

7. INDEPENDENCE

Nationalist Spirit

P

apua New Guinea's national flag was raised on 16 September, 1975, amid optimism that its citizens would have new opportunities to participate in economic development activities on an equal basis. For the emerging educated elite, centralisation of decision-making in Canberra and Port Moresby had become synonymous with the continuation of colonial rule. This nationalist sentiment became a focus for political debate in the late 1960s and early 1970s. Secessionist sentiments were expressed in Bougainville and Papua, while in the Gazelle Peninsula the Mataungan Association spearheaded a campaign to return alienated lands to local landowners.

A Constitution had been drawn up after extensive consultation involving some 2000 meetings around Papua New Guinea. The Constitutional Planning Committee (CPC) recommended that Papua New Guinea's diverse regional and cultural groups would be best served by a decentralised system of government rather than a single unitary state. The vision was the devolution of decision-making, administration and financial powers to a level where rural populations and their representatives could participate effectively in planning and development. The CPC drafted the Constitution to recognise that districts (later renamed provinces) could choose provincial government if they so desired.

The decision involved significant political and economic costs. National departments and politicians feared reduction of their power and the cost of establishing provincial administrations was seen as excessive^{1/}. The new Government sought to scrap the provincial government provisions, bringing a swift reaction by the Bougainville Provincial Assembly which unilaterally declared independence on 1 September 1975.

Reconciliation talks between Bougainvillean leaders and central government officials led to the Bougainville Agreement in 1976. Bougainville agreed to remain in Papua New Guinea if provincial government was re-inserted in the Constitution. This amendment was approved by Parliament in August 1976, through the drafting of a separate *Organic Law on Provincial Government*, which was enacted in March 1977. The Organic Law set the parameters for administrative and financial decentralisation.

When confronted with implementing the process of decentralisation, the Government decided that it would be administratively simpler to devolve uniformly across the 19 provinces than on a piecemeal basis. On 1 January, 1978, substantial financial and administrative powers were transferred to all nineteen provinces in Papua New Guinea.

The Provincial Government Issue

The vision and hopes held at Independence have not stood up well in practice. While the introduction of provincial government generally satisfied regional demands for political representation, the system has been criticised for its inefficiencies and financial mismanagement. In some provinces, the political executive, together with selected public

^{1/} Axline, WA, *Decentralisation and development policy: provincial government and the planning process in Papua New Guinea*, Port Moresby, IASER Monograph No. 26, 1986, p. 15

servants, effectively became the *gatekeepers* of the provincial budget. Instead of a mechanism for cooperation and the mutual sharing of power between national and provincial governments, the reality was that the new political structures provided a venue for the interplay of competing interests and institutions^{2/}. Self-interest and patronage came to be seen as the hallmarks of the provincial government system and PNG politics in general. Provincial government reforms enacted in 1995 extended the power of national politicians over provincial affairs.

Economic Development: from Village to Mine

Initially, the process of nation-building in PNG was guided by the *Eight Point Improvement Plan*. Its themes were increased participation by Papua New Guineans in economic activity and equality of opportunity. The reality was very different. Instead of a rural-based, self-sufficient development model, a minerals economy emerged which favoured capital-intensive, enclave activities over labour-intensive, rural-based industries, particularly agriculture.

Papua New Guinea has an open economy which is highly dependent on international trade. Over the period 1985 to 1988, exports averaged 40 per cent of GDP and there were high levels of capital inflows into mining and petroleum projects. On average, mining sector investment was equivalent to 8 per cent of GDP during the period 1986-1989 as the Ok Tedi copper mine came into production, new mines were developed at Misima and Porgera and the Kutubu oil fields were developed.

Papua New Guineans played a peripheral role in these large-scale resource development projects. During the 1980s high unemployment, a disaffected youth and dissatisfaction over land compensation claims on Bougainville island resulted in the closure of the Panguna copper mine in 1989 and the outbreak of armed rebellion. Fundamental differences between landowners and resource developers over land rights distribution of benefits led to the conflict.

