

OWNERSHIP OF MINERALS AND PETROLEUM IN PAPUA NEW GUINEA: THE GENESIS AND NATURE OF THE LEGAL CONTROVERSY

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Introduction

The question of ownership of minerals and petroleum resources in Papua New Guinea (PNG) became a matter of controversy from the late 1980s. While the focus of public discussion is on the complex legal issue as to who owns the resources, whether it is the state or customary landowners, the legal issue is part of a wider struggle over distribution of the access to financial benefits flowing from large scale mining and petroleum development projects. Among the main groups involved are the state, mining and petroleum companies, landowning groups whose land is used to extract the resources, provincial governments claiming to represent local interests, national elite groups and the various local or foreign interests they represent. Towards the end of 1990, the struggle over distribution of and access to benefits has resulted in the legal question of ownership being referred to the courts in two cases.¹

In the first case the matter was dismissed on the ground that the applicant did not have sufficient locus standi. As a result of that threshold ruling, the court never went into the merits of the challenge to state ownership of minerals. The second case which challenges Conzinc Rio Tinto (Australia) lease rights to the Mt. Kare Gold Mine has not made much progress either. A dispute on preliminary rulings by the National Court resulted in appeals to the Supreme Court which has now directed that the case be remitted back to the National Court for the trial on the merits to proceed. Eventually though, as the case raises constitutional questions, the National Court will have to refer these matters to the Supreme Court. As matters stand, it now seems unlikely that a court ruling on the ownership question will be made this year. However, the answer eventually to be given by the courts could have profound implications on future mineral and petroleum projects.

This article has three main purposes. The first is to outline some of the main factors contributing to the struggle over financial benefits. The second is to summarise some of the key issues likely to be canvassed in determining the legal question of ownership. The third is to examine some of the implications that might follow should the courts disturb the status quo and decide that customary landowners own not only the surface but also mineral and other resources below the surface of their land.

While the primary focus of discussion concerns the mineral rather than the petroleum sector, this emphasis reflects the longstanding and important role of the mineral sector. Nevertheless, most of the issues discussed are or are likely to become equally pertinent to

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1. *Domgi v The Independent State of PNG* (unreported) Originating Summons No. 207 of 1990 and *Paterson Lowa and Others v Wapula Akipe and Others* (unreported) Supreme Court Appeal 19, 32, 36 and 60 of 1991.

the petroleum sector. Because of this overlap, reference to the petroleum sector in the discussion is largely limited to issues where there is a specific difference between the mineral and petroleum sectors.

Genesis of the Issue of Ownership of Minerals and Petroleum

As the legal controversy over ownership of mineral and petroleum resources is only part of a much wider political and economic struggle, an understanding of the nature of that struggle is essential to understanding how the legal issue has arisen and also the potential impact of a judicial decision which changes the existing legal regime.

The law that regulates ownership of minerals in PNG is the *Mining Act 1977* (PNG). This Act consolidates previous legislation: the *Papua Mining Ordinance 1928* and the *New Guinea Mining Ordinance 1938*. Both laws derived from mining legislation in Australia and reserved to the state the ownership of all minerals. In proclaiming the ownership by the state of all minerals, the *Mining Act 1977* (PNG) largely adopted the wording of the *New Guinea Mining Ordinance 1938*.

At independence PNG adopted a Constitution which among other things retained and applied existing laws to the extent to which such laws were effective law immediately before independence. But the Constitution also declared customary laws to be an integral part of the law of the land. It will be shown presently that much of the land in PNG is held under customary ownership.

This legal pluralism has given rise to two unresolved issues. The first is whether the customary landowner has ownership over the whole of his land including a right to any minerals found on and under the land surface or whether the claim to ownership of minerals was extinguished by the mining law.

The second issue is, assuming the mining law divested the surface owner of the right to ownership of minerals found on the land, whether that law is unconstitutional to the extent that it sanctions an act by the State which amounts to unjust deprivation of property without compensation — given that the right to property is protected by the constitution. Further assuming this to be the case, can it be said that the *Mining Act* is saved by the fact that that Act and the legislation upon which it is based predate the Constitution and therefore valid on this basis alone, or on the basis that the Constitution enacted in 1975 protected property rights subsisting at the time or those acquired subsequently. The right of the surface owner to minerals had been lost upon the enactment of the 1928 and 1938 mining laws.

Given its social and economic significance, the issue of ownership of minerals needs to be resolved. It has generated and continues to be the source of a restive feeling among the people of PNG most of whom belong to landowning clans. The Panguna landowners' revolt and the sabotage of mining activity which led to the indefinite closure of the Bougainville Copper Mine at Panguna are blamed largely on what is perceived as unfair distribution of profits from the mine. But during the Bougainville crisis it became clear that the crisis was fuelled by the landowners' claim to ownership of the minerals on their land. The Panguna landowners are not alone in pressing a claim to ownership of minerals. If the events of Panguna are to be prevented from arising elsewhere in the country, the question of ownership of minerals must be addressed seriously.

In addressing the issue of ownership of minerals and petroleum, the authors seek to put forward an informed and non partisan view. They set out the case for the landowners' claim to ownership of minerals and the state's legal position given a correct interpretation of the existing laws. But the authors also underscore the need to assess the political, social and economic implications of adopting any of the two views. The authors believe that this

article contributes to the debate on ownership of minerals given the uncertainties surrounding the present law.

The State of Mining and Petroleum Activity in PNG

PNG is a country rich in minerals. The extraction of gold, which began with the early gold rush in the 1880s in the Milne Bay province and in the 1920s in New Guinea continues to this day. Large scale mining started in 1972 with the commissioning of the giant Bougainville Copper Ltd (BCL) Mine at Panguna in the North Solomons. This was followed by the opening of other large mines in the country. The OK Tedi gold and copper mine (OTM), which is believed to contain 30 million tons of gold ore, began production in 1984. Another long standing operation at Wau closed early in 1991. The last three years have seen three other mines, Misima, Porgera, and Mount Kare come on stream. Construction at another giant mine, Lihir, previously scheduled to start in 1991, has been delayed to 1993.

