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Abstract

Plundering the nation´s wealth?
Mining and development in Papua New Guinea

A prominent strand of discourse summarized under the term “natural resource curse” refers to the phenomenon that most of the developing countries with abundant natural resources tend to exhibit poorer economic success than economies without substantial resources. While earlier attempts to explain the seeming paradox focussed on macro-economic factors (Dutch Disease), recent studies centre attention on the more political dimensions of failure to use resource revenues productively. They highlight the decisive role of the quality of institutions for development.

This paper analyses the economic, social, environmental and administrative impacts of mining and petroleum industries in Papua New Guinea. It also looks into the forces driving the growing ethnic tensions associated with mining projects and the challenges of better governance. It concludes that the country has failed to benefit from its natural wealth. The context of politicized ethnicity and fragmentation, the political culture, a weak and dysfunctional state, and corruption of the political and bureaucratic systems presented in the paper provide some explanation why the majority of people in resource projects prefer the continuity offered by such projects despite their negative impacts.

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Plundering the nation´s wealth? Mining and development in Papua New Guinea[1)]

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In January 2004, the independent Extractive Industries Review (EIR) commissioned by World Bank president James Wolfensohn and chaired by former Indonesian environment minister Emil Salim delivered its final report "Striking a Better Balance" to the Bank. The main aim of the two-year consultative process was to review the world´s largest public development agency´s role in the mining, oil and gas sector as to whether it is consistent with the Bank´s overall objective of achieving poverty reduction through sustainable development. After discussions with all stakeholders, including industry, governments, civil society, academia and the World Bank Group itself, the review concluded that this goal will only be achieved if three main conditions are met. These are good public and corporate governance, more effective social and environmental policies, and respect for human rights. An adjustment of institutional priorities, with a stronger focus on social and environmental aspects and less focus on economic development, is considered essential.[1]

Extractive industries are important to more than 50 developing countries, which are home to 3.5 billion people. These countries may benefit from increased government revenue, employment, infrastructure, the stimulation of growth in related sectors, technological innovation, and the transfer of training and technology. However, adverse impacts such as long-term environmental damage, destruction of the traditional economic and social foundations of local communities with an associated increase of poverty, economic dependency on extractive revenues and increased economic volatility, increased corruption, violence and even war are possible consequences (World Bank 2003). The EIR consultations highlight the importance of the quality of governance that determines the influence of extractive industries.[2]

These issues are closely linked to a prominent strand of discourse among development economists sometimes referred to as the `natural resource curse´ syndrome, or the `paradox of plenty´. The term refers to the empirically confirmed, seemingly paradoxical phenomenon that the majority of countries with abundant natural resources have tended to exhibit slower economic growth than economies without substantial resources. Many disappointing resource-blessed countries in Africa and Latin America contrast with a small number of sucessful resource-poor nations such as the Asian tigers Korea, Taiwan, Singapore and Hong Kong.

Earlier research refers to the Dutch Disease, named after the disappointing experience in the Netherlands following the discovery of large gas deposits in the 1960s. This approach focusses on macroeconomic factors, both internal and external, associated with a boom brought about either by the exploitation of natural resources or an increase in the price of resource exports. Symptoms of the disease include appreciation of the exchange rate after huge capital inflows, erosion of the competitiveness of industry as well as agriculture subject to international competition, promotion of public spending, external indebtness and current-account deficits, accel-

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eration of inflation, distortion of investment and the linking of the economy to volatile commodity markets.

The resource curse is by no means inevitable. Recent studies concentrate on the more political dimensions of the failure to use resource income productively. Studies underscore the decisive role of the quality of institutions for development. Weak, fragmented and dysfunctional states invest their income inefficiently and unequally. Large resource rents reduce the incentive to develop competitive manufacturing and other sectors.[3] Necessary reforms are postponed, challenges not taken up. Long-term economic and human development goals are pushed aside in favour of corruption and nepotism.

Many of the mining- and oil-dependent states are classified as Highly Indebted Poor Countries, with some of the worst rankings on the Human Development Index prepared by the United Nations Development Programme. Many resource-rich but economically poor states also hold a prominent position in Transparency International´s Corruption Perception Index. Billions of US dollars have gone astray in recent decades. Under such conditions, the risk of human rights abuses, military violence against civilians, aggravation of social tension and an increased likelihood of civil conflict are often associated with resource projects.[4]

With a total population of around 5.6 million, a land area of 462,840 km^2 – nearly twice that of New Zealand – an abundance of natural resources and an unparalleled cultural and lingustic diversity with more than 820 languages, Papua New Guinea (PNG) holds an outstanding position in the South Pacific. In economic terms it is a typical `mining country´[5]. The formal economy is highly dependent on the exploitation of nonrenewable resources.[6] In 2000, PNG was the 11th largest gold and 13th largest copper mining country in the world (World Bank 2003: 39). In the same year the extraction of gold, copper and oil contributed 21 per cent of Gross Domestic Product (GDP) of US$ 3.5 billion, 77 per cent of export receipts and about 33 per cent of government internal revenue (Baxter 2001: 8).

The resource boom of the last two decades has contributed significantly to economic growth, but little to sustained development of the country.[7] Chronic instability, the politicization of the public service, poor financial managment, incompetence and corruption have absorbed most of the revenues available for productive investment. Instead of realizing "equality, self-reliance and rural development" as key principles of the post-independence development strategy (Seib 1994: 64), wealth from mining has been squandered without improving the living standards of the majority of the people.

While the small urban political and bureaucratic elite has profited, the rural population has suffered from the deterioration of governance and the institutions of the state. On Bougainville island, operations of the world´s largest open-cut mine led to the most serious conflict in the South Pacific since World War II. Insofar, it is argued here, PNG has failed to benefit from its natural wealth. The case exemplifies the relevance of the resource curse hypothesis and the need for democratic, transparent and accountable governance procedures. Political stability, capacity building in all public institutions, advancement of the rule of law, entrenchment of norms against corruption and support for a strong civil society are all essentials for economic and social development and an equitable and fair sharing of the nation´s wealth. This paper outlines the complex and ambivalent economic, social, environmental and administrative impacts of mining and petroleum activities in PNG. It also looks into the challenges of better governance as well as the driving forces behind mounting ethnic conflict in two mining provinces in the Highlands.

