



SMALL-SCALE GOLD MINING AT
BROWNSBERG NATIONAL PARK



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Small-scale gold mining at Brownsberg National Park

Description of mining activities within the park boundaries at Witikreek.

Ireneval, Wakibas, Koemboe and Jabokai

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Produced for:

WWF Guianas

Henck Arronstraat 63 Suite E

Paramaribo, Suriname

Phone: (597) 422 357

Fax: (597) 422 349

info@wwf.sr

Produced by:



Siriusstraat 14, Elizabethshof

Paramaribo, Suriname

Tel: (597) 457885

www.social-solutions.net

Authors:

Marieke Heemskerk and Celine Duijves

E-mail: mheemskerk@yahoo.com

E-mail: celineduijves@hotmail.com

Revised by WWF-Guianas

Sofie Ruysschaert

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- Mr. Tholen, director of the Foundation for Nature Conservation Suriname (*Stichting Natuurbehoud Suriname- STINASU*),
- Mr. Paansa, Chief exploration and geology at the Geology and Mining Department (GMD), and
- Mr. Sleur, chairman of Foundation PROBIOS.

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Opinions expressed in this report are those of the author and do not necessarily reflect the views of WWF Guianas or other institutions the authors are affiliated with. The consultant is responsible for all errors in translation and interpretation.



ABBREVIATIONS AND FOREIGN/UNUSUAL WORDS

ATV	All-terrain vehicle
ALCOA	Aluminum Company of America
Bate	Gold pan
BNP	Brownsberg Nature Park
BO	Regional government official (<i>bestuursopzichter</i>)
Cabaret	Brothel (Br.)
Fofoca	Gold rush/ large group of miners rushing to one place to dig for gold
Garimpeiro	Gold miner (Br.)
Garimpo	Gold mine (Br.)
GIS	Geographic Information System or Geographical Information System
GMD	Geology and Mining Department
GoS	Government of Suriname
GPS	Global Positioning System
ha	Hectare (10,000 m ²)
<i>Hoofdkapitein</i>	Superior head of the village or clan
<i>Kapitein</i>	Head of the village or clan
MOU	Memorandum of Understanding
MUMA	Multiple Use Management Area
NH	Natural Resources, Ministry of (<i>Natuurlijke Hulpbronnen</i>)
ODB	Organization of Authorities Brownsweg (<i>Organisatie van Dignitarissen Brownsweg</i>)
OGS	Commission Regulation Gold Sector (<i>Commissie Ordening Goudsector</i>)
<i>Piewpiew</i>	Metal detector
PROBIOS	(Foundation) Protect our Biodiversity in Suriname
RO	Regional Development, Ministry of (<i>Regionale Ontwikkeling</i>)
ROGB	Spatial Planning, Land and Forest Management, Ministry of (Ruimtelijke Ordening, Grond- en Bosbeheer)
SBB	Stichting voor Bosbehoud en Bostoezicht
STINASU	<i>Stichting Natuurbehoud in Suriname</i> (Foundation for Nature Conservation Suriname)
Sumaje	System for gravity-based small-scale gold extraction, using a long, narrow wooden box to capture the gold. This system is typically worked with one to three persons
Suralco	Suriname Aluminum Company
VSG	Association of Saramaka Authorities (<i>Vereniging van Saramaccaanse Gezagsdragers</i>)
WWF	World Wide Fund for Nature

SUMMARY

This report presents a detailed situation analysis and social mapping of current mining activities in Brownsberg National Park (BNP). The consultancy was commissioned by WWF Guianas as part of its program to support best practices in the extractive sector. Data were collected by: Ground truthing of GIS/photographic information; survey interviews with mine operators in the BNP; conversations and observations with mining service providers and gold miners; and qualitative interviews with key stakeholders. Field visits were undertaken to all known and encountered small-scale gold mining sites within the BNP boundaries, including Koemboe, Ireneval, Witikreek, Wakibasú and Jabokai.

History teaches that many today's mine sites within the BNP boundaries are historic gold mining locations. In 1970, STINASU established the Brownsberg Nature Park, but the local community of Brownsweg was not consulted about this decision. In the 1990s, Brownsweg inhabitants and others started to flock to the BNP area to mine for gold. In 2001, after several failed attempts to remove the gold miners, STINASU proposed rejecting the largely destroyed area of Wakibasú and Koemboe (1000 ha) in exchange for 4,000 ha of forest area to the South of the contemporary border. STINASU also made an agreement with the small-scale gold miners, allowing them to mine in the rejection zone under specified conditions. In 2002, the GoS approved the southern extension but the north-west mining zone was not rejected. After violations of the agreement between STINASU and the small-scale gold miners, new evictions followed. In 2011, the OGS was installed and assumed responsibility for regulating the small-scale gold miners. After several evictions, the OGS presented a plan to allot 1200 ha in the Northwest corner of the park to the small-scale gold mining community of Brownsweg. OGS demarcated the area and extended approval to small-scale gold miners to work in this area. To date, however, the OGS "toleration zone" has not legally been relinquished. The researchers argue that ambiguity about the legal status of the park boundaries creates confusion and obstructs working towards a sustainable solution.