In addition to the mining of gold, copper, silver and other metals, PNG has now struck oil. Construction at the Kutubu oil project in the Southern Highlands, a site believed to contain 170 million barrels of crude oil, is progressing at a fast pace propelled by the current favourable price of crude. Production at Kutubu is scheduled to begin in November 1992. There is also a gas project at Hides which is set to commence production in 1991.²

In the meantime, field exploration and prospect drilling which reached a peak in 1988, are showing signs of slowing down. Figures from the Department of Minerals and Energy (DME) show that by February 1990 there were 191 Prospecting Authorities (PAs) covering a land area of 87,191 square kilometres and involving 57 exploration companies.³ This represents reduced prospecting activity referable to the period before May 1988 when the government imposed a moratorium on mining exploration. By that date the number of PAs was 218 covering a land area of 133,860 square kilometres.⁴

Annual expenditure committed to exploration was around K47 million in 1988 compared to K21.1 million in 1984. Annual investment in the mining sector also continues to grow. In 1991 it was set to reach USD 800 million. Comparable figures for 1987 and 1988 are USD 175 million and USD 295 million respectively.

The increase in mineral extraction in recent times foreshadowed the mineral sector's ascendancy over the declining importance of agricultural exports. The mining sector now plays a central role in the country's economy. By 1988, it accounted for 65 percent of total export earnings. Until 1989 much of the revenue from minerals came from the BCL Mine. For 18 years since production started in 1972, the mine generated profits amounting to USD 2 billion. Alone, it accounted for 48 percent of the country's export earnings and nearly 20 percent of the Budget. The mine had assets valued at USD 1.2 billion. With the indefinite closure of the BCL Mine in May 1989, the OK Tedi Mine and the Porgera Mine, which together represent an investment of over USD 2 billion, are sure to become the main contributors of mining revenue.

Exploration in the petroleum sector also shows great promise, particularly in the area adjoining Kutubu where experimental drilling for oil indicates the presence of possibly another large oil reserve.

However, as revenue from mining and petroleum increases, so does the number of parties who want to share the benefits. The right to a share of mining profits and the extent

2. Industry sources indicate that production may be delayed to 1992 (personal communications from the Chamber of Mines).

3. See *Summary Information on Prospecting Authorities*, (Department of Minerals and Energy, 22 February 1990).

4. G.A. Aplegate "Comment on PNG Resources Legislation and Policy" [1988] *AMPLA Yearbook* at 2.

of entitlement are matters which fuel the controversy over ownership of minerals.

The Political and Economic Background to Landowners' Claim to Ownership of Minerals and Petroleum

1. Land Tenure in PNG

The first significant factor is that nearly all economic activity — including mining and petroleum activity — in PNG is carried out on private land. The land tenure system is such that of the total land area of 47.6 million hectares, 46.3 million hectares are owned by customary land owners, i.e., 97.25%. The people who own land under customary tenure are clansmen who hold the land by virtue of having lived on that land for many generations. The State owns an insignificant 1.3 million hectares of land, i.e. 2.75% of the total land area.⁵ Because of their control over the land from which minerals and petroleum are extracted, customary land owners have become significant players in the arena of the mining industry.

2. Local Communities' Dependence on Land and the Impact of Mining

The second significant factor is that a large majority of the people who own the land, the so called customary landowners, still lead a subsistence life. Their sustenance comes from the small farms they cultivate, the animals they hunt in the forest, the fish they catch in the rivers and other water systems, and literally from anything they can gather from the land. Very few Papua New Guineans, estimated at 7% to 10%, are in salaried employment. Although the mines have provided some jobs and other spin-off opportunities in small businesses, mines are not large employers. As such, while they take away land on which local people depend for sustenance, the mines do not provide all with alternative sources of livelihood. Also, as all major mines operate in areas previously very much isolated from the outside world, there tend to be very few of the landowners most affected by a mine who can take advantage of the limited employment opportunities arising.

Given the large size of the mines which have been established or are being constructed, the land area consumed by the mines is quite substantial. The BCL Mine in the North Solomons demonstrates the problem of land depletion quite well. The land which is leased to BCL for mining and related purposes extends over 100 square kilometres. The open pit itself occupies over 400 hectares of land and, as mining continued, the pit was projected to continue growing to 560 hectares. In addition, there are waste rock dumps which take up an extra 300 hectares. But the more significant cause of land loss is the tailings deposits from the mine. When the mine was forced to close in May 1989, tailings from the mine which are discharged into the river had flooded an area of 3,100 hectares around the Jaba River plains rendering that land unusable to the people who inhabit the area.

Because of these considerations, the question of ownership of land, together with the things that go with the land such as minerals, generates deep sentiments among the people of PNG. Although it would not be entirely true to say that the war between the Panguna militant landowners and government forces on Bougainville Island is being fought on the land question, the establishment of the giant BCL mine on that island and the various land owner claims which arose in connection with the mine were the main issues initially generating the conflict. It is also true that Panguna land owners were hardened in their claims when a prominent lawyer put forward the view that it is the customary land owners and not the state which owns minerals in PNG.⁶

5. R.W. James *Land Law and Policy in Papua New Guinea* (Law Reform Commission Mongraph No. 5, Port Moresby, 1985) at 33.

6. Personal Communication, North Solomons Provincial Government Officials, June 1989.

There is also the disruptive social impacts of these large mining projects on remote rural communities. These have been documented by several social impact studies carried out in mining areas. The Bougainville crisis demonstrates how high these feelings are. That crisis, in its secessionist manifestation of 1989 to 1991, should not be seen as an isolated occurrence. Dissatisfaction was expressed by the Bougainville landowners in very strong terms when the mine was being established in the late 1960s and there is evidence of considerable dissatisfaction on the part of OK Tedi landowners in the mid 1980s.⁷

Dissatisfaction of landowners affected by mining must also be seen in the broader context of the economic demands of customary landowners in PNG generally. Both the colonial government's accelerated development policy of the 1960s and the achievement of independence in 1975 raised great expectations of economic development opportunities. Dependence on export of agricultural commodities and falling commodity prices have ensured those hopes have remained largely unfulfilled. The disgruntled rural population in many areas has nevertheless seen apparent evidence of the great wealth of both the state and private enterprise in the form of roads and infrastructure, large scale agriculture, logging and mining operations. It has become clear to them that their only input of any value is their land and this fact underlies the ever increasing demands for land already or proposed to be utilised for both public and private projects.