Mining and the context of economic development

Few countries in the world are endowed as richly with mineral resources as PNG. Minerals, copper, oil and gas are abundant. Mining has brought great wealth, but also immense conflict and rapid social change. The impact of projects on local communities is more far-reaching than on economies. It includes the loss of autonomy and control over resources, be they cultural, social, political or environmental. The extractive industry in PNG has a long history of more than a century, even if its impact on local communities has often been limited and short-lived. Four years after colonization in 1884, the first discovery of gold was made in the Louisiade Archipelago by North Queensland miners. It was the first significant economic activity in the British part of Papua. The 1930s saw a boom of large-scale gold operations and small-scale gold dredging at Bulolo in the previously German-administered part of New Guinea through overseas capital. For years gold became the main export commodity. Production of minerals then declined over time, accounting for less than one per cent of GDP in 1971.[8]

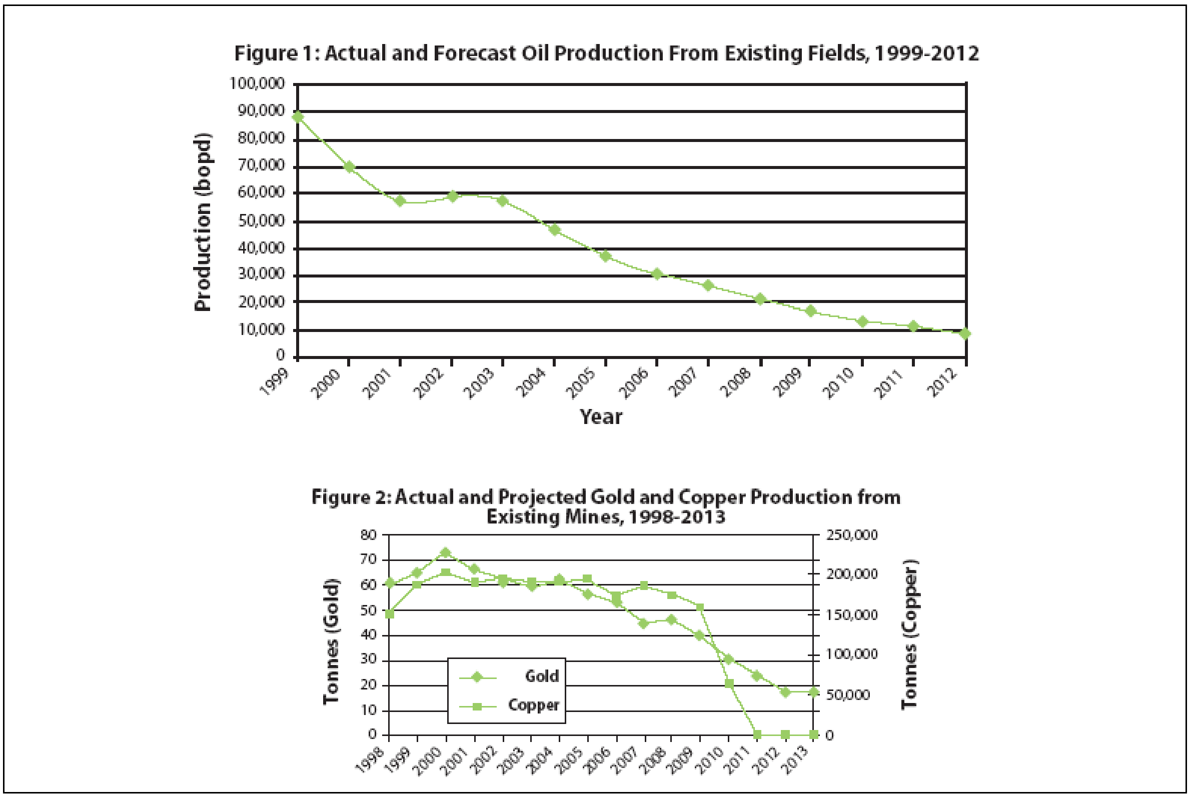
Systematic modern style exploration started in the 1960s. This was followed by the discovery of large gold and copper deposits on the island of Bougainville and in the mainland´s Highlands. Prior to independence the first large open pit mine, the Panguna mine, started production in 1972. Until its closure in 1989 it was the single most important component of the economy. At the beginning of the new millennium, the mining industry revolves around four huge open pit mines, Ok Tedi (commenced operation in 1984), Misima (1989), Porgera (1990) and Lihir (1997), and one medium-scale underground operation at Tolukuma (1995; for the locations see figure 3, appendix).

They are all gold and silver mines except Ok Tedi, which produces copper concentrate for smelters in Japan, South Korea, the Philippines, India and Germany (Norddeutsche Affinerie, Hamburg) and gold as a by-product. Ok Tedi ranks as the 8th largest copper producer in the world and Porgera ranks among the top ten gold producers (Anderson/Moramora 2002: 4). In 1992 with the start of the oil boom at the Kutubu, Gobe and Hides sites in the Southern Highlands Province, PNG became the Pacific´s first crude oil exporter. For a few years petroleum even surpassed gold as the most important single export commodity (until 1997).

Small-scale gold mining has contributed its share. It is also an important source of income. In Wau-Bulolo in the Morobe province around 1,500 families produced alluvial gold for decades. The short local gold rush at Mount Kare in the Enga province started in 1988 with the involvement of 6,000 people. It ended abruptly in 1992 as a result of landowner disputes and an armed attack on the mine (Connell 1997: 127ff.). Some projects are also connected with illegal mining. Despite several deaths in the stockpile and dumping area of the Porgera mine, about 1,500 people scavenge for the left-overs from the processing facility (Post-Courier 14.10.2003). Banks (2002: 48) notes that these panners, using the most primitive technology, often make more from gold extracted from the tailings than their clansmen employed by the mine.

A recent report for the EIR consultation process estimates that 50,000 miners work today in different locations of the country, benefiting approximately 400,000 other people. They produce up to 4.5 tonnes of gold per year, equivalent to US$ 45 million (or 180 million Kina) . The average annual income per miner is $ 900, as compared to the overall average income in PNG of $ 250 (World Bank 2004, Vol. II: 46). In 2002 large and small-scale projects contributed 59.1 tonnes of gold, 170,000 tonnes of copper concentrate and 15.3 million barrels of crude oil to exports (Bank of PNG, n.d., table 9.7).

Figure 1: Actual and forecast production from existing projects, 1998-2013



Source: PNG Chamber of Mines and Petroleum Bulletin, Vol. 9, No. 1, Jan.-Feb. 2002, p. 4

All projects are located in relatively isolated mountainous or island areas with little contact to the rest of PNG. Only the Porgera mine has road access to the Highlands highway. In most projects subsidiaries of huge transnational corporations like British Rio Tinto Zinc (RTZ, now Rio Tinto), American ChevronTexaco, Australian Broken Hill Proprietary (BHP, now BHP Billiton) and Canadian Placer were or are involved, providing international capital and expertise. The entire regional infrastructure of international airstrips, wharves, towns, roads, electricity, water supply, and modern telecommunications has been built by these companies. Social facilities such as elementary and high schools, and large hospitals, as well as other development projects are provided by the industry. Even local police stations often receive support with fuel or maintenance. Given the weak or non-presence of state authorities in rural areas, resource companies act unintentionally as regional `de-facto governments´. The national government holds equity in all major projects through direct shareholding or through Orogon Minerals Ltd., a company owned 51% by the state. The state has an option to acquire, at cost, up to 30% of any large mineral development and up to 22.5% of petroleum and gas developments.