The researchers estimate that a total number of 35-40 active mining operations work within the BNP boundaries. Also counting individuals working with metal detectors (*piewpiew*) and gold pans (*baté*), approximately 300 persons may be mining for gold within the BNP boundaries. About two-thirds of these miners are local inhabitants of Brownsweg. Most foreign gold miners (~15% of total) – virtually all Brazilians – were encountered in the Jabokai mining area. Several indicators suggest a decrease in mining activities in the Brownsberg area in the past (couple of) year(s), including comments of gold miners and the low number of Brazilian gold miners, stores, bars and cabarets.

When asked whether they were working within the BNP boundaries, two-thirds of gold miners reported that they worked outside the park and one third indicated that they did not know. With regard to land ownership, 28.6 percent of interviewed gold miners commented that they worked on community land. One quarter of gold miners reported that the land they were mining on belonged to no-one, or that no-one had a concession at that place. At Jabokai, gold miners reported that they paid concession fees to Mr. Brunswijk. Legally however, this area is not a concession.

Small-scale gold miners in the visited locations were not organized in any form, and cooperative structures were not encountered. Gold miners did not pay to the community or the traditional authorities in an organized fashion (e.g. through a community fund).

The researchers conclude that protection of the BNP as a unique tourist destination and home to many plant and animal species is challenging, for various reasons. In the first place, it is publicly known that the entire Brownsberg area hosts extensive, relatively accessible gold deposits. Secondly, the local community of Brownsweg is not involved in park management and does not reap many economic benefits from the BNP. Stakeholder perspectives on the best approach in managing the relation between BNP and gold miners can be grouped in three visions, all of which involve specific benefits and risks:

- 1) **Conservationist vision:** ban any small-scale gold mining from within the BNP boundaries;
- 2) **Collaborative vision:** seek collaboration with the local community and allow them to mine within part of the BNP, under the condition that they will not go beyond the “tolerance zone”.
- 3) **Mining vision:** Research gold deposits and mine everything that is worth mining. Parts of the park without gold and abandoned gold mines can be(come) tourist attractions.

It is argued that regardless of what strategy is chosen, it is essential that informed decisions are made based on sound research and consultation with all relevant parties.

In the area of **Policy**, it is recommended that the responsible parties take a mutually agreed upon decision about the “tolerance zone” and follow up with legal action (e.g. demarcation and legal endorsement) and enforcement. It is also recommended that the status of BNP is changed from Nature Park into Nature Reserve. With regard to **Conservation Activities**, the researchers propose the establishment and maintenance of clear, visible borders around the entire BNP. It is also recommended that stakeholders support monitoring of the BNP area by hiring more and better-qualified park guards. Furthermore, it is suggested that new (business) models for park management are explored. In the area of **Communication and Research** the researchers argue for continued engagement with the community of Brownsweg and other stakeholders, as well as for conducting more geological and ecological research to support evidence-based decisions.

1 INTRODUCTION

1.1 BACKGROUND

Brownsberg Nature Park (BNP), situated 130 km south of Paramaribo, is among the most accessible and popular nature destinations in Suriname, and much used for recreation, research and education. Preservation of the BNP area, with its unique and rich biodiversity, is increasingly threatened by small-scale gold mining activities (Figure 1). On several occasions in previous years, the semi-governmental commission in charge of reform of the gold mining sector (OGS) expelled gold miners from the BNP. However, gold miners continue to enter the park.

The purpose of the present consultancy is to qualify and quantify the small-scale gold mining population working in BNP, in terms of their nationality, ethnicity/origin, and financial ties to surrounding communities. The rationale behind such a detailed assessment is that, for working constructively with the local communities and the miners, WWF needs to better understand how many there are, who they are, how they work together, where their financing comes from etc. In this way, WWF can better target its communications and identify key points of intervention.

Since the establishment of BNP, several projects have been executed by governmental and non-governmental organizations (such as WWF-Guianas) to support conservation and management of the park, including involvement of the neighboring community of Brownsweg. Past interventions include training in alternative gold mining techniques, promotion of alternative livelihoods (e.g. agriculture), socioeconomic assessments, and trying to get local people involved with STINASU activities. Successful and sustainable implementation of these initiatives has been limited though.

