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**FORESTRY ISSUES IN THE GUIANA SHIELD REGION: A PERSPECTIVE ON  
GUYANA AND SURINAME**

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# FORESTRY ISSUES IN THE GUIANA SHIELD REGION

## A Perspective on Guyana and Suriname

### EXECUTIVE SUMMARY

This paper was commissioned to provide background information for the 'Informal donor co-ordination meeting on forestry issues in the Guiana Shield region', held in Brussels in November 1998. The Brussels meeting reviewed forest conservation and management strategies and considered prospects for donor collaboration in forest management and conservation of the Guiana Shield, specifically in Suriname and Guyana. The main text of this paper reviews the context of forest sector development in these countries, indicating the main opportunities for - and threats to - the sector, and identifies a number of key areas for future donor support. The major current donor initiatives in each country are summarized in Appendix One.

As one of the few unfragmented blocks of tropical forest remaining on earth, the forest of the Guiana Shield is a unique resource. Furthermore, there may currently be a unique moment of opportunity to help the governments of the Shield area to apply more effective measures for forest conservation and management. Market pressures on natural resources (specifically, timber and gold) in the Guiana Shield region have recently fallen dramatically, due largely to the depressive effect of the Asian economic crisis on tropical timber prices and to the fall in the gold price. The Governments of Guyana and Suriname are increasingly receptive to new ideas.

At the same time, threats to the forests of the region, though temporarily abated, have not been averted. In Guyana and Suriname, the governments are moving towards controlling unregulated natural resource extraction, and there are important opportunities for donors to aid these processes. Institutional limitations within the two

countries are significant and this priority area is being addressed through the strengthening of capacity and legislative frameworks. At present, national resources are being depleted with limited returns for national treasuries, and with severe effect on the local peoples, who frequently lack the security of tenure to counter the threats to their traditional resources. Again, there are important opportunities for donors in these areas.

Donor initiatives need to be consolidated and co-ordinated in order to address priority issues more effectively. The following list indicates priority areas for donor support in Guyana and Suriname:

1. Consolidation of information on the extra-sectoral influences on the condition of the forest, such as small-scale gold mining activity, as a precursor to actions designed to limit the negative effects of such activities.
2. Institutional strengthening at all levels from community-based organizations to government.
3. Development of alternatives to destructive exploitation of the natural resource base, such as sustainable forest management, ecotourism, NTFPs and carbon offset dealing.
4. The issue of the resource rights of local people (Amerindian and Maroon), especially land rights.

#### Box 1: The Guiana Shield: geology and forest cover

In geological terms, a 'shield' is a formation which has been stable - not affected by orogenic (mountain building) activity - for a thousand million years. The Guiana Shield spans six countries: from Colombia in the west, through Venezuela, Guyana, Suriname, French Guiana, and into northern Brazil. It lies for the most part between the Orinoco and Amazon river basins, and is a massif of hard, mainly Proterozoic<sup>1</sup> rocks. The parental crystalline rocks of the Guiana Shield are generally low in mineral contents, and together with the high weathering rates that occur under tropical conditions, harbour soils that are generally poor to very poor in nutrients, and very acid. The characteristic vegetation of the Shield is tropical rainforest. In general, the vegetation of the Shield is remarkable not only in its abundance and diversity, but also in the localised restriction of individual species. In the lowland region alone, there are an estimated 138 genera of endemic trees. The level of botanical endemism for the whole of the Shield is estimated to be around 40%. The Shield is covered by the largest unfragmented tropical forest block of 'frontier forest' in the world.

<sup>1</sup> The Proterozoic Period of the Earth's history began 2.5 billion years ago and ended 544 million years ago.



## 1. INTRODUCTION

The tropical forests of the Guiana Shield are under threat of unsustainable exploitation through logging, mining and infrastructural development. In global terms, the nature of the threat to these forests is by no means unique; examples of destructive extractive activities in other tropical forests of the world are legion. However, the threat to the Guiana Shield region is unusual in that it is recent and there is an opportunity to take preventative action. The threat has highlighted institutional limitations within individual countries, and recognising and responding to that vulnerability is the key to designing alternative options for the use of the forest resource.

The governments of Guyana and Suriname feel great pressure to exploit their forests, viewing forest resource use as a prerequisite for the development of national economies. Currently these countries, with extensive land resources relative to their populations, are on the brink of rapidly degrading their forest resource, before its true value is known. The ideal is the achievement of sustainable management of the forest estate as part of a much wider picture of economic growth for national development.

Exploitation of the Guiana Shield forest potentially affects many interest groups on multiple levels: the local Amerindian and Maroon<sup>1</sup> peoples who depend upon the forest most directly; the logging and mining companies; the national governments responsible for economic diversification and development; and the global community in terms of biodiversity and environmental services. The multiple layers of potential benefits do not have to be mutually exclusive, though there will be elements of conflict. Resource management planning can and must encompass environmental and social goals as well as economic gain (i.e. all elements of 'total economic value'), but there may be some real trade-offs between them.

This paper highlights some of the current forest conservation and management issues of Guyana and Suriname. A complex picture emerges. Limited returns from the forest reflect lack of capacity within the national governments, though the value of commercial timber resources has also been greatly over-estimated in the past. Amerindian peoples' rights to land are not recognised at all in Suriname and poorly recognised in Guyana. The nascent NGO lobby is very weak in both countries, and has not yet succeeded in establishing a voice in this area; this is indicative of the general weakness of civil society in both societies. The resolution of land rights issues is critical to the future of the forest sector, for land use conflicts are currently severely impacting upon both local and national benefits from the forest resource.

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<sup>1</sup>A 'Maroon' is a descendant of the West African slaves who established autonomous communities in the interior of Suriname under colonial rule. The term derives from the Hispaniola 'cimarron' used to refer to cattle that had gone wild and taken to the bush.

The main issues addressed by the paper are as follows:

Economic challenges facing the governments of Guyana and Suriname; forest characteristics and forest values and the threat to these from a combination of extractive activities both current and potential, local and international; limitations within the forest and environmental sectors and current donor-government partnerships; local peoples' security of tenure and the Guiana Shield as an 'eco-region'.

The paper ends with some suggested opportunities for donor funding, while Appendix One provides a comprehensive overview of current donor and NGO projects and programmes in Guyana and Suriname.

## 2. THE CONTEXT: THE ECONOMIES OF GUYANA AND SURINAME

The countries of the Guiana Shield face challenging decisions for natural resource use. The reasons for forest destruction anywhere spring from interconnecting factors related to the economy and the social structure of society. In the cases of Guyana and Suriname, pressure to revive and restore weak economies in the name of national development has focused attention on the natural resource base.

### 2.1 Guyana

The economy of Guyana remains dependent upon foreign finance rather than domestic investment. The government sees the country's natural resources as a major potential source of economic growth, and it is under enormous pressure to exploit these resources. As of 1994, timber represented only 2% of the country's exports, with mining (largely gold and bauxite) accounting for 53% and agriculture (largely sugar and rice) accounting for 45% (Sizer, 1996). However, at 4.5% of GDP (1994), this represents a significant increase on the 1.7% recorded for 1992 and is largely the result of the initiation of large-scale logging and plywood manufacturing by the Barama Company Ltd.

The contribution to GDP from bauxite mining is falling, but gold production maintains the high contribution of the mining sector overall. Despite the recent fall in gold prices, anecdotal evidence suggests that gold declaration is higher than in the corresponding period last year. Output has increased at Guyana's Omai Mine, the largest gold mine in Latin America, and the Canadian companies operating it, Cambior and Golden Star Resources, have offset lower international gold prices by hedging<sup>2</sup> two thirds of the 1998 output (EIU, 1998).

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<sup>2</sup> 'Hedging' refers to a financial transaction which transfers the risk of future price movements

Local miners have been hit hard by lower prices and by drought conditions, which affect gold mining in Guyana's rivers. The Guyana Gold and Diamond Miners Association asserted that if world gold prices did not improve in the first half of 1998, the output of small producers was likely to fall by 30% from the 100,000 ounces produced in 1997. They did not rise significantly. The government has tried in recent years to boost small operators' production by providing incentives to help overcome under-reporting and also lower the cost of production for them. More recently, amendments have been made to the rental and fees for mining licences that should result in substantial savings.

This approach has been pursued in recognition of the fact that the small-scale end of the sector is totally unregulated and that very little is known about the true extent of the industry, or about how to mitigate its negative impacts. Even though informal sector miners often have alternative subsistence options available to them, they tend to be even less responsive than the corporate sector to price falls.

With low production and opportunity costs, informal sector mining can still make good economic sense if prices are low or in decline. The behaviour of the formal sector mineral companies is essentially demand-led while within the informal sector, production tends to be supply-driven (MacMillan, 1995).