Mining is by no means a risk-free investment. Indeed, risks can be high, as best demonstrated by Ok Tedi´s financial disaster. While private shareholders have done very badly, local landowners have done quite well (cf. Jackson 1993, 2003). Operations are hampered by difficult natural and cultural environments and adverse climate phenomena (El Niño), as well as by extreme costs and fluctuating commodity prices on the world market. Far reaching are also conflicts with local communities about project participation, compensation, environmental damage, and land tenure. 97% of the country´s land is subject to complex customary land tenure systems. Only 3% belongs to the state or is private property.

On the island of Bougainville, located 1,000 km east of the mainland national capital, disagreements and tensions between landowners on the one side and the investor and the central state on the other arose from the beginning. Even before PNG gained independence, a risk was perceived that these tensions might lead to the island´s early secession. In fact Bougainville had declared its unilateral independence fifteen days before Australia granted PNG´s independence on 16 September 1975, but without consequences. The country´s legislative and administrative structure was decentralized in response to this risk. For the young state it was a success to be proud of to gain the maximum possible in its renegotiation of the 1967 Bougainville copper agreement with the big multinational. The introduction of a resources rent tax was widely hailed as a model for other Third World countries.

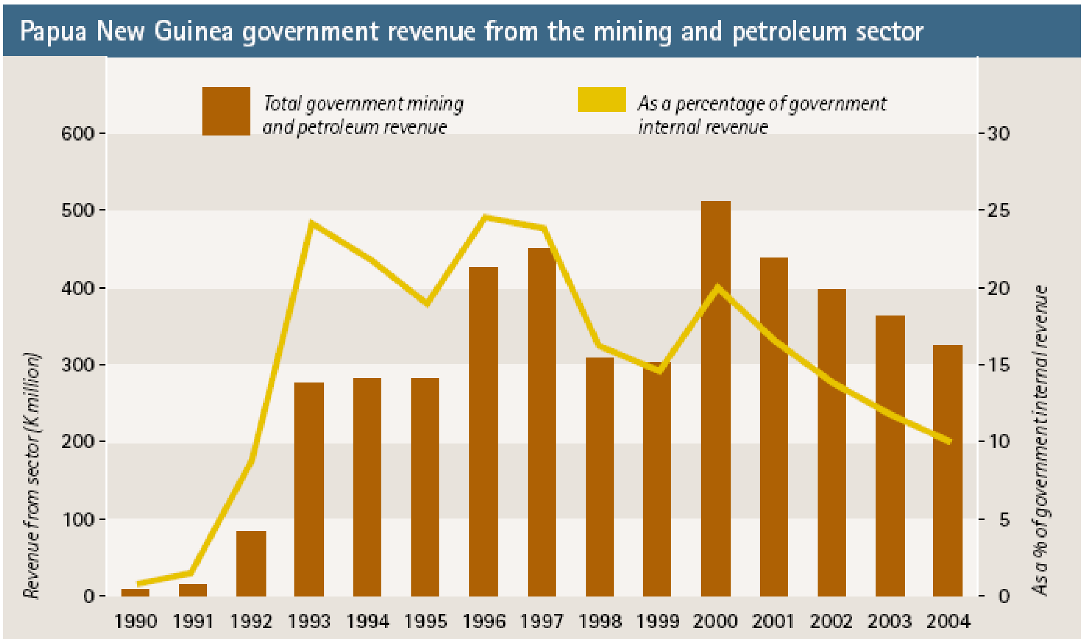
On the island, land, as the most critical element, and traditional values came increasingly under pressure. In the late 1980s frustration about lack of participation, employment of foreigners and people from the PNG mainland instead of locals, compensation concerns, the polluting of land and rivers and lacking services escalated into an armed rebellion that led to the death of 10,000 people. Since the end of the civil war in 1997, the province is slowly moving back on the road to re-establishing peace and normality with the support of neighbouring countries and international organizations. The parliament of PNG guaranteed a high level of autonomy, with the possibility of independence through a referendum to be held in the next 10 to 15 years after establishing the first autonomous government (e.g. Böge 2003).

A first impression is that mining companies have learned their lessons from this conflict – at least partly – even if Bougainville looks like a special case because of the population´s cultural bonds with the neighbouring Solomon Islands. Corporations became more sensitive and responsive to local needs. Institutionalized participation of all stakeholders – landowners and other affected communities (and since the international legal action against Ok Tedi in 1995 non-governmental organizations too), mining companies, officials from all three administrative levels – social and environmental impact studies, higher shares of equity, greater royalty and compensation payments, are the results implemented since the start of the Porgera project (Connell 1997: 140ff., see also Filer 1998: 160). They are included as a provision within the Mining Act of 1992. Consequently, Filer observed a clear shift in the distribution of revenues away from the national government to landowners and provincial governments, “a further transfer of wealth from the public purse to private pockets” (1997: 244). This intensifies the socially disruptive split between `true´ (project) landowners and neighbouring affected communities.[9]

Since the beginning of the 1990s national economic growth, previously weak, has been boosted by mineral explorations, the start of two major gold mines and the Kutubu oilfield, in combination with favourable export prices (and also an investment influx by Malyasian logging companies). But these operations have been limited in creating job opportunities because of their capital-intensive nature. Mining companies employ collectively 9,400 people, of which 90% are from PNG.[10] It is an enclave industry with few linkages to the national economy except in the construction phase. Most inputs are imported. The most important contribution to PNG is to generate revenue for the central state (see figure 1, appendix).[11] But governmental income has not translated into national development, nor has it led to a more equal distribution of mining income between have and have-not provinces. It appears that "mineral wealth and petro-dollars have vanished into thin air" (Muwali 1997: 15). Jackson concluded after an evaluation of the Ok Tedi project in 1993 that

> "…the hope that mining would kickstart more desirable and appropriate forms of development around the country has clearly been disappointed. In the twenty years since BCL [Bougainville Copper Ltd.] opened there are very few indications that general development levels in the country have shown anything more than sluggish, partial growth. Agricultural performance, admittedly in the face of almost continually declining world prices, has been particularly abysmal. Like almost all other developing countries heavily dependent on metal exports, the PNG government has not been able to utilise mining revenues to raise productivity elsewhere in the country" (p. 169).

Figure 2: PNG government revenue from the mining and petroleum sector, 1990-2004



Note: The mining and petroleum revenue is composed of mining and petroleum taxes, Mineral Resources Stabilisation Fund dividend and payments (until 1998), mining levy (from 1998) and mineral and petroleum dividends (from 1999). Data for 2000 are estimates; data for 2001–04 are projections. Not included in this figure are the sector's contribution to government internal revenue through duties, royalties, salary and wage tax, withholding tax and the tax credit scheme; these contributions are equal to about half of the revenue noted in the figure.

Data sources: Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various issues; Government of Papua New Guinea, *Budget 2001*, Port Moresby, 2000.