Grievances against mining companies provide a rallying point for the landowners not only against the companies but also against the state. Unless seriously addressed, landowner dissatisfaction has the potential of tearing the country apart.

3. Dissatisfaction with the Distribution of Mining Benefits

A significant factor fuelling the controversy over ownership of minerals is what the landowners and other local interests — especially provincial governments — perceive as the unfair distribution of financial benefits arising from the mines.

Under the current financial regime applied to mining and petroleum activities, there are four main direct ways in which PNG benefits from the operations of mining and petroleum companies: namely, dividends from equity participation, production royalties, revenue from taxation, and acquisition of infrastructure.

Present government policy provides that the state is entitled to take up to 30 per cent equity in mining ventures. To date the state has not exercised its equity option fully, partly because of the risk of exposure which the holding of equity entails.⁸ The state holds equity in existing mines in the following proportions; BCL — 19 percent, OK Tedi — 20 percent, and Porgera — 10 percent. In some cases the state has allowed landowners and provincial governments (through corporate vehicles) to acquire a certain proportion of the equity to which the state is entitled. This has happened particularly in relation to Porgera. Misima landowners and their Milne Bay provincial government rejected the offer to buy shares in the Misima gold mine. They preferred to press the developers for additional physical benefits such as roads, hospitals, and schools. Landowners tend to view equity participation not as a benefit but as a cost. To them buying shares in a mine means having the disposable income necessary to make the investment.

7. D.C. Hyndman "Mining, Modernisation and Movements of Social Protest in Papua New Guinea" (1987) 21 *Social Analysis* at 20 to 38.

8. Note however that in some instances (e.g. Kutubu project) government shares are in the form of carried equity paid for in full from the state's production share. Nonetheless, the government did make cash available in the case of OK Tedi. DEMCO's contribution to exploration and other activities undertaken after Kennecot withdrew was used to buy the government's shares.

With regard to production royalties, the state is entitled to receive 1.25 percent of the f.o.b. value of any mine products exported from PNG.⁹ For petroleum too the state royalty is 1.25 percent determined with reference to the wellhead value.¹⁰ For landowners, the main dissatisfaction with royalties is two-fold, uneven sharing and inadequacy. The sharing of the royalty paid to the state is seen as grossly unfair to landowners. The present arrangement is that of the 1.25 percent royalty paid to the state, only 5 percent is passed on to the owners of the land on which the mine is situated.¹¹ The only other monetary payments landowners receive are rent over the lease area and compensation for damage or loss of land resulting from mining activities. In this case compensation is either determined by the mining Warden's court or paid in accordance with the agreement between landowners and developers.¹²

Ironically, even the provincial governments which receive the lion's share of the 1.25 percent royalty are not happy with the amount they receive.¹³ Provincial governments have argued that the royalty paid by mining companies is too small and should be increased. At a Premiers' Conference in 1988, some premiers had proposed increases in mining and petroleum royalties of between 10 to 12 percent. However, the premiers' final recommendation which was never accepted by the state was to double the present rate to 2.5 percent and at the same time obtain a 20 percent share of taxes paid to the state by mining companies.¹⁴

While the rate of royalty is itself considered as being inordinately low, the method of its calculation makes the actual payment even smaller. The *Mining Act* 1977 (PNG) provides that in calculating the royalty payable onboard expenses plus ground expenses for clearing and delivery should be deducted from the f.o.b. value.¹⁵ In the event the f.o.b. value base is itself severely eroded.

On the other hand, the state imposes an array of taxes on mining and petroleum companies which give it substantial revenue returns. The *Income Tax Act* 1959 (PNG) imposes a company tax of 35 percent on income from mining and 50 percent on income from petroleum. There is also an Additional Profits Tax of 17 per cent for highly profitable projects and a Dividend Withholding Tax of 48 percent on distributions by mining companies. The combined effect of the tax regime guarantees the state about 50 percent of the profits realised. To this extent the state may be said to have well provided for itself. But revenue from taxation has no direct impact on the local landowners except in the general sense that the government is able to provide better for their needs with the revenue it collects. Landowners are not overly concerned about the state's tax revenue benefits from mining and petroleum operations. They are concerned about what comes to them: if the state will not provide for them then the companies should.

In contrast, the development of infrastructure which improves the quality of life in mining areas is something that landowners pursue with vigour. Mining and petroleum contracts generally require the developer to provide necessary infrastructure such as roads,

9. *Mining Act* 1977 (PNG) s.105.

10. *Petroleum Act* 1977 (PNG) s.188.

11. Section 67(2) of the *Organic Law on Provincial Governments* requires that at the end of every fiscal year the National Government shall pay to the provincial government all royalties collected from mine products in the province. Development Agreements recently signed for the Misima and Porgera projects provide for landowners to receive 23 percent of the royalty payable to provincial governments.

12. *Mining Act* 1977 (PNG) s.102 and *Petroleum Act* 1977 (PNG) s.81.

13. Note that the Porgera and Misima "forum" agreements provide for 20 percent of the royalties to go to landowners, i.e. the provincial governments have agreed to give away part of their entitlement.

14. National Premiers Council 1988 *Mining and Petroleum Working Committee Report* at 14 and 17.

15. *Mining Act* 1977 (PNG) s.104.

housing and health facilities.¹⁶ Landowners and provincial governments wish to see an increase in the infrastructure provided by the mines well beyond the immediate needs of the mines and its workforce. As many of the mines are located in remote areas which have seen little development, the provision of facilities like schools, hospitals and roads is seen as the only lasting benefit from the mines.

But the demand for increased infrastructural developments needs to be pursued with a sense of proportion. Mine companies feel that at times the push for schools and hospitals is pursued without regard to the cost involved on the part of the company or the ultimate profitability of the project. These conflicting perceptions simply fuel the controversy over the ownership of minerals. There is also the disruptive social impacts of these huge mining projects on remote rural communities. These have been documented by several social impact studies carried out in mining areas. The Bougainville crisis demonstrates how high these feelings are. Grievances against mining companies provide a rallying point for the landowners not only against the companies but also against the state. Unless seriously addressed, landowner dissatisfaction has the potential of creating major conflict.