The result was a period of anarchy and suffering for the people of Bougainville which many believe has been more traumatic than the hardship experienced during the Second World War. In the armed rebellion which followed, most of the island's infrastructure was destroyed, roads fell into disrepair and there was significant loss of life ^{3/}.

The Bougainville crisis and closure of the Panguna copper mine in 1989-90 had a dramatic impact on the PNG economy. With World Bank assistance, a program of economic reform was initiated. However, rapid growth in the minerals and petroleum sectors in the early 1990s stimulated expectations of significant wealth. There was also a rush to exploit forest resources and export logs to Asian markets for short-term gain. This resources boom generated high expectations and political pressure to secure and distribute prospective revenues to meet local interests. Uncontrolled government spending on populist activities and the public service resulted without any improvement in productivity. Increasingly, fiscal indiscipline, including wasteful and increasing recurrent expenditure, consistent over-budget expenditure, raids on national savings for short-term consumptive expenditure and disregard for the public debt, has characterised

^{2/} PNG Parliament, Bi-Partisan Select Committee on Provincial Government, Report of 2 March 1993, p. 23.

^{3/} *Bougainville: a Pacific solution*, Report of the visit of the Australian Parliamentary Delegation, April 1994, Canberra, AGPS.

Government performance^{4/}.

During the mineral boom, capital-intensive production of export commodities and imports were encouraged at the expense of labour-intensive production and domestic supplies. In these circumstances, the competitiveness of the economy was eroded and unemployment rose.

Since Independence, overall economic performance has fallen short of the aspirations of the people. Employment creation has constantly lagged behind the entry of new job seekers into the labour market and there has been a sharp increase in criminal activity. This in turn has increased transaction costs and further reduced PNGs competitiveness.

Expectations of future wealth stimulated an upsurge in public sector spending on populist activities which could not be sustained. This resulted in the financial crisis of 1994-96 when severe spending cuts had to be imposed and the Government had to turn to international financial institutions for support in the implementation of reforms.

International Rail Revival

Papua New Guinea has been isolated from the international revival of railways which has occurred since the 1970's. This upsurge is linked to the adaptability of railways to new technology and environmental agenda on the one hand, and major institutional reforms on the other.

The technology of steel wheel on steel rails proved to be ideally suited to *new age* micro-electronics. Railways could now apply computer technologies to achieve new standards of operating efficiency and safety. Moreover, the public mood, jolted by the *oil shock* of 1973-74, urban traffic congestion and pollution, took up *limits to growth* and environmental issues. In this new context, the energy and space efficiency of railways became an important advantage^{5/}. Rail-based urban transport, for instance, requires one-thirtieth the space of private road-based transport and only a fraction of the space for storage (parking) and maintenance. In addition, the high energy efficiency of rail results in less pollution and greenhouse gas emissions than competing transport modes.

Heavy investment in railway infrastructure for efficient freight haulage, high-speed railways to link major cities and, within cities, in light rail and underground railway projects has occurred internationally since 1975. More significantly, railway institutions have been reformed to embrace new business cultures in which customer service has first priority and performance is assessed against *world-best* practices.

Reform has not been limited to main-stream public railways. In Australia, heavy haul mineral railways are at the forefront of world-best practice in railway operation. Research and development into canefield railway technology has brought enhanced competitiveness for the Australian sugar industry. Here road transport has been pushed aside by the efficiencies of modern, computer-controlled narrow-gauge railways which move vast quantities of cane at a constant rate from the field through processing mills. By the 1990s, twenty-six mills transported some 30 million tonnes of cane per season over some 3500 km of track, mostly of 610 mm gauge.

^{4/} Duncan, R and Temu, I, "The need for fiscal discipline", *Saturday Independent*, 9 December 1995.