Source: Baxter 2001: 8

Prior to the 1990s PNG enjoyed macroeconomic stability because of sound administrative management. However, an "antirural bias in public policy" (Baxter 2001: 7) combined with a hard-currency strategy disadvantaged rural producers. Stability derailed mainly as a result of escalating internal factors. A lack of sound policies, discontinuity within the administration, loss of control of fiscal management and an increasing foreign debt were the consequences of continuing political instability. While corruption and white-collar crime were unknown until the mid 1980s, PNG is depicted today as one of the most corrupt 133 nations. Transparency International´s Corruption Perceptions Index 2003 ranked PNG at 121 among the countries surveyed.[12]

While a few projects dominate the formal economy, other non-mineral sectors have stagnated. The country is still characterized by subsistence and small cash crop agriculture. 85% of the population live in rural areas. A large proportion experiences great economic and social hardship without having access to markets and basic services. Many rural villagers believe that their quality of life is now worse than it was 20 years ago.[13] Holzknecht assessed that "some 93% of the poor live in rural areas, where over 41% of the population live below the poverty line" (Curtain et al. 2003 : 19). PNG´s social indicators also reflect this lack of progress.[14]

Economic expansion has not kept pace with the annual population growth of up to 3.1%. The informal sector is still the main source of livelihood for most rural households. The formal workforce only grew from 124,000 in 1978 to 146,000 in 2001 despite the doubling of the population in that period. An inefficient and bloated public service still accounts for roughly half the total formal workforce (Windybank/Manning 2003: 5f.). Within the primary sector, while agriculture was dominant until the 1970s, its share has declined substantially.[15] Palm oil (plantation) production and large-scale logging are PNG´s only primary industries that have grown more rapidly than the population (Curtain et al. 2003: 8f.). With an emphasis on cash crop production, food production has been largely neglected. People in most rural areas are suffering substantially because of

- shrinking real incomes,
- a weakening domestic currency since the floating in 1994,
- a collapse of government services outside the capital Port Moresby,
- deterioration of infrastructure in roads, education and health institutions,
- growing ethnic disputes and conflicts about land and compensation, and
- increasing crime and law and order problems.

Since the new millennium, mining and petroleum output has started to decline. By 2011-12, all but one of the present projects will find a natural end with depleted resources – with dramatic consequences. Lihir will be the only goldmine in operation until the year 2037 (cf. figure 2, appendix). Projects have created job opportunities for local people, encouraged local businesses, and provided vital infrastructure for remote communities that has influenced development positively. However, all activities and benefits depend on these projects. Mining is still the only engine of economic activity in these locations.

Local communities and regional state agencies will neither have the finances nor the capacity to maintain the projects´ cost-intensive infrastructure in the longer term, probably leaving behind `ghost towns´ slowly going to ruin. In 2002 the Mining Department advised the people in mining areas to prepare “to drastically reduce their standards of living due to lack of maintenance budget after mine closure” (Post-Courier 20.9.2002). There is the danger that people will suffer after project closure without having alternatives for income generation and livelihoods. Misima will be the first mine in PNG to undergo an orderly process of closure. 800 miners will soon be redundant, facing the prospect of returning to a village life-style or leaving the island to work at other projects.

The shrinking sector will also have major repercussions on public revenue (cf. figure 1). Exploration and investment activities by transnational companies have reached an historical low, coming down from US$ 83 million in 1988 (highest recorded figure ever) to US$ 10.1 in 2001 and US$ 8.2 in 2002.[16] Domestic and international confidence in the economy seems to have collapsed because of the increasingly unattractive investment environment. In 2002 the Australian mining industry branded PNG as the second riskiest place in the world to do business, after Zimbabwe and followed by Indonesia, India and Russia. The main reasons identified were volatile politics, urban violence and the propensity for armed uprisings (Post-Courier 21.5.2002).

Meanwhile, global players such as ChevronTexaco, BHP Billiton, BP, Shell, Mobil and Amoco have left the country (World Bank 2002a: 5, fn. 15). The first probably left due to the experience at Kutubu oil project of enmeshing in “countless jungle disputes some of its own making, others caused by corruption, inertia, cultural misunderstanding and ancient tribal enmities” (McCoy 1992 quoted in Connell 1997: 160), continuing disputes between landowner groups that have been through various land courts, a Land Titles commission and court proceedings in Port Moresby with various law firms representing them (National 15.8.2002), and the permanent state of emergency experienced within the Southern Highlands Province in the last legislative period (see below).[17]

Broken Hill Proprietary, operator and biggest shareholder of the Ok Tedi Mining Limited (OTML) consortium, withdrew after its mega-merger with the British group Billiton and its reorientation of corporate identity towards the principle of shareholder value (building the more profitable `new BHP´ from the old `Big Australian´) instead of past criteria such as the size of the company or its worldwide engagement. To prevent unpredictable future liabilities with regard to the environmental damage caused by the Ok Tedi mine, BHP-Billiton wrote-down its remaining investment of A$ 148 million and transferred its majority share of 52% to the Singapore-based `not for profit´ company `Sustainable Development Program Limited´. For the rest of the mine life of six to eight years, dividends from the operator shall be spent entirely for present and future development project funding in the Western Province.[18] The PNG non-governmental organization Environmental Watch Group criticized BHP´s exit without adequate compensation for the damage caused as an “insult and a slap in the face to landowners” (Post-Courier 5.2.2002).

Despite this rather desolate picture of the industry and its limited contribution to the development of the country, international institutions such as the European Union, the World Bank and the Asian Development Bank continue to supply assistance “to help the mining industry in PNG” (an EU representative, quoted in the National 17.12.2001). The European Union´s Sysmin Development Fund committed a grant of 50 million Euro for six years, while the World Bank gave a loan of US$ 11.5 million for an institutional strengthening technical assistance project within the Mining Department.[19]

Social and environmental impacts

Mining projects in PNG are associated with substantial cultural changes within local communities and regions. They have heightened demands and conflicts about the extent and distribution of profits, royalties, compensation payments and infrastructure development. Depending on the location of affected communities they produce winners and losers. In general, huge projects initiate a stratification of local communities as "different members of the local community will experience the different aspects of the development process in different forms and degrees, and the process as a whole will give rise to new forms of inequality, division and conflict within the community" (Filer 1992 quoted in Banks 1999: 88). Leadership structures are also rapidly transformed. While young educated English speakers are able to interact with foreign company representatives, elders are losing authority, intensifying group factionalism (McLeod et al. 2003: 17).

Originally, companies intended to introduce Fly-in-fly-out schemes ("commuter mining", Connell 1997: 151) to reduce costs and local impacts of the projects. However, communities insisted strongly on the construction of mining towns because of its contribution to local economic growth. Wage employment, cash income, and new consumption behavior led to the partial erosion or even disruption of cultural structures, values, norms and experiences of communities previously entirely independent from the modern world and cash economy. Often individualism and the nuclear family became the core of imagination of modern life, instead of local clan lineages as the main social units. Migration to mining towns, criminal activities, alcohol-related violence and vandalism increased substantially, as did domestic violence, the breakdown of marriages and polygamy. Women suffer from discrimination in the workplace.[20] Violent incidents have occurred in resource development projects such as Ok Tedi, Porgera, Mt. Kare and Lihir.