Several current trends provide renewed opportunities for interventions. In the first place, the (former) national government replaced leadership of STINASU, which did not sufficiently confront small-scale gold mining in the BNP and in fact may have endorsed it. The local government (district commissioner of Brokopondo) is also open to engagement and supportive of dialogue with the local communities and other stakeholders concerning BNP. Thirdly, there is a growing public demand to reduce the impact of mercury in the environment, for which small-scale gold mining is the main source. This implies the need for better control of gold mining activities.

WWF believes that given the public attention paid to the future of BNP and gold mining, now is a good moment to re-engage with stakeholders involved in and around Brownsberg as a strategy to improve BNP management and foster greater support for the area. In this context, an explorative exercise is being executed to lay the ground work for future targeted interventions. The two key elements in this are:

- 1) Detailed situation analysis of the current mining activities in BNP; and
- 2) Preparation of a comprehensive map of the BNP area, clearly showing the boundaries, mining extent and other characteristics of BNP.

The current consultancy addresses point 1).

1.2 OBJECTIVES

The main objective of this consultancy was to conduct a detailed situation analysis and social mapping of the current mining activities in BNP, in terms of:

- How many people are executing mining-related activities within the boundaries of BNP and immediate surroundings? This includes miners, concession holders, service providers and so forth.
- What is the socio-demographic status of these people: where do they come from (Brownsberg, elsewhere in Suriname, abroad)?; how long are they operating in the area?
- What is the socio-economic network of these people: are they working independently or for a concession holder, and what do they have to pay to whom?; Are there individuals with multiple concessions?; Are there any umbrella groups/ cooperative structures?; is there a link with the village of Brownsberg (e.g. through payment of taxes to village leaders)?
- Who are the main 'players in the field' -located either in Paramaribo or in the area- and what is their background (e.g. in terms of decision power, investment level)?

1.3 THE CLIENT, THE CONSULTANT AND BENEFICIARIES

The client. WWF Guianas is the Guianas regional office of the World Wildlife Fund (WWF) a leading organization in conservation worldwide. The WWF Guianas office develops and initiates programs in Guyana, Suriname and French Guiana, and has its headquarters in Suriname. Through its program to support best practices in the extractive sector, WWF Guiana's has worked in the realm of small-scale gold mining for about a decade. Among others, its efforts have focused on increasing awareness of the negative effects of mercury poisoning and the pollution of fresh water ecosystems.

In 2012, WWF Guianas commissioned an exploratory study on small-scale gold mining in the Brownsberg area. This study and related aerial photos and videos, demonstrated that large parts in the BNP were being destroyed. The images, which became front page news, created a national outcry for better protection of the BNP, and government actions to address mining activities in this area. WWF Guianas keeps closely involved with Brownsberg Nature Park as it is an important area for its Protected Areas and Gold Mining program.

The consultant. Social Solutions is a small independent consultancy firm working from Suriname. Its areas of specialization include; rural development, small-scale mining, public health (HIV&AIDS, Malaria) and education. The lead researcher has more than 15 years of experience conducting research in Suriname's small-scale gold mining areas.