^{5/} Faith, N, *Locomotion: the railway revolution*, London, BBC Books, 1993, p. 212

Institutional reform has been at the heart of the revival. Railway management has thrown off the institutional rigidities which hindered their earlier response to the challenges of the car, the lorry and the bus. In the process, huge bureaucratic empires have been broken up into smaller business groups to achieve international “best-practice” performance standards. In many instances, local communities have revived branch lines or commuter services as small railway operations which can compete where large-scale operators found the service uneconomic. Ironically, many of these new operators began as volunteer groups to preserve and operate closed lines as heritage projects. Through innovation, team-work, basic technical skills and, above all, good management, they have graduated to operate commercial services in a competitive environment.

These international trends have bypassed Papua New Guinea. Within local institutions the response to political demands for expanded transport infrastructure has been viewed within a narrow, traditional framework of roads and airports. The culture was captured by the national airline, *Air Niugini*, in a 1976 advertising slogan, “*who needs trains when We’ve got planes*”⁶.

There were, however, some nationalist voices looking to rail-based transport options. In 1980, student leader John Waiko proposed that PNG should look to assistance from China to build a national railway system adapted to the country’s difficult terrain⁷. While Waiko was a lonely voice, engineers working for resource development projects have made a number of railway applications.

Mining/petroleum Industry Railways

Exploration and construction activities in the mining and petroleum sectors has stimulated several railway operations. Following the large-scale Panguna copper mine on Bougainville, similar ventures were established at Ok Tedi in 1982, Misima Island in 1986 and at Porgera in 1988.

Bougainville Copper Limited commenced construction of a drainage tunnel at their Panguna mine in 1977 using a 900 mm gauge railway⁸. Seven battery-electric diesel-hydraulic tunnelling locomotives were imported from Australia⁹. The 6.15 km tunnel was completed in 1984¹⁰.

The discovery of one of the world’s largest porphyry copper ore bodies at Mount Fubilan in the remote Star Mountains in 1968 presented the newly Independent nation with a difficult development challenge. The copper ore was capped by a gold-rich zone of ore, but the deposit was located in an isolated region, cut off from the rest of the world by steep terrain and dense tropical vegetation.

⁶ / *Post Courier*, 2 April, 1976, p. 10

⁷ / Waiko, J, *NASA Nius Leta*, Vol. 1, No. 2, 1980 [UPNG AS 378-120995 N241, page 13].

⁸ / *Bougainville Copper Annual Report* 1977, p 11

⁹ / Three 10-tonne Gemco battery locos ex-Mt Lyell Mine, Tasmania (B/No 899, 972 and 2265/6/171/77), two Com-Eng 20 tonne, 4wDH, ex-Mt Isa Mines (B/No. EC4585/1964 and HD 51102/1967) and two EM Baldwin 15-tonnes, underground locos ex-John Holland’s Molonglo Tunnels project. Information from John Browning.

¹⁰ / *Bougainville Copper Annual Report* 1984, p 9

Development of the mine commenced in the 1980's and required an investment of K1340 million. Massive landslides in December 1983 and January 1984 resulted in abandonment of the tailings dam at Ok Ma after expenditure of more than K60 million^{11/}.

Supplies for the project were barged up the Fly River to Kiunga, then transported by road to the mining township at Tabubil. Mining is by open-cut using massive dump trucks. However, railways were employed for an exploration adit and a tunnel at Ok Mani between 1982 and 1985^{12/}. Underground diesel-hydraulic locomotives were used.

In 1975, the Department of Transport commissioned a study for the provision of integrated infrastructure to service the Frieda, Ok Tedi and Tifalmin mineral prospects. It recommended use of the existing waterways of the Fly and Sepik Rivers for the mines, supplemented by slurry pipelines and road-barge combinations^{13/}. Rail options were examined, but at least 1.5 million tonnes of freight annually was considered necessary to justify construction. Projected transport demand was well below this level.