## 2.2 Suriname

A 1998 World Bank report characterizes Suriname as 'one of the most distorted economic environments in the region, and economically one of the worst performers'. The country is dominated by primary and extractive industries, and has not diversified from its extremely limited economic base. More than 70% of Suriname's declared export earnings and 15% of its GDP still come from bauxite mining and refining. Estimates of the value of gold exports vary markedly, but may be comparable to those of bauxite. The international slump in prices of bauxite and related products in the late 1970s to mid 1980s contributed to Suriname's economic collapse. Gold

### Box 2: Guyana's economic history in brief

With independence from Britain in 1966, Guyana inherited an economic base almost wholly dependent upon exports of primary commodities. Minerals and some specialist timbers supplemented bauxite, sugar and rice.

Following independence, a combination of doctrinaire nationalization and corruption within the government had devastating effects on the economy. Private sector initiative was all but destroyed, and foreign investment plummeted.

After the oil price rise of 1973 and the collapse of world prices for basic goods like sugar and bauxite, the Guyanese economy went into decline. Between 1980-1988 real GDP declined on average by 2.8% per annum, while external debt rose to around US\$1.9 billion or about six times GDP. In addition, this period saw a massive exodus of the wealthier Guyanese.

By the early 1980s the government began to default on debt repayments. Under pressure from the international community, Guyana began the process of structural adjustment in the late 1980s. In the light of the continued depressed markets for bauxite and sugar, the investment banks looked to other resources as a means for promoting foreign exchange earnings, and the natural resource sector was an obvious focus of interest.

The effects on the forest sector have yet to be fully felt but are likely to be adverse. The classic combination of reduced government spending coupled with the promotion of foreign exchange generating exports could well increase the pressure on the nation's forest estate.

In the 1990s, with broad economic reforms in place, the economy has grown at an average of 7% per annum, with GDP per capita at over US\$800 as opposed to circa US\$500 in the late 1980s, and inflation has been brought under control.

The debt burden remains onerous. In December 1997 Guyana became the fourth country to benefit from debt reduction under the IMF/World Bank's heavily indebted poor countries initiative (HIPC). This development was expected to realise debt relief of about US\$500 million by the end of 1998.

Despite recent progress, Guyana has the lowest per capita income in Latin America and the highest per capita debt.

(Sources: Sizer 1996; EIU, 1998).

prices are still low, and investment prospects for large and small-scale producers are poor. GDP growth in 1998 was thought unlikely to reach 2%; all main export sectors are experiencing difficulties. Per capita GDP in 1996 was US\$1,300 according to official figures, far below the levels of twenty years ago.

New technology and disruption to the formal economy have facilitated the gold rush of the past decade. Gold production may be as high as 30 tons, with a market value of US\$250 - 300 million. Gold mining is now the leading economic activity in many parts of the interior and is the nation's second largest foreign exchange earner. Government revenues from gold are close to zero, but this will change if some of the large operations start exploitation (World Bank, 1998).

Since 1991 the government of Suriname has signed agreements with several Canadian exploration/mining companies. However, the 1994 Golden Star Gros-Rosebel Mineral Agreement has been held up by protest from the local communities who are refusing to move away from the area. The Saramaka people of the area

object that the mine will not only force them off their lands without adequate compensation or future security but will require them to cease their own small-scale mining activities (Colchester, 1995).

Though the potential contribution of forestry could be large (some calculations show \$100 million in exports p.a), reported export revenues were only \$6 million or 1.5% of total export earnings in 1995, less than in 1980 (World Bank, 1998). Smuggling is prevalent and actual annual production might be two to three times the volume reported (FAO, 1996).

As a result of the current weaknesses of the national economy, Suriname is vulnerable to hasty decisions on natural resource use and exploitation. Knowledge of the resource base is insufficient, and the issue of unresolved local land rights has implications for all natural resource exploitation. As the government searches desperately for other means of generating foreign exchange, increasing large-scale logging and mining activity is a tempting option. The government institutions mandated to control forest utilization are overstretched and weak, in terms both of funding and human resources.

### Box 3: Suriname's economic history in brief

In the 1930s Suriname became the world's premier bauxite producer and functioned as an enclave of first American and then European mining companies. The economy was defined by excessive dependency on this one foreign-owned and controlled industry. When other sources of bauxite opened in Jamaica, Guyana and later Australia, Suriname's importance and international market power declined.

On independence from the Netherlands in 1975, 40,000 Surinamers took Dutch citizenship and moved to the Netherlands, a number equivalent to almost half the workforce. The two countries signed an agreement that Suriname would receive US\$1.5 billion in grants and soft loans over 15 years, the so-called 'Treaty Funds'. Dutch conditionalities on the funds, initially related to democracy and human rights, and more recently to progress on macroeconomic reform, have not been fulfilled and some \$500 million is yet to be released.

Independent Suriname has been fraught with political conflict and internal strife. In 1980 a group of non-commissioned army officers led by Sergeant Bouterse, took over with no political agenda, popular base or economic programme. The Dutch froze treaty aid in 1982, and the economy spiralled into decline.

Growing dissatisfaction within the interior communities led to civil war. Maroon rebels targeted infrastructure in the interior, destroying government equipment, including all Forest Service camps.

The war had serious macro-economic consequences, frightening off foreign investment and provoking massive capital flight. Civilian government was restored in stages, with a government of national reconciliation coming into power in 1992.

Suriname's elites have not bowed to international pressure to accept the full rigours of structural adjustment post-1992, leading to tense international relations with the Netherlands and the donor community. Official development assistance is still at a low level. Full acceptance of structural adjustment would mean cuts in the inflated civil service and might well have radical implications, given the highly incorporative basis of the Suriname political structure.

The October 1996 elections brought the National Democratic Party to power, with Jules Wijdenbosch as President and Bouterse (despite allegations of involvement in drug trafficking) as Adviser of State.

*Sources:* Colchester, 1995; Sizer and Rice, 1995.

### 3. THE THREATS TO THE FOREST OF THE GUIANA SHIELD

#### 3.1 The condition of the forest today

What is highly unusual about the Guiana Shield region is that until very recently, the forests were left largely unexploited. Guyana and Suriname are two of the most forested countries in the world (80% and 90% respectively), the vast majority being pristine tropical rainforest. The preservation of the tropical rainforest of these two countries is a result of a combination of factors:

- very low population pressure
- low agricultural potential of the rainforest soils
- little interest from the transnational logging companies until very recently
- no pressure to set up large-scale cattle raising (unlike, say, neighbouring Brazil)

The only impact on both countries' forests has been some logging by national companies in a relatively narrow, accessible coastal forest belt, some limited industrial agricultural activity (mostly rice and palm oil), and very localised mining projects.

The forests of the Guiana Shield are low in commercial timber values by comparison with those of South East Asia and West Africa (Ter Steege & Hammond, 1996). This is due to the constraints of the poor soils, resulting in trees of smaller stature and diameter. As a result there is only a limited number of commercially marketable species. The most valuable species occur at low density so that the extraction costs are proportionately very high, particularly since infrastructure in the interior of countries like Guyana and Suriname is very limited. In addition, labour costs in some of the Shield countries are high relative to Asian labour market costs.

Current large-scale timber extraction in both Guyana and Suriname realises little revenue for the host governments. The relatively low commercial value of the forest is one factor. In addition, the governments have agreed to contracts involving multiple concessions and tax breaks for the transnational investor in order to attract what is seen as vital investment capital. Finally, government forestry institutions lack the capacity to fulfil their functions and collect what little revenue is due, or to regulate the levels of extraction.

Established approaches to industrial forest management which focus purely on timber extraction, are unlikely to be sustainable in the Guiana Shield. Thus approaches will be needed which consider all the values of the forest and attempt to commercialise them in such a way that the real global benefits of the forest can be sustainably developed for local benefit.

#### 3.2 The nature of the threat to the forest

The threat to the forest is multi-faceted. The general trend in the region is for an increase in extractive activities, from the local to the transnational scale. Discussion here focuses on logging, gold mining and road development as examples of the diversity of elements of the 'threat to the forest'. Other forms of mineral extraction and infrastructural development are part of the picture.

##### Transnational timber industry

On the transnational scale, the immediate threat to the forest seems to have been averted by commitments from the governments of Guyana and Suriname to address the weaknesses of their forestry sectors before granting any more major forestry concessions. The economic crisis in the Asian financial markets has also caused a slackening of pressure from the industry side. In Guyana, several applications for 'exploratory leases' for large-scale timber concessions have recently fallen away. In Suriname, forest concessions are still being given out, but on a much smaller scale than was being proposed in 1993-96.

However, in the longer term, the dynamics of the international logging and timber industries have been marked by a shift away from exploiting the tropical forests of South East Asia (already covered by concessions, and in a region where forest laws and restrictions are becoming tighter) into new market areas. The origin of investment and capital is also changing; many of the new investments are 'south-south', controlled by companies based in countries such as Malaysia and Indonesia. The new wave of South-South investment is expanding rapidly and many of the proposals are very large-scale. Production for the Asian market, which is larger and accepts more species and qualities than the European or American market, is on the increase. Market acceptance of a greater range of species and quality has a direct impact on the logging practices used within the concessions.

