

# **Suriname:**

**BHPBilliton/Suralco's**  
**Bakhuys Bauxite Mine Project**



**A Review of:**  
**SRK's\* Environmental and Social Assessment transport**  
**and Scoping Document**

***By: Robert Goodland***

The report was prepared and submitted by Robert Goodland\*\* in October 2006. It was prepared on behalf of the Association of Village Leaders of Suriname (VIDS) and the North-South Institute (NSI).

### **Acknowledgements:**

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\* SRK Consulting was hired by BHP Billiton and Suralco to undertake an Environmental and Social Impact Assessment (ESIA) of the Transportation options related to the proposed Bakuys Bauxite Project.

\*\* Comments and corrections to: [RbtGoodland@aol.com](mailto:RbtGoodland@aol.com)

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GRAPHIC DESIGN AND LAYOUT BY: MARCELO SAAVEDRA-VARGAS

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## List of abbreviations

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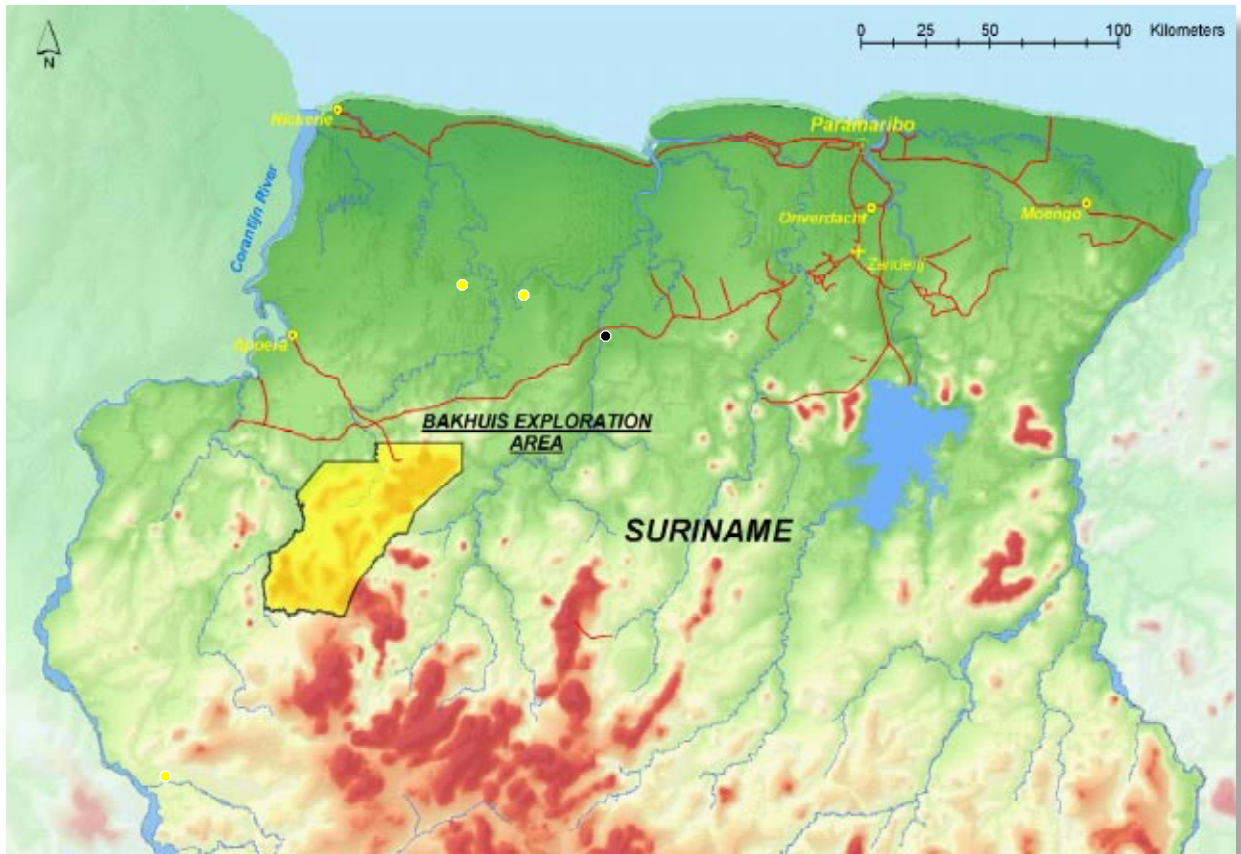
ACT	Amazon Conservation Team ( <a href="http://ethnobotany.org">ethnobotany.org</a> )
AIDS	Acquired Immune Deficiency Syndrome
AKA	Also known as
ASL	Above mean sea level
BHPB	Broken Hill Proprietary & Billiton Corporation
CBD	Convention on Biological Diversity
CI	Conservation International
CIS	Conservation International Suriname
CSNR	Central Suriname Nature Reserve
EBS	Suriname's Energy Authority
EIA	Environmental (and Social) Impact Assessment, now ESIA
EITI	Extractive Industry Transparency Initiative ( <a href="http://eitransparency.org">eitransparency.org</a> )
ESA	Environmental and Social Assessment
FPIC	Free Prior Informed Consent
GHG	Green House Gas emissions
HA	Hectares
HIA	Health Impact Assessment (part of ESA)
IUCN	International Union for the Conservation of Nature
NIMOS	Nationaal Instituut voor Milieu en Ontwikkeling in Suriname
NSI	The North-South Institute, Canada
NTFP	Non-Timber Forest Products
PAHO	PanAmerican Health Organization
POE	Panel of Experts
POS SRK'S	Aug '05 'Plan of Study' for the Bakhuy's ESA
VIDS	Indigenous Village Leaders in Suriname

## **Executive summary**

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This report provides a critical review of the Environmental and Social Assessment process as initiated by SRK Consulting on behalf of BHP Billiton and Suralco. These two companies are the co-owners of the Bakuys concession where a major bauxite mine is about to begin. While this review focuses on the transportation options related to the bauxite development, necessary background information will be provided on the proposed development as a whole to give the reader the required context. Part III of the report provides an independent Social Impact Assessment of the transportation options related to the bauxite mine. Conclusions and recommendations are provided in Part IV. The recommendations are intended to help inform further dialogue between the companies, government and the indigenous communities, ensuring that the process is transparent and balanced.

## Map of Suriname



## Part I: Introduction and Context

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### 1.1 Introduction

The main objective of this review of the *Environmental and Social Assessment Transportation and Scoping Document* produced by SRK Consulting is to provide a critical assessment of the document and recommendations for the parties involved in the ESIA process. The report is also intended to help communities in West-Suriname gain a more complete picture of what is proposed in their region. The village leaders of the potentially impacted Indigenous Peoples requested VIDS, which is the representative body of all indigenous peoples in Suriname to help explain what was going on, decrease uncertainty and try to obtain reliable factual information from the multinationals.

The review will provide a brief background of the proposed Bakuys development, outline the main actors and review Bakuys' Scoping Phase Report of October 2006<sup>1</sup>. The emphasis of the report will be on the new transportation components.

The current report is a complement and elaboration of a report by the author entitled "*Suriname: Environmental and Social Reconnaissance of the Bakuys bauxite mine project*" (2005). The 2005 report is available from [www.nsi-ins.ca](http://www.nsi-ins.ca). The 2005 report provides a reliable compilation of what was being proposed for the Bakuys operation, and what kinds of impacts bauxite operations have created elsewhere. The 2005 publication should be consulted for a complete picture of the proposed developments in the Bakuys mountains<sup>2</sup>.

Information for this report was gathered in Suriname by the author between the 22 and 28 of October 2006. The purpose of the fieldwork was to reconnoiter the main features in the field and listen to the comments of potentially impacted indigenous communities and other stakeholders in Paramaribo. Please refer to Annex 1 for a list of field visits and interviewees. It is expected that this independent review will be used by indigenous communities in West Suriname, the companies proposing the Bakuys development, government and SRK Consulting.

### 1.2 Context and Background: the history of the Social and Environmental Assessment

The Bakuys bauxite project is Suriname's biggest development project by far. A Memorandum of Understanding (MoU) was signed between the companies and Government on January 6, 2003 for exploration of the concession area, covering 2,800 km<sup>2</sup> (278 000 Ha) of primary forest. Bakuys' expected annual production of 3.2 million tons of alumina for the next 40 years dwarfs all the bauxite operations in Eastern Suriname since Suralco began mining in 1916. For the first 40 years (1965-2005) Suriname produced 58 million tons of alumina; over the next 40 years, BHPB/Suralco estimate the production of 140 million tons, thrice as much as in the first 40 years. Practically all of this is expected to come from Bakuys (Pers.Comm). Suralco & BHPBilliton, October 2006).

None of the Eastern Suriname bauxite operations were environmentally assessed. Without immediate intervention, much of that region will become a desolate moonscape, practically lost for the development of Suriname. Learning from this extremely expensive loss, Suriname and the holder of the 2,800 km<sup>2</sup> concession in the Bakuys Mountains sought to do better. Exploration for the Bakuys project was permitted in January 2003. It is hoped that this time around mining would be 'done right' by reducing risks, preventing damages, and by insisting on an environmental and social assessment (ESIA) fully up to international standards, and if possible up to Best Practice<sup>3</sup>.

Unfortunately, the initial phase of the Bakuys ESIA did not live up to Best Practice. None of the extensive impacts of the exploration phase was environmentally assessed. About 330 km of roads and bridges were constructed. While improving infrastructure can be positive, it also has associated risks, such as for example that it can be used for illegal logging and hunting. The potential impacts of constructing 670 km of gridlines, suitable for All Terrain Vehicles (ATVs) were not assessed either.