Harvey Creek

To provide water for the Ok Tedi mine, the company developed a water supply project at Harvey Creek on the Fologian Plateau. Curtin Brothers were contracted to construct a small weir, pump station, pipeline and access tunnel in 1987. Their first task was to push through the tunnel and rail line to give access to the machinery and materials needed for the weir^{14/}. A 1500 metre funicular railway was constructed through precipitous slopes, unstable ground, constant drizzle and cloud to ferry in the materials. The men building the line had to contend with gradients as steep as 68 degrees and at one point the line plunges almost vertically for over 100 metres near the pump station.

Four pump motors, each weighing over two tonnes, were among the machinery transported over the railway to the site. The construction phase took just over six months. It is understood the railway has been retained to provide access to the pump station and pipeline.

North Paibuna railway

Papua New Guinea's most recent railway was built in 1993 by the joint-venture partners in Foreland permit PPL-123 to overcome a unique transport problem in the mangrove swamps of the Gulf Province^{15/}. Previous experience in moving supplies and equipment to exploration wells over roads in such swamps had been unsatisfactory. On one occasion, a bulldozer was lost in the slime.

For the North Paibuna No. 1 well, a 300 metre railway was built over the swamp from the river landing to the well site. The steel rails, ties and fittings and two 610 mm gauge flatcars were obtained from Queensland sugar mills. The line was completed in August,

^{11/} / Eagle, M, "Copper mining and the environment in Papua New Guinea", *Post Courier*, 2 September, 1992, p. 18.

^{12/} / *The Times of PNG*, 9 April, 1982, p. 15; 20 January, 1984, p. 8.

^{13/} / Rendal & Partners, *Integrated infrastructure for Frieda, Ok Tedi and Tifalmin Mineral Prospects*, Port Moresby, November 1975, p. 6-2.

^{14/} / *Ok Tedi Nius*, Vol. 2:9, p. 3.

^{15/} / *PNG Resources*, July-September, 1994, p. 23-26

1993. Initially, the flat cars were winched over the line. This proved to be too slow, and a small 4wDM locomotive was obtained second-hand from Queensland.

With completion of the well, the railway was taken up in 1995 and the equipment was transported to Port Moresby. It is reported stored in a Curtin Bros. yard.

Agro-Industry

Investment in modern rail technology to move produce at a constant rate from the field through processing mills has played a central role in building the competitiveness of agro-industries in today's global economy. Unfortunately, the necessary security for such long-term investment has been lacking in PNG.

When the viability of a PNG sugar industry was examined by Booker Agriculture International in 1977, it was found necessary to protect the industry behind trade barriers for financial viability. Ramu Sugar Limited was formed in 1978 to establish a 7,500 ha sugar estate and a mill capable of producing 41,000 tonnes of sugar per annum at Gusap in the Ramu Valley. The enterprise, protected by a 150 per cent import tariff, decided to use road transport to move the 300,000 tonnes of cane from the field to the mill each season. Annual cane production has now risen to 400,000 tonnes with a mill throughput of 145 tonnes per hour.

The oil palm industry is export-oriented and therefore must compete on international markets. Nevertheless, the high yields of the pioneer venture at Mosa in West New Britain have encouraged further expansion. However, mill throughput in the range of 60-75 tonnes per hour has been considered too low to justify heavy investment in railways. Accordingly, rail transport has been restricted to the initial movement of fresh fruit bunches through the sterilisers at the mill.

The second oil palm mill, owned by Hargy Oil Palms Pty Limited, was opened at Biala in 1977. A Lister locomotive was used to push wagon-mounted cages into the steriliser over a line about 150 metres in length¹⁶. This mill has had a chequered history.

Higaturu Oil Palm Pty Limited, a joint venture between the Commonwealth Development Corporation (CDC) and the Government, opened an oil palm mill near Popondetta in Northern Province in 1980. The mill has four 600 mm gauge parallel railway lines, each 250 metres in length, serving the sterilisers¹⁷. Fresh fruit bunches are loaded into cages from the hoppers, then transported to the rail lines by fork-lift trucks. Trains made up of eight cage wagons are pushed into the sterilisers by tractors and then pulled out by winches¹⁸. There are 250 cages and 40 flat wagons in service, built to standard design by Malaysian manufacturers.