In 1993, the government of Suriname invited Asian investors to explore possibilities for establishing multi-million hectare logging concessions in the country's interior. By mid 1994, at least five proposals were under negotiation. The investors came from Malaysia, Indonesia and China, and total investment proposed was more than \$500 million (Sizer & Rice, 1995). The importance of the case was the exposure of government vulnerability to 'resource mining' and the concentrated attention the area received as a result. However, though concession allocation on a vast scale was averted, the granting of multiple, smaller concessions has continued apace, within the 150,000 ha limit outlined in the Forest Management Act. Unregulated extraction continues to increase, in a slightly different form.

##### Large-scale gold mining

Large-scale mining causes deforestation, and critically it threatens the ecosystem through pollution. Gold is a metal whose extraction is associated with extensive and

damaging environmental and social effects due to the excavation, grinding and processing of large quantities of rock and the use and release of dangerous toxic materials such as mercury or cyanide. Recent developments in mining technology now make the exploitation of low-grade deposits using open pit techniques and chemical separation processes increasingly profitable.

In the Guiana Shield region, mining companies operate to limited environmental standards, often with insufficient pollution control mechanisms. While pollution is a real and ever-present cost of mining, companies are routinely allowed to treat it as an externality, beyond both their financial calculations and their responsibility. The mining sector is rapidly expanding in both Guyana and Suriname. The development of appropriate environmental legislation is urgently needed and even more so the capacity to enforce the regulations.

On August 19<sup>th</sup> 1995, a tailings<sup>3</sup> dam designed to protect the environment from toxic water which had been contaminated by the Omai gold mine in Guyana ruptured releasing 3.5 billion cubic litres of mining effluent into the rainforest and Essequibo river. According to the Guyanese geologist and environmental scientist, Jackson, 'the Essequibo river has been destroyed for all eternity'; it is unlikely ever to recover its diversity or ecological balance.

As part of the original mineral agreement between the investors and the Government, the owners of Omai did have to prepare an Environmental Impact Statement (EIS) identifying the effect of the mine on the environment and outlining plans to minimize harm. The resulting EIS document required the management of Omai to follow North American standards for discharge into the environment. However, both its analysis of biological diversity of the area and its schedule for pollution control and release appear to be seriously flawed (Dennison Smith, 1998). At the time of the disaster, Guyana had no environmental or pollution control agency. Omai used its economic and political power to downplay the disaster and resume operations as quickly as possible. The Guyanese Environmental Protection Agency was set up in 1996, but shortly afterwards complained that it was not equipped to monitor mining operations (Rondon, 1998).

In Suriname, the case of Nieuw Koffiekamp illustrates the social disruption that mining can cause. Nieuw Koffiekamp is a Maroon community facing relocation for the second time in 33 years because of mining operations. The community is involved in an ongoing conflict with the same two Canadian gold mining companies, Cambior and Golden Star Resources, who claim that their rights by agreement with the government supersede rights claimed by the community. It is thus a dispute involving small-scale local miners versus a multinational mining company

sanctioned and supported by the Government (MacKay, 1997), and it raises fundamental questions about competing notions of rights to and control over land and resources.

Economically, large-scale mining is critical in the development of the economies of Guyana and Suriname. Guyana has taken serious steps to attract mining investment. The process of application for licences has been standardised and shortened. Depreciation of equipment at 20% could produce enough tax credits to allow investors to avoid tax payments for up to eight years (Rondon, 1998; GGMC, 1997). The Shield countries are so keen to attract the investment that companies can play one government off against another. In 1996 the owners of Omai complained that their 5% royalty payment was too high, citing a mineral agreement in Suriname that stipulated royalties at 2.5% (Rondon, 1998). Yet with the increasing importance of the exploitation of low-grade mineral ore and processing based on the use of cyanide *in-situ* or in open ponds, natural resource degradation and pollution are widespread, and disasters almost bound to occur.

#### Small-scale gold mining

Small-scale gold mining also causes significant environmental and social damage, but is a critical source of income for those involved, particularly in times of national economic stress. At this level, too, the threat to the forest is real and on the increase. Small-scale gold mining is causing extensive environmental damage in the interior of Suriname and Guyana, and bringing minimal returns to the governments concerned. For instance, in Suriname, it is estimated that 50-80% of gold coming from the small-scale mines is sold illegally. Estimates vary as to the numbers of people involved, partly because of the inaccessibility of the areas in which the miners are working, and partly because the industry fluctuates with the broader economy. However, a recent draft World Bank report gives rough figures for Suriname: small-scale gold mining employs up to 25,000 people, of whom an estimated 10,000-12,000 are Maroons, while the rest come from Brazil. Most of the small-scale mining is illegal, though there are 100-150 licensed small operators, each with 5-10 workers (World Bank, 1998).

Small-scale mining is not directly responsible for much deforestation; while trees are removed to gain access to deposits, the concentration of work in confined sites ensures that the total areas deforested are small (MacMillan, 1995). However, since virtually all the vegetation is stripped from areas of intensive mining, and as this is usually along streams, localised watercourses are totally transformed. The two techniques of mining (suction-dredge placer and hydraulic) both lead to the undermining of river and creek banks and cause erosion, siltation and water turbidity in the streams. Fish habitats are being altered, threatening the loss of the local aquatic food resources on which local people rely for their protein. Mercury enters local watercourses through spillages, or as

<sup>3</sup> Tailings dams are used to store waste from mining operations. Tailings are the barren particles of finely ground ore that remain after extraction of the valuable minerals in the mill process.

rainfall when vapour is condensed out of the atmosphere, and mercury poisoning threatens both fish and humans. Finally, exploration pits and trenches result in an increase in malaria vectors (Miranda *et al.*, 1998; WWF, 1997).

Social disruption also occurs as labour is withdrawn from the local agricultural economy and invested in mining. The unregulated cross-border movements of Brazilian ‘*garimpeiros*’<sup>4</sup> bring disease and increased conflict, even while they open up new economic opportunities for local people in Guyana and Suriname. In the Sarakreek area of Suriname, armed conflict between *garimpeiros* and ‘pork-knockers’<sup>5</sup> was reported in April 1998, for example.

### Infrastructural development

In 1971 a joint declaration was signed between Guyana and Brazil for bilateral co-operation in the construction of roads. Construction of the road from Boa Vista to Georgetown started in 1989. The primacy of Brazilian interest in the project was clear; it supported the Brazilian government programme POLAMAZONIA, part of which aimed at expanding trade with Guyana (MacMillan, 1995). The road would mean ready access for Brazilian exporters to Georgetown, and through its port to the wider Caribbean market and beyond. The benefits to Guyana are less obvious, and indeed seem overshadowed by the environmental and social costs of the project.

Survival International pointed out that the consequences of the project were likely to be similar to those long associated with road-building throughout the Amazon region, ‘Accelerated forest loss seems likely as are illegal cross-border penetrations by colonists and miners such as have already occurred in Venezuela, Peru, Paraguay and Bolivia’ (Colchester, 1997). Calls for an environmental and social impact study came from many sources; as work on the road began illegal cross border penetrations from Brazil became a serious problem in the Rupununi and Pakaraimas regions. Cattle rustling, land conflicts between ranchers and Amerindian communities, ‘*garimpeiro*’ movement, illegal timber movement and drug smuggling have all been facilitated by the road. In 1994, the Government of Guyana commissioned an impact study which indicated that the road would have a widespread impact in the southern interior of the country, not just along the course of the road itself. The creation of the road would be likely to trigger the development of a whole network of feeder roads throughout the interior, giving access to mines, logging operations and agricultural programmes. However, upgrading of the road looks set to continue.

<sup>4</sup> The term refers to Brazilian small-scale miners

<sup>5</sup> Miners, so-called because of the barrels of pork they used as staple food

## 4. CURRENT STATUS OF THE TIMBER INDUSTRY

### 4.1 Guyana

#### Limited profits from the timber industry

In Guyana, approximately 5 million ha have been allocated to logging companies, in a zone near the coast. Timber is Guyana’s most important forest product, but logging currently adds little to government revenues. In 1995 government income from logging activities totalled less than US\$1 million (Sizer, 1996). The two main foreign concession holders in Guyana are Barama Company Ltd. (Malaysian/Korean joint venture) with 1,690,000 ha in the north west of the country and the formerly state-owned Demerara Timbers Ltd. (now held by Primegroup, controlled from Singapore) which holds 552,000 ha.

The terms of the Barama contract were unusual in the combination of tax breaks and incentives awarded to the company. The government of Guyana collects very little direct revenue from the operations of Barama; taxes, fees and royalties in the contract were set in Guyanese dollars and made no provision for adjustment with inflation (Sizer, 1996). For Guyana, the importance of the operation currently lies in the employment it provides (1,500 workers), rather than the revenue that it brings in. Despite the extremely favourable contract terms, Barama seems to be making little profit. High harvesting costs due to low worker productivity and low commercial timber density are compounded by transport difficulties (Sizer, 1996). The company appears to be suffering from over-capitalisation in Guyana, and an over-estimation of the value of the timber resource.