One potential negative impact associated with these gridlines is that *garimpeiros* (artisanal gold miners, who are often illegal) and drug runners can use them for their illegal activities. Between 2003 and 2005 some 50,000 mts. of boring in 7700 boreholes were dug in the forest and 307 million tons of ore has now been proven. An internal ESIA Scoping Report is said to have been prepared in November 2003, but only parts of it were released in October 2006, which is the source of this information.

Scoping<sup>4</sup> is the start of all ESIA's (Annex 5). Briefly, scoping sets boundaries for the ESA, especially (a) which topics, and (b) which areas will be included. Scoping usually ends in widely agreed-upon Terms of Reference (ToR) for the ESIA. Scoping's ToR is the detailed design of the whole ESIA before it begins. It shows which disciplines will be needed, and a map of potentially affected areas. Above all, if the scoping phase of an ESIA is inadequate, it is difficult to get the ESIA back on track. The three key elements of the mandatory<sup>5</sup> scoping report seem to have been omitted in this case. First, there still is little resembling agreement on the potentially impacted area that will be addressed in the ESIA. There still is no map of the ESIA Study Area, which is standard in all scoping document. Second, the mandatory Panel of Social and Environmental Experts which act as a steering committee to ensure the ESIA starts off in the right direction does not seem to have been created. Third, the potentially impacted people were not consulted. Bakuys proponents still have not rectified these errors since they were repeatedly pointed out from 2004 onwards.

SRK produced a scoping report, called the "Plan of Study" (PoS) in August 2005. Unfortunately the document did not live up to Best Practice standards. The impacted Indigenous People were allowed only 14 days to comment, although the document was in English and did not reach their remote communities until the unrealistic deadline had long since elapsed. When the Captains (Village leaders) and VIDS pointed this out, another deadline was imposed and a translation prepared into Dutch. The document was not translated into more widely spoken indigenous languages.

In addition to the unrealistic timeframes, the PoS did not include an outline of the potentially impacted area that should be included in the ESIA, and no map of the ESIA study area. The proposed work was grossly unbalanced between 11 biophysical studies<sup>6</sup> against a single social study. The potentially impacted Indigenous People were largely omitted from the PoS, and they were not consulted in the design of the ESIA.

## Part II: Social and Environmental Standards

BHPB commendably state that they aim at “zero harm to people and the environment” ....and that all impacts “will be assessed to the highest international standard” .... (PoS, p.4). They however, fail to identify exactly which international standards the companies and their consultant SRK will be following. Prior to the release of SRK’s Plan of Study in 2004, the proponents repeated several times in public and on record that they would follow international Best Practice and World Bank Safeguard Policies, including FPIC<sup>7</sup>. Since that time the company has backtracked and it remains unclear which standards will be used for the Bakhuyes ESIA’s.

### 2.1 Panel of Experts

It is not clear if the Bakhuyes project has appointed the Panel of Social and Environmental Experts as yet. This is mandatory under World Bank Group policies and is standard practice (detailed in Annex 4). As discussed above, a thorough Scoping Phase at the start of the ESIA helps avoid oversights and problems later in the ESIA process. One of the first duties of such a PoE is to ensure the Scoping Phase gets off to a good start. In this case, since it seems there is no PoE, it is not surprising that the Scoping Phase was inadequate and lacked direction. VIDS urge BHPB/Suralco to appoint an appropriate PoE at the proper time, namely before screening and scoping when they start their next ESIA, and to appoint a strong retroactive PoE for Bakhuyes mine, transport and refining as soon as possible.

### 2.2 Draft Consultation Protocol

The affected communities of Indigenous Peoples have drafted an Agreement and Consultation Protocol (Annex 2, 3). The draft Consultation Protocol was provided to the companies and NIMOS in September/October 2006 in order to obtain their comment. This protocol, written by the Indigenous Peoples themselves should be used in all future consultations with Indigenous Peoples<sup>8</sup>.

This protocol could be specifically piloted in the SIA of the communities living either side of the 350-km-long Zandreij-Apoera road which will be upgraded from a forest track into a highway for many heavy trucks involved in transport for the construction of the Bakhuyes mine infrastructure. In October of 2006, the jeep journey took about 12 hours. Upgrading this route will reduce travel time to 2-3 hours. Illegal loggers as well as gold miners previously deterred by the poor road conditions will potentially be attracted to the region and to Suriname’s key National Park and protected area. These are significant potential impacts that must be scrutinized and mitigated.

By adopting the consultation protocol put forth by the communities, the companies would have the opportunity to show the communities respect and start the consultation process in a positive manner.

### 2.3 National Institute for Environment and Development NIMOS

The National Institute for Environment and Development in Suriname, as the government’s only environmental authority, is a key actor in the Bakhuyes ESIA. The legislation governing environmental assessment remains in draft. Social assessment is the weaker of the two arms of ESIA. The Bakhuyes ESIA will be the first major ESIA that NIMOS is expected to review and then provide recommendations to the government. So far NIMOS has been excluded from the last two years of ESIA fieldwork. VIDS is informed that in the near future, NIMOS will be invited to participate in all ESIA work. It is gratifying to hear that the error of excluding NIMOS from the nations’ most critical ESIA is being rectified (although the mining ESIA has been completed already).

NIMOS informed VIDS that they have no way whatsoever to fine anyone for violation of environmental policies or practices, such as for example oil spills, spill of cyanide, dumping garbage in illegal places or illegal deforestation. That may partly explain why BHPB/Suralco was not fined for failing to complete the standard ESIA for road upgrading and new road and bridge construction related to Bakhuyes’ exploration phase. The absence of the mining ESIA scoping phase, which should be

available before the ESIA is permitted even to begin, was not penalized by NIMOS either. NIMOS is looking into the possibility of cooperating with one or more government entities which may have the capacity to fine violators for environmental failures. For example, the impacts of the new, possibly illegal, bridge across Moses Creek were not assessed by Octagon Corp<sup>9</sup>, but NIMOS has no recourse. Moses Creek is one of the richest sources of fish for the Indigenous Peoples, now being deforested by Octagon. Moses Creek also is a possibility for the source of water for the bauxite beneficiation plant if it sited at Bakhuy's. These major impacts should be included in the ESIA.

NIMOS has not insisted that BHPB and Suralco live up to Best Practice. Now that SRK's latest report is available (October 2006), NIMOS has an opportunity to insist on its improvement up to internationally accepted standards. We understand that most of the 11 specialist studies have been completed, although not one has entered the public domain. NIMOS may want to ask why these studies are not publicly available. The more NIMOS can learn about the component parts of the ESIA and the more NIMOS staff can accompany SRK's field work, the more efficient and reliable will the ESIA permitting process become.

NIMOS is fully aware that the Bakhuy's bauxite project is by far the biggest national project Suriname has ever confronted. NIMOS is a young evolving agency; its mandate is still a draft law. Natural Resources Minister Gregory Rusland and NIMOS would like the National Environmental Law to be enacted and become final as soon as possible and certainly before the Bakhuy's series of ESIA's are submitted to the government for revision and approval (Pers. Comm. Minister Rusland, October 2006). NIMOS is putting together a list of specialists in relevant disciplines that will be able to review each chapter of the Bakhuy's ESIA within the statutory period set by the government. These specialists will advise NIMOS of any adjustments necessary in each chapter. NIMOS is then likely to put all such comments in their advice note to the government on whether to approve the Bakhuy's ESIA as is, or to give conditional approvals.

## Part III: Social Impact Assessment

SRK has not taken steps to redress the imbalance between the sole SIA as compared with the biophysical impact studies as set out in their October 2006 scoping phase document. The balance remains 11 biophysical studies to one social study. SRK seems to have acknowledged the imbalance and say they will add the missing social priorities. In order to encourage SRK, but primarily to try to reduce impacts on the Indigenous Peoples, the box below suggests what any reasonable disaggregation of the single social impact assessment should contain as a minimum. Despite strong messages during the three workshops in June 2006, and on many occasions since then, SRK still have not yet disaggregated and expanded the single social impact assessment.

<b>How to Rectify SRK's Unbalanced ESIA Between the Weak Social Precautions and the Stronger Biophysical Studies</b>
<b>1. Health Impact Assessment:</b> Public Health: Paramount is HIV/AIDS (see below), Sexually transmitted diseases, and Malaria prevention. Please see bibliography for further reading.
<b>2. Traffic Safety Precautions:</b> The safety goal is zero accidents
<b>3. Nutrition:</b> (e.g., impacts of the project on sources, amounts and seasons of fish)
<b>4. Education:</b> (e.g., ratio of eligible children in-school vs. not); future needs, current trends.
<b>5. Gender Balance Assessment:</b> <a href="http://www.genderation.org">www.genderation.org</a>
<b>6. Land Use:</b> current and trends; traditional land use especially in lean seasons
<b>7. Socio-Ethnic Economic Analysis:</b> comparison of the four main ethnic communities
<b>8. Job Creation:</b> in the communities (e.g., local content of food supply), on the mine, gender balance, training, construction vs. operation phases, comparison of labor requirements.
<b>9. Preferential sourcing of labor:</b> to the potentially impacted people, priority hiring, possibility of training truck and mechanical shovel operators in Coermotibo, including female operators.
<b>10. Social Impacts of the new rail system:</b> Fencing the rail will deny access of the Western Suriname ethnic minorities to about 30 farms between the rail and the Corantijn. The 1969/70 Government soil survey found that this area is the most suitable for mixed farming and that there are no more fertile plots in the vicinity. Fencing the rail will also deny or hamper access to about a dozen hunting and fishing trails between the road and the Corantijn River.
<b>11. Social Impact of the new Port:</b> Likely to be a 24-hour a day operation.
<b>12. Major Issue:</b> Impacts on Zandlanding Trios: involuntary resettlement: Will the Trio ethnic group have to be displaced?
<b>13. Impact of barge traffic:</b> policies needed, including speed limits, monitoring and enforcement.