Landowner and compensation income has mainly been spent on consumption because of limited skills and concepts of investment. For decades landowners and companies were more interested in quick cash income instead of efforts for sustained local development for future generations. During the short grassroots gold rush at the Mount Kare mine villagers removed nuggets worth an estimated 150 million Kina (Filer 1998: 161). They came to Mount Hagen "carrying buckets full of nuggets causing banks to temporarily run out of cash, motor vehicle salerooms to empty and salesmen to froth at the mouth" (Jackson 1991: 29). Since 1996 the oil-rich Southern Highlands became famous as Toyota Land Cruiser country (National 20.5.2003), a joke by journalists about the sudden fleet of executive cars driven by tribal leaders. It is also the misuse of funds by these leaders that is seriously undermining the legitimate distribution of benefits. In the Southern Highlands, police criticized that the project´s Future Generations Funds had been recklessly spent for hotel and hire expenses, aircraft and helicopter charters, and payments to politicians and close relatives.[21]

Most dramatic and in close connection to local protest movements are the negative environmental consequences of large-scale mining. All projects dump tailings directly into river systems and the ocean. According to the EIR report, which supports a ban of riverine tailings disposal, today only three mines in the world use this method, all on the island of New Guinea

(World Bank 2004, Vol. I: 31). Environmental damage from the Bougainville mine was one of the main reasons for the tragedy of war on the island. According to the Australian Conservation Foundation:

> "Rio Tinto laid the groundwork for an environmental disaster by dumping waste rock and tailings and emitting chemical and air pollutants without regard for the villagers. The tailings turned the fertile Jaba and Kawerong river valleys into wasteland. Fish and whole forests died and water became non-potable, turning 30 kilometres of the river system into a moonscape. As tailings made their way down the Jaba River to drain into the Empress Augusta Bay, the Bougainvilleans´ major food source of fish there was also destroyed. At the same time, Rio Tinto´s mine operators dumped chemicals directly into the Kawerong River, leaving the river acidic and copper green. The mine also emitted dust clouds that created upper respiratory infections and asthma in villagers."[22]

From the beginning of operation in 1984, the Ok Tedi mine has also been connected with huge environmental degradation caused by failure to construct a tailings dam because of high costs due to the rugged topography, seismic activity and high rainfall. This has endangered the environment of thousands of people living downstream from the mine. At present, the mine continues to release waste into the Ok Tedi River system at a rate of about 90,000 tonnes per day.[23]

Gold mining companies on Lihir and Misima islands – Rio Tinto and Placer – use the Submarine Tailings Discharge (STD) method, planned also for the Ramu nickel project in the Madang province. They pump the leftover waste rock and contaminated tailings through an underwater pipeline at a depth of 80 to 125 meters to the ocean floor, a method prohibited in the USA and Canada (Mineral Policy Institute 2001: 11). While the industry insists that the technique is safe to both the local people and the environment, the EIR recommends avoiding it because possible effects on the tropical marine ecosystem are not well understood and island people´s sustainable livelihoods may be not assured (World Bank 2004, Vol. I: 31f.). The Australian Mineral Policy Institute has noted on the impact of Lihir that "during the life the mine will dump 98 million tonnes of cyanide contaminated tailings and 330 million tonnes of waste rock into the ocean in an area described by ecological studies as one of the richest areas of marine biodiversity on earth."[24] In Misima the tailings pipe broke underwater in 1997 and 2001/2002, forcing the mine to shut down its operation.

The Ok Tedi case gained publicity worldwide since the early 1990s. The media presented a picture of the grim opposition of 30,000 indigenous landowners of the lower Ok Tedi river area against a ruthless multinational collaborating with the state to exploit the region. Landowner activist Alex Maun, now a businessman working for Ok Tedi Mining Limited (OTML), toured Germany to inform environmental and Third World NGOs. The German parliament, recognizing the early involvement of the state-owned Deutsche Investitions- und Entwicklungsgesellschaft (DEG) investment company and private corporations Degussa and Metallgesellschaft, insisted in a cross-party vote in 1993 that environmental pollution from the mine be ended. But OTML and its majority shareholder BHP as well as the other companies involved refused to take note of the increasing complaints about environmental damage, as did the state. As late as 1995, BHP´s corporate general manager in Port Moresby emphasized the "lack of any clear evidence of permanent environmental damage" (quoted in Burton 1997: 49).

Until today the central state of PNG, being in conflicting roles as regulator, controller, tax receiver and equity-holder of the industry, lacks the institutional and personnel capacity to monitor and control the activities of mining companies through independent environmental impact studies. It has failed to provide adequate funding for institutions responsible for control and supervision. From 1998 to 2002 the Department of Environment and Conservation was degraded to the status of an office to save costs. Even worse, the central state took sides in the conflict. In 1995, the 8th Supplemental Agreement contained provisions for compensation for landowners, but also barred any person from bringing compensation proceedings in court. BHP later admitted that it had drafted the bill when word processing codes on the draft documents were found to be those of BHP´s lawyers.[25]

In 1994, non-compensated landowners of the most affected lower Ok Tedi river had sought to hold BHP accountable for environmental damage in one of Australia´s largest lawsuits in Melbourne, home of BHP, seeking four billion Australian dollars as compensation. The out-of-court settlement of the legal battle in 1996 resulted in compensation packages for the communities of the Ok Tedi and Fly river to be paid over the remaining life of the mine and a commitment to implement a feasible tailings containment option.[26]

In June 1999 BHP announced a sudden U-turn of the corporation at its shareholder meeting, now accepting that “the environmental impact of the mine will be significantly greater than expected” (Sydney Morning Herald 5.6.1999). None of the options considered (continue the current dredging trial in the lower Ok Tedi, dredge and pipe the tailings to a formed storage area, do neither, close the mine early) would provide an improvement of the environmental situation.[27]

An OTML risk assessment in the same year anticipated with immediate mine closure a likely dieback of tropical lowland forest covering 820 km^2 caused by increased flooding over the floodplain. The worst-case scenario of continuing production and dredging predicts an area of 1,275 km^2 damaged.[28] Acid rock and copper drainage from dredged and deposited sediments could further escalate the ecological risks, even after closure. The World Bank concluded after its evaluation of the assessment that “from an environmental standpoint, the best option is to close the mine immediately. But (…) from a social standpoint this would result in a potentially disastrous situation because there is no preparedness for mine closure” (2000a: 1). Early closure could be followed by a “dramatic scenario of social breakdown” (op.cit.: 8) associated with famine and social chaos. Since then mine continuation agreements have been signed between OTML and the landowner communities.

