



Land registration, land markets and livelihoods in Papua New Guinea

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Photo by Lara Daley

Customary land in Papua New Guinea (PNG) is a form of collective and inalienable title which adapts and sustains common benefits, over many generations. Unusually in the world, most people in PNG have access to land. However, this form of title is under persistent attack from international financial institutions, aid agencies, large corporations and some groups within PNG.

Under PNG law, customary land cannot be sold; however those wanting to commercialise this land have developed mechanisms to transform its character. The first step is land registration, a process which defines title and opens it up to transactions. An immediate problem of this is that a once priceless asset is opened to the vagaries of the commercial world, in a traditional environment where price often has little to do with value. On the few occasions where customary land has been registered, then leased, given over or sold, enormous disputes revolve around loss of benefits, or over sharing the benefits of land. The question of valuing customary land, therefore, is of considerable importance to the small landholders who happen to make up the vast majority of PNG's population.

This article considers what comparative histories and fuller valuations of subsistence production can tell us about the problems of commercialisation of customary land in Papua New Guinea. Is this a neocolonial drive for dispossession, consistent with the colonial history of registration, or is there evidence that it represents the modernist claim of opportunities for subsistence farming families to enter the cash economy?

Papua New Guinea has probably the most equal distribution of land on earth. Commentators generally accept that 97 percent of PNG's land is owned by families and administered by clan leaders under customary law. This form of ownership, recognised by law, is recorded in local knowledge and tradition, not in a government register or database. While many modernists (e.g. Hughes 2004, Lea 2004) insist that customary land is a barrier to development, some western commentators (e.g. Fingleton 2004) accept that customary land groups are essential to the viability of communities. Unlike in Latin America and India, there are no big landlords. PNG is a country in which the colonial regimes (British, German and Australian, from 1884 to 1975) did not markedly upset traditional land tenure. Nevertheless, commercial operators such as logging companies, large plantations and miners have often carried out operations on leased customary land.

The discussion here presents a historical perspective on land registration, tries to explain the failure of land markets in PNG, compares livelihood options for customary land owners and then raises some questions over proposed land commercialisation in PNG.

1. A historical perspective on land registration

AusAID, which has run land titling and administration projects for decades, claims that these projects enhance the security of land rights and target rural poverty (AusAID 2000). In Papua New Guinea, AusAID put many millions of dollars into land projects linked to forestry, natural resource information systems, regional development, coastal management and direct "land mobilisation" (see Rusanen 2005). Bachriadi (2009: 16) says that when AusAID, World Bank and recipient government land projects in the region are added together, they amount to almost a billion dollars. The aim of such projects has been to organise for either (i) the leasing of customary land or (ii) shifting whole areas of land under customary title into a registered title system, where land can be mortgaged and sold. At this stage, of course, the customary character of land breaks down completely. More recently AusAID released a report called *Making Land Work*, which includes some recognition of the value of customary land; however this has not changed policy. Indeed the report states: "*Making Land Work* does not seek to advocate any particular policy options or models. Nor does it necessarily reflect AusAID or Australian government policy. It [is] an information resource" (AusAID 2008: vii). This disclaimer happens to reflect the Australian Government's lack of a clear policy behind its Pacific land programs.

Powerful interests have not been so hesitant in expressing opinions. Giant mining companies such as BHP have been directly involved in World Bank land titling projects across the Asian region (Burns et al 1996). These powerful interests are backed by some academics (eg. Lea 2004), who have argued that the institution of customary land has obstructed agricultural productivity and output. Some even claim customary title is "the primary reason for deprivation in rural Pacific communities" (Hughes 2004: 4). In the general clamour for registration, arguments suggest the macroeconomic desirability of "mobilising" land for export oriented resource industries and cash crops such as oil palm. They assert that ordinary communities can better make use of their land assets through registration, which could provide greater recognition of customary tenure and thus access to mortgage finance, as well as potential income from leases. The banks, for their part, have made it clear they will not provide finance on land that cannot be exchanged.