4. Recognising Local Interests — The New Mining Policy of 1988

The growing dissatisfaction of landowners affected by mining development gradually became clearer to both the industry and government during the 1980s. There seems little doubt that the major impetus was not so much a sense of the need to do greater justice to landowners but a concern at the potential for landowners to disrupt projects: particularly given the fact that most projects in operation or being evaluated were in very isolated areas where the developers could not count on effective government protection. Damage by disgruntled landowners could mean massive losses, especially as establishment costs in these areas are very high. The lessons of ignoring the Bougainville and OK Tedi landowners were learned by companies such as Placer Pacific, which worked hard from early in its exploration work for the Porgera Mine to consult and involve landowners.

It seems likely that the growing sensitivity of the mining companies was a major factor in influencing national government policy changes concerning recognition of local interests. There was little evidence of interest in the issues in 1981 when, preliminary to the seven yearly re-negotiation of the Bougainville copper Agreement, the national government consulted the North Solomons Provincial Government. Provincial demands for a greater share of benefits for the province — increased royalties, an equity share and infrastructure projects — were rejected out of hand, despite informal indications having been given to the Provincial Government by BCL that it would have been prepared to accept the provincial proposals. Rejection of the provincial demands by the national government saw the re-negotiation stalled and it had not taken place by the time landowner dissatisfaction erupted into a sabotage campaign against BCL company property later becoming an open rebellion against the authority of the national government on Bougainville.

The North Solomons Provincial Government took the issue of distribution of benefits to the 1982 Premiers' Council Conference and a resolution was passed seeking direct provincial involvement in negotiation of future projects and a provincial share in equity in projects. But it was not until the late 1980s when several other provinces were being or about to be directly affected by major mining and petroleum projects that the national government policy changed. While the immediate impetus for the change came from demands by provincial governments, it is apparent that the already mentioned concerns of the mining companies had been communicated to the national government.

16. As a condition of the development contract, these physical developments revert to the state at no cost upon completion of mining activities in the area.

In any event, soon after the Namaliu government came to power in July 1988, the new policy was announced under which a "forum" involving the national government, proposed developers, landowner representatives, and the affected provincial government would be held before any major mining or petroleum project was approved by the national government.

Towards the end of 1988, the "forum" process was given its first test in negotiations prior to the approval of the Porgera project. The outcome was formalised in interlocking agreements between the national government, landowners, and the Enga Provincial Government. Under these agreements the landowner share of royalties was quadrupled; the provincial government was given — in lieu of increased royalties — a substantial part of national government revenue from the mine in the form of a new grant (the "Special Support Grant") equal to 1 percent of the value of export production of the mine; the provincial government and the landowners were given the right to purchase part of the national government equity in the project; landowners were promised preference in employment and in "spin off" business opportunities associated with the project; landowners and the provincial government were also to benefit from infrastructure developments; landowners were to receive provincial government funding for a development corporation and for other development purposes.

Similar agreements have since been entered into in relation to the OK Tedi Mine and Misima Mine Projects and the same can be expected of future projects. Of course, there is no intention on the part of the national government or the companies that the concessions to provincial governments and — more particularly — landowners should be seen as recognition of claims to ownership of mineral resources. Indeed, the concessions are quite consistent with a policy of compensating surface owners for the disruption occasioned by getting access to that which is not owned by the surface owner, a principle commonly accepted and applied in most countries where the state claims ownership of minerals. Nevertheless, in the charged atmosphere concerning both land compensation and ownership of minerals, it is not surprising that the concessions made in the forum agreements are to some extent seen as vindication of the ownership claim.

This came out clearly in an affidavit to a failed attempt to force the Supreme Court to rule on the constitutionality of the *Mining and Petroleum Acts*. Peter Donigi, a prominent national lawyer who also claimed to be a landowner, cited in his affidavit the forum procedure as evidence of the state's recognition of the landowners' right to minerals. It appears that rather than appease the landowners, the policy of involving landowners in processing approval for mining development projects is having the effect of hardening their claim to ownership of minerals.

However, having committed itself to a policy of appeasement, the state is likely to continue making concessions to landowners. But given the landowners hardline attitude further concessions will only add support to their claim over minerals.

A final point needs to be made concerning the recognition of local interests, namely that the increased revenue flowing to small groups of landowners and to particular provincial governments is likely to raise issues about equitable national development. In particular, the flows of royalties, special support grants, and other benefits to a few provincial governments with major mineral projects is likely to create a small group of relatively rich provinces. The majority of poorer provinces will not accept that position without putting considerable pressure on the national government for additional resources. This issue has the potential to be very divisive.

5. Customary Owners and Other Interest Groups

The increased benefits available to owners of land affected by mining and petroleum projects tends to attract the attention of a range of groups with an interest in getting access to the relative wealth of the landowners. But there are additional factors indicating a dramatic increase in interest in landowners on the part of "business" interests. These comprise two main elements, namely members of PNG elite groups and foreign business interests. The latter normally act behind a facade provided by the former.

In the first place, the growing recognition of the validity of landowner interests — if not their ownership of sub-surface elements — provides very useful support for claims by these business interests for a preferential or concessional role in aspects of mineral or petroleum projects. The best example is provided by the attempts in 1990 by the Monticello group to control an oil pipeline intended to serve the Kutubu project.

Second, the increased funds available to relatively unsophisticated landowners makes them attractive prey to these same business interests who are seeking to involve themselves in provision of management and other services to landowner groups. The prospect for greater landowner wealth in the wake of recognition of landowner sub-surface rights means these groups are likely to provide vocal support for the claims of customary landowners.

This aspect of the controversy adds a further dimension to claims of customary ownership. There is extensive literature about the nature of custom, and the extent to which various groups in many societies seek to make claims on the basis of custom which are in reality designed to advance particular economic or political interests. In the process there may even be a tendency to "invent" custom.¹⁷

Ironically, to the extent that claims to customary ownership of minerals are seen as based upon manipulation by elite and other business interests, the claims may well be weakened, for as discussed later the position of mining companies and the state is to some extent based on the proposition that the traditional concept of land did not extend to sub-surface rights. While we shall demonstrate that this view is not necessarily correct, the evidence of pre-colonial systems of sub-surface rights is not well known. Hence landowner claims which may have some traditional validity may nevertheless be damaged by a public impression that custom is being invented for economic advantage.