On New Ireland, CDC established Poliamba Pty Ltd to redevelop old German coconut plantations on the Bulominsky Highway to oil palm and cocoa. A K14 million oil palm mill commenced production in 1990¹⁹. Transport from the fields to the mill is provided by local trucking contractors. Fruit bunches are loaded direct into standard cage wagons from

¹⁶ / N van der Laan, General Manager, Hargy Oil Palms, letter, 24 March, 1981.

¹⁷ / Field observation, 17 September 1995.

¹⁸ / A Ayton, General Manager, Higaturu Processing, letter, 30 April, 1981.

¹⁹ / *The National*, New Ireland feature, 29 June 1995.

overhead hoppers for haulage through the sterilisers over a short (150 metre) 700 mm gauge railway.

At their Milne Bay operation, CDC take cages to the field and load FFB directly into them for transport to the mill. Here they are transferred directly onto rail wagons for the sterilisers. A 600 metre loop line takes the cages through the sterilisers.

In West New Britain continued expansion of production has resulted in the construction of a new mill at Kumbango by New Britain Palm Oil Development. The 75 tonnes/hour mill has a similar railway system to that used at Mosa.

Building National Infrastructure

The Electricity Commission commenced construction of a K40 million project to build a 10 MW hydro power station at Warangoi, 60 km south of Rabaul, in 1981. Construction was undertaken by the Downer-Kier joint venture who used rail-mounted equipment to construct a 7 km, 4.25 metre diameter tunnel to serve the power station²⁰. The tunnel was excavated from both ends. Operations were undertaken on a three shift basis, 24 hours a day for the labour force of 60 Europeans and 600 Nationals.

Battery-electric locomotives were used to place the tunnelling equipment at the face and haul out the spoil. Tunnel break through was on 18 July 1983. The railway continued in operation for tunnel lining operations until completion of the project in November, 1983.

Tunnel work for the Rouna No. 4 power station near Port Moresby used 3 vet (914 mm) gauge construction railways. The Watkins-Kumagai joint-venture imported Japanese-built battery-electric locomotives and rail-mounted tunnelling equipment for the project which was completed around 1988. Four battery locomotives (numbered DBH 86, 93, 95 and 96) from the project were located by authors in a Port Moresby storage yard in late 1993. Two cement hoppers, two rail-mounted hoists, a spoil loader and a rail-mounted cement pump were also at this location. At least 11 4-wheel dump trucks, two cement hoppers and two flat trucks had suffered the indignity of being dumped off the Tautana causeway in Fairfax Harbour in 1994.

In 1978, a sugar industry was established at Gusap in the Ramu-Markham Valley. Road transport was used to haul cane from the field to the mill, which operated behind tariff barriers.

Construction of the sugar mill revived proposals for a railway up the Markham Valley. Heavy traffic on the Highlands Highway and overloading of vehicles was causing rapid deterioration of the road surface, so the potential for railways to provide more efficient transport was examined. A feasibility study was carried out for a standard gauge (1435 mm) gauge railway by Maunsel & Partners in 1981. The price tag of K88 million without the cost of the land, plus K1 million per annum running costs was prohibitive. Nothing came of the proposal.

Urban Development

Since Independence, Papua New Guinea has seen rapid migration from neglected rural areas to coastal towns and cities. Only 3 per cent of the indigenous population lived in

²⁰ / Briefing notes from Downer-Kier joint venture, comprising Downer & Company of New Zealand and Kier International of the United Kingdom.

towns in 1960, but, by 1990, this proportion had increased to over 15 per cent and was rising rapidly. Port Moresby's population reached 240,000 in 1990, two-thirds of whom live in informal settlements. These have sprung up as a product of housing shortages and the willingness of local landowners to strike a deal with migrants attracted by employment opportunities and the "bright lights" of the nation's capital. In Lae, the high proportion of informal settlers has made it almost impossible for a reliable census, but the most reliable estimates indicate a population in excess of 160,000.