Land registration processes clearly have their origins in the dispossession of indigenous peoples. On the African continent, in the colonial period, land registration was initially about colonists accessing indigenous land: "Almost all land registration systems introduced in colonial Africa before 1950 ... were primarily intended to secure European rights to land" (Dickerman et al 1989: viii). The Torrens Title system, introduced in South Australia in 1857-58 (see Esposito 2003), combined a system of registration with "indefeasibility", a legal protection from almost all other claims except fraud. This Australian colonial innovation, designed specifically as part of a process which denied all indigenous claims to land (see Reynolds 1987), was later adapted by French and British colonial regimes in Africa (Dickerman et al 1989: ix). Registration was also used for political settlements. In the conflict ridden kingdom of Uganda, for example, registration was introduced in 1900 to allocate lands to "members of the royal family, nobles and 1,000 chiefs and leading private citizens" (Dickerman et al 1989: x).

In the late colonial period, land registration for select groups of Africans ("native purchase areas") was introduced in Southern Rhodesia, "the result of a compromise whose principal goal was to assure Europeans exclusive access to freehold agricultural land". The Swynnerton Plan in Kenya in the 1950s similarly backed access to registered land for Africans, with modernist goals of "greater security to landholders, enhance the freedom to transact land and serve as a basis for agricultural credit" (Dickerman et al 1989: x-xi). These are essentially the same arguments used today by the World Bank. However, the Swynnerton Plan was also a response to rebellion at colonial rule, and was aiming to "create a class of African freeholders,

yeoman farmers,” who would have a stake in the regime (Dickerman et al 1989: xi).

Kenya became the African country with the greatest extent of registered land, and therefore also the greatest field for study of the lessons of registration. Reliance on the development of freehold land continued after independence. Lawrence, the chief British expert on and proponent of land registration, came to the view that registration should be used only when the economic advantages justified it. That is, when there was a “general demand” for registration, when the costs were not high and where there were likely gains in agricultural productivity (Lawrence 1970). More critical of the registration process was Okoth-Ogendo, former Dean of Law at Nairobi University, who concluded that the benefits were outweighed by specific disadvantages: the redistribution of political power, creation of economic disparities, generation of a “disequilibrium” in social institutions, failure to develop extension and rural credit, and a general failure to improve agricultural productivity. He noted that, of the new registered land owners, less than five percent were women; further, the new land regime was “creating new forms of stratification and status differentials” amongst the small farming sector (Okoth-Ogendo 1986).

Looking at the African evidence more recently, researchers from London’s International Institute for Environment and Development have concluded that “the hoped for benefits of registration do not accrue automatically and, in some circumstances, the effects of registration may be the converse of those anticipated” (Cotula et al 2004: 3). Registration may exacerbate land disputes, elite groups may claim land beyond their entitlements under the customary system, those without education or influence may find their land registered to someone else, secondary owners of land such as women “often do not appear in the land register and are thus expropriated”. In Kenya, there was “no significant correlation” between registered land title and rural credit, there were “negative repercussions” on vulnerable groups and “more generally, land registration reinforced class and wealth differentiation” (Cotula et al 2004: 4-5).

At its own independence in 1975, Papua New Guinea embedded in its Constitution two contrasting principles of land law. First, the recognition of customary law and customary land title, which had been maintained almost intact (except for some alienation of land for the townships, some plantations and returned soldiers schemes). Second, there was in principle recognition of the Australian colonial innovation of Torrens title. In contrast to customary title, Torrens title represents possibly the most highly commodified form of land title in the world. Since PNG’s independence, these two elements,

customary title and Torrens title, have enjoyed an uneasy coexistence, with registration hovering as the available means of converting the former to the latter. In between (in what is sometimes called a “middle way”) lies the mechanism of leasing customary land, under the PNG system of “lease-lease-back”. Here the customary owners nominally lease to the state, the state then provides a title which the custodian can use to lease their land to a third party, such as a logging company or an oil palm company. Nevertheless, due to the compensation provisions of lease law, it is virtually impossible for ordinary villagers to reclaim leased land. In these circumstances leasing land becomes a form of self-dispossession.