#### Attempts to address industry weakness

Several other foreign investors attempted to acquire major concession areas in the country, but in early 1995 the Government declared a 3-year moratorium on new foreign and local large-scale logging concessions (woodcutting leases and timber sales agreements). The moratorium, which has been maintained, and recently extended, was designed to allow time for foreign assistance to strengthen the Forestry Commission, and for policy and legal reform.

#### The Guyana Forestry Commission

The Guyana Forestry Commission was established as a body corporate in 1979. The Commission advises the Minister and makes submissions on forest policy, forestry laws and on applications for concessions, licences and permits. The Commission is responsible for sector planning, monitoring of forest management and operations, resource protection and conservation, and for providing support to research, education and training.

The GFC has not been able to fulfil its mandate adequately due to a lack of trained staff and the supporting institutional and policy framework. These weaknesses were identified by Government in 1989 and are being

addressed with donor support. A CIDA funded Interim Forestry Project (1989 - 95) provided training for forestry personnel and developed forest inventory and management systems. A broader based GFC Support Project funded by DFID began in 1995 (see Annex 1).

Critically, the agreement between DFID and the Government included a moratorium on granting new forestry concessions, which has been respected. Applications for the newly designated 'exploratory leases' have fallen away as a result of the crisis in the Asian markets.

#### The broader environmental framework - Guyana

In 1996 the Government passed the Environmental Protection Act, established an Environmental Protection Agency (EPA), and introduced Environmental Impact Assessment (EIA) as the formal mechanism to avoid undesirable environmental impacts from development projects. With initial IDB support, the EPA is intended to improve environmental management systems in Guyana.

At the same time, the wider environmental institutional framework has been under review, and the implementation of various changes was approved in early 1997. The reorganisation of the natural resources and environment co-ordination structure, prepared by the Office of the President and the Natural Resources and Environment Advisory Committee (NREAC), have helped to redefine the role of the Guyana Natural Resources Agency (GNRA) as an agency developing policies and planning frameworks for the Natural Resources sector. The policy and planning framework for the natural resources sector was extended beyond forestry, mines and energy to include areas such as fishing, wildlife and parks. In order to cope with the inter-Ministerial co-ordination needed, specialised committees were envisaged to deal with land use in the hinterland, major investments in the natural resources sector and science and technology issues for natural resource utilization. The GTZ-funded Natural Resources Management Project is focusing on improved management of natural resources in collaboration with many of the natural resource agencies. However, neither institutional nor legal changes have as yet had their intended impact.

## 4.2 Suriname

### Extent of concessions, limited profits

Commercial forest use in Suriname is almost exclusively for timber harvesting. To date, around 2.5 million ha of Suriname's forest has been leased out through 241 forest concessions and cutting permits, mostly small-scale, in the accessible forest belt close to the coastline. There are two large concessions of 440,000 ha for the parastatal Bruynzeel Timber Company and 150,000 ha for the Indonesian company MUSA.

In 1996 only 0.1% of the Forest Service's costs were met by revenue. Sizer and Rice (1995) calculated that even if

all area fees and royalties were collected they would be less than US\$100,000, this being about 17% the cost of running the Forest Service in 1996. Total fees per m<sup>3</sup> have never exceeded 3.5 US cents (GOPA, 1998).

### Concession threat averted?

In early 1993, with the government suffering from serious economic problems, Asian interests were encouraged to invest in the timber industry. In 1993 and 1994 proposals from several companies were submitted to the government which, if they had been accepted, would have meant an increase of 143% in the area under logging concessions (Sizer & Rice, 1995). The proposals represented a breach, if not in name at least in spirit, of the Forest Management Act of 1992 due to the sheer size of concessions proposed. Domestic and international criticism led to a delay in granting the concessions, and when the new government was elected in May 1996, a moratorium on logging concessions of more than 150,000 ha was announced. The immediate large-scale threat to the forest of Suriname subsided, but questions still remain as to the government's commitment to the long-term best interests of the industry.

Concessions continue to be awarded at the 150,000 ha level, and through multiple awards, the total area under concessions is probably not far short of the levels mooted in the early 1990s. Thus the danger of losing large areas of forest to unregulated exploitation has not been averted: the complexity of the present arrangements and poor monitoring capacity, preclude it.

### Adequate legislation, inadequate implementation

The Forest Management Act of 1992 is not being implemented. It provides an adequate framework for management, but currently only about 6% of the forest within the Forest Service jurisdiction is considered to be managed or partially managed. Currently, even the large Bruynzeel and MUSA concessions are not regularly inspected. On a national scale, reported volumes are thought to be a half to a third of actual volumes harvested as under reporting and evasion of payment of royalty and other taxes is frequent (GOPA, 1998).

### The decline of Suriname's Forest Service

Suriname once had one of the best tropical forest management programmes in the world. This fell into decline in the 1980s with the civil unrest, which resulted in the destruction of much of the forest infrastructure and research stations. The economic problems of the 1990s resulted in a drastic reduction in the real level of salaries, forcing many to take on additional jobs, and so become mere 'ghost' government employees: on paper 400 people, of whom at most 100 are actually functioning as employees, staff the Forest Service. The Service also suffers from a weak internal organisational structure, with most employees in or around Paramaribo and almost 90% on the lowest pay scales. In 1995, Sizer & Rice documented an annual budget of US\$20,000 for the entire Forest Service. In short, the Service is simply not adequately equipped to control exploitation of the resource.

#### Box 4: Land rights - Suriname

Of Suriname's population of approximately 400,000, 10% are Maroon and 2-2.5% are Amerindian.

Maroon and Amerindian rights to own their ancestral territories are not recognised in any form in the laws of Suriname.

Almost all land in the interior is presently classified as state land, and the government also claims all sub-surface and surface resources (Constitution of Suriname, 1987). Amerindians and Maroons are treated as permissive occupiers of state land.

Land titles are issued to individuals only; there is no recognition of communal title. The titling procedure provides no protection against logging, mining or other activities defined as being 'in the general interest'. In addition, customary law rights only apply to villages and agricultural plots and do not account for larger territory and other lands associated with hunting, fishing and other subsistence activities.

#### The Suriname Forest Service and FAO-Netherlands support

The FAO (TCP) project (1995-6) examined the development of the Forest Service; currently two projects are being implemented: 'Forest Production Control' and 'Forestry Advisory Assistance'. In order to begin to rectify the weaknesses of the sector, the Forest Service is becoming a parastatal Forest Foundation (registered in August 1998). The Foundation, having been removed from the controls of public sector, will be able to increase wage levels and will eventually be self-financing. This will require a change in legislation, and the political will to make the body an effective control of the industry.

The parallel Forestry Advisory Assistance project is designed to establish the legal and regulatory framework for the implementation and enforcement of the Forest Management Act of 1992. It is also working on the establishment of an information system for the sustainable use of the forest resources, and the enhancement of the institutional framework for sustainable forestry development in Suriname.

#### The broader environmental framework - Suriname

In Suriname, natural resource and environmental management and planning are in the mandate most prominently of the Ministry of Natural Resources. The Foundation for Nature Conservation, and the newly established Foundation for Forest Management and Production Control, are instruments for the implementation of the policy of the Ministry of Natural Resources. The Ministry of Natural Resources is supposed to control the exploitation and management of all energy and natural resources (except fisheries). In the absence of an agency for environmental protection, this Ministry is responsible for both exploitation and conservation, a mandate which leaves it vulnerable to accusations of conflict of interest. Current environmental legislation is also dispersed in several separate acts, bills and regulations, few of which are enforced. There is no legislation related to environmental impact assessments.

To co-ordinate environmental and natural resource issues, an Environmental Council was established in early 1997 at the Office of the President. IDB and the EC are assisting the Council and helping to establish a 'National Institute for Environment and Development of Suriname' (NIMOS). The Institute will function as a foundation, to give it financial autonomy and the ability to attract qualified staff. It is as yet unclear how the institute will relate to the traditional line ministries.

#### 4.3 Biodiversity conservation and utilisation - Guyana and Suriname

Land use allocations reflect fundamental choices about national development. The range of land use options available to Guyana and Suriname presents both countries with difficult decisions on the use of the forest estate and its relationship to national development. The traditional emphasis on timber extraction will need increasingly to be complemented by a concern with non-extractive uses.

##### National Parks

In Guyana the proposed National Protected Areas System (NPAS) project would set up the country's first system of protected areas with priority areas for biodiversity conservation. The innovative Iwokrama Reserve, which the Guyana Government has passed in trust to the Commonwealth Secretariat, would become a critical part of the NPAS. Half of the reserve is dedicated to a Wilderness Preserve and half to sustainable utilization; the programme embodies the integration of conservation and utilization that is so often talked about and so rarely achieved.

In Suriname the recent creation of the Central Suriname Nature Reserve increased the area under conservation from 5% to over 12% of the country. Ensuring that conservation areas in both countries are more than just 'paper parks' will require considerable political and financial commitment.

### Box 5: Land rights - Guyana

Indigenous Amerindian communities comprise some 40,000 people (6.8% of the population) and constitute the majority in the interior of Guyana.