### **3.1 Transportation Impacts**

SRK's October 2006 Scoping and transportation document is a vast improvement over the 2004 Plan of Work (PoW) document. Commendably, some of the concerns expressed by the Captains and affected communities on the 2004 PoW have been addressed in the October 2006 report.

However, SRK's October 2006 report is silent on one of the most critical impacts to fall on the Indigenous Peoples of Western Suriname, namely the proposed use of rail to transport bauxite. The scoping document should have discussed the frequency and timing of the ore train arrivals as these are so important in assessing impacts. The affected people have no idea from the Scoping Document if there will be one train a week, one train a day, or one train an hour throughout the 24 hour cycle. While the proponents of the project may not know how many trains a day will be required, some estimation should be available even at this early stage. From subsequent discussion BHPB clarified that the rail is more likely to be in 24-hour operation, rather than a weekly operation.

### **3.2 Impacts of the New Port**

Apoera port at the moment is not busy. A few gravel or log barge arrive, but infrequently, rarely exceeding one a day. Although SRK's October 2006 transportation scoping report is ominously silent on barge frequency, size and speeds, in subsequent discussions BHPB/Suralco clarified that the new Apoera port would be more like their current bauxite operations in Coermotibo in Eastern Suriname where about nine barges ply daily. The Corantijn river is far bigger than the Coermotibo, and the volumes of bauxite expected from Bakhuy's dwarf the volumes extracted from Moengo. Therefore, in order to supply at least some preliminary estimate to the Captains, it seems likely that the number of barges operating at the new Apoera port will be more than at Coermotibo, not less. Coermotibo's 2500 ton to 3000 ton barges are likely to be exceeded by the new Apoera operation. Ocean-going barges can exceed 10,000 tons capacity, and if the rail is likely to be a 24-hour operation, so is the barge operation.

The Captains raised the concerns with bow waves and wakes created by barges returning empty and fast. In other projects waves have been major topics of environmental assessment especially where large, and frequent barges are interspersed with traditional woodskins and precarious canoes with a freeboard of a few centimeters. For example, in Peru's Camisea gas pipeline project, Royal Dutch Shell worked with the hovercraft manufacturers until the Urubamba river bow and other waves and wake were reduced to acceptability. All moorings, piers, starrings and similar port structures that need strengthening to withstand the proposed bauxite barge traffic should be upgraded by the bauxite proponents in advance.

### **3.3 Dredging the Corantijn**

The Captains understand that the barges may have such a deep draft when laden that parts of the Corantijn river mouth may have to be dredged. Some of the islands in the Corantijn mouth may have to be altered. Most of the islands are uninhabited; this needs to be documented. Disposal of dredged spoils is a major issue to be assessed in the Transport ESIA. All activity in the Corantijn, especially in its mouth and offshore is complicated by the smoldering border dispute between Suriname and Guyana (Annex 6).

### **3.4 Impacts of the railway on the Zandlanding Trio**

The impact of the proposed railroad on the Zandlanding Trio is possibly the most worrying social impact of Bakhuy's bauxite project. The 30-year-old rail line running 75 km from the Bakhuy's mountains to Apoera and the Corantijn River was cleaned up on September 2006 in preparation for upgrading into the main bauxite ore transport. A team of Dutch engineers have inspected the entire rail route in preparation for its upgrading. At present, the rail severs the link between the Zandlanding Trios and Apoera.

The Zandlanding Trios are an exceptionally vulnerable minority. They have chosen to leave their ancestral community in Wanapan, some 8 hours upstream from Apoera and live in difficult conditions in Zandlanding so that their children can attend school in Apoera. 15 or so families have made Zandlanding their home. The school children currently have to walk an extremely risky route to school. They have to cross about five rickety wooden bridges (e.g., Asskabura and Pakuri Creeks), slippery in the rain with no guard rails, pass right through the whole length of the port, while dodging enormous tree trunks and machines piling and loading logs, rock and gravel. Should the port facilities be expanded, steps must be taken to ensure that the children's route to school is safe. BHPB/Suralco have been alerted to the vulnerability of this community and are looking into it.

An original plan to relocate the rail to be re-routed around the back of Apoera, Washabo and Section to meet the Corantijn in the vicinity of Wachai or Kaburi Creek seems to have been abandoned. This site could accommodate deeper draft barges than the present Apoera port and would prevent the most severe impacts on the Zandlanding Trios. As this rail relocation suggestion has been dropped, it looks increasingly ominous for the Zandlanding Trios. Then involuntary displacement may become inevitable. Involuntary resettlement on non-Indigenous Peoples usually intensifies poverty; displacement of vulnerable indigenous peoples is usually much worse. That is why Best Practice is to redesign projects in order to prevent Indigenous People being displaced according to World Bank safeguard policies and IFC social performance standards. Displacement of Indigenous People cannot meet Best Practice.

It seems likely that most of the rail line will be fenced on both sides. Such fencing will deny access to all the farms between Apoera and Camp 52 between the Apoera-Bakhuys road and the Corantijn. In addition, all the 15 or so hunting lines between Apoera and Camp 52 also will be denied. Such major impacts should be assessed in SRK's Transportation ESIA.

### **3.5 Local Procurement**

Contracts for all of Bakhuys' food services and canteens will be tendered. BHPB will contract with professional food suppliers. Such contracts should be carefully assessed in the ESIA to ensure that the number of local jobs (plus training) is optimized, and that "local content" is maximized. The Captains state that local procurement of goods and services is one of their priorities because it can contribute to their economic development. Natural Resource Minister Rusland agrees. He emphasized on 27 October 2006 that the more local services the better and the more sustainable, rather than relying 100% on Paramaribo recruitment. Anything that can be produced locally is more sustainable than importing it from the capital, Minister Rusland said.

For example, agreements should be in place to ensure preference for local suppliers, such as for fruits (e.g., citrus, bananas, guava, papaya), vegetables (e.g., plantains, pom, cassava, breadfruit, jackfruit, green beans), eggs and poultry. Training for women's cooperatives should be a priority.

### **3.6 The HIV/Aids risks**

Preventing the spread of HIV/AIDS should be an urgent priority for Suriname. AIDS can be prevented. When family discipline and community cohesion weakens as men work at the Bakhuys mine, special preventive measures are essential.

For many years, BHPB commendably adopted a proactive approach to managing this disease within their workplaces, especially in their operations in South Africa and Mozambique. This includes education programs, ensuring employees and their dependants have access to medical care, and reducing hostel-type employee accommodation, which is known to be a risk factor for the disease. Bussing employees from Paramaribo to Afobaka (Brokopondo) is common. Bussing in order to avoid the need for labor camps is commonly used in BHP's projects in other countries.

In addition, BHP Billiton is the commendable cornerstone contributor to the trial of Virax's VIR201, the AIDS vaccine for use in the emerging world.

VIDS/NSI discussed the possibility of voluntary AIDS screening, employment health screening, awareness, voluntary treatment without discrimination with BHPB/Suralco on 27 October 2006. BHPB realize they need to know the magnitude of the risk in their workforce. The base case prevalence of AIDS will determine labor management practices.

Andre van der Bergh, BHP Billiton's regional advisor on health, safety, environment, and community in Africa, said that BHP Billiton's approach to corporate citizenship is based on *best international practice* (emphasis added). Best Practice is to support a mind-shift from compliance to values, and an emphasis on organizational learning which translates into a proactive stakeholder engagement strategy.

### 3.7 The Climate Change Issue

SRK's 2003 Scoping and other reports (e.g., p. iv, & 29) dismiss gaseous emissions as "unlikely to be a problem" with no supporting reasons. Climate change intensifies poverty, especially of the already poor Indigenous Peoples. ESIA standard practice for some years is to calculate the greenhouse gas emissions (GHG) caused by the proposed project<sup>10</sup>. Loss of forest, burning biomass, transport fuels, cement manufacture, diesel for construction and operations equipment, energy intensive industrial processes such as refining and smelting — all are standard topics in current ESIA's. The costs of release of GHG into the atmosphere by the proposed project nowadays are internalized into the cost/benefit calculations. No longer can such costs be externalized.

The most detailed assessment of GHG release and climate change so far available<sup>11</sup> shows that if we don't take global action promptly we are going to see a massive downturn in global economies. As recent floods have demonstrated, flooding as a result of climate change could devastate the economy. Most of Suriname is at low in elevation and Paramaribo is barely 4 metres above mean sea level.

The Bakhuis bauxite project is very sensitive to water levels. The depth of the Corantijn River is the main factor in dimensioning the size of the bauxite ore barges. Because the Bakhuis is expected to last at least the next fifty years, climate change needs to be addressed in all ESIA.

### 3.8 The Project Documentation Centre

The first few times the need for a Documentation Center was raised by the Captains, the request was rejected out of hand. Such a centre would improve and facilitate dialogue between affected communities and the companies proposing large scale projects. At the end of the February 2005 meetings with SRK, BHPB and Suralco in Apoera, Alcoa's Pat Grover commendably over-ruled the 'impossible' by saying such a center would be a useful mechanism to enhance communication and disseminate knowledge, was commonly done in similar projects elsewhere, and was mandated by some procedures. The Documentation Center suddenly arrived in West Suriname in the third quarter of 2006, without clear agreement as to who owned the building and who should manage it. E-mail facilities are needed if communications with the Indigenous Peoples are to be facilitated. SRK and the project sponsors should supply generous copies of pamphlets, posters, documents, diskettes, DVDs, etc.