2. The failure of rural land markets

The main obstacle to land registration in PNG is that it is unwanted; there is no popular demand for it and, on the contrary, popular opposition has been expressed strongly on several occasions, sometimes leading to loss of life (see Uni Tavor 2001). The second obstacle is the absence of a functioning rural land market, one that might deliver some satisfaction to all parties concerned. The small amount of rural land that has been given over, leased, sold or simply stolen from customary owners is ridden with disputes. These disputes involve complaints about the misappropriation of customary land (e.g. Yambai 2003), complaints of environmental damage to the land and to surrounding areas (e.g. from logging and mining on customary land), complaints over the failure of promised benefits from land development (e.g. promised roads or health centres) and complaints

concerning the unfair sharing of benefits of commercial development (e.g. from plantation cash crops; Koja 2005). The persistence of these complaints indicates the endurance of belief in customary rights and responsibilities. The complaints also demonstrate the extent of dissatisfaction with past land agreements and land transactions. When we look at some of the lease values, it is not hard to see why there is dissatisfaction.

Lease values on rural land (relying on the economic liberal principles of willingness to pay and prior transactions) have come up with values as low as 20 kina per hectare per year, plus some royalties (Gou and Higaturu 1999). In one case, royalties appear to have lifted 20 kina rents to 100 kina per hectare per year (King 2001; Higaturu 2003). In another case, a group of West New Britain villagers leased over 700 hectares of land for forty years for only 20 kina per hectare (Mara et al 1999). Valuer-General schedules on rentals for residential, commercial and industrial land show much higher values (DTI 2001) but these are mostly urban based and reflect the highly restricted supply of urban property.

Rural land markets in PNG are highly limited; the customary land owners are asset-rich, cash poor and have very little information on the real opportunity cost value of their land. Better information on the opportunity costs might encourage higher lease values, but an oversupply through large scale registration and transactions could lower them.

One example of the broader dissatisfaction with rural land transactions can be seen in the oil palm industry, where there are multiple land disputes associated with estate, mini-estate and land settlement scheme (LSS) land – in other words with all the forms of land tenure associated with oil palm. These disputes are aggravated by customary landowners observing large amounts of money being extracted from traditional lands by oil palm mills, and the proceeds not being properly shared by local communities. There have been ongoing conflicts on the LSS blocks in both Hoskins (West New Britain) and Popondetta (Oro). In 1993 settlers on 173 leased blocks at Kavugara (WNB) abandoned their block following pressure from local customary landowners. This land was handed back to the original owners, who developed part of it as a mini-estate, and then leased it to the local milling company (Koczberski et al 2001: 124). Similar evictions occurred in Popondetta, and a major election issue in 1992 was “Oro for those from Oro.” Many blocks were abandoned across all LSS divisions (Koczberski et al 2001: 128). At the root of these land conflicts is customary owner non-acceptance of dispossession, and a maintenance of relationships with ancestral land, despite lease or even “sale” of land.

In 1999, the Higaturu company in Oro Province extended its plantation lands by acquiring 20-year leases on customary land for “mini-estate” plantations. Lease-lease-back arrangements go through a formal process of the land being leased to the state for a “peppercorn rent” (say 10 kina) then leased back to the company, with the state playing a protector’s role over the use of precious customary land. The Gou lease involved a 20-year lease on 91 hectares of land, with a set rent of 20 kina per hectare and royalties at 10 percent POPA per tonne FFB (subject to review) (Gou and Higaturu 1999). “10 percent POPA” means 10 percent of the farmer gate price per metric tonne. The Heropa lease, for 88 hectares, went through some negotiations in which the landowners were unsuccessful in raising base rents and royalty percentages. They had little bargaining power. Actual payments to the Heropa group of landowners in 2001 suggest that rents were also fixed at 20 kina per hectare per year, with royalties at about 10 or 15 percent of the farm gate price (King 2001; Higaturu 2003). This amounts to an annual royalty of about 80 kina per hectare. Putting the rent and royalty figures together we come up with a combined land value payment of about 100 kina. A payment of 100 kina per hectare per year might seem significant for “unused” land held by cash poor families; however it is a very small fraction of the potential earning capacity of good agricultural land in PNG.

This example from the oil palm industry demonstrates that the value of customary land has been set at a nominal and extremely low rates. “Low” may also mean zero. In calculating the “costs” incurred by village oil palm farmers, for the purpose of a profit sharing agreement with the milling companies, Burnett and Ellingsen (2001: 31) did not include any rent component. The fixed capital and



Madang market. Photo by Tim Anderson

depreciation costs of the company were considered as costs, but the villagers' contribution of customary land was not. However, customary land clearly has alternative economic uses which are precluded by serving the large local mill. It does seem to be a common non-indigenous assumption that customary land, because of the virtual absence of rural land markets, has no economic value at all. Yet such an assumption has serious consequences for small families.