The Amerindian Lands Commission reported in 1969, recommending that title be granted to 24,000 square miles of Amerindian lands. The Amerindians had asserted rights to approximately 43,000 square miles. To date, they have received title to 6,000 square miles.

Communities occupy 65 reserved areas in the forest hinterland where they have land rights to about 7% of national territory.

However, at least 30% of Amerindian communities in Guyana do not have title in any form to any of their ancestral lands.

Errors in land surveying in the past are compounded by the need for additional land as a result of a growing population.

The Amerindian Act (1951, amended 1961 and 1976) is the primary law of Guyana that regulates Amerindian land titles. Amerindians and the government of Guyana alike have recognised that the act needs revision.

Among the benefits which these areas will offer are biodiversity conservation, ecological functions and tourism development.

## 5. AMERINDIAN AND MAROON LAND RIGHTS

The current situation of the Amerindian and Maroon peoples in Guyana and Suriname is characterised by unresolved land issues, and related factors flowing from this basic lack of security. Logging and mining concessions directly affecting interior communities highlight the more fundamental issues of rights to land and resource use. Addressing the issues from the government side will require considerable political will.

The NGO-CBO sector as a whole in both countries is weak, with local capacity only just emerging. As a result, there is a lack of strategic planning and a limited ability to lobby government. In Guyana, the Amerindian Peoples Association (APA) was established in 1991. It has focused on basic capacity building in the interior, concentrating on the dissemination of information and on awareness raising related to rights and land issues.

### 5.1 The Amerindians of Guyana

On the face of it, given their comparatively small numbers, reversing the poverty status of Amerindians seems a manageable task. In fact, however, Amerindian hinterland poverty is a complex mix of issues, given the dispersed settlement pattern, the difficult terrain, the high cost of administering interior projects and lack of human resources skills both in the Amerindian and in the wider population, and the lack of an effective lobby (Forte, 1996).

The Government of Guyana has a Task Force currently working on demarcation of existing Amerindian land boundaries. Many of the Amerindian communities of Guyana have rejected demarcation until all other outstanding land issues have been addressed. As stated in the National Development Strategy of 1996, these concerns include:

- Complete resolution of the land issue, including the question of sub-soil mineral rights, and clarifying the status of land regarding control over exploitation by outside agents.
- The establishment of a mechanism for consultation on Amerindian rights, and the regulation of the process that now results in leasing or granting to developers lands that were traditionally used by Amerindians without consulting these communities.
- Rules for compensation to communities for the exploitation of natural resources.
- The fostering of participation of Amerindians in management, conservation and administration of natural resources.

In Guyana, one of the main Amerindian organisations is the Amerindian Peoples' Association (APA). It was established in 1991 to push for Amerindian land rights and to ensure that the Amerindians' voice was heard in policy making at the highest level (Colchester, 1997). The APA has been supporting a project in the Upper Mazaruni area, providing technical and legal support to communities to produce maps of their areas using a Global Positioning System to mark resource use.

Of Guyana's 16 million ha of forested land, 1.4 million ha is legally under the control of the Amerindians. Under Guyanese law, forests on private lands, including those

titled to Amerindian communities, are not subject to the control of the Guyana Forestry Commission (GFC) and no special laws exist to regulate felling. As a result, timber companies have been free to enter into formal or informal agreements with Amerindian communities without any kind of supervision or control (Colchester, 1997). Forte (1996) states that 'there is a threshold of poverty below which the poor - in this case, Amerindians - become disproportionately destructive, either by directly destroying resources which could nurture them for years or indirectly by giving outsiders access to resources under indigenous control'. The draft Forests Act of 1998 attempts to address the problem through the provision of regulatory mechanisms for such interactions. Phase II of the DFID support project to the GFC will support the development of a training strategy for hinterland communities. The strategy will be developed through a process of consultation with communities, companies and the GFC. Implementation will be piloted in selected communities in parallel with a separate programme to develop and introduce community forestry management plans.

## 5.2 The Amerindians and Maroons of Suriname

The only legal mechanism that is used in Suriname to give local communities preferential access to their ancestral territories is through the issuance of wood cutting licenses (HKV) which are given as long-term leases and permit the cutting of timber according to simple regulations. About 500,000 ha of forest is controlled by communities under HKV licenses. There is no limit on volume harvested nor is there any charge for timber unless it is sold. If the timber is sold, royalties are payable but not the acreage fees required of concession holders. These licenses are problematic, encouraging the logging companies to enter into low-cost contracts with communities without any regard for sustainable management. Leases are registered in the names of community leaders, which has caused serious disputes within communities (Colchester, 1995).

The 1992 OAS-brokered peace treaty that ended civil war in Suriname provides one point of reference for the local communities. Articles 10 and 11 deal with land, the establishment of title and 'economic zones' where communities could undertake activities such as forestry, mining, fishing and hunting. There are established mechanisms to promote interior communities' participation in decision-making, such as the District Councils, the Council for the Development of the Interior, the Association of Village Leaders in Suriname and ad hoc Meetings of the Paramount Chiefs of the Maroons. Most of these were created under the peace accord, but none are fully functioning, and all are underfunded (Sizer & Rice, 1995). For its part, the government has not fulfilled its obligations under the Peace Accord.

## 6. THE IMPORTANCE OF THE GUIANA SHIELD AS AN 'ECOREGION'

Only two of the six countries that constitute the Shield have been considered here, but the challenges which they face with regard to forest management are symptomatic of the problems of the region as a whole. The ecological definition of the Guiana Shield would also seem to justify some kind of regional approach to the environmental issues. The 'eco-region' is useful as a focus of interest, in drawing attention to the area as one of critical importance in global tropical forest terms. Further, a regional outlook encourages the exchange of information between neighbouring countries faced with very similar problems. The comparative advantage of the region is that the size and pristine nature of its tropical forest is unique: it is an area of opportunity for conservation and sustainable development.

Research initiatives have long used the regional perspective, crossing political boundaries and using ecological principles to define their objectives. UNAMAZ (Association of Amazonian Universities) attempts to integrate the research efforts of universities and research institutes in the Amazon countries; the research work of CELOS in Suriname co-operates closely with that of Tropenbos in Guyana, and the Smithsonian 'Flora of the Guianas' uses ecological and not political boundaries, of course.

Nevertheless, while such research coordination and information exchange has great value, it has to be recognised that ecological regionality is not matched by political unity. On the positive side, all the countries in the region, with the exception of French Guiana (which is legally a *département d'outre-mer* of metropolitan France) - Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela - are all signatories of the Amazon Co-operation Treaty (ACT). The ACT unites in support of a number of shared principles, including sustainable development. Likewise, CARICOM's mission is regional integration, and Guyana and Suriname are both members, with Colombia and Venezuela as observers.

On the negative side, the vast differences in population, wealth and political power between the countries discourage joint political action, and there also exist significant conflicts and competing claims over resources between the states which mitigate against regional solidarity. Yet this in itself argues for greater unity. The countries of the region need to act in concert otherwise strong regulation in one country may pass unsustainable extraction onto its weaker neighbours (Veening & Ellenbroek, 1996). Regional co-operation towards sustainable use of natural resources requires some kind of regional agreement on resource use policy.

International initiatives for the Guiana Shield area are developing among NGOs and academic institutions. In

terms of increasing direct donor support to the region, there is much that can be done within individual countries as well as regionally. In addition, the co-ordination of a range of inputs within individual countries could be strengthened by a collective strategic vision from the donor community, and collaborative planning for new inputs.

Appendix One outlines many of the current and proposed inputs related to forestry and the environment in Guyana and Suriname. Despite the diversity of these interventions, significant gaps remain. Some suggestions are offered below as to issues of priority concern.

## 7. OPPORTUNITIES FOR DONOR CONSIDERATION

For Guyana and Suriname, several areas can be highlighted as meriting early attention:

### 7.1 Consolidation of information on extra-sectoral influences

Consolidation of information on the extra-sectoral influences on the condition of the forest, such as small-scale gold mining activity, as a precursor to actions designed to limit the negative effects of such activities. Several studies have been undertaken in Guyana and Suriname examining various aspects of the impact of these activities, but these need to be consolidated with lessons learnt from programmes in Brazil. There is enough information available on the industry to begin efforts to control it and mitigate against its most negative impacts. The implementation of policy and legal emergency measures, education campaigns on mercury use, and law enforcement and eviction of miners from lands that are not designated for mining could begin immediately.

### 7.2 Institutional strengthening at all levels

- **Government**  
Current donor initiatives are involved with addressing the weaknesses of the government forest institutions, and the broader policy and legislative framework (the latter needs further support in both countries). However, both Guyana and Suriname are operating with a very limited human resource base, and the multiplication of environmental institutions with increasingly demanding mandates are stretching this base still further. Greater coherence between donors would reduce this 'saturation effect' (particularly in Guyana), as would a sustained emphasis on capacity building within government.
- **The national private sector**  
Through the establishment of performance

requirements for the industry, setting and maintaining standards for sustainable forest management with independent monitoring. The development of the respective national industries is cited as one of the answers to avoiding dependence on direct transnational investment. In addition, a viable local forest industry is the precursor to successful secondary industries, and diversification of the industry is frequently flagged as the way forward. The provision of incentives for domestic investment can encourage the private sector.