Meanwhile BHP left PNG after the national parliament passed legislation in 2001 to “discharge the Company, BHP, the Company´s Shareholders….from all and any demands and claims arising directly or indirectly from the operation of the Mine.”[29] A trust took over the majority share, as mentioned above. The last chapter for the time being in the BHP saga was closed in January 2004. A second class action at the Victorian Supreme Court in Melbourne against OTML and BHP led by landowner activist Rex Dagi and a former PNG member of parliament for environmental restoration has been dismissed. The plaintiffs agreed that the companies had not breached the 1996 out-of-court settlement. The statement said that OTML, the PNG government and villagers from more than 150 villages had signed Community Mine

Continuation Agreements as an indication of their desire to have the Ok Tedi mine continue operating. The agreements shall cover nearly 50,000 people of affected areas (National 19.1.2004). The representative of the landowners´ law firm, Slater and Gordon, concluded:

> "No one would seriously contend now that this isn´t an environmental disaster of a very large scale. What BHP are really saying now, which is different to what they were saying in the early days of the mine, is that even though this is a large-scale environmental disaster, the economic benefits that will flow to the people of PNG, and in particular the people of the Western Province, balance up that environmental damage. And there are people affected in the river system who both agree with that and disagree with that." (ABC Australia 20.1.2004)

In Los Angeles a case against Rio Tinto on behalf of Bougainvillean people claiming billions of US dollars as compensation for damages, is still continuing. The claim is made in terms of alleged "ecocide" and breaches of international human rights. As one of the crimes, the "destruction of an ecosystem" is specified.[30]

But mining means not only ecological disaster and social disintegration. It is worth noting that projects have contributed significantly to medical improvement as well as education and skill formation of local people and the mine labor force. Given the low quality of official education and vocational training, the mines´ contribution to PNG´s human capital is relatively large. Without the Ok Tedi mine, the North Fly would be, as Jackson argues, "almost certainly – without (…) a slim chance for personal intellectual and economic advancement" (2003: 12). For the first time, thousands of remote people experienced a kind of development and prosperity, opening a connection with the rest of the world and paving the way for "participation in a local form of modernity" (Jorgensen 2003: 9).

It is also important to recognize differences between patrilineal societies of the Highlands and matrilineal groups on the islands. As Awart and Obrecht demonstrate for the case of the island of Lihir, women are willing and able to find creative solutions for the handling of modernization processes. Mobility, free choice of partner, gender equality and options for monetary income are key factors for the deep-seated change in traditional ethnic gender roles, culminating in the cheerful words of a woman: "we wear trousers" (1999: 225). These reasons, the varying political culture and the island character of project locations perhaps help to explain why opposition and protest against environmental impacts never reached the levels of the mainland provinces.

The decisive moment will be the impending closure of nearly all of the projects. It will be a huge task to handle to avoid severe poverty increases and social fragmentation in these regions. No one wants to return to a pristine subsistence economy, which, in many cases, lacked the reality of an idyllic, harmonic and satisfactory traditional life-style (see Jackson 2003). Some communities are unable to return to their past self-reliance because of the destruction of their land and resources, as in the case of the lower Ok Tedi river and Misima. Horticultural skills have not been passed on to the next generation. For most people associated with prosperous mining business in PNG, modernity and the connection with the global world could be more temporary than they had ever imagined. The "general air of optimism" (Jorgensen 2003: 11) will soon make way to a more realistic perspective that could include relapsing into a neglected and underdeveloped periphery, a status these areas could share again with most other rural regions in the country.[31]

Maladministration and the internal dynamic of politics

Provincial governments are important stakeholders in mining projects. They gain a steady flow of financial and other benefits from equity, royalties and infrastructure projects. But despite one or even two decades of high mining-related income, these provinces have not benefited from resource exploitation outside the projects´ sphere of influence. Development indicators are not better than national averages. In some cases they are even worse, as the oil-rich Southern Highlands Province (SHP) documents. For the 1997 – 2002 legislative period the government administration was in a state of collapse, the central state´s authority and the rule of law in the region non-existent. The delivery of social services such as health and education had broken down almost entirely. Roads were not passable because of widespread lawlessness. Business and public life came to a standstill, giving way to chaos. Six of the nine seats in the 2002 national elections have been declared null and void because of the violence by candidates´ supporters.

Mike Manning argues that the province has had more money from oil resources than any other province in the last ten years. Royalties of around 50 million US$ or 200 million Kina have been received.[32] But budgets have not resulted in programmes and projects. Power struggles, misuse, nepotism and cash handouts have been normal experiences associated with public funds. Competing ethnic groups have vied for political supremacy and the control of government institutions and their resources. A report commissioned by Inter-Government Relations minister Sir Peter Barter revealed that over a period of six years 106 mio. Kina simply disappeared from the provincial government´s accounts (Post-Courier 10.2.2003). He identified a vicious cycle in which leaders steal money to buy weapons to win elections to steal money (Post-Courier 21.10.2002).

The province is not "kleptocracy-rule[d] by thieves for thieves" (Peter Barter, loc. cit.), or not primarily. It is a very disadvantaged region with a high population density and little room left for future agricultural development. Average income is about 20 Kina a year and most children are malnourished (McLeod et al. 2003: 5ff.). Observers see the SHP as relatively stable and quiet in terms of ethnic warfare from the colonial period until the 1980s. Since the province became `rich´, "stakes have risen high enough for people to fight for what they can get" (loc. cit.: 8). The majority of conflicts in resource project regions are interpreted as an expression of inter-clan rivalries and a direct result of state failure. Neglected groups are threatening mining projects in attempts to hold the government to ransom, hoping to attract attention, money and services as much as possible to improve their situation.[33]

However, the overarching problem is not primarily state failure, even if the state has failed to fulfil its basic responsibilities to citizens. It is ethnicity and the distinct `big men´ culture, which are the hallmarks of the province and most of the central Highlands. It is the political environment, where instability and strife are endemic, that determines the course of conflicts and poses threats to the industry. Leaders are under strong pressure to accumulate and redistribute wealth and hand-outs to family, kin, clans or wantoks (same language group), contributing to extensive misuse, corruption and nepotism. Competing identities and loyalties undermine nation-building and state capacity. Rivalries along ethnic lines make attempts for unity among elected representatives tenuous and shortlived.

The Southern Highlands are not the only example of how mining resources have been dissipated to the advantage of a few people and the disadvantage of the majority. Neighbouring Enga is another mining province with severe problems, although it has only one spoken language (in SHP there are 16 different languages). Tribal warfare has been experienced province-wide for years. There is an influx of modern weaponry and a kind of warlordism by wealthy leaders is developing. An NGO from Enga estimates that between August 2002 and August 2003, 501 lives were lost due to armed conflict. Many schools, health centres and private properties have been destroyed (National 13.10.2003). The public service in Enga is highly politicized and not performing. In 1985 Gordon and Meggitt already observed:

> “Mismanagement, waste and slipshod execution of jobs of all kinds were ever present, there was occasional peculation and much illicit use of public equipment and supplies, and the padding of project payrolls with friends and relatives was common” (quoted in Connell 1997: 280).