Ownership of Minerals and Petroleum — The Legal Issues

There are three main strands to the legal controversy. In the first place, the question arises whether there is any basis in custom for landowners to claim ownership of sub-surface elements. Second, the state asserts that colonial legislation, adopted at independence, took ownership of all minerals and petroleum for the state. Third, the question arises as to the constitutional validity of such legislation.

1. Customary Landowners' Claim to Ownership of Minerals

(a) *Cujus Est Solum*

The claim by customary landowners to the ownership of minerals found on their land is based primarily on their ownership of the land. They argue that the person who owns the land owns everything that comes with the land. The argument, though not based on common law, is reminiscent of the *cujus est solum* doctrine, a Roman law doctrine imported

17. See for instance R.M. Kessing "Creating the Past: Custom and Identity in the Contemporary Pacific" (1989) 1 *The Contemporary Pacific* at 19 to 42. However, it is fair to say that not all members of the elite group use the custom and landowner arguments for selfish motives. As the enlightened part of a largely illiterate local people, the elite have a duty to assume a leadership role in pushing legitimate local interests.

into English law around the 16th century. The doctrine is summed up in the maxim *cujus est solum ejus est usque ad coelum et ad inferos* which simply means that the owner of the land surface owns both the air space above the surface stretching to the limits of the atmosphere and the soil beneath the surface down to the centre of the earth.¹⁸ But the *cujus* doctrine has very limited application in PNG since only a very small proportion of the land is freehold or held under state leases. In any case, the lease titles granted by the colonial administration and later the independent state of PNG always contained reservations of minerals. The *cujus* doctrine may have relevance only to the extremely few freehold titles granted in New Guinea when that part of the country was under German rule. However, there is doubt as to whether the freehold title granted by the Germans is of the same scope as the English fee simple title to which the *cujus* doctrine is normally applied. But even with freehold titles, ownership of minerals does not extend to gold and silver. At common law the *cujus* doctrine has been modified to exclude application to gold and silver, the two royal metals which belong to the Crown by royal prerogative.¹⁹

(b) Customary Ownership of Sub-Surface Elements

In the circumstances, the claim to ownership of minerals by customary landowners appears to be based solely on custom and the recognition which the Constitution gives to custom as part of the underlying law of PNG.²⁰

There is a view in PNG, fairly widely accepted within the mining industry, that dismisses the customary landowners' claim to ownership of minerals as absurd on the ground that local people did not know about minerals before contact with Europeans in very recent times. It is argued that the conception of "land" in traditional societies is limited to the surface which is used for farming, hunting and gathering, fishing and burial. This conception of land does not extend to an interest in sub-surface elements.

This view needs to be examined in perspective. In the first place one needs to examine its factual accuracy by posing the question: did traditional societies, as a matter of historical fact, have a conception of minerals? In responding to that question fairly one needs to be clear as to what is meant by the term "minerals". In normal parlance, the term minerals is understood to refer to precious metals. So far as law is concerned to apply such a meaning would be misleading. The *Mining Act 1977* (PNG) adopts a definition of minerals which includes non-metal substances such as coal, shale, mineral oils, and other valuable earths. If minerals are to be understood in this context then it would be incorrect to say that traditional societies in PNG did not know about minerals before contact with Europeans.

A range of sub-surface substances was extracted using a variety of techniques. Of considerable significance for our purposes is the fact that a range of rights to substances extracted from below the surface seems to have been recognised.

Our major sources of information on these issues are studies of pre-contact trade and technology in the New Guinea highlands. Unfortunately, there is not the same detailed information available about coastal and islands peoples, largely because when they came into regular contact with Europeans, anthropology and related disciplines were still in their infancy. The studies of highlands peoples have shown that many aspects of their physical culture changed dramatically very soon after contact with Europeans; for example, stone tools were rapidly abandoned in favour of metal tools introduced by Europeans and stone axes made for "wealth" exchanges (rather than practical use) were replaced by pearl shell.

18. A.J. Bradbrook "The Relevance of Cujus Est Solum Doctrine to the Surface Landowner's claims to Natural Resources Located Above and Beneath the Land" (1988) 11 *Adelaide Law Review* 462.

19. *Case of Mines* (1568) 75 ER 472.

20. Constitution of PNG, Sch. 2.1.

As a result, most major stone quarries, some worked for thousands of years, were abandoned. Skills and forms of property were lost. Because islands peoples came into contact with Europeans several generations earlier than the highland people, it is not as easy to build an accurate picture of uses of and rights over sub-surface substances. Nonetheless, there seems little doubt that coastal and islands peoples also used many sub-surface substances.

In the highlands, a major study of pre-colonial trade indicates that the significant sub-surface substances extracted for use in manufacture of items for trade, or for trade in their original form were: mineral pigments of various kinds; edible earth (a dietary supplement for pigs); stone of kinds; and clay (for pottery and other purposes).²¹ In addition, water from mineral springs was used to make salt and mineral oil from seepages was used as a cosmetic, a medicine and possibly as cooking fuel. Stone was the substance most extensively extracted, being used for many purposes which "included cooking stones, hammer and anvil stones, drill points, awls, scrapers, knives, bark cloth beaters, axe blades and their prehistoric mortars, pestles and naturally weathered curiously shaped stones used in magico-religious rituals".²² Of particular importance were stone axes, both working axes and those used only as valuables (i.e. in wealth exchanges of various kinds and bride price payments). The rock used for axe manufacture was "hard contact metamorphosed hornfels",²³ and a study cited by Hughes suggests all known accessible occurrences of suitable rock in the central highlands were quarried, and hence that "the primitive stone miners were aided by efficient prospectors".²⁴

Extraction techniques ranged from the very simple to the highly sophisticated. Examples of the former include: use of bamboo dippers to gather mineral water for salt production, use of a feather to soak oil from the surface of water, and scraping "lenses" of metallic pigment from between other strata of rock using fingers and bamboo spatula.²⁵ The most sophisticated extraction techniques were used to extract stone. Research by archaeologist John Burton²⁶ indicates that at the Tuman quarries in Western Highlands, galleries (the so called 'room-and-pillar' technique) were used.²⁷ At Dom in Simbu Province, shafts as deep as 20 metres were sunk through soft rock to provide access to the seams of hard rock required for axes; cross braces were used to keep the walls apart and the base of the shaft was gradually extended to 10 to 15 square metres. Fire was lit on a hard rock seam which covered the rock which was sought, and water poured on the heated rock to make it crack. Once the axe stone was exposed, hard wood wedges and hammers were used to extract unshaped blocks from which the axes were made.²⁸ The Dom quarries were no longer in use by the late 1940s, and all signs of the shafts had vanished when Hughes visited the sight in 1968. Nevertheless, he estimated 50,000 square metres of soil and rock had been removed from the shallow valley which resulted from the collapsed mine shafts.²⁹