- **Civil society institutions (CBOs and NGOs)**

There is a need to strengthen and encourage real civil society involvement in environmental issues and, more broadly, in the democratic process. This includes elements of information sharing, capacity building and training towards participation in the political processes, and an increasing ability to engage in discussion with government.

### 7.3 Development of the alternatives to destructive exploitation of the natural resource base

- **Sustainable forest management**

Both large-scale and community-based. The research of Tropenbos in Guyana and CELOS in Suriname warrants practical application. The Iwokrama Project is committed to testing sustainable forest management as an alternative to the destructive extractive practices. In addition, small-scale logging should be fully explored as an opportunity within the industry; registered legal logging by chainsaw operators adequately controlled and monitored could make a positive contribution to the industry. Opportunities for community forestry need to be examined within a changing legislative framework, and in respect of the current land rights situation.

- **Ecotourism**

The global market for ecotourism, though small, is growing and geographically both countries are well-placed to exploit the interest in ecotourism, particularly in North America. Suriname needs to rebuild its industry; Guyana is starting from scratch. Guyana has a national tourism strategy which needs more attention and higher priority within national development planning.

- **NTFP markets and bioprospecting**

Need investment to clarify the respective roles that they can realistically play in a diversifying forestry market.

- **Carbon offset dealing**

and the relevance of this uniquely global market for countries like Guyana and Suriname need to be clarified. One potential problem is that in the current

development of the market there may be a disincentive for the creation of protected areas as carbon deals are based on active interventions, either to ensure reforestation or halt deforestation. Thus land which is taken out of the circuit of potential timber exploitation ceases to be eligible for carbon-offset credits. Future decisions in this area could make a great deal of difference to the Guiana Shield countries.

#### 7.4 Amerindian and Maroon resource rights

Adequately addressing the issue of *Amerindian and Maroon resource rights*, specifically land rights. This is a key part of the land use planning process in both countries. If basic demands can be addressed, land use for national benefit will be easier to explore in partnership with local communities. Though the current situations of Guyana and Suriname differ markedly regarding progress on local peoples' rights (see sections 5.1 and 5.2), the fundamental issues are very much the same, and the allocation of concessions for resource extraction directly affects Amerindians and Maroons. Continued delays in addressing competing land and resource claims jeopardises the promotion of foreign investment in sustainable resource extraction and the expansion of conservation activities.

## CONCLUSION

Much of the uniqueness of the Guiana Shield lies in its relative freedom, to date, from the destructive exploitation which has blighted many other areas of tropical rainforest, and the opportunity which it offers for full and careful exploration of possible benefits. As institutions such as the World Resources Institute in Washington and the World Forests, Society and Environment Research Program in Finland have noted, the Guiana Shield forests represent one of the last six or seven large contiguous areas of forest left in the world today. In the case of this region, forest which was once of little interest to the rest of the world as timber, will come increasingly under the spotlight because so much other forest has now gone. Yet as section 3 has shown, the very reasons which made these forests difficult and unprofitable to exploit in the past, tend to make them difficult to manage sustainably today. If the countries examined here are to do so, and to realise the values from what is a considerable asset, much assistance will be needed.

Researching and assessing the potential of these values is now a matter of some urgency if the opportunity which the region presents is not to be lost, meanwhile, to destructive resource mining, of little long-term benefit to either the region or the global community.

The challenges which are presented should not be underestimated:

- The forests themselves are technically and economically difficult to manage sustainably.
- The government institutions which might regulate sustainable use of forests have until recently been moribund, or are very newly formed.
- The confusing array of new international environmental standards demands careful intersectoral planning if the interests of the mining industry are to be reconciled with those of forest conservation.
- As if these factors did not present a sufficient challenge, the well-being of local populations, so easily surrendered to external interests, deserves much greater thought and concern than has been the case until now.

Current donor activities in Guyana and Suriname, (reviewed in Appendix One), are so far relatively limited in scale though they represent a fair range of endeavours, and some - such as the Iwokrama Project - are bold in conception and of exceptional international interest.

If the research, capacity building and livelihood focus which is clearly so essential to a sustainable future for the Guiana Shield forests is to take place, this will require significant long-term commitment from the donor community. Carefully planned and coordinated donor and researcher efforts in technical, institutional and social areas, could bring potentially great benefits to a long-neglected region - and potentially make a major international environmental contribution as well.

## REFERENCES

- Bishop, A. 1996. Baseline document on land use in Guyana. Government of Guyana, University of Guyana, GEMCO, Carter Center and WRI.
- Bryant, D., Nielsen, D., & Tangle, L. 1997. *The Last Frontier Forests: Ecosystems & Economies on the Edge*. World Resources Institute, Washington.
- Colchester, M. 1995. *Forest Politics in Suriname*. International Books, Utrecht & World Rainforest Movement, Gloucestershire.
- Colchester, M. 1997. *Guyana: Fragile Frontier. Loggers, Miners and Forest Peoples*. Latin America Bureau, London & World Rainforest Movement, Gloucestershire.
- Economic Intelligence Unit, 1998 (Second Quarter). *Country Report, Trinidad and Tobago, Guyana, Suriname*. EIU, London.
- Ek, R. 1996. Botanical Richness of a part of the Guyana Shield: the Guianas. In: *The Guyana Shield, Recent Developments and Alternatives for Sustainable Development*. Bos Newsletter, Vol 15 (2), No 34.
- FAO (1996). *Strengthening National Capacity for Sustainable Development of Forests on Public Lands*. TCP/SUR/4551, unpublished draft.
- Forte, J. 1996. Amerindian/Hinterland Issues. In: 'About Guyanese Amerindians', Janette Forte, Georgetown, Guyana.
- Gibbs & Barron, 1993. *The Geology of the Guiana Shield*. Oxford University Press.
- GOPA, 1998. *Suriname - Preliminary Forest Sector Study*. Final Report.
- Government of Guyana. 1996. *National Development Strategy for Guyana: shared development through a participatory economy*. Vol III The Social Sectors. Ministry of Finance, Co-operative Republic of Guyana.
- Hobley, M. 1997. *Social Issues in Forestry in Guyana: The ways forward for Phase II of the Guyana Forestry Commission Support Project*. Report for the GFC and DFID.
- MacKay, F. 1998. *Suriname Information Update*. Forest Peoples Programme.
- Sizer, N. 1996. *Profit Without Plunder: Reaping the Revenue from Guyana's Tropical Forests without destroying them*. World Resources Institute, Washington.
- Sizer, N. & Plouvier, D. 1998. *Increased Investment and Trade by Transnational Logging Companies in Africa, the Caribbean and the Pacific: Implications for the Sustainable Management and Conservation of Tropical Forests*. WWF-Belgium, WRI Washington, WWF-International.
- Sizer, N. & Rice, R. 1995. *Backs to the Wall in Suriname: Forest Policy in a Country in Crisis*. World Resources Institute, Washington.
- Ter Steege, H. et al. 1996. *Ecology and Logging in a Tropical Rain Forest in Guyana, With recommendations for forest management*. Tropenbos Series 14, the Netherlands.
- Veening, W. & Ellenbroek, A. 1996. *International Cooperation and Biodiversity in the Guyana Shield*. In: *The Guyana Shield, Recent Developments and Alternatives for Sustainable Development*. Bos Newsletter, Vol 15 (2), No 34.
- WWF, Reichart et al. 1997. *WWF's Guyana Shield Conservation Programme 1998-2002*. Project document.
- World Bank. 1998. *Suriname - A strategy for sustainable growth and poverty reduction*. Country Economic Memorandum. Unpublished draft. Caribbean Country Management Unit, Latin America and the Caribbean Region.

## APPENDIX 1

### OVERVIEW OF CURRENT DONOR/NGO/RESEARCH INITIATIVES

The following is a list of some of the most important inputs from donors, international NGOs and research institutes into the forestry/environment sector in Guyana and Suriname. The list is not exhaustive.

#### GUYANA

##### ONGOING ACTIVITY

##### **Guyana Forestry Commission Support Project: DFID**

The project was developed from proposals made in the National Forestry Action Plan and was agreed between GoG and DFID in 1995, with a DFID budget of £3.4 million. The project purpose is to enable the GFC to effectively fulfil its mandate to promote sustainable, ecologically sound and socially integrated forest management systems. This will be achieved by revision of forest policy and legislation, institutional strengthening of the GFC, and the introduction of revised resource planning, monitoring and management systems. The project will also support training at community, vocational, technical and professional levels.

Phase I of the project was completed in August 1998. Outputs included a new National Forest Policy, draft forestry and Forestry Commission legislation, improved concession allocation procedures, a review of revenue systems, reorganisation of the GFC and improved salaries and conditions of service for GFC staff. Procedures were prepared for forest management plans, audit and monitoring of harvesting operations, and preparation of environmental impact assessments. The second phase will concentrate on forest resource management systems, social development and on education and training.