### 3.9 Beneficiation

The term 'Beneficiation' covers a variety of processes whereby ore extracted from a mine is crushed into particles that can be separated into two components, the desired mineral and the undesired waste. The beneficiated ore becomes suitable for further processing. Beneficiation of bauxite ore is a mechanical process that crushes the ore into successively smaller particles and then washes them with water. Large particles of waste (dirt, sand, stone etc.) are separated and stockpiled in large mounds. Washings containing colloidal muds and finer particles are dumped into settling lagoons. The remaining bauxite ore is somewhat richer in alumina content. It is often then dewatered (partly dried), then shipped to be refined into alumina, a raw material from which aluminum metal can be smelted.

Beneficiation creates noise, diesel fumes and traffic risks due to the many big trucks feeding the beneficiation plant. The crushing is very noisy and produces volumes of dust. The water impacts can exceed the noise and dust impacts because huge volumes are required. Extraction from the source of water is the first impact by depleting water levels, less for other uses and for fish and other aquatic life. Moses Creek is important for the communities so must be conserved, as must the important Nickerie River.

Water extracted may be stored in large reservoirs as is envisaged in the case of the Bakhuis development. The impacts of dams and reservoirs are many and well known, although it is hoped that the beneficiation water storage reservoir may not be extensive. SRK's October report omits assessment of the mud retention lagoons. As these may contain colloids, they may take years to dry sufficiently for vegetation to regenerate and protect them. Regeneration can be accelerated by covering such lagoons with topsoil, fertilizing it and planting vines, legumes and saplings. Meanwhile rain must be prevented from overflowing the mud lagoons and polluting creeks.

The stockpiles of waste rock must be engineered so that rain in this region of very high precipitation does not percolate through the pile and carry fines to pollute the nearby water courses.

### 3.10 Wayambo Regional Impacts

In June 2006, VIDS and NSI sent Carla Madsian and the author to the Wayambo region. This is because SRK refused to include the Wayambo in the area potentially impacted by the Bakhuis bauxite project. During the three lectures of SRK in Western Suriname, SRK was repeatedly urged to include the Wayambo region in the ESIA.

The most important river draining much of the Bakhuis Mountain Range is the Nickerie River on which many Indigenous Peoples depend. When questioned as to why the Wayambo were being excluded, SRK replied that they were too far away from the Bakhuis mine, and that there should be zero impacts. While this could indeed be the case, the ESIA should specifically look into whether the Wayambo would be impacted or not. The ESIA should assess the limits of Bakhuis impacts downstream of the mine on the Nickerie river, as is customary, rather than depending on a unilateral and non-transparent decision. SRK is rumored to now considering including the Wayambo, but this has not yet been confirmed.

During the field visit consultations were held with the Indigenous Peoples of Corneliskondre (Carib ethnic society speaking Kariña), Donderskamp, and Tapoeripa (Arawak ethnic group speaking Lokono), communities living near the confluence of the Wayambo and Nickerie rivers on which they intimately depend for all their livelihoods, communication, navigation, fish, water supply, washing, recreation and so on. Wageningen and other communities also depend on the Nickerie river, as do major irrigation schemes. The scope of this study did not allow elaboration in these areas.

The sources of the Nickerie and Wayambo rivers are in the Bakhuis region. They drain much of the Bakhuis bauxite area to be mined. Normally the scoping phase of the ESA would include the watersheds and the airsheds of all project features. The ESA needs to confirm or prove otherwise that there will be impacts to what location downstream of all watercourses draining the Bakhuis concession.

The Wayambo and Nickerie rivers are linked by the Arawarra Inland Transport Canal<sup>11</sup> and seasonally mix with the Takutu Creek depending on where the rains are heaviest. While it is not common for rivers to reverse flow, it does occur and SRK should be aware of this occurrence. Water flows up the Nickerie, Wayambo and Takutu creeks, as well as flowing downstream depending on the season and the hydrographic regime. This canal was constructed so that large cargo vessels could short-cut lengths of the Nickerie river while ferrying cargo between Nieuw Nickerie and Paramaribo without having to enter the ocean.



## Part IV: Conclusion and Recommendations

This report is designed to help SRK improve their ESIA so that prudence prevails, risks are reduced, impacts are prevented, and the residual impacts fully mitigated or compensated to mutual benefit. That is why the detailed recommendations have been compiled below.

### Recommendations:

#### *Panel of Environmental and Social Experts*

- SRK should follow standard procedures and appoint an appropriate PoE as soon as possible. Although this should have been appointed about three years ago, the sooner this is rectified, the better. See Annex 4.

#### *Draft Consultation Protocol*

- SRK and others should respond in writing to the request for comments on the draft consultation protocol.
- The Indigenous Peoples' consultation protocol should be used

#### *Social Impact Assessment*

- The Captains and the societies they represent and VIDS urge SRK to accord appropriate weight to social impacts assessment as they already do to biophysical impacts assessment.
- NIMOS and BHPB/Suralco should insist that SRK accord appropriate attention to SIA as is already achieved with biophysical impacts.
- SRK's sole social impact assessment among the eleven biophysical studies needs to be promptly and fully disaggregated, such as in the 13 topics outlined above, and each accorded appropriate attention.
- SRK's Social Impacts Assessment needs to be accelerated in order to catch up with the biophysical assessment studies now nearing completion.

#### *Rail and Barge Impacts*

- SRK should clarify to the potentially affected people if the rail component will be more like a 24-hour a day operation or a once a day schedule.
- Ascertain the 'safe' wave amplitude and establish prudent speed rules.
- Fines from exceeding speed limits should accrue to the impacted people.
- Organize a visit for Indigenous Peoples to see the barge operations at Coermotibo.
- SRK should clarify if barge loading may be low impact once a day operation or more like a 24-hour a day impact?

#### *New Apoera Port*

- A design that does not depend on displacement of humans should be selected. Displacement of humans impoverishes and is traumatic. All displacement should be prevented to the fullest extent possible. In the case of the vulnerable ethnic minority of Trios at Zandlanding, this is especially crucial.
- If humans are to be displaced, the involuntary resettlement precautions must make the displaced promptly better off after their move whether they are Surinamers or Guyanese
- The children's walk from the Trio village to school needs stringent safety precautions.
- The impacts of the new rail (noise, vibrations, dust, lights, traffic safety), and its fencing on land use (farming, fishing, hunting) either side of the rail from the road to the Corantijn needs special attention.
- Safety precautions including early warning of approaching trains are essential.

- The following questions should be answered: will the ore wagons be covered to reduce dust? How will the ore be switched from wagon to barge? Will there be noisy and dusty stockpiles of ore awaiting barges?

### ***Local Job Creation***

- SRK should advise the proponents on the need to reduce impacts by fostering local employment and to create jobs in the impacted community. Job creation is one of the best forms of compensation. SRK need not take the old-fashioned view that job creation is not part of ESIA's.
- Training for Bakhuy's construction and operation phases should be designed now and put into effect about a year before construction begins in 2008.
- The Gender Analysis will show females are as good at operating heavy machinery as males. This needs to be taken into account during recruitment and training.
- Best Practice is for government to mandate an initially modest but and increasing fraction of procurement to be local.
- BHPB/Suralco contracts should all contain clauses mandating preference to local people and local procurement of services and goods (e.g., vegetables, poultry). Labour specialists need to be asked to keep checking that appropriate clauses are so inserted and that training is adequate beforehand.

### ***The HIV/AIDS Risk***

- Health Impact Assessment should be an integral part of ESIA from now on.
- Educational and awareness campaigns on how to prevent AIDS should be integrated in all levels of community and corporate work, and repeated continually.
- It is in BHPB/Suralco's self-interest to galvanize such campaigns and to ensure that they work effectively.
- Condoms are dispensed free in many similar projects nowadays, often with the weekly wage envelope, together with written AIDS prevention messages and cartoons.
- PAHO & WHO are generally willing and able to support such fundamental activities upon request, as such work is part of their duties.

### ***Greenhouse Gas Production***

- If it is to come close to standard international practice, SRK's ESIA should assess the impacts of GHG production.
- Accounting GHG production is the first step.
- GHG production should be minimized.
- GHG production should be offset by compensatory plantings and other methods.

### ***The Documentation Center***

- The Bakhuy's Forum should promptly resolve the issue of ownership and management of the Documentation Center.
- There will be many more similar decisions in the next few years. BHPB/Suralco/SRK should make it a formal policy to consult with affected stakeholders before making decisions, such as this one, that affect stakeholders.
- BHPB/Suralco should clarify they will maintain the center adequately, keep it provisioned with all helpful documents, diskettes etc, and add internet hook-up as soon as practicable

### ***Beneficiation***

- SRK needs to revamp its ESIA plans to include focus on beneficiation.

- SRK needs to assess the impacts of water abstraction, water storage lagoons, mud containment lagoons, and water flowing from stockpiled wastes.
- Assessment and abatement of noise and dust are standard.
- Select sites for spoil disposal where the spoils are useful or at least lowest impact.

### *The Missing Scoping Phase/Impacts on Wayambo*

- SRK should accelerate the production of and full stakeholder agreement on the potential area of impact, together with maps showing which regions are included in the ESIA.
- SRK commendably include all villages along the Zanderij to Apoera path to be upgraded to a construction highway; the same should be done for the Wayambo and all hitherto still excluded but potentially impacted communities.
- Rectify the Scoping Phase: SRK should accelerate the production of and full stakeholder agreement on the potential area of impact, together with maps showing which regions are included in the ESIA.
- 'Area of potential influence' maps based on watersheds and airsheds are standard ESIA practice at the scoping stage. Such maps are more than three years overdue.