As to rights to extract sub-surface substances, both Hughes and Burton provide evidence that the site from where the substances in question were extracted were owned by

21. I. Hughes "New Guinea Stone Age Trade: The Geography of Traffic in the Interior" in *Terra Australia* (Dept. of Prehistory, Research School of Pacific Studies, Australian National University, Canberra, 1977), Vol. 3.
22. *Ibid.* at 132.
23. *Ibid.* at 144.
24. Bain and others "Geology of the Kubor Anticline" (Bureau of Mineral Resources, Canberra, Record No. 1970/79) cited in Hughes, op. cit. at 144.
25. Hughes, op. cit. at 106 and 111.
26. J. Burton *Axe Makers of the Wahgi* PhD Thesis (Australian National University, Canberra, 1984).
27. *Ibid.* at 78 to 80.

particular groups and that in several instances there were well accepted arrangements whereby related or friendly groups or individuals were permitted to extract the substances. Hughes talks of "ownership" of particular oil seepages being disputed due to their value,³⁰ of owners of mineral springs permitting collection of water by related people,³¹ and of a red ochre made from sandstone found in limestone pinnacles and caves in Simbu being "gathered by the owners of the ground and relatives, and with permission, their allies of the moment".³² Burton records that neighbouring groups "bought or leased the right to make mineshafts" from the owners of the ground of the Dom quarries, the Goroku tribe.³³ Informants from one such group said they paid "in pigs and other valuables and by giving brides to the Goroku without expectation of bride price".³⁴

One may argue that this evidence of sub-surface substances and mining in PNG is scanty and limited to a few places. It is also possible to argue that among the coastal people of Papua, for instance, use of such substances and mining only came with European contact. Even in the Highlands societies surveyed by Vial, Hughes and Burton, metals mined today were not exploited. But such argument is unhistorical as the lack of evidence of pre-contact mining in itself does not defeat the customary landowners' claim to ownership of minerals. We submit that custom (i.e. including the traditional activities performed by a community) is adaptive in its nature and its legal form is recognised as such by the PNG Constitution.³⁵ With time the people of PNG would have discovered minerals and would have developed (or adopted) the technology necessary to exploit minerals and put them to some use.

Indeed there is abundant evidence showing that several traditional societies in other parts of the world had discovered and made use of metals before European contact. The people of East Africa developed an elaborate technology for forging iron tools as early as the 12th century. In West Africa, bronze carving is as old as some of the African tribes in that part of the continent. Along the Zambezi River in the ancient Kingdom of Monomotapa central African tribes were mining gold before they came into contact with the early Portuguese visitors in the 16th century.

Given such evidence, the argument that the concept of land in traditional societies is always limited to surface rights is clearly not tenable. As we have shown, an interest in sub-surface elements did exist in some parts of PNG. It probably existed in many others. In those areas where it did not, it may well have been developed had the growth of traditional civilisation not been arrested by the intervention of colonialism. It appears therefore that there is a legitimate claim to ownership of minerals by customary landowners, assuming nothing has happened to displace that ownership.

2. The State's Claim to Ownership of Minerals

The state's legal position on ownership of minerals is quite simply that by virtue of existing laws all minerals and petroleum are the property of the state. Section 7 of the *Mining Act 1977* (PNG) provides that "all gold and minerals in or on any land in the country are the property of the state".

The *Mining Act 1977* (PNG) is an amalgamating Act.³⁶ It simply consolidated and

28. *Ibid.* 188 to 194 and note that Burton's findings corroborate those of Vial who visited the area in 1939 (see L.G. Vial "Stone Axes of Mount Hagen New Guinea" (1940) 11 *Oceania* 158 to 163).

29. Hughes, *op. cit.* at 142.

30. *Ibid.* at 83.

31. *Ibid.* at 106.

32. *Ibid.* at 108.

33. Burton, *op. cit.* at 187.

34. *Ibid.* at 188.

35. Constitution, Sch. 2.1.

continued to give effect to state ownership of minerals as already provided under two separate laws applying to Papua and New Guinea respectively before the two parts were united to form the present state of PNG. The governing legislation in New Guinea was the *New Guinea Mining Ordinance* of 1928 whose section 191 reserved to the state all gold, silver, tin, antimony and metals of every description. For Papua, section 167 of the *Papua Mining Ordinance* of 1937 reserved to the state all gold and minerals. Both laws derive from similar mining laws of Australia.

At independence in 1975 two vital events occurred. The first was that existing property of the colonial Administration was transferred to the state of PNG. The second was that all like pre-independence laws were adopted and applied to PNG. Schedule 2.6 of the Constitution enacted at independence provides in part that:

. . . all pre-independence laws are, by virtue of this section, adopted as Acts of Parliament . . . and apply to the extent to which they applied, or purported to apply, immediately before . . . Independence Day . . .

The *Mining Act* is, therefore, good law and section 7 can be said to effectively vest ownership of minerals in the state.

The *Petroleum Act* also declares petroleum as the property of the state. Section 5(1) provides that:

Subject to this Act . . . all petroleum and helium at or below the surface of any land is, and shall be deemed at all times to have been, the property of the state.

In the event, if customary landowners did have any ownership of minerals or petroleum prior to the enactment of the mining laws, this has been taken away by these laws.

Apart from vesting mineral property in the state, the mining and petroleum laws empower the state to grant a mining lease or a petroleum development licence to a third party to enter and remove minerals or petroleum found on any land.³⁷ The state has used these powers to grant exploration licences, petroleum development licences, and mining leases to foreign companies now operating various resource projects in the country.

3. The Constitutional Validity of the *Mining and Petroleum Acts*

It is now being argued that if section 7 of the *Mining Act* acquired for the state property in minerals including minerals found on private customary land, the taking of such minerals is unconstitutional because it deprives customary landowners of their property without compensation. Section 53 of the Constitution offers citizens of PNG protection from unjust deprivation of property.