##### **Natural Resource Management Project: GTZ**

The NRMP project is now in Phase II (1997-2001) and the German contribution is 4.6 million DM. The overall purpose of the project is to implement a programme to improve the management of the natural resources of Guyana. The project aims to achieve the following results:

- database on natural resources partially established and maintained
- land use planning process established
- policy guidelines approved and legislation developed for natural resource management
- institutional capacity for natural resource management strengthened

The project has an important integrative function with objectives of developing co-ordination between natural

resource management agencies, development of land use planning processes, geographic information systems, and capacity building of GNRA and Lands and Surveys.

##### **National Development Strategy: The Carter Center**

Working in collaboration with the Ministry of Finance, The Carter Center's Global Development Initiative facilitated the production of a technical draft of a national development strategy. Over 200 representatives from government, civil society and international donors participated in technical working groups to produce the draft. The work was guided by a technical co-ordinating committee. In 1997 over 300 copies of the draft NDS were circulated to national and international organisations for review and comment and regional workshops were held to solicit public input. The Committee plans to complete the process by March 1999 to submit the document to Cabinet, and then it will go to the National Assembly for approval.

##### **Environmental Protection Agency: Inter-American Development Bank**

IDB is supporting the establishment of the Environmental Protection Agency with US\$1.5 million. The Environmental Protection Act of 1996 outlines the functions of the agency; making it responsible for the effective management of the natural environment and the protection and sustainable use of the country's natural resources. It must also promote the participation of members of the public in the process of integrating environmental concerns in planning for development on a sustainable basis, and to ensure that any developmental activity which may cause an adverse effect on the natural environment be addressed before that activity is authorised. The Act empowers the agency to audit environmental impacts, though as yet no clear social impact audit is included. The agency is designed to be the effective environmental regulatory body of Guyana.

IDB funding is intended to strengthen EPA and to develop the country's legal and regulatory framework in the environment and natural resource management areas and improve the environmental management and monitoring capabilities of the GFC and the GGMC.

### Iwokrama International Centre for Rainforest Conservation and Development

The Iwokrama Programme was launched under the Commonwealth's auspices in 1990. It is a unique international enterprise to develop more effective methods for the sustainable management of tropical forest and biodiversity both in Guyana and worldwide. The Government of Guyana has set aside about 360,000 hectares of virgin rainforest (the Iwokrama Reserve) for the Programme. In March 1996 a Bill was enacted by Guyana's Parliament guaranteeing the autonomy of the Reserve and the International Centre for Rainforest Conservation and Development which is responsible for managing it.

The centre and its programmes are dedicated to demonstrating how tropical rainforest resources can be both conserved and sustainably used for human development. Half of the 360,000 hectares of forest is being maintained as a Wilderness Preserve for scientific research. The remainder, a Sustainable Utilisation Area, will be developed in environmentally sound ways, in partnership with local Amerindian communities and the private sector, to generate economic benefits through sustainably produced timber, bioprospecting, ecotourism, non-timber forest product sales and carbon offset investments (to combat global warming).

The Iwokrama International Centre has five core programmes for its research and training activities:

- sustainable management of the tropical rainforest
- conservation and utilisation of biodiversity
- forestry research
- sustainable human development
- information and communication

The institutional arrangements being developed at Iwokrama emphasise partnerships and substantive long-term self-sufficiency, with strong private sector involvement. The substantial self-sufficiency within the first ten years element refers to operational costs of the basic institutional facilities and activities, and not to projects.

During the initial phase, Iwokrama was supported primarily by a US\$3 million 1993-97 grant from the GEF, administered by UNDP, and supported by the Commonwealth Secretariat with technical assistance.

As set out in the Business Plan, Iwokrama urgently needed commitments to its basic or institutional development funding requirements and operational costs. Stage 1 of the programme 1998-2002 is envisaged as almost entirely donor funded, with Stage 2 2003-2007 seeing a rapid increase in income generation. Funding requests for Stage 1 totalled US\$13 million.

As of early 1998, the new funding commitments for the Iwokrama Programme are as follows:

- From the UK Government (DFID), US\$5,200,000; "Senior Staff Support Project" and "Sustainable Human Development Project", from the latter expected outputs are fivefold:
  - a) development of analytical tools to guide inclusive processes for forest management, planning, conservation and monitoring
  - b) development of systems and processes for sustainable rural livelihoods in forest areas
  - c) development of Iwokrama stakeholder capacity to support new approaches to forest management
  - d) development of understanding and processes for sustainable forest management
  - e) development of information support systems for clients
- From the EC, US\$1,300,000 "Sustainable and Equitable Utilisation of Biodiversity in the Iwokrama Forest Project", expected outputs are threefold:
  - a) inventory of the biodiversity of Iwokrama
  - b) a systematic programme of bioprospecting targeted at specific products, based on clear legal foundations and operating through equitable business partnerships involving the private sector, local communities and other key stakeholders
  - c) a core Wilderness Preserve of 180,000 ha, possibly with international protected area status, and a road corridor managed according to plans developed consensually and implemented participatively, with the integrity of the Preserve assured through surveillance, outreach and monitoring
- ITTO, US\$780,626 for Operational planning and Sustainable forest management
- Commonwealth Secretariat, US\$480,000 for Technical Assistance and training support
- AusAid, US\$140,000 Senior Staff institutional support
- IDRC, US\$105,000 Intellectual property rights and benefit sharing for best practice protocols to govern all Iwokrama's activities
- UNDP, US\$100,000 Forestry research
- Mauritius, US\$50,000 Institutional support
- Maldives, US\$5,000 Institutional support

### UNDP Global Programme on Forest Management

Guyana is one of the countries collaborating with UNDP's Global Programme on Forest Management (GPF) which, in responding to the Intergovernmental

Panel on Forests, is helping to identify successful strategies for Sustainable Forest Management, to strengthen National Forest Programmes and Forest Partnership Agreements as instruments to promote SFM and to develop innovative financing for SFM, with specific focus on public-private relationships. DFID is contributing £2 million to the Global Forest Programme over four years. Under the programme, UNDP is assisting the forest sector of Guyana in its capacity building and exploring innovative forest financing potentials. The Guyana Innovative Forest Financing Project is exploring the potentials of carbon deals under Clean Development Mechanism (CDM) of UNFCCC and the Kyoto Protocol.

### **The Tropenbos-Guyana Programme**

The programme started in 1989, and is now in Phase II (1994-9). It is funded by the Tropenbos Foundation, Utrecht University, DFID, EC, the Darwin Initiative and CIDA.

The Tropenbos-Guyana Programme carries out multi-disciplinary research with the objective of developing guidelines for sustainable forest management and conservation. From its outset, the TGP has had a strong focus on the exploitation of timber and its consequences on water, nutrients, plants and animals. More recently, the relationship between Amerindian communities and the forest, and the consequences of logging and mining on their livelihood has become a major additional focus of the TGP.

Projects under the programme are grouped under the following headings:

- Knowledge of national natural resources
- Development of parameters for sustainable forest management
- Determining the cost of achieving sustainable management
- Training and capacity building
- Dissemination of knowledge

### **Conservation International – Guyana**

CI's main role in Guyana has always been to promote and assist in the development of a comprehensive system of protected areas. Now that this process is moving forward officially, CI sees its role as ensuring that the proper, most important areas biologically are included in the NPAS and that trained personnel are available to manage these areas. CI will also focus on developing economic alternatives to destructive forest practices, such as ecotourism and NTFPs (liana cane furniture and balata). Emphasis will also be placed on promoting awareness of the importance of biodiversity conservation at the local and national level.

CI will continue to gather biological and socio-economic data to monitor the ecological health of the Kanuku Mountain region and Shell beach and to promote their protection.

### **PROPOSED PROJECTS/INITIATIVES**

#### **National Protected Areas System Project: World Bank**

The National Protected Areas System Project is under discussion. The project is designed to assist the Government of Guyana with the establishment of a representative system of protected areas. This system would contribute to ecosystem and biodiversity conservation, watershed protection, and the maintenance of the country's cultural heritage; all within Guyana's strategy for sustainable development. The project would lay the necessary institutional, legal and technical foundation to create and manage a comprehensive protected areas system in Guyana, and would finance the establishment of at least two (pilot) protected areas. As capacity increases and other funds become available, Guyana would be able to build upon this effort to develop a full protected areas system. The system would encompass areas representative of major ecosystems, and would include the array of protected area management categories needed to meet Guyana's national objectives for biodiversity conservation and sustainable use of natural resources.

#### **Guyana Rainforest Foundation: The Carter Center**

At the request of the late President Cheddi Jagan, the Carter Center's Global Development Initiative is preparing a proposal for a "Guyana Rain Forest Foundation". The objective of the proposed foundation is to support Guyana's efforts to sustainably manage its rain forests through a combination of compensatory financial mechanisms and the promotion of carbon sequestration, preservation, bioprospecting, non timber forest products and sustainable forest management. The Guyana Rain Forest Foundation (GRFF) is designed to compensate the government for the royalties, taxes and employment that would have been generated by commercial logging and mining activities in forested areas that are instead designated as GRFF concessions. These concessions will be dedicated to low-impact logging, alternatives to timber and mining extraction, and through private funding and/or debt swaps, preservation. The GRFF will also compensate Guyana for the value-added activities that would have resulted from logging and mining activities in the GRFF concessions.