## **Annex 1: Places Visited and People met (October 2006)**

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### **The Zanderij to Apoera Route:**

About 350 Km to be modernized into a highway: Pikin Saron, Saramakka River, Mooro Creek, Logging Camp, Goster Creek, Pine Plantations, Bigi Poika, Coesewijne Bridge, Goliath Creek, Au-berge Weg Hotel, Transport Hotel, Spari Creek, Tbiti/Tabiti, Josepdorp, Brunzeel, Mbrouw, Witagron, Masonia Creek, Pequin Waterfall, Big Waterfall, Moses Creek, Fanams Creek, Kamp 52, Nickerie River, Apoera.

### **Western Suriname Indigenous Communities**

Zandlanding Trio Village, Apoera, Washabo, Sektion, Bahuys mine site.

Kaburi Creek, Wachai, Orealla, Siparuta, Corantijn Mouth & Islands, Nieuw Nickerie.

### **Persons Met:**

*West Suriname:* Captain Carlo Lewis, Apoera. Captain Nado Arupa, Section. Captain Ricardo MacIntosh, Washabo. Trio's Captain Alupatta's daughter (participated in my 12 hours training sessions), Basjas, Josee Artistee, VIDS.

*Paramaribo:* Natural Resources Minister Rusland. Mr Nelom (NIMOS), Mark J. Plotkin (President, ACT in Washington DC), Gwendolyn Emanuels-Smith (Director, ACT), Natascha Aroeman (ACT Manager), Drs. Paul Obouter and Bart Van Dijn. Bauxite Institute Director Rita Vaseur-Madhoeban, Warren Pedersen Suralco, Andy Whitcombe (Sr. Environmental Engineer), Eddie Scholtz (BHP), Christine Wirokromo (BHP).

## Annex 2: Agreement between the Indigenous Peoples of West Suriname and BHP/Billiton and Suralco NV

**Considering** that BHP/Billiton and Suralco NV have signed Memoranda of Understanding with the State of Suriname which grant rights in relation to bauxite deposits in the Bakhuy's area of West Suriname as well as the development of hydropower in the Kabalebo River and surrounding area, and that these companies have made considerable investments to define the nature and the feasibility of mining these bauxite deposits;

**Considering also** that BHP/Billiton and Suralco NV are presently negotiating with the State of Suriname to define and secure rights and permits to mine and otherwise exploit the Bakhuy's area bauxite deposits, including for the construction of associated infrastructure, and Kabalebo hydro-power potential, and that an Environmental and Social Impact Assessment in relation to the bauxite mining has commenced;

**Further considering** that the Bakhuy's area is part of the traditional territory of the indigenous peoples of West Suriname on which they depend for their cultural, spiritual and physical sustenance and well-being, and that mining and associated infrastructure plans will affect them as well as indigenous peoples in the Wayambo region;

**Acknowledging** that the rights of indigenous peoples to own and control their traditional lands, territories and resources and to participate in and consent to decisions that affect them are not explicitly recognized in the laws of Suriname, and that this absence of effective legal protections for the rights of indigenous peoples exposes BHP/Billiton and Suralco NV to reputational, commercial and legal risk, and undermines the effective exercise and enjoyment of the rights of indigenous peoples;

**Observing** that, while indigenous peoples' rights are not explicitly recognized in the laws of Suriname, these rights are nonetheless guaranteed and protected by international human rights law, which is binding on the State of Suriname, and applicable in relation to the acts and omissions of the State and those authorized by the State by virtue of international law and via Article 103, 105 and 106 of the 1987 Constitution of Suriname;

**Observing also**, consistent with Inter-American human rights law, that the United Nations Declaration on the Rights of Indigenous Peoples, adopted by the United Nations Human Rights Council on 23 June 2006<sup>12</sup> provides, in Article 26, that

1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

and, in Article 30, that;

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of their mineral, water or other resources.

3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

**Acknowledging also** that BHP/Billiton's Sustainable Development Policy, states that BHP/Billiton will "ensure [that] we understand, promote and uphold fundamental human rights within our sphere of influence" and respect "the traditional rights of Indigenous peoples and valu[e] cultural heritage;"

**Further acknowledging** the BHP/Billiton and Suralco NV have publicly stated their desire and intention to ensure that the development of mining in West Suriname represents a 'win-win' situation for all involved, and that the indigenous peoples of West Suriname have affirmed that this cannot be achieved without full respect for their rights and interests and the development and maintenance of relationships based on mutual respect;

**IN ORDER TO ACHIEVE A MUTUALLY RESPECTFUL AND BENEFICIAL RELATIONSHIP AND TO REDUCE THE RISKS TO THEIR RIGHTS AND INTERESTS**, the indigenous peoples of West Suriname, as represented by their traditional authorities who exercise their authority pursuant to the consensus of their respective communities in accordance with their customary laws (hereinafter 'the indigenous peoples'), and BHP/Billiton and Suralco NV, as represented by their undersigned duly authorized officers (hereinafter 'the companies') –

**HEREBY AGREE AND COMMIT TO THE FOLLOWING:**

### ***Article 1 — Indigenous Peoples' Traditional and Human Rights***

1. The terms 'traditional rights' and 'fundamental human rights' shall be understood in accordance with international human rights law, in particular as defined by the Inter-American Commission and Court of Human Rights and the United Nations Committee on the Elimination of Racial Discrimination, and by the indigenous peoples' customary laws.
2. As stated in BHP/Billiton's Sustainable Development Policy, the traditional rights of indigenous peoples and their fundamental human rights shall be respected. Adequate and effective safeguards and guarantees protecting these traditional and human rights shall be included in all instruments, plans, and operations pertaining to mining in the Bakhuy's area, including those pertaining to any associated infrastructure and in relation to development of hydro-power potential in the Kabelebo area.
3. The companies shall promote the traditional and human rights of indigenous peoples in all negotiations with the State of Suriname in connection with bauxite mining in the Bakhuy's region and any associated infrastructure, and hydropower generation, and shall strive to ensure that adequate and effective protections for these rights are included in all agreements with the State of Suriname and in any permits issued by the State.

### ***Article 2 – Adherence to Indigenous Peoples' Regulations***

1. Pursuant to and in the exercise of their traditional rights, the indigenous peoples have adopted a policy and regulations that broadly define the manner in which they shall engage in consultation processes and express their consent in relation to activities, plans and proposals that may affect them. The policy and regulations are set forth in the Annex to this agreement and are hereby incorporated by reference and shall be deemed an integral part of this agreement.
2. The companies confirm that they will adhere to and comply with the indigenous peoples' policy and regulations as the basis for their engagement with the indigenous peoples.
3. The indigenous peoples shall not amend or otherwise alter the policy and regulations without providing a minimum of 90 days notice to the companies.
4. In the case of a significant amendment to or revision of the policy and regulations that may materially affect the interests the companies, the indigenous peoples shall consult the com-

panies with a view to obtaining their agreement to the proposed amendment or revision at least 90 days prior to enacting the amendment or revision.

### ***Article 3 – Dispute Resolution***

1. In the event of a dispute concerning any aspect of this agreement, the indigenous peoples and the companies shall establish a committee composed of three (3) persons representing the companies and three (3) persons representing the indigenous peoples. This committee shall have the authority to act on behalf of the parties and shall attempt to resolve the dispute through dialogue and negotiation.
2. This committee shall adopt mutually acceptable and written terms of reference and procedures to govern its attempts to resolve the dispute.
3. Unless the parties decide otherwise, the committee shall examine and attempt to resolve each dispute under consideration within a 120 day period.
4. The parties shall not pursue legal or other remedies without first seeking to resolve the dispute in accordance with sub-paragraphs 1-3 above.

Signed on this the \_\_\_\_ day of \_\_\_\_\_, 2007;

On behalf of the Indigenous Peoples: ADD NAME

On Behalf of the Companies: ADD NAMES

## Annex 3: September 2006 Draft Consultation Protocol for Comments

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### Policy and Regulations on Consultation and Consent Processes 2006 Adopted by the Indigenous Peoples of West Suriname

**1. Principle and Rationale:** In accordance with international law and human rights instruments ratified and binding on the State of Suriname, the indigenous peoples and communities of Western Suriname are the legitimate owners of the lands, resources, waters and territories traditionally owned or otherwise occupied and used by us in accordance with our customary laws. This is confirmed by, among others, the Inter-American Court of Human Rights in the *Case of Moiwana Village v. Suriname*, which stated that:

this Court's holding with regard to indigenous communities and their communal rights to property under Article 21 of the Convention must also apply to the tribal Moiwana community members: their traditional occupancy of Moiwana Village and its surrounding lands – which has been recognized and respected by neighboring N'djuka clans and indigenous communities over the years (*supra* paragraph 86(4)) – should suffice to obtain State recognition of their ownership<sup>13</sup>.

Despite this, Suriname's policy and laws have denied the indigenous peoples our right to control and manage our traditionally owned territory and resources. As a result, we have considerable concerns regarding the nature and extent of development within our territory and the effect such development may have on our cultural integrity and the exercise and enjoyment of our indigenous and human rights. As a first step to prevent further damage and expropriation, this policy and regulations, adopted by us in (DATE) 2006, is intended to ensure that consultation processes and other activities that may affect us are understood and undertaken in a way that is respectful of our inherent rights, is culturally appropriate, and respects our obligations to our past, present and future generations.

**2. Permission to Consult:** This policy and regulations cover only permission to consult with us and the general principles pertaining to consultation, which is a prerequisite to obtaining our free, prior and informed consent regarding activities affecting our traditionally owned lands, waters and territories. In order to be fully informed of the impacts of a project we require a process of culturally appropriate engagement and information sharing, a full environmental and social impact assessment and a formal role in the impact assessment process and any measures adopted to implement the results of the assessment through out the life of the project.

