1868," (M.A. thesis in Geography, University of California at Berkeley, 1985), 92-95.

16. I attempt to analyze some of this conflicting information in McKean, Collective Action and the Environment in Tokugawa Japan: Success and Failure in Management of the Commons," paper presented to the Association of Asian Studies, San Francisco, 25 March 1988.

17. Wigen, 79-81.

18. Wigen, 109-111.

19. Hayami Akira, "The Population at the beginning of the Tokugawa period," Keio Economic Studies (4: 1966-1967), 1-28.

20. See Wigen, 73-90, who also examines the confusion over whether parcellization had egalitarian or inegalitarian distributive effects on the villages where it took place.

21. Wigmore, VI-E: Property: Legal Precedents (1979), p 203.

22. Some of these provisions for assigning ownership are in Wigmore, V — Property: Civil Customary Law (1971), 8-21.

23. Moreover, Tokugawa courts and the domains developed a very sophisticated treatment of "nuisances," or negative spillover effects imposed by one property owner on another. It was routine to attenuate private property rights by imposing constraints on homeowners and cultivators. One could not plant trees or structures that would cast shade on somebody else's crops, and there were setback requirements and tree-cutting guidelines to allow sunshine to reach neighboring property. One could not build a second story with windows that would overlook another residence unless one shuttered the windows or built an additional privacy fence or paid a sunlight charge in compensation. One was responsible for (owned) the rain or snow that fell on one's land, and for damage that snow or rain did to others. Thus one had to be ready to dig the mud out of someone else's ditches or shovel away the snow that drifted against someone

else's house if the rain or the wind had shoved one's own soil or snow onto another's property. One had to build houses with drains and gutters that would keep rain off of others' land and structures, or be prepared to repair their ratting walls. These provisions are strikingly similar to the kinds of policies we are devising today to internalize externalities in a congested society, and essentially acknowledge externalities as a domain of public interest and public law. It is as if Tokugawa lawmakers had read Coase on the problem of social cost and decided that non-zero transaction costs warranted pre-assignment of liability in nuisance cases. See the classic by Ronald Coase, "The Problem of Social Cost," originally in Journal of Law and Economics (October 1960), reprinted in Robert Dorfman and Nancy S. Dorfman, editors, Economics of the Environment: Selected Readings (New York: W.W. Norton, 1977), 142-171. If today's Japanese, who have struggled for years to establish sunshine rights and incorporate privacy considerations into zoning and construction guidelines, only knew Tokugawa law, they might not have had to work so hard to re-establish these principles! See Wigmore, V — Property: Civil Customary Law (1971), passim.

24. See Wigmore, V — Property: Civil Customary Law (1971), 76-88.

'25. On long-term plantation and contract forestry, see Conrad Totman, The Green Archipelago, especially 130-170; and Totman, The Origins of Japan's Modern Forests: The Case of Akita (Honolulu: University of Hawaii Press and Center for Asian and Pacific Studies, 1985), 23-56. Disputes that arose over failure to fulfill such contracts are documented in Wigmore, V — Property: Civil Customary law (1971), 76-88.

26. In Akita domain, the list of "banned trees" (owned by the lord wherever they were) grew from 2 species to 7 by 1706, 9 in the 1750s, and 17 species by 1800. See Totman, Akita. 27. See also Totman, Green Archipelago. 83-115; and Wigmore, V — Property: Civil Customary Law (1971), 10.

27. See Wigmore, V — Property: Civil Customary Law (1971), 76-88.

28. Nagahara Keiji mentions a league from the Ise area that produced an agreement with 350 signatures on it concerning mutual boundaries for common land. See Nagahara Keiji, "The medieval peasant," 335.

29. See Wigmore, VI-E, Property: Legal Precedents (1979), particularly cases 256, 263, 264, 265, pp 8-173.

30. On boundary disputes concerning multi-village commons, see cases 160, 161, 163, 164, and 165, pp 154-272, in Wigmore, VIB — Property: Legal Prececents (1978), 154-272.

31. Case #170 in Wigmore, VI-B: Property: Legal Precedents (1979), 290-294.

32. Farris, Population. Disease, and Land in Early Japan. 645-900. 18-49.

33. Wigmore, II — Contract: Civil Customary Law (1967), 11-45; and Wigmore, VI-A — Property: Legal Precents (1977), Cases 20, 22, and 23.

34. This is a vague catch-all term for very specific categories of people: genin [low people], or itinerant tinkers, vendors, and entertainers; eta [much filth], who performed unclean work with leather or animals or dead bodies; and hinin [non-people], wanderers banished from their home village for committing crimes.