My calculations of subsistence values (Anderson 2006a) show that a hectare of customary land can easily produce several thousand kina per year in food and housing value equivalent, as well as another several thousand kina per year in cash crop revenue. Customary owners are to some extent aware of this value; so why have some of them agreed to rents of between 20 and 100 kina per hectare?

I suggest several factors are at work in this "market failure":

1. Landowners generally lease just some of their land, maintaining enough for houses and gardens. This is not necessarily "surplus" land, as fertile agricultural or forest land is most often targeted by those wanting access. However, at the same time, land that has not been developed for gardens is not necessarily given an exchange value, and the strong custom of sharing assets has not always required a market "premium".
2. The lessees are most often a single company, and often a company backed by the regional or national government. There is no real competition, in the sense of another bidder for the lease. Thus "competition", the key ingredient of the liberal theory of "allocative efficiency" in markets, is missing.
3. Cash poor, asset rich families are vulnerable in exchange, as there are pressures to earn money to pay their children's school fees and health service fees. They are vulnerable to cash offers, and can easily undervalue their assets.
4. Cash crops are valued in exchange terms, but undeveloped or potential cash crops are often not factored into the calculations of customary land owners with little information and little education.
5. The subsistence value of land (for most villagers with productive land) is usually regarded as a given (until it is taken away) rather than an equivalent exchange value, which might have to be compensated. This is particularly the case for customary land owners with little information and little education.



6. False promises of the likely benefits from "development" are common in PNG. Logging companies promise roads and health centres, which often do not materialise. Mining and logging companies do not properly advise of environmental and social impacts. Oil palm companies promise inflated income opportunities. Poor families are vulnerable in the face of such misinformation.
7. Finally, there is fraud in the setting up of Incorporated Land Groups (ILGs) and the leasing of customary land. One such case at Collingwood Bay (Oro Province) was overturned by the courts, in 2002 (Tararia 2003).

Combinations of these factors, I suggest, have led to a massive undervaluing of customary land in PNG, on the few occasions that there have been transactions. A general sense of this undervaluation continues to fuel substantial dissatisfaction and disputes over land.

3. Land and livelihoods in Papua New Guinea

In face of the failure of PNG's rural land "markets", we need some means to estimate the minimum value of customary land, not necessarily to determine a sale or lease price, but at least to indicate what quantum of compensation lease prices would have to meet. The simplest way to do this is to sum the estimated opportunity cost of minimal subsistence (food and housing) production, plus some measure of the current cash crop production on customary land. This can conveniently be done per nuclear family, which in Papua New Guinea represents two adults and four or five children.



Customary land has important subsistence value, as well as cash crop potential, even for those participating in large cash crop industries. This is noted in practical surveys, though usually not given a monetary value. Koczberski et al (2001: 50 & 57-58) note that about 80 percent of the diet of Kavui and Popondetta LSS farmers was from garden food, and that most women (100 percent on LSS blocks and 52 percent on village oil palm blocks) regularly sold market food, many relying on the market as their main source of income.

Based on food market values and a consumption survey I estimated the subsistence value of food and housing from customary land at a rough average of 13,400 kina per year (see Anderson 2006a). This figure represents the amount an average family would have to spend on food and housing, in local markets, if they did not have their land and gardens. This subsistence figure is in most cases greater than the cash income from crops sold by families.