**3. The FPIC Process:** We can only consider giving our free, prior and informed consent to large-scale projects following an environmental and social impact assessment and negotiation of a legal Impact Benefit Agreement (IBA) and/or other necessary agreements.

**4. Application to Consult:** All persons or groups wishing to work, research or start a project in Western Suriname must complete an "Application for permission to consult" which must be approved by the Indigenous Peoples' representatives in advance. The Association of Indigenous Village Leaders in Suriname (VIDS) may be asked if there is any doubt whether a specific project needs to complete this application form. In general, the "Application for Permission to Consult" is directed primarily at private sector projects that may have negative impacts, such as mining, logging, artisanal mining, road building or significant upgrading, bridge building, ports, factories and significant infrastructure.

**5. Application Form:** The form to apply for permission to consult can be obtained from the three community Captains or from VIDS, Paramaribo. The application form should be completed and three copies, one for each of the three Captains, in Dutch (copies in English appreciated). The three



applications should be delivered to the three Captains or to their representatives or to the Council, in person, or to VIDS. The completed application forms should be accompanied by a processing fee commensurate with the size of the proposed work. (total project costs, number of expected employees (Processing Fee, see Annex).

**6. International Standards:** The applicant is required to confirm and provide supporting information demonstrating that the proposed project will fully comply with specified international standards and Best Practice, including international human rights norms. Information pertaining to an environmental and social assessment must confirm that the ESA will fully meet international standards, such as FPIC, IBA, and the Akwe:Kon Guidelines (which are the product of discussions by signatories to the Convention on Biological Diversity, ratified by Suriname), and that the ESA will be undertaken jointly with the Indigenous Peoples..

**7. Legal Entity:** The applicant must show they are a legal entity, registered by the government of Suriname.

**8. Logistics:** The communities offer to find suitable buildings, chairs, tables, refreshments, and lunch etc for each presentation upon request from the proponent. The communities will bill the proponent for provision of such services. Portable generators are not available in the communities. The Captains or their representatives are responsible for inviting representative numbers of each community to attend the presentations. Reasonable compensation for opportunity costs related to attending the meeting is expected (Annex x). A visit by representatives of the communities to the site of the proposed project and/or a similar existing project is required.

**9. Decisions:** After the presentations, discussions by the communities and site visits, *if the communities agree that consultation may begin*, that decision will be communicated promptly. If there is uncertainty about the proposed project, the communities will request clarification. In cases of uncertainty, decisions must be expected to take longer.

**10. Elements of the Consultation Process:** If an application for permission to consult has been accepted, the following are fundamental elements of an acceptable and effective consultation process – additional and more specific elements may be required depending on the nature of each application:

- (a) The proactive dissemination of all relevant information at least four (4) weeks prior to scheduled meetings. Copies shall also be submitted to the VIDS. The information must be in non-technical, simple language, and be sufficient to provide the basis for meaningful discussion. Audio-visual materials are often useful aids in explaining projects and other matters.
- (b) Meetings, which will always be presided over by the Captain of the village, unless otherwise stated, should be conducted in Sranan Tongo<sup>14</sup> and shall be of sufficient duration to ensure that those in attendance can understand the subject matter and the underlying rationale for the proposed activity. If necessary, periodic evaluations should be held throughout the meeting to verify that people understand the material. The use of graphics, maps, posters, and video is recommended rather than sole reliance with the written word. The duration of the presentations shall be commensurate with the complexity of the proposed project. An average presentation would be about half a day (3 hours). The presentations shall be in Sranan Tongo.
- (c) The proposed agenda for any meetings must be submitted to the communities no later than four (4) weeks prior to the scheduled date and the communities shall have the rights to add to the agenda or otherwise propose modifications. Such proposals shall be accepted unless they are manifestly unfounded or irrelevant.
- (d) Unrealistic deadlines from the proponent will automatically be rejected. The communities must not be required to make a decision at the end of a meeting, unless they so decide. Cultural characteristics and differences must be accounted for. Indigenous decision-making processes are usually diffused and consensus based. Extended discussions at the community,

extended family and household levels often take place before consensus can be reached and this process must be respected.

- (e) There must be adequate feed back to the communities subsequent to consultation so that they may see to what extent their views have been accounted for and to ensure that their views have been understood correctly. It is not unusual for comments to be misconstrued and faulty assumptions to be based on those misunderstandings. This is often the cause for conflict at a later date.

## Annex 4: Panels of Environmental and Social Experts: Generic Guidelines

### 1. Introduction: The Mandate for POEs

PoEs have become Best Practice throughout the industry and are mandated by international policies such as the Environmental Assessment (EA) Operational Directive (OD) 4.01 Environmental Assessment of the World Bank<sup>15</sup>. The focus nowadays is getting the POEs started at the most effective time and not waiting until a pipeline becomes mired in controversy such as in the case of the Sakhalin II Pipeline today.

*The borrower should normally engage an advisory panel of independent, internationally recognized, environmental specialists to advise on (a) The Terms of Reference for the EA, (b) key issues and methods for preparing the EA, (c) recommendations and findings of the EA, (d) implementation of the EAs recommendations, and (e) development of environmental management capacity in the implementing agency."*

### 2. Terms of Reference:

**2.1 General:** This is the first attempt at drafting generic Terms of reference (TOR) for such panels, although they have been mandated since the late 1980s. The TOR needs to provide acknowledged experts the opportunity to examine anything they deem necessary. The TOR should be a facilitation document to legitimize what the proponent and experts want to do. In general, the TOR should routinely include all the issues that should be dealt with in Environmental Assessment, Risk Assessment, Social Assessments, and Health Impact Assessments. TORs can include the tables of contents of Social Assessments/EA/Health Assessments, or annex them.

While it is desirable that the responsible project agency craft TOR for the Panel before each mission, it must be clearly established that as an independent Panel of Experts, it not only must be able to look into any issues deemed important by the sponsor, but need not justify such examination. Panels occasionally had problems with sponsors attempting to restrict POE activities (e.g., Chad-Cameroon, see Annex). Independence and capacity to look into any and all issues should be clearly stated in TORs for such Panels.

**2.2 The Balance between Independent Advisers and Consultants:** The Expert Panel is to be an independent advisor, rather than a consultant or provider of technical assistance to the client. POE's often provide valuable technical assistance, but this is not their primary role. IFIs and civil society view the Panel as an independent body. In several countries, under EA process regulations, such panels are being used as part of a transparent public consultation and EA review process. This may or may not be what IFIs wishes to connote; however, it must deal with civil society's expectations. The Bank & proponent must also decide what it wants the Panel to achieve in relation to Bank operational directives and institutional strengthening needs.

### 3. Selection of Experts

POE members should be senior professionals and undisputed leaders in their fields, with several decades of relevant experience. Specific experience is critical. It has to be fairly recent and it has to be appropriate to the sector or type of project being examined. A world-class dam expert may not have kept up with the latest technology in pipeline technology, for example. POE's are too expensive to permit steep learning curves. If the POE does not provide clear value-added, it was not appropriately selected. Based on this leadership and experience, panelists should have individual scientific reputations built up over the years.

The reputational aspect is important in order to resolve judgmental and qualitative disagreements with clients, proponents and civil society. Panelists differ from project staff in that the latter are more beholden to their employers and may be more biased. The names, addresses and affiliations of panel-

ists should be appended to their reports. Panelists have to be frank and will protect their scientific reputations as they know critics will argue with them. Panelists put their reputations for scientific integrity and independence on the line in drafting and signing their reports. Panelists need to be able to stand up to clients in the face of negative findings. Regular consultants may tend to sanitize their findings in order to keep on being hired. Panelists should prefer to be frank and straightforward and should not depend so much on re-hiring.

Candidates need to be carefully sought, as they are not common. Former professional ministers of environment are one source of candidates. Distinguished professors emeriti, and former heads of environmental organizations are good sources. The scientific author on the most valuable monograph on the ecosystem surrounding the project area would be a good candidate. Theoreticians may not always be the most pragmatic candidates. Seasoned practitioners make much better candidates than theoreticians. Colleagues already in the field usually know the top people in their professions. Balance is important between retired development or government officials and civil society members.

Panel membership need be able to cover the major issues that are covered by state-of-the-art environmental, social, and health assessments. A panel is defined as three or more members. Three is the minimum. Panelists should work together as a team and visit the project simultaneously. Continuity is important through the years to detect trends, so best efforts must be sought to arrange for the same members to serve through the years.

In practical terms, a panel is often composed of two environmentalists, two social scientists, and a public health specialist.

The social scientists should be selected depending on the main issues of the project, such as an indigenous people specialist, and a resettlement specialist.

The two environmentalists are selected depending on the main issue of the project, tropical rain forest for example. One environmentalist should have a long successful track record in the sector of the project, in the environmental impact of pipelines, for example. Most tropical projects, especially in Africa involving water (or transport re AIDS), normally will need a public health panelist

The POE has the specific prerogative, as do the project sponsors, to co-opt add additional members to deal with issues in which the Panel has insufficient expertise. The proponent must ensure that the Panel has institutional legitimacy, the Panel must have the contractual ability, including necessary resources, to be continuous in its work, including the necessary administrative support, and ability to meet to discuss its work plans, strategies and needs of the client agencies. It must not be expected to live from one small ("once-off") contract to the next, dependent on clients who may not understand its purpose and therefore legitimacy. As far as is feasible, the Panel must be immune from changes in its client representative, such as changes in government, or at least have the means to re-educate the client each time there is a change.

The TOR also must provide for adequate notice of requests for meetings with its clients, allowing time for integration with existing commitments, obtaining visas, and other necessary preparatory work.

Some project proponents cannot be expected to know who are internationally recognized experts on issues relevant to the project under consideration. In such cases, the recruitment procedure is to submit to the sponsor a short list from which the Project authorities can select.