35. Smith believes that the need of disenfranchised villagers for access to the commons was a factor that forced many Tokugawa villages to democratize their criteria for citizenship. Thomas C. Smith, The Agrarian Origins of Modern Japan (NewYork: Atheneum, 1959, 1966), 182-188.

36. Instead of the usual terms for common land (muramochi komono nariba [village-held place for little things] or iriaiyama magusaba [enter-meet mountain place for horse fodder]), these "welfare commons" might be called hinja sodate yama [poor people's support mountain] as if they were dedicated to that purpose. See Wigmore, V — Property: Civil Customary Law (1971), 70-76. Chiba Tokuji gives the term hinja hagukumi yama [poor people-nurturing mountain] in Hageyama no bunka, 158.

37. Margaret A. McKean, "Management of Traditional Common Lands (iriaichi) in Japan," in Proceedings of the Conference on Common Property Resource Management; April 21-26, 1985, Annapolis, Maryland). (Washington, D.C.: National Academy of Sciences, 1986), 533-589. This is an expansion of "The Japanese Experience with Scarcity: management of traditional common lands," Environmental Review (6:2, Fall 1982), 63-88.

38. Wigen, 72-73.

39. Chiba, Hageyama no bunka. 178-179.

40. It is clear that the villages I studied north of Mt. Fuji altered their rules and devised new limitations in response to new use patterns on the commons, and restored their commons to health. See McKean, "Management of Traditional Common Lands," 553-560.

41. Watanabe Yozo and Nakao Hidetoshi, Ninon no shakai to ho (Tokyo: Nihon hyôronsha, 1975), 75-77.

42. Hôjô Hiroshi, Mura to iriai no hyakunen shi: Yamanashi ken sonmin no iriai tôsô shi (Tokyo: Ochanomizu shobo, 1978) [hereafter, Yamanashi], 43.

43. Hôjô, Yamanashi. 42-59.

44. I have encountered the somewhat contradictory assertions that this was either extremely difficult, impossible, or not technically impossible, in various sources, but I have not yet encountered an explanation of what was so formidable about the procedure. It is easy to imagine that it would have required considerable legal assistance not readily available to Meiji fanners, although that makes what they did do all the more remarkable. The

three buraku of Yamanaka-ko village in Kitafuji each used elaborate registration procedures for their single-village commonses. The 92 households in Hirano and the 38 households in Nagaike opted for collective registration to create what is known as kyôyû iriaichi (collectively-owned iriai land), and the 198 households of Yamanaka registered themselves as represented by Asama shrine. See Kamimira Masana, sonraku seikatsu to shûzoku, kanshû no shakai kôzô (Tokyo: Ochanomizu shobo, 1979), 269-284.

45. There was a procedure by which old villages could protect their property from being swallowed up by new municipalities. They could become zaisanku (property-owning parts) within the new municipality. However, the legal profession; is utterly divided over whether zaisanku are iriai-possessing private entities or public bodies unable to hold private iriai rights. See Watanabe and Nakao, Nihon no shakai to ho, 50-52, 79-83.

46. Hôjô Hiroshi, Yamanashi, 52-57.

47. Hôjô Hiroshi, Yamanashi. 72-75.

48. Watanabe and Nakao, Nihon no shakai to ho, 86-87.

49. For some figures, see Hôjô, Yamanashi, 266. For a historical account, see Watanabe Yozo and Hôjô Hiroshi, Rin'ya iriai to sonraku kôzô (Tokyo: Tokyo daigaku shuppankai, 1975), 289-307.

50. The scholars most deeply involved in the postwar cases were Kainô Michitaka, who lent his efforts to the defenders of iriai rights in the Kotsunagi case, and Watanabe Yozo and Hôjô Hiroshi, who assisted the farmers in Kitafuji with their various cases and claims. On Kotsunagi, see Kainô Michitaka, Kotsunagi jiken: sandai ni wataru iriaiken funsô (Tokyo: Iwanami shoten, 1964); it was out of print in 1980, when I was fortunate to be given a copy that had been produced in the **fifteenth** printing, run in 1976.

51. Hôjô Hiroshi, Yamanashi. 249-258.

52. Watanabe and Nakao report on a survey of iriai land use indicating little difference between the uses adopted on iriai versus non-iriai collective agricultural lands. Watanabe and Nakao, Nihon no shakai to ho. 89-98.