The assumptions behind these calculations are as follows: first, production on customary land has been reduced to an estimate for an average family of six or seven; second, land alienation in the model means complete dispossession – where, in practice, only a portion of the family's land might be leased. Third, account is made for the different prices in regional town and capital city markets. Fourth, "subsistence" value was only estimated for food and housing, and so excludes many other benefits from customary land (see Powell 1976), such as access to materials for medicines, fuels, fences, weapons, tools, canoes, textiles, string bags, cords, musical instruments, artworks, articles of personal adornment, ritual and

magic (the equivalent value of these resources is much more difficult to calculate.). Fifth, the additional costs of urban lifestyles and processed food consumption have been excluded. Estimating the actual opportunity costs of customary land in particular circumstances is complicated; however the principle of a real opportunity cost is, I suggest, very clear. Daily consumption figures were then multiplied into an annual figure, which could be set alongside annual cash income and annual rents in regional towns. The annual cost of purchasing the food consumed by such families ranged from 3,431 to 6,169 kina (in regional markets) and 7,260 to 11,388 (in Port Moresby). I have rounded this to create a value range of 3,400 to 11,400 kina per year, or an average of 7,400 kina as an equivalent value of the family's annual food (Anderson 2006a).

Rental equivalent values are difficult to apply, as town housing is limited and expensive, while village housing is constructed cooperatively, mostly from local materials, and is rent free. School teacher rentals in villages in Madang and the Highlands seem to range from zero (where housing is simply provided for the teacher) to 20 kina per fortnight (Sinemila 2004; Paol 2004). But teachers' accommodation is a special case. A more likely alternative housing option for landless families is settlement housing, on the fringes of the towns. However I have chosen "basic" town rental housing as the most reasonable equivalent. The annual cost of housing in Madang town, can be as much as 1,500 to 2,000 per month for a "decent" house; however a "basic" house in town would rent for 500 kina per month, or 6,000 kina per year (Chitoo 2004). This seems the closest substitute for secure, village housing. The figure of 13,400 kina per year "subsistence value" is thus gained by summing subsistence food (7,400) and basic housing value (6,000) equivalents (Anderson 2006a).

What about cash crops, whether crops grown specifically for market or income from sale of excess garden produce? In two pilot studies of small farmers' cash crops in Madang and Oro Province (in 2004 and 2005) I asked about their crops and their market income. While it is not possible to say that these pilots are representative for their regions, a few important observations can be made.

1. Virtually all small farming families (almost all on their own land) relied on cash income from markets, and marketed a mixture of crops for domestic and export markets.
2. Cash income from crops varied widely (some families also had outside work), from several hundred to several thousand kina per family per year. The median cash income was 3,000 and 4,200 kina, for the Oro and Madang pilot groups, respectively.

3. Most families had one hectare or less under cultivation, though some worked up to 2 hectares, and many oil palm farmers worked up to 4 or 6 hectares. The oil palm farmers had to tend subsistence gardens, on top of their oil palm trees.
4. Those engaged in the oil palm industry had medium incomes, though not the highest incomes of the two groups. The oil palm area seemed to be associated with lower general diversity of crops marketed (Anderson 2006b).
5. The highest income earning families (some earned up to 16,000 kina per year) were those farmers who focused on two or three crops for the domestic markets (typically peanut, betel nut and fruits) plus a couple of export crops, which could be companion planted (such as cocoa, coconut and vanilla) (Anderson 2006b).

These are conservative estimates, which do not take into account a range of other benefits that accrue from the holding of customary land. Any variant of these figures is impossible to reconcile with the current rural lease rents of 20 to 100 kina per year.

Table 1 shows the great disparity between rural land rents and actual production value from land, whether subsistence or commercial. The data on oil palm returns comes from estimates based on the Indonesian experience (Grieg-Gran 2009: 13). Much of this was copied across in the ITS Global study (2009), which then added (without much explanation) a much higher figure.

Apart from the great disparity between rural rents and productive value of land, I draw attention to the fact that the combined value of subsistence production for consumption, combined with cash crops, is greater than any of the commercial oil palm options, with the exception

Table 1: Rural customary land in PNG is undervalued

	Per hectare/year (kina)
Rural lease rents (Oro Pr.) *	20
Rural lease rent plus oil palm royalty (Oro Pr.) **	100 (est.)
Subsistence consumption value (Madang, WHP) ***	13,400 (est. av)
Commercial returns	
Small holder cash crops (Madang, EHP) ***	3,100 (est. av.)
Smallholder oil palm +	2,553 (US\$960)
Large scale oil palm +	8,884 (US\$3,340)
Large scale oil palm ++	24,671 (US\$9,275)