The selection process needs be transparent and systematic in the sense of allowing potentially affected people, civil society and stakeholders in general to suggest candidates. All members must attempt to be as objective as possible.

Procedures for Panel selection need to be codified and transparent. Competitive bidding is being contemplated. While this may be feasible, it does not address the issues of transparency and independence. Competitive bidding could reduce an Expert Panel to a commercial arrangement. It would ap-

pear that the international community is less likely to accept an "Expert Panel's" advice if it is hired by a competitive bidding process rather than appointed on merit and reputation.

## 5. Payment of the Panel

Panels must be paid commensurate with their international reputations and experience. Panelists are usually very senior experienced leaders in their professional fields. It is difficult to specify fees as many professionals have their own — and different — fee scales. This is a starting point if candidates from Japan and Europe are to be enticed. The TOR should agree on payment levels and schedules, and should include remedies for failure by any party, including penalties for tardiness of report delivery or payment.

## 6. Host Country Representation on the POE

Should panels include at least one host country national? There are advantages and disadvantages, hence no doctrinaire position. Well qualified national panelists are better than an equivalent foreigner. The advantage clearly is local knowledge. The major disadvantages are possible conflicts-of-interest and constraints on being frank. A useful compromise is for the sponsors to add one or two distinguished nationals to be counterparts of the panel. National counterparts to the panel can help keep it informed of important issues between missions; they can follow up on implementation and can disseminate reports. A technical counterpart committee is the solution successfully adopted by some countries. Having one panelist supported by the affected people can be very powerful, but their selection would be equally tricky — but not insuperable.

## 7. POE Starting Date

POEs should be established immediately after project 'identification', or as soon as options assessment has decided on a specific project, but well before the design has begun. There is great advantage in creating a panel when engineering pre-feasibility starts even if a specific project has not yet been identified.

## 8. Reporting Responsibility

The Panel's primary reporting responsibility should be to their financiers. Increasingly, the project's private sector sponsor engages the POE. Private sector sponsors differ greatly in their handling of environmental and social precautions. The reporting should be directed at the Ministerial level. The POE often has their final wrap-up meetings with the Minister. The proponents environmental director normally accompanies the POE during the inspection, as this is such a valuable learning experience for the director

## 9. Dissemination of POE Reports

All POE reports following Panel missions must become public documents once project authorities have had a reasonable time to comment. If the Panel wants to reject such comments, that is its prerogative. However, they should be added as an attachment to the final report along with the Panel's response.

The TOR needs to specify that panel reports are to be sent by the project sponsor to the IFI together with the sponsor's comments 30-60 days after receipt of the POE report by the sponsor.

The IFI then should have about 30 days to respond, at least with a 'no objection' for the POE report to be made public documents by the sponsor. If the sponsor prefers that the IFI disseminates POE reports, that is acceptable.

If the project sponsors cannot respond in that time, it might suggest that they do not take the Panel's reports seriously enough. Silence is consent: Lack of comment after the agreed on period should be taken as assent, and the report enters the public domain. Should the project authorities request

assistance on a confidential basis on issues that the Panel does not believe must be included in its public report, then that is an issue for the Panel and the project authorities to negotiate.

Although the POE reports should enter the public domain eventually, this does not mean the POE is an advocacy group. Normally, the POE should not meet the Press, nor divulge their findings during their inspections. They report to their clients alone. Later, if the client or IFI has no objection, or if the POE feels so compelled, they will follow their professional judgments in answering queries.

## **10. POE Frequency**

Frequency of visits should be commensurate with needs and activity on the project. The POE has a major role during the early design phase. Quality of project design before implementation and construction begin is a major determinant of subsequent success.

As a minimum, the POE should be involved with the scoping and screening of the social and environmental assessment (SA/EA). The POE should accompany the 1-2 year preparation of the SA/EA such that it fully meets Best Practice when they are ready.

During construction, the POE needs to ensure the recommendations of the SA/EA are adequately fulfilled. Thus visit frequency should be kept flexible. During preparation, 1-2 annual visits may be needed. Once construction starts two annual visits (at six month intervals) make sense. Mixing wet season and dry season visits often is advisable. In latter years one visit per year may suffice. In problem projects, the frequency is usefully increased.

## **11. POE Duration**

POEs should last as long in the project cycle (from identification, feasibility, design and construction thru operation, decommissioning and rehabilitation) as they are needed as an insurance policy and to provide early warning. Experts have worldwide contacts so can act on criticisms. Experts are at the cutting edge of their field so keep up with changes in science and technology, as well as with emerging issues. The duration of contracts in relation to the needs of the project or loan should be decided when a Panel is first formed, subject to agreement with the client institution.

## **12. Panel Reports' Role in Decision-making**

The Panel is a tool to increase development effectiveness. The Panel's over-riding goal in improving development effectiveness is ensuring that the preventive and mitigatory measures of the SA/EA are successfully implemented. The principle is that implementation and supervision is far more important than paper plans. This means that mitigation measures have to be adequate during design and should fully meet all standards of acceptability. But implementation is the key. Effective implementation is fostered by effective capacity strengthening, combined with good design and scrupulous monitoring.

## Annex 5: The Start of ESIA: Screening and Scoping

### Screening

Screening is the first step of learning about the project and what likely impacts may occur. Screening is done by the project proponent's E & S team in cooperation with the newly appointed PoE. Screening is timed to be synchronous with the beginning of the engineering feasibility or prefeasibility studies, in other words very early in the project cycle.

Screening means assigning the project to one of three categories, A, B or C.

- **Category A** needs a full-blown ESA, because it may have major impacts, may impact vulnerable ethnic minorities, may cause significant displacement of humans, or impact on valuable habitat.
- **Category B** projects don't have major impacts. Category B impacts are relatively modest and of the kind that have been reduced to acceptability in previous similar cases.
- **Category C** projects don't impose substantial impacts, building a school room in a village for example or providing a number of wells for a village.

Normally, such screening can be done by the proponent's in-house ES unit in cooperation with the POE. If the project is a Category A, the POE is firmed up. The disciplinary balance of the POE is adjusted after the screening process. If the project is Category B or C, the POE disbands as it is no longer needed.

A key decision at the Category A screening phase is to keep the ESA as a single activity. Several major infrastructure projects recently have been divided into two or three segments on which ESAs have been performed by different teams. The BTC pipeline, Peru's Camisea pipeline, and Suriname's BHPB/Suralco Bakhuis Bauxite project are examples where several ESAs were undertaken with the result that precautions differ markedly and the whole is riskier than it need have been. Splitting ESAs weakens the overall process and makes the result less reliable. There may be exceptions such as when a project ends at or needs a new refinery or a new marine port.

### The Scoping Phase

The first task of the ESA team is to undertake the scoping phase of the project. The POE should assist the project proponent in the selection of the independent ESIA team. The POE then checks when most of the scoping has been completed. Scoping sets boundaries for the ESA and usually ends in detailed terms of reference for the ESA, especially which disciplines will be needed.

The scoping phase is designed to foster meaningful participation with all potentially affected stakeholders; scoping is essentially a listening phase which actively seeks the views of all who want to contribute their views. The scoping phase consults widely with all potential stakeholders, the proponent, governmental counterparts, the in-house ESA unit, civil society, academics, and especially potentially affected societies. In fact, stakeholder identification can be a valuable exercise. Scoping is the de facto start of attaining free, prior and informed consent of the impacted people. The impacted people must first learn as much about the project as the ESDA team does.

Standard practice nowadays is that the ESA must contain, as a minimum, an assessment of the environmental, social, cultural, health and gender impacts and risks, prevention of the most severe impacts identified, and a feasible and financed program to mitigate the remainder. There are some gray areas. For example, erosion control in cuts and slopes edging a mine, highway or pipeline are best handled by the engineering and construction team. Water and wetland crossings are best carried out jointly by engineering and environmental specialists. Impacts on indigenous peoples have to be assessed by anthropologists experienced in the culture. Birley (1995, 1998, 2004), Kemm et al (2004) and WHO (2001) have compiled useful materials on how to carry out reliable health impact assessment. Gender impacts can be the most serious of all impacts (CEE Watch and GenderAction 2006).

Scoping ensures that all relevant issues are focused on and time is not wasted on concerns that are misplaced. Scoping takes up all opinions and concerns to begin with, and then focuses on the most relevant impacts while dropping the irrelevant ones. The scoping phase compiles a long list of topics, issues, concerns, potential impacts, and warnings from the wide range of stakeholders consulted, including the experience of the in-house ESA Unit, the ESA team members, and the POE. The ESA team then transparently ranks the long list of concerns and topics thus obtained. The topics low down the ranking that, in the professional judgment of the ESA team, are not germane to the project, or insignificant, or are misconceptions, or belong elsewhere than to the ESA process are removed from the shorter residual list. The reasons why each specific topic is taken off the residual list must be spelled out in adequate detail and discussed with the stakeholders again. The rationale for dropping some concerns is an important part of the scoping document.

Once the long ranked list has been winnowed down to impacts on which there is general agreement could be significant, and once there is agreement for dropping the concerns judged not to be relevant in this case, the scoping phase is complete. The scoping phase document is widely circulated, especially to all contributing stakeholders and discussed. The main results of the scoping process are agreement on what potential impacts merit detailed assessment and which concerns need not be addressed further. The scoping phase agrees on the area of potential impacts — importantly a series of maps — showing where the impacts may occur, and the limits of the areal extent of potential impacts.

The watersheds and airsheds are the basic units determining the area of impact for the scoping phase. The watersheds and airsheds of the project itself (e.g., the mine), and all ancillary features are included in the area of potential impacts, especially construction and access roads and transportation systems, quarries, borrow pits, sources of water, storage and disposal of water, construction and other camps, and villages supplying workers to the project.