Since then, the government has been suspended four times by Port Moresby, which is remarkable even by PNG standards. The first elected governor was jailed for charges of misappropriation of public funds, then elected and suspended again over the same charges.[34] Finally, the Western or Fly River province, where the Ok Tedi mine is located, must be mentioned. Despite the highest per capita funds in the country for most of the 1980s, there are little signs of change. The province is well known for its weak administration and the siphoning-off of millions of Kina for prestige projects such as an expensive Flying Doctor Service, which was unsuitable from the beginning.[35] Its government was also suspended in 2000 (after 1992) for its financial shortcomings.

This context of politicized ethnicity, fraud, nepotism and state neglect provides a strong explanation why the majority of people affected by mining operations prefer the continuity of resource projects despite their negative impacts. For both Highland provinces and the Fly River, mining was a lost period in terms of regional development. High expectations, absent improvements and lack of convidence in the ability of leaders to perform with integrity and impartiality have contributed to erode trust in the state as the major facilitator of development.

The future of mining: From boom to crisis and vice versa?

Extractive industries in PNG have not turned out to be the country´s “pot of gold at the end of the rainbow”, as promised by former Prime Minister Sir Julius Chan, referring to the Ok Tedi mine in 1981 (quoted in Jackson 1982: 148). They have neither initiated nor contributed to sustainable development of the country. On the contrary, the sector has been consistently associated with low levels of economic and human development, bad governance, intensification of social tensions and an increased likelihood of conflict. They have fostered the squandering of the nation´s non-renewable resources, while citizens are left behind with costs that include huge environmental damage. Mining revenue has not reduced aid dependency as intended.

Mining income and the large inflow of Australian aid – currently more than 200 million US$ annually – are still essential pillars for the survival of the weak state, which contrasts with a strong localized society based on resilient pre-state social structures. Both constitute the overall context for post-independence development failure.

The future of the mining industry is uncertain. But it is sure that the sector will not be the same as at the end of the last century. The hope of the government to get another huge Ok Tedi or Porgera mine has not been fulfilled. No investor has been found yet to develop the 3.5 billion US$ PNG-Queensland gas pipeline project, the largest-ever industrial development in PNG. Transnational corporations will not again invest billions of US$ in an economic environment as risky as that presented by PNG. More realistic is the involvement of corporations ("junior companies" for the government) in small short to medium-term gold projects such as Kainantu (Eastern Highlands), Hidden Valley (Morobe), Wild Dog (East New Britain) and Simberi (New Ireland) currently under construction or planned. They have a calculable financial frame and use old mines or exploration results. Smaller mines will further challenge the government, which at present is not able to control the few existing big ones.

The realization of the Ramu nickel and cobalt project in the Madang Province presents a different picture. China Metallurgical Construction Corporation, a company involved in steel production and owned by the Chinese government, is interested in funding the development of the 650 million US$ (2 billion Kina) project, as well as operating it and buying its output to secure raw materials for the booming industrial growth of China. While it would secure PNG´s export income for more than four decades, it also holds tremendous uncertainties for the PNG government. If conflicts arise with landowners as expected there will be no `bad´ multinational to point one´s finger at – the developer is in effect the government of China, a significant investor and important partner in trade and development aid.

However, a continuing emphasis on mining as the economy´s leading sector does not offer solutions to the problems of the country. The slow-down of the industry should be used as an opportunity to redirect policies and programmes away from the extractive industries (mining and large-scale logging) towards diversification of the economic base. Sectors such as agriculture, fishery and tourism are most promising to integrate the majority of the inhabitants economically and improve standards of living. The future of the country rests on this potential.[36] It also would qualify PNG´s status as a "nation of rent-collectors" (Filer 1997: 223) and reverse the country´s dependency and hand-out syndrome. Underemployment, income generation and poverty in rural areas must be tackled seriously in order to avoid further social disintegration.

The export led growth strategy ("Recovery and Development" plan) of the present governing Somare coalition could be the beginning of such a redirection. But exports of raw materials alone do not mean development and do not escape volatile world markets. Reasons behind the minor recovery of the economy have included the appreciation of the country´s currency against the US dollar, favourable commodity prices, the move towards strengthening fiscal management and the change of the taxation regime for mining companies introduced by the government in the 2003 budget.[37] The general medium-term economic outlook continues to be poor, while the income of individuals is projected to further decline.[38]

Even more urgent is the stabilization of the political sphere as a precondition for development. The quality and competency of leaders, institutions and policies determine whether a mining sector´s revenue can promote sustained economic growth, or whether income might impede development. But the fabric of the state reflects the fragmented societal fabric of PNG. The important law to strengthen the integrity of political leaders and parties, enacted in 2001, has not produced the results hoped for. The manoeuvring of leaders for power, prestige and loyalty continues unabated. It is best demonstrated by the endless leadership disputes and split parties in the national parliament, another suspension of parliament meetings for five months to avoid a vote of no-confidence, and the two elections of the Head of State (Governor-General) declared null and void. It looks as if politicization and corruption have finally reached the highest level of the constitutional system.

There is also a long way to go to improve the capacity of the public service to function effectively on the national, provincial and local level. In the past, PNG has started recovery and reform processes many times over, and has always ended up in severe crisis. Development should be more of a bottom-up process than it has been in the past 30 years. Empowerment of communities, strengthening the role of civil society, less reliance on the state and a greater focus on small successes could be a more promising path to development in the short term, as shown in Bougainville and the Southern Highlands recently, than to wait for a never coming miracle. But, as Enga governor Peter Ipatas has stated: "God creates miracles with his Word, men make miracles with money."[39] At present, in PNG the national crisis in development continues despite abundant resources. The prospects for long-term solutions and a significant turnaround seem poor.

Notes

[1] Evaluations of the Bank´s assistance to extractive industries in Chile, Ecuador, Ghana, Kazakhstan, Papua New Guinea and Tanzania from 1993 to 2002 were part of the EIR process. The report´s detailed findings are wide-ranging, especially in relation to tailings and waste management, closure planning, and participation and compensation of local communities. It recommends ending support for investments in oil and coal production and devoting funds to renewable energy resource developments and emissions-reducing projects. Resources for oil investments should be limited to poor countries with few alternatives (World Bank 2003, 2004). As a first reaction, the Financial Times (20.11.2003) reports that it seems unlikely that the EIR recommendations will gain support within the Bank´s governing board. For a critical view of the mining industry from an NGO perspective see Sampat 2003.

[2] In the 1990s, the term governance became a leading paradigm in development theory as well as a prerequisite for development cooperation. The World Bank defined it in 1992 as "the manner in which power is exercised in the management of the country´s economic and social resources for development." In 1994 the Bank detailed the term as follows: "Good governance is epitomized by predictable, open and enlightened policy making (that is, transparent processes); a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law" (quoted in World Bank 2003: 3). The key elements of good governance are transparency, equity, accountability, and participation.