## SURINAME

### ONGOING ACTIVITY

#### Support to the Forest Service: FAO - Netherlands (NHAS)

As a result of a previous FAO project (1995-6) which focused on Strengthening National Capacity for Sustainable Development of Forests as Public Lands, two proposals were developed for strengthening the Forest Service of Suriname, requested by the Ministry of Natural Resources:

#### Forest Production Control

This project has concentrated on the establishment of the Foundation for Forest Management and Production Control, a parastatal which has just been officially registered (August 1998). In recognition of the fact that the current Forest Service is inadequate to deal with exploitation control, a new organisation has been designed. The primary and immediate function of the Foundation is to assume control of forest extraction as soon as possible.

Forestry Advisory Assistance. The primary purpose of the project is to provide the Ministry of Natural Resources and the Forest Service with assistance in dealing with important issues, which affect the forest sector. The project has 4 immediate objectives:

- to establish the legal and regulatory framework for the implementation and enforcement of the Forest Management Act of 1992
- to establish an information system for the sustainable use of the country's forest resources
- to enhance the institutional framework for sustainable forestry development in Suriname with full consideration to optimum utilisation, biodiversity and other environmental aspects
- to provide on going forestry advisory assistance to the Ministry of Natural Resources

#### Rehabilitation of the Jan Starke Training Centre

4 years, US\$4 million: objectives of rehabilitating physical infrastructure, upgrading equipment, developing curricula and organising courses and training in forestry for lower level field staff. The idea is to make the institute into a parastatal by 1999.

#### NIMOS: IDB & EC

The objective of the project is to advance the development of a national legal and institutional framework for environmental policy and management for Suriname.

The new National Institute for Environment and Development of Suriname (NIMOS) and the National Environmental Council are to receive grants totalling

US\$2 million from IDB and the EC, for a 3 component project:

- institutional strengthening and support of the initial operation of NIMOS for the first 2 years. Technical assistance and staff training in environmental management, focusing on forestry and mining sectors. Implementation will concentrate on rendering operational capacity to four of the eight offices proposed within the NIMOS organisational structure
- development of environmental legislation and regulations including a system for environmental assessment and monitoring
- development of four specific environmental studies and activities (regional environmental assessments, sector environmental plans, GIS development and Environmental Assessment reviews). These studies will allow NIMOS to address urgently needed environmental problems while gaining practical experience

The environmental framework is now based on three operational entities utilising cross-sectoral co-ordinating mechanisms:

- the National Environmental Council, a policy-making body in the Office of the President (established in June 1997)
- its operational arm, the National Institute for Environment and Development of Suriname (NIMOS), to be responsible for the preparation and implementation of national legislation designed to protect the environment, and monitoring compliance with national environmental laws and regulations (established March 1998)
- line ministries, which deal with sector-specific environmental issues and are responsible for different aspects of national environmental management

#### CELOS

Linked to University of Suriname and University of Wageningen, CELOS is being revived after cessation of activities due to the political situation in the 1980s. The CELOS system features a low impact harvesting system and post harvesting silvicultural system managed on a 20-25 year rotation. The CELOS system is widely admired as a potential model for Sustainable Forest Management, but it needs to be implemented. Possibilities of working with Bruynzeel are constrained by lack of funding. The Wood Technology Laboratory at CELOS recently completed a study of the utilisation of 40 secondary species (with Belgian funding), and a GIS supported study on "Ecological and Economic Assessment, Inventory and Monitoring of the Amazon Rainforest Ecosystems of Suriname" by CELOS with EU funding.

### Conservation International – Suriname

CI has been working for over seven years on the development of economic alternatives to destructive forest practices, rehabilitation of protected areas, and most recently the development of a major tropical wilderness area “The Central Suriname Nature Reserve”. The CSNR links three of Suriname’s most important reserves: Raleighvallen, Tafelberg and Eilerts de Haan to create a reserve of 4 million acres. The CSNR is the critically important centrepiece of a long-term conservation and development strategy for Suriname.

Other initiatives include the rehabilitation of the national protected areas system, development of economic alternatives to destructive forest practices (such as bioprospecting, phytomedicine development, carbon sequestration, ecotourism and NTFPs), as well as the promotion of conservation awareness and environmental education. Suriname has become an important player in international biodiversity prospecting. A Surinamese pharmaceutical firm, BGVS, and the National Herbarium have established a five year partnership with Conservation International and others, including Bristol-Myers Squibb and the Missouri Botanical Garden, under the sponsorship of the US National Institutes of Health, National Science Foundation and Agency for International Development to look for anti-HIV and anti-cancer compounds. The agreement calls for profit sharing with Suriname and with the traditional peoples who will provide much of the knowledge guiding plant collection.

### UNDP

- enhancing the capacity of Suriname to conserve biodiversity, US\$300,000
- information gathering to ensure the most appropriate scope and institutional design of a larger GEF project for submission, and to initiate a small number of essential conservation activities which require urgent attention or which are necessary to lay the foundation for a follow-up on GEF project
- GEF Small Grants Programme, US\$100,000
- executed by the NGO Forum and National Steering Committee
- enhance CBO/NGO capacity based in the 5 selected protected areas to improve livelihood security through the sustainable use and conservation of biological resources and/or the conservation of coastal, marine and fresh water resources
- “Small Grants Programme”, complete with its own funding facility, which focuses on development at the community level
- strengthening of NGO/CBO capacity to positively influence public opinion on environmental issues and assist CBOs through the provision of communication and technical skills for project formulation and implementation and fund raising
- formulation of a National Biodiversity Action plan for the implementation of the National Biodiversity Strategy, US\$92,000

### In preparation:

Enabling activity on Climate Change, US\$350,000

### Purpose:

To facilitate the preparation of the first national communication of Suriname to the Conference of the Parties (CoP) in accordance with Article 12 of the UN Framework on Climate Change. In addition the project can be seen as an essential exercise to enhance general awareness and knowledge of climate change related issues in Suriname.

### PROPOSED PROJECTS/INITIATIVES WITH A BROADER REGIONAL OR INTERNATIONAL OUTLOOK

#### WWF Guayana Shield Conservation Project 1998-2002

Support includes the establishment of a small WWF co-ordination office in Suriname and the support of a number of key conservation activities, with a budget of US \$3.5 million, through WWF-US. The programme will start in Suriname and thereafter formulate further activities to be implemented in Guyana and French Guiana. Policy support will be given to Brazil (WWF Brazil) and Venezuela (Fundacion Natura).

WWF-Netherlands has supported the Nature Conservation division and the associated Foundation for Nature Preservation (Stinasu) since the mid 1960s.

The programme will cover several interconnecting areas: Sustainable Forest Management, Biodiversity and Protected Areas Design and Management, Management of Wetlands and Coastal Zone Areas, Marine Turtle Conservation and Mitigation of Gold Mining Impact. All of the planned activities will co-ordinate with existing initiatives and augment partnerships in the region.

#### Guiana Shield Programme 1998-2000

The Guiana Shield Initiative (GSI) was established in response to the threat to the natural and cultural diversity of the Shield region. It was set up by the European Working Group on Amazonia (EWGA) and the Global Legislators Organisation for a Balanced Environment (GLOBE). The proposal was a product of the 1993 European Parliament Roundtable on relations between Amazonia and Europe.

The objective of the GSI is to attain integrated management of the region in its entirety, with existing local and indigenous communities in a prominent role and with a system of regional and international co-operation and support agreements as necessary prerequisites for successful management. The initiative

has developed to discussion of regional, comprehensive management, possibly combining a (set of) Sustainable Development Corporation(s) and a regional fund. A large number of regional projects have been identified.

A scientific vision for the region will be developed; possibly focusing on a database, on the basis of which a detailed, informative map of the region may be developed.

Discussions are underway with the World Resources Institute (WRI) to establish a branch of the Global Forest Watch in the Guiana Shield region as a vital component of the programme.

### **The Guiana Shield Media Project**

The GSMP was created by Black Eye International, a media co-operative located in the Netherlands, in 1996. Start up was funded by the World Nature Fund (WNF), the Netherlands Committee for the IUCN and Black Eye International. The project has offices in Amsterdam and in Georgetown, Guyana. The objective of the Guiana Shield Media Project is to produce information for regional and international distribution about environment issues in the Guiana Shield territory. At the macro level, the GSMP will furnish documentation about the rapidly changing social and cultural realities of the Guiana Shield region, introducing not only the problems and difficulties but also the impact and struggle for solutions to a world-wide audience. At the micro level the project will offer local audiences in the Guiana Shield region an opportunity to learn about the ground realities of the relationship between extractive economies and the human and natural environment embedding them. The approach of the productions will be from the bottom up, describing and presenting social and cultural change from the perspective of the people living in the front lines of the extractive frontier. The method will be to incorporate media material from a trained local team working with international media workers.