As the scoping document shows which features, activities and sites are agreed to be relevant and which are not, this is the start of the ESA itself. When the scoping is nearing completion, the disciplinary composition and schedules of the ESA team is usually adjusted to address the concerns agreed upon during scoping.



## **Annex 6: The Guyana-Suriname Border Dispute**

The UN International Tribunal on the Law of the Sea (ITLOS) hears Guyana's long standing border dispute<sup>16</sup> with Suriname in December 2006 at the Organization of American States (OAS) in Washington, DC, with the possibility of a decision before the end of 2007.

In June 2000, the U.S. Geological Survey discovered a potential 15.3 billion barrels in off-shore oil reserves and 42 trillion cf of gas in the contested territorial waters. In 1998, the Guyana Government permitted CGX Energy Inc. of Toronto, a Canadian oil exploration company, to explore for oil offshore in the Corantijn delta region. On 2<sup>nd</sup>. June 2000, the Surinamese air force spotted the rig and Suriname ordered it out of what Suriname claims is Suriname's territory. Later that night, Surinamese gunboats towed off Guyana's oil rig and launched a full-scale international incident. When Suriname forcibly expelled CGX from the river the once dormant border dispute rose high on the foreign policy agenda. In February 2004 Guyana took the dispute to the International Tribunal of Sea Law in Hamburg, Germany.

Guyanese fishermen in the Corentijn River have to obtain permits from the Surinamese authorities to fish in certain parts of the river. The river is a wealth of resources. It includes oil reserves, and this is the main reason that it is of importance to both countries. But there has never been an agreement worked on for sharing the resources by two economically challenged countries, despite the floating of this concept many times. To complicate matters further, Suriname has claimed the New River Triangle area on the Corentijn River, but with stiff opposition from Guyana.

Repsol, partnered by Occidental and Maersk, signed a 30-year production sharing contract on 24 April 2004 with Surinam's state-owned Staatsolie for the exploration and production of oil in Block 30, which is 100 km offshore Suriname. The contract was signed April 24 2004 at a ceremony attended by the President of the National Assembly and the Minister of Natural Resources of the Republic of Suriname. In 2007, Repsol YPF will drill for oil and gas offshore. The multinational signed a US\$100 million contract with Transocean Inc. to execute two test drillings in the Block 30 offshore concession. Between July and October 2007, Transocean will put up the oil rig Sovereign Explorer, to drill at two different locations.

Block 30 has a surface area of approximately 18,600 km<sup>2</sup> and is in the Guyana — Suriname basin, where oil is currently produced at the Tambaredjo and Calcutta fields near Paramaribo.

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## Endnotes

- 1 Environmental and social impact assessment of mining aspects of the proposed Bakhuis bauxite project. Scoping Phase Report No. 346217/3b of October 2006, by SRK Consulting, for BHPBilliton and Suralco 65pp+ 4 appendices.
- 2 The 2005 report, as well as the current report were written in response to requests by the Captains of the affected communities, as well as VIDS. Following publication of the 2005 draft report, training sessions were conducted in the communities to explain the technical details and to foster discussion.
- 3 The quality of what mining corporations actually do is average practice or standard practice. Even the industry itself and its coalitions, such as The International Council on Mining and Metals (ICMM), fully agree that today's standard practice has become unacceptable and has to improve. In order to improve, one method is to comply with better standards. There are many standards and codes of conduct to choose from. Some mining corporations devise their own which are usually much weaker than those of ICMM. In developing countries, Best Practice is usually taken to mean following the Safeguard Social and Environmental Policies of the World Bank, or the Guidelines of the Equator Principles, or the Impact Assessment Guidelines of the International Association of Impact Assessment.
- 4 The ESIA terms 'scoping' and screening are amplified in Annex 5. The first task of the ESA team is to undertake the scoping phase of the project. Scoping sets boundaries for the ESA and ends in detailed terms of reference for the ESA. The scoping phase is designed to foster meaningful participation with all potentially affected stakeholders; scoping is essentially a listening phase which actively seeks the views of all who want to contribute their views. The scoping phase consults widely with all potential stakeholders, the proponent, governmental counterparts, the in-house ESA unit, civil society, academics, and especially potentially affected societies.
- 5 Mandatory as set out in Best Practice, which is usually taken to mean following the Safeguard Social and Environmental Policies of the World Bank, or the Guidelines of the Equator Principles, or the Impact Assessment Guidelines of the International Association of Impact Assessment.
- 6 The ratio of biophysical to social attention is 11: 1. For example, the following are separate stand-alone studies each by one or more professional specialists: 1) Geology, 2) Geomorphology/soils, 3) Air quality/ climate, 4) Noise, 5) Integrated water management, 6) Aquatic ecology, 7) Vegetation, 8) Invertebrates, 9) Small mammals, 10) Large mammals, 11) Resource economics, all on the biophysical side. All this versus a single study of all the social impacts, which are not disaggregated into priority issues, such as health & communicable diseases, vulnerable ethnic minorities/Indigenous Peoples, displacement, involuntary resettlement, labor and employment, nutrition, education etc. See Section below on Social Impact Assessment.
- 7 (a) Goodland, R. 2004. Free, Prior and Informed Consent. *Sustainable Development Law and Policy IV* (2): 66-75. (b) Goodland, R. 2007. The institutionalized use of force in economic development. Chapter 24 in: Soskolne, C. L., Westra, L., Kotze, L. J., Mackey, B., Rees, W. E. & Westra, R. (Eds.) *Environmental and human health through global governance*. Lanham, MD., Lexington Books (Rowman & Littlefield Publishers) (in press).
- 8 Such a Consultation protocol would also greatly protect maroon societies. Possibly, Maroons can be encouraged to draft their own Consultation Protocol, or they may want to adopt relevant sections of the Protocol already drafted by the Captains of West-Suriname.
- 9 There may be some connection between this Octagon logging operation and the oil rig of CGX that Guyana permitted to drill in disputed areas off the Corantijn mouth. See Annex 6 on the Guyana-Suriname border dispute.
- 10 (a) Stern N. 2007. *The Economics of Climate Change: The Stern Review* (for the UK Govt.). Cambridge Univ Press 570 p. [www.sternreview.org.uk](http://www.sternreview.org.uk). (b) *Climate Change 2007: The Physical Science Basis of Climate Change*, prepared by Working Group I of IPCC. (c) *The Tyndall Centre for Climate Change Research* (Sept. 2006), University of Manchester, sponsored by Friends of the Earth and The Co-operative Bank 89 p.
- 11 "There is also a lock in the Arawara Kreek, the connection between the Nickerie Rivier and the Wajambo Rivier". US Corps of Army Engineers, 2001. *Water Resources Assessment of Suriname*. 111 p.
- 12 UN Doc. A/HRC/1/L.3, 23 June 2006
- 13 *Case of Moiwana Village v. Suriname, Judgment of 15 June 2005*, Ser. C, No. 124, at para. 133.
- 14 The proponent is responsible for providing translation.

- 15 *The borrower should normally engage an advisory panel of independent, internationally recognized, environmental specialists to advise on (a) The Terms of Reference for the EA, (b) key issues and methods for preparing the EA, (c) recommendations and findings of the EA, (d) implementation of the EAs recommendations, and (e) development of environmental management capacity in the implementing agency.*"
- 16 The history of this issue is complex and unclear. The 1667 Treaty of Breda ceded British colonies in what are now Guyana and Suriname in exchange for Dutch relinquishment of Manhattan. In 1799, Dutch Governor Van Peere of Berbice and Dutch Governor Van Somelsdyk of Suriname agreed that their plantations should be separated by a river. The Devil's Creek (*Duivels Kreek*) River was chosen because it already was being used as a *de facto* boundary line between plantations, although it is 80 miles west of the Corantijn River. In the second Anglo-Dutch war, both sides of the Corantijn returned to the control of Great Britain. In 1799, the two Governors moved the Devil's Creek border east and concluded that Berbice (modern-day Guyana) should control all territory up to the west-bank of the Corantijn River. Normally, a thalweg, or middle point of a navigable channel in a river, forms the boundary between two adjacent countries. However, because of the above historic considerations, Suriname contends that the land boundary terminus lies on the Guyana bank of the Corantijn River. The islands in the river are deemed Suriname territory. An "area of overlap" exists since Suriname claims the maritime boundary to be a line ten degrees east of true north, whereas Guyana claims the maritime boundary to be a line thirty-three degrees east of true north. *Fide*: Donovan, T. W. 2004. "Suriname-Guyana Maritime and Territorial Disputes: A Legal and Historical Analysis". Florida State Journal of Transnational Law and Policy. See also: "Challenges to the Territorial Integrity of Guyana: A Legal Analysis" 2004. University of Georgia Journal of International and Comparative Law. Verani, A. 2005. Dividing the Sea: The 1982 Law of the Sea Convention, Maritime Case law, and the Current Dispute between Guyana and Suriname. 9 Gonzaga Journal of International Law 48.





**The North-South Institute**  
55 Murray Street, Suite 200  
Ottawa, ON  
Canada  
K1N 5M3

**Telephone: (613) 241-3535**

**Fax: (613) 241-7435**

**Website: [www.nsi-ins.ca](http://www.nsi-ins.ca)**

**Email: [nsi@nsi-ins.ca](mailto:nsi@nsi-ins.ca)**



**The Association of Indigenous  
Village Leaders  
in Suriname (VIDS)**  
PAS gebouw  
Ver. Keizerstraat 92  
Paramaribo, Suriname

**Telephone: 597-520130**

**Fax: 597-520131**

**Email: [vids@sr.net](mailto:vids@sr.net)**