[3] While there is large overlap, rent-seeking and corruption have different meanings. The first refers to a political process of seeking to gain legal or illegal monopoly profits, the later the misuse of public power for private gain (for a discussion cf. Coolidge/Rose-Ackerman 1997).

[4] The phenomenon was termed resource curse by Richard Auty in 1993. An extensive review of the literature concludes that "the curse of resource booms is very real" (Sarraf/Jiwanji 2001: 14,17). For another comparative evaluation of scientific studies see World Bank/IFC 2002, from an NGO perspective World Bank 2004, Vol. III. Most academic studies suggest that the number of states with disappointing results is larger than the number with successful outcomes. The literature names as cases of successful resource-based development the United States,

Canada, Norway, Australia (all industrialized countries!) and a few examples in Latin America (Chile, Peru and Brazil), Asia (Oman [!] and Malaysia) and Africa (Namibia and Botswana). A World Bank study assesses Botswana as "one of the great success stories of developing countries" because of its sound economic policies and prudent management (Sarraf/Jiwanji 2001: 7, cf. also World Bank 2004, Vol. III, Annex 5). However, the main shortcomings of this case are named too: the poor performance of the agricultural sector (accounting for 70 per cent of the work force) and an unequal income distribution favouring a small group of large farmers instead of the majority of the population. Given these deficits, the assigned status of success seems highly doubtful, particularly under the Bank´s present prime criteria of poverty alleviation. For a discussion of the workings of the Dutch Disease in Papua New Guinea cf. Seib 1994: 148ff. and Connell 1997: 147f.

5 In this paper, the terms extractive industry and mining sector encompass oil and gas production.

6 For the last decade the export of renewable resources from the forestry sector constituted the second most important commodity.

7 The broad term sustainable development includes the alleviation of poverty through economic, social and political participation, the enhancement of human rights and the conservation of ecological life-support systems. In 1987, the World Commission on Environment and Development defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

8 Connell 1997: 123. For broader overviews of the mining industry in PNG see Connell 1997, chapter 6 and Seib 1994, chapter 7.

9 `Landowner´ is an important term in the public discourse. It emphasizes control of land and thus identity, autonomy and power of local people, especially in relation to or vis-à-vis the state.

10 Mining Minister and member of parliament for Central Bougainville Sam Akoitai, Post-Courier 28.2.2003.

11 In 1977 the government stated: "Mineral development is justified principally in terms of the revenue it contributes to Government programmes." (Quoted in Jackson 1982: 148)

12 Available from: www.transparency.org/about_ti/annual_rep/ar_2003/annual_report_2003.pdf.

13 Windybank/Manning 2003: 3. The study by Baxter (2001: 4) summarizes the rural crisis which has built up over a long period: "Rural Papua New Guinea is in a serious social and economic crisis. Overall in rural areas, living standards are worsening, the population is increasingly rapidly, the resource base is being depleted, income-earning opportunities are decreasing, access to services and transport infrastructure is declining, the infrastructure itself is deteriorating and effective government support is uncommon."

14 For details see Windybank/Manning 2003: 3.

15 Seib 1994: 130ff., 304 Tab. A23, EIU Country Profile 2002: 25f.

16 Mining Minister Sam Akoitai in the national parliament, quoted in Post-Courier 16.7.2003.

17 See also "Oil industry under siege from landowner disputes", headline of the National, 9.3.2001. The US company sold its subsidiary for US$ 96.6 million to the PNG company Oil Search in 2003 (Post-Courier 22.7.2003).

18 National 29.8.2000, Post-Courier 28.8.2001 and 18.3.2003.

19 20% of the EU´s € 50 mio. are used to fund "the biggest ever helicopter-based air geophysical survey in PNG and maybe the world", explained an EU mission member quoted in the Post-Courier 30.5.2003. For details cf. Post-Courier 26.2.2002 and World Bank 2002a. The Asian Development Bank has also given a loan of US$ 20 million for the support of small-scale miners (National 31.7.2003).

20 Cf. World Bank 2004, Vol. II: 30 for examples at the Lihir gold mine. See also World Bank: Gender Analysis in Papua New Guinea. Washington D.C. 1998, p. 34f.

21 For Lihir Island see World Bank 2002b: 7.

22 Quoted by Willy Marshall: Australian firms plunder Papua New Guinea. 27.10.2003, available from: www.wsws.org/articles/2003/oct2003/png-o27_prn.shtml, accessed 29.4.2004.

23 Lawyer Andrew Grech after the class action dropped in January (ABC Australia 20.1.2004).

24 Quoted in AID/Watch, submission to the Senate/Parliament of Australia´s Inquiry into Australia´s relationship with Papua New Guinea and the Island States, tabled 12.8.2003, p.7; available from: www.aph.gov.au/senate/committee, accessed 14.3.2004.

25 World Bank 2004: 40; for details about the Ok Tedi mine see Seib 2001.

26 Cf. Banks and Ballard 1997. It is interesting to note the controversy about the interpretation of the determining factors of social conflicts associated with mining. Explanations that relate conflicts to the distribution of economic benefits and so to economic motives (cf. Ballard, Banks, Filer, Jackson, King, Macintyre/Foale) contrast with models that see conflicts as a consequence of environmental crises and movements as ecologically motivated resistance (cf. Kirsch, Hyndman). See Banks (2002), who seeks to adopt a more holistic approach.

27 OTML press release 11.8.1999: OTML releases environmental impact options report, p. 1.

28 World Bank 2000a: 6. The press release (footnote 27) says that the dieback of vegetation could cover up to

1,350 km^2.

[29] Quoted by Marshall cf. footnote 22.

[30] Quoted in Macintyre/Foale 2002: 1; see also Post-Courier 11.4.2001: "Ona to take Rio Tinto to court".

[31] For details on the failed process of rural development in PNG in general see Gupta/Ivarature 1997.

[32] Mike Manning of the PNG employers´ think tank Institute of National Affairs: The real costs of development failure, Post-Courier 10.5.2002.

[33] Loc. cit.: 25f., cf. also Weiner et al. 2002.

[34] Post-Courier 4.5.2004, see also Bonnell: 1999: 73ff. On the emerging political culture of violence and intimidation in Enga see Lakane/Gibbs 2003.

[35] See Jackson 1993, 2003, Burton 1998, Seib 1999.

[36] In his article "Examine development flaws" (Post-Courier 14.2.2003) Manning concludes in frustration that "despite the importance of the agriculture, the promises of every government and every politician for priority to agriculture, the sector is the worst at putting pressure to get what it wants. No matter how often it is said and how much everyone agrees that agriculture is the real basis of getting development moving, nothing is happening."

[37] See Economist Intelligence Unit: Country Report Papua New Guinea. July 2003, p. 12, 23.

[38] This is the forecast of the Australian government while announcing an extra 102 mio. A$ aid transfer for the financial year 2004/2005 to stabilize its neighbour, (Post-Courier 13.5.2004).

[39] The statement attributed to Ipatas is quoted in Lakane/Gibbs (2003: 96).

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