Although the right to property under the Constitution is a qualified right, its exercise can only be restricted by a law duly enacted by Parliament. The Constitution in section 38 requires that a law which purports to restrict a protected right must be one which is made in the public interest and is reasonably justifiable in a democratic society. Such a law must be expressed to be a law made for the public interest and specify the right it restricts. It must also carry a certificate by the Speaker certifying that it was made by an absolute majority. Clearly the Mining and Petroleum Acts do not meet these constitutional

36. The amalgamation of the previously existing New Guinea and Papua legislation took place in November 1977 with the new Act coming into force on 8 June 1978.

37. *Mining Act* 1977 (PNG) Part VII, ss.42, 49; *Petroleum Act* 1977 (PNG) Division 4, s.35.

requirements. But can it be argued that these laws are unconstitutional and invalid for failure to comply with section 38?³⁸ Such argument is flawed on two accounts.

In the first place it is doubtful that the provisions of the Mining and Petroleum Acts reserving to the state property in minerals and petroleum amount to a taking of property. The provisions are merely declaratory of rights. There is no taking or acquisition of property until the state or its licensee enters customary land and removes minerals or petroleum. A similar view has been expressed by the Supreme Court in *Re Manus Provincial Government*,³⁹ a case challenging the constitutionality of the power given to the Minister of Forests to grant logging licences on private lands including customary land. If indeed there is no taking of minerals under the two Acts, section 53 of the Constitution has no application.

However, assuming that by section 7 of the *Mining Act* and section 5 of the *Petroleum Act* the state acquired property in minerals and petroleum, can the acquisition be challenged under the 1975 Constitution? Two hurdles stand in the way of such an argument. The first is whether pre-independence laws, having been in force before the enactment of the Constitution, are subject to the requirements of the Constitution, particularly the form requirements under section 38(2).

There is no clear judicial authority on this point. One view is that the Constitution applies prospectively and therefore does not affect adopted laws. Alternatively, pre-independence laws are deemed to conform with the Constitution by virtue of section 20(3) and Schedule 2.6(2) which provide that such laws apply to the extent to which they applied before independence. Raine J. in *Cory v Blyth (No. 1)*⁴⁰ appeared to favour this view but did not give his reasons. The contrary view, expressed tentatively by Kapi DCJ in *Hetura Paz Development Co. Pty Ltd v Niugini Nius Pty Ltd*⁴¹ is that any Act which regulates or restricts a protected right must comply with the Constitution. Indeed Schedule 2.6 which adopts pre-independence laws seems to envisage such compliance. It states that the provisions in that Schedule are to be read "subject to the Constitution". That phrase is said to imply that adopted laws are subject to the same constitutional limitations as are post-independence Acts of Parliament.⁴² In *Federal Huron v OK Tedi Ltd*⁴³ Kidu CJ stated that the status of pre-independence laws needs to be seen in the light of the sequence of events which took place at independence. The *Laws Repeal Act 1975* (PNG) repealed all existing laws applying to PNG at the time with the intention of wiping clean the legislative slate. At the same time, Schedule 2.6(2) of the Constitution was enacted to fill the vacuum. It adopted all pre-independence laws as Acts of Parliament and applied them "to the same extent as they applied immediately before independence".

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38. The Supreme Court tends to require strict compliance with the form requirements of s.38(2) of the Constitution. This is evidenced in *State v NTN Pty Ltd and NBN Ltd* (1988) (unreported) Supreme Court 323 and *Re Vagrancy Act* [1988] PNGLR 1 involving two statutes which were invalidated for non-compliance with s.38. Note however that in the latter case only one of the three judges considered non-compliance with form as being fatal to the legislation. The majority felt that the form required under s.38(2) is not mandatory.
39. (1990) Supreme Court 384.
40. [1976] PNGLR 274 at 279.
41. [1982] PNGLR 250 at 254.
42. See *Peter v South Pacific Brewery Ltd* [1976] PNGLR 537 and also Brunton and Colquhoun-Kerr *The Annotated Constitution of Papua New Guinea* (UPNG Press, Port Moresby, 1984). The authors argue that to exempt pre-independence laws from the requirements of the Constitution would have the undesirable result of creating two regimes laws in the country (at 142).
43. [1986] PNGLR 5 at 17.

As this provision is qualified by the phrase "subject to this Constitution" the application of pre-independence laws is therefore subject to the same constitutional requirements as post-independence Acts of Parliament. But the *Federal Huron* case was not on the question of compliance with the requirements of the Constitution. It concerned the question whether the *Admiralty Acts* of England were "adopted laws" and applicable to PNG. As such it is not an authority on the question of the need for compliance with the Constitution of all pre-independence laws. This question remains to be decided. A challenge to the constitutionality of the *Mining and Petroleum Acts* will depend on how the Supreme Court rules on the status of pre-independence laws.

Then there is the second hurdle to be overcome in challenging the constitutionality of the *Mining and Petroleum Acts* in so far as they purport to vest minerals and petroleum in the state. Assuming that there has been a taking or acquisition of private property in minerals, this would have occurred in 1928 and 1937 when the New Guinea and Papua mining ordinances were enacted. As stated before, the *Mining Act 1977* (PNG) simply consolidated and continued the state's ownership of minerals which at the time was vested in the colonial government. At independence the Constitution transferred all property formerly vested in the colonial government to the government of the independent state of PNG.⁴⁴ If this view is correct, customary landowners lost property in minerals long before the Constitution was enacted and section 53 must be read as applying only to property rights existing at independence.

The Potential Impact of Judicial Recognition of Customary Ownership of Minerals and Petroleum in PNG

Assuming the Supreme Court were to declare the *Mining and Petroleum Acts* unconstitutional, what effect would this have on the mining industry?

1. Effect on Government Mining Policy

Current mining policy has the objective of providing the government with effective powers to regulate the mining industry with suitable flexibility and reasonableness to encourage investment. It aims to maintain investor confidence through the consistency of mining legislation. The state further aims at achieving the full potential for minerals development for the benefit of the whole of PNG. In order to achieve these objectives the state's mining laws give the National Government full control over the minerals sector so that it can ensure uniformity of policies and investor treatment. It is believed that the laws vest the ownership of minerals in the state to allow for effective government control over the industry.