Public Transport Development

Pre-Independence Port Moresby's public transport needs were served by a bus company using 55- and 72-seater buses on fixed stage routes. With Self Government in 1972, however, the administration was placed under pressure to provide business opportunities for Nationals. The licensed public motor vehicle (PMV) had long been a major opportunity for aspiring businessmen in rural areas and it was not long before there was political pressure for PMVs to operate in the Port Moresby town area. The administration relented and urban PMV licences were issued from 1973. Today, Port Moresby's PMV fleet comprises 800 Japanese-built 25-30 seat mini-buses.

Competition from family-operated mini-buses soon brought the end of the bureaucratic and inefficient Port Moresby Bus Company which went bankrupt in 1981, leaving the needs of the city's commuters in the hands of the ubiquitous PMV.

Since 1987, PMV's have been licensed to specific routes²¹. The basic network follows the former bus company network from the village of Hanuabada, on Fairfax Harbour, through the old Government centre of Konedobu to the Port Moresby Town and thence Koki Market, from where the routes branch out to serve the suburbs and settlements on the plateau to the east. As the focus of city activity has shifted away from the older waterside suburbs, new routes have been added to serve these areas. Within the city area there are 23 routes linking the main termini and interchange points at Hanuabada, Konedobu, Town, Koki, Kila Kila, Four Mile (Boroko Shopping Centre), Seven Mile (Jacksons Airport), Hohola, Gordons Market, Tokorara, Morata and Gerehu.

Similar PMV systems operate in Lae, Madang, Rabaul (prior to the 1994 volcano eruption), Wewak, Mount Hagen and Goroka. Over each route, buses compete aggressively for passengers and may offer a door-to-door service in smaller towns. There are no timetables and a flat fare pertains for all journeys. The survival of each operator depends on their ability to maintain the maximum number of passengers in their bus. Accordingly, buses gravitate to where there is the highest passenger demand and many turn-around before reaching a terminal in order to improve their operating efficiency, if not passenger convenience.

The urban PMVs are mostly owned and operated by rural groups. The purchase capital is generally raised from the sale of cash crops such as coffee or from lump-sum payments to individuals or groups (eg, redundancy or compensation payments and, increasingly, Electoral Development Funds Grants from the Government which are intended for rural development). In the 1970s, many of the operators came from the Mumeng area of Morobe Province: today Western Highlanders dominate the PMV trade in Port Moresby. In reality, the low fares mean that few buses recover more than their operating costs and a basic wage for the crew. Buses quickly become dilapidated from intensive use and lose their attractiveness to commuters. As replacement costs are not covered, the group leave the market, to be replaced by new entrants. Thus, the capital cost of buses is a subsidy

²¹ / McKillop, RF, "Public transport and people: a case study of Port Moresby", *Transit Australia*, March 1992, pp. 58-62.

by rural villagers or other aspiring entrepreneurs to the urban commuter. Only those villagers with a sound economic base, such as the coffee-producing areas of the Highlands, or good access to grant providers can afford to maintain this subsidy.

The rapid increase in PMVs and private vehicles using urban road networks has brought traffic congestion and destruction of roads in PNG towns, particularly in Port Moresby. Air pollution is also rapidly increasing. These problems are aggravated by buses banking up at major PMV stops, blocking streets and the lack of controls over vehicle emissions. The motoring elite regularly vent their frustrations over traffic congestion, potholes and delays on PMV drivers. Others have recognised that the reliance on private cars and mini-buses for urban transport over a restricted road network is rapidly leading PNG's cities toward the urban congestion and pollution of other developing cities.

In response to these emerging problems, a number of proposals have been put forward for the introduction of electric light rail for Port Moresby or other rail-based transport systems²². These are reviewed in Chapter 9.

²² / *Post Courier*, 21 June 1977, p 2; *Post Courier*, 27 December, 1978, p 25; *Post Courier*, 23 August, 1979, p 4; *Times of PNG*, 17 October, 1986;