Sources: *Gou and Higaturu 1999; **King 2001 & Higaturu 2003; ***Anderson 2006a; +Grieg-Gran 2008; ++ITS Global 2009 Note: conversion rate used is 2.66 kina = 1US\$

Table 2: Formal sector incomes are very low

	Average weekly earnings (kina)
Formal sector incomes	
Ramu Sugar basic wage, 2006 (Madang Pr.)	42
RD Tuna factory wage, 2006 (Madang Pr., women)	34
Ramu Nickel construction wage, 2006 (Madang Pr., men)	50
VOP/LSS oil palm growers, 2006 (Oro Pr.)	61
LSS growers, 2002 (Oro Pr.)	43
Mama Lus Frut income, 2000 (WNB Pr., women)	28
National minimum wage, 2006	37.20
Informal sector incomes	
Informal sector survey 2003 (Central Pr.) *	158
Informal sector survey 2003 (ENB Pr.) *	124
Informal sector survey 2003 (Morobe Pr.) *	130
Informal sector survey 2003 (Western Highlands Pr.) *	138
Women roadside sellers, 2006 (Madang Pr., women)	138

Sources: from Anderson 2008, except * Sowe et al 2003

of the ITS Global figure. In any case, it should be clear that the great bulk of the value of oil palm production goes to the company, and not to the leasing or participating local farmer.

The problem for the customary land owner in face of a modernisation process which seeks to alienate land and propose greater engagement with the formal economy, is compounded by the poor prospects offered by PNG's formal sector. As Table 2 shows, most of the wages, or returns on programs which engage with the commercial plantations, are significantly lower than many of the surveyed informal sector activities. And most of these activities are carried out alongside (i.e. supplementing) subsistence production on customary land. Alienating land and seeking options in the formal sector looks to be a very bleak path for ordinary people.

4. Valuing land and livelihoods can inform choices

Neither the historical experience of land registration in Africa nor the PNG experience supports the argument that land commercialisation in PNG will benefit customary land owners. In particular, the precedents look bad for promises of rural credit, greater security of title and greater agricultural productivity. The existing value of subsistence and cash crop production, when compared with the current value of land leases, suggests a great undervaluation of customary land is taking place. It also seems that the PNG Government, in its role as protector of the interests of customary owners (through the lease-lease-back system) is failing in its responsibilities by allowing such low rural rents.

However, the role of the state is not made easier with the combined forces of banks, mining and logging companies, aid agencies and western academics joining in the chorus for land registration. Commenting on an earlier version of my subsistence value calculations Curtin and Lea (2006: 172) express incredulity that customary land could be delivering many thousands of kina in present value to its owners. They do not believe that PNG landowners "would sell themselves short" in land markets, where rents are as low as 20 kina per hectare. They correctly note that a minimum sale figure for a hectare of land, adding up opportunity costs over many decades, would be very high indeed. But that is the point: land is so valuable as to be virtually priceless, a point PNG customary owners have repeated many times. The point of land value calculations here has been to point to the inadequacy of market compensation, not to indicate a practical price that might encourage transactions.

Some time back, Bernard Narakobi wrote: "because land is eternal, it is held in trust for succeeding generations" (Narakobi 1988: 8). Indeed, it is precisely the inter-generational value of land that renders such calculations inadequate, and helps draw our attention to the danger for communities in converting such a precious and potentially sustainable asset into some short term cash. It seems to me the historical record, and current valuation evidence, places a strong onus on the advocates of land commercialisation in Papua New Guinea to address these questions:

1. Why should customary owners not see land registration and its associated promises as a step towards the dispossession of indigenous peoples, the purpose for which it was explicitly designed in the colonial period?



2. Why should PNG not have proper regard to the sad lessons of registration in colonial and post-colonial Africa?
3. How could registration possibly keep pace with family changes (adoption, migration, births and deaths) in the way that customary law now does? Is it not a certainty that many thousands of people will be left out of registers, due to the inability of databases to be regularly updated?
4. How could the formal dispossession of women be prevented if and when registration takes place, and entrenches the names of male clan leaders in patrilineal areas?
5. What can justify such low valued rural leases (20-100 kina per hectare per year), when the value of domestic cash crops on such land can easily amount to thousands of kina and the value of subsistence food and housing is many thousands of kina?

These questions deserve wider consideration.



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