But while the state continues to pursue its mining policy, it is not blind to the sentiments of the customary landowners' claim of right over minerals found on their land. The payment to them of a part of the 1.25 percent production royalty is aimed at appeasing landowners by allowing them a direct cash benefit on minerals taken from their land. Also as stated earlier, the state in 1988 introduced the forum procedure through which landowners, provincial governments, the state and the mining companies can discuss all aspects of a proposed resource project and reach agreement before development contracts are signed. The aim, on the part of the state, is to minimise conflicts with landowners whose dissatisfaction with the operation of mines in their area has at times led them to engage in acts which have forced mines to halt production temporarily.

44. Constitution s.248.

If the courts were to acknowledge customary ownership of minerals and petroleum, the government's policies on mining and petroleum would have to be reviewed in order to allow for the role of the state in the mining and petroleum industries to be redefined.

2. Effect on the Mining Industry

Within the industry there are two main views. One view on impact maintains that the implications of "giving" ownership of minerals to landowners should be seen in the context of the need for the state to be in charge of the economy and the need for certainty and stability in the mining industry. It is argued that loss of state ownership would lead to loss of effective state control and this would generate chaos within the industry and between the industry and the landowners. This would adversely affect investment in the mining sector.

Some even argue that mineral ownership by customary landowners will lead to anarchy. In an interview with a local newspaper, the former Secretary of the Department of Minerals and Energy is quoted to have said:

Water, minerals and petroleum should be owned by the State and the development of them controlled by the State . . . If we give to landowners to control, we are giving a problem to landowners. There will be more clan fights. Landowners are already fighting over who owns 'karuka' (pandanus nut trees). We do not want to throw another commodity to them to fight over. They will soon be asking Government to come and umpire or arbitrate all because they have gone gold crazy.⁴⁵

This view is, certainly, an extreme one as it seeks to portray customary landowners as a "greedy mob". The experience to date with landowners at the Porgera and Misima mining projects which the industry has hailed as an excellent example of landowner involvement does not support these fears. We concede that conflicts over claims of ownership of land on which minerals have been found have occurred. But it is also realistic to say that the scale of such conflicts remains small. Besides, there is good reason to believe that in the very long term, with the implementation of a current state program aimed at registering customary titles, such conflicts may disappear altogether.

But the argument often made by mining companies on the need for control and stability is a valid one and needs to be taken seriously. However, it is submitted here that the ability of the state to control and regulate the mining industry is not predicated on state ownership of the resources. This is a totally separate question. The state can play its regulatory role without a right to ownership of the resources.

The contrary view within the industry on ownership of minerals by landowners is that the question who owns the resource is not crucial to the effective operation of the mining industry. What is crucial to the effective operation of the industry is to have a regime of laws which meets the needs of the developers and those of the owners of the resource. Minerals in situ are of no value to the landowners. The capital and skills of foreign companies would still be needed to exploit mineral deposits. The state could continue to play its regulatory role, laying down the rules for dealings between the developers and the landowners. But even assuming that landowners are called on to deal directly with the mining companies, if they wish to derive economic benefit from the minerals, the landowners would learn to work with mining companies as the state has done over the past decade.

This second view is perhaps the more realistic one and accords with what we have submitted on the first view. It also has the advantage of keeping the mining companies out of the present struggle for resource ownership. This is a problem between the state and its people. Foreign mining companies have no reason to interfere. For them to take sides would be perceived as a pursuit of selfish motives.

45. *Post-Courier*, 30 March 1990.

3. Effect on Local Communities

Colin Filer⁴⁶ has argued that the impact of large mining projects on hitherto isolated landowning communities will almost inevitably result in a process of social disintegration. In his view, changes in land tenure and disputes about distribution of benefits are among major impacts which cannot be absorbed by traditional social structures. We do not necessarily accept the inevitability aspect of Filer's argument. After all, the Torau and coastal Nasioi people whose land was also taken by the Panguna mine operations were not major actors in the crisis precipitated in 1988 by the mountain Nasioi in the immediate vicinity of the mine.

Nevertheless, it is undoubtedly a fact that major mining and petroleum projects do have significant impacts and that disputes about distribution of benefits are among these. Already, as discussed above, the increased income of landowners flowing from the national mining policy of 1988 has led to increased pressure on landowners from outside groups interested in getting access to the income. These developments will probably tend to increase problems for landowners in the long term. Recognition of ownership of minerals would probably result in still further income for landowners with a concomitant increase in problems unless the changes were to be very carefully managed.

But, clearly, the positive effect of a judicial recognition of customary ownership of minerals and petroleum would set to rest the local people's anxiety over the perception of state interference with traditional land, the one sacred property held so dearly.

Conclusion

This paper has demonstrated that although the question of ownership of minerals and petroleum is part of a broader struggle about the distribution of profits from mining, it is nevertheless an issue that needs to be settled. It has generated a restive feeling among landowners and is forcing provincial governments to take sides as landowners take their claim against the state and the mining companies. If left unresolved for too long, it may contribute to growing landowners restlessness which has the potential for exploding into open hostility towards the state. One lesson learned from the Panguna landowners' revolt and the Bougainville crisis in general is certainly that landowner grievances can easily cause major conflict.

The problem will not go away unless it is resolved. One of the issues which Colin Filer⁴⁷ argues strongly is that the events which gave rise to the Bougainville crisis are not isolated. He argues that given the present controversy over ownership and benefits, every major mining venture sows the seeds of discord in the landowners and it is only a matter of time before an event similar to the one experienced at Panguna occurs. He predicts that the failure to address and resolve landowners grievances will lead to cyclical social conflicts around mining sites at least once every twenty years.

On the other hand should the legal issue be resolved in favour of customary landowners, the consequential problems for the state and the mining industry are not likely to be insurmountable. Paradoxically, the problems for landowners may well be greater, for any increase in the financial benefits they receive is likely to open their societies to ever greater exploitation and pressures towards social disintegration. These possibilities (and policies to deal with them) would require careful consideration if they too are not to become destabilising factors for PNG.

46 C. Filer "The Bougainville Rebellion: the Mining Industry and the Process of Social Disintegration in PNG" in *The Bougainville Crisis* (Crawford House Press, Bathurst, 1990) at 73.

47. *Ibid.* at 111.