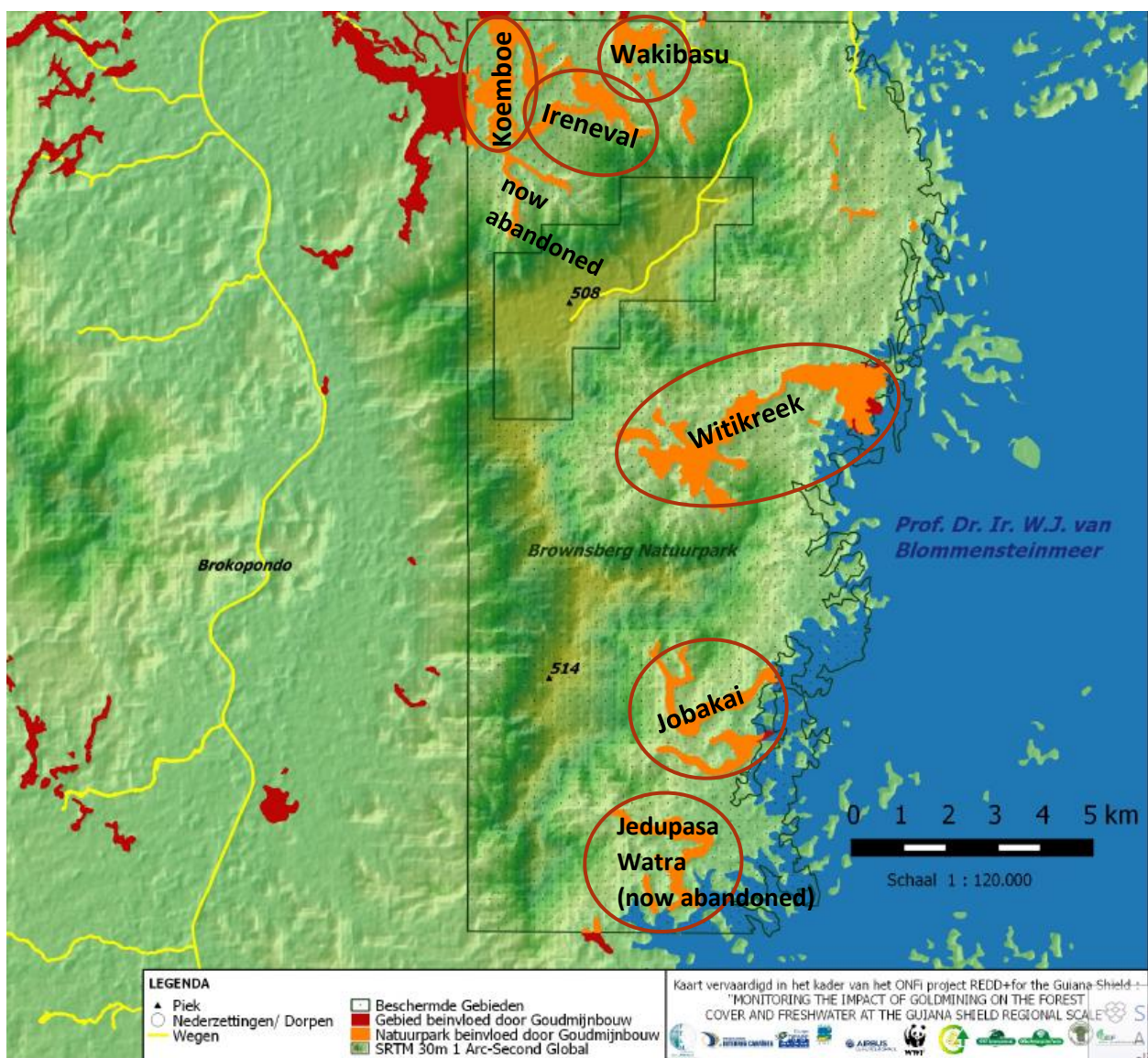
Beneficiaries. Among the main beneficiaries of this research will be Stinasu, which may gain knowledge on small-scale gold mining activities in the area under its management.

More indirectly, (future) visitors to Brownsberg – both Suriname residents and tourists- are a beneficiary if this study succeeds in generating support for improved protection of the natural resources of BNP.

1.4 REPORT OUTLINE

This report proceeds as follows. In the following chapter 2 we describe the methods that were used for data collection. We also describe the research locations and sample. Chapter 3 provides a synopsis of the history of Brownsberg. This history is important for understanding the present-day presence of small-scale gold miners within the park boundaries, and challenges involved in management of the BNP. Chapter 4 presents the field results. It provides quantitative data on the number of mining operations, gold miners, stores, and pieces of large equipment present within the BNP. It also discusses land claims and concession fee payments; and gold miners' understanding of the Park boundaries. The Conclusions (Chapter 5) synthesize the consultant's reflections on the findings. They are followed by Recommendations aimed at guiding WWF in its efforts to support protection of the BNP.

Figure 1. Brownsberg National Park boundaries with the main small-scale gold mining areas



2 METHODS

2.1 FIELDWORK LOCATIONS

Fieldwork was conducted within and around the Brownsberg Nature Park (BNP) and in the adjacent community of Brownsweg (located on 3.7 Km distance from BNP). Two fieldtrips were undertaken. In the period October 20-22, the consultant team visited Koemboe, Ireneval, Witikreek, and Wakibasus (Figure 1). Transportation to these areas was partly by car, and partly by All Terrain Vehicle (ATV). Also in this period, the researchers conducted interviews with stakeholders in the community of Brownsweg.

On October 29th, the consultant undertook a field visit to Jabokai, and the part of Witicreek bordering the Brokopondo lake. Transportation was by boat, by ATV and walking.

The SBB deforestation maps (Figure 1) allowed the consultant to more effectively plan field visits and perform interviews and observations at the most active mine sites. The consulting team visited all areas that were shown on the map as being affected by small-scale gold mining activity. Only the most south-eastern tip of the BNP, named Jedupasa watra, was not visited because the gold miners in nearby Jabokai reported that no-one was there anymore.

2.1 DATA COLLECTION METHODS

The consultant used a mixed method approach to obtain the requested information, relying on:

- Ground truthing of GIS/photographic information, based on the recent SBB deforestation maps (based on 2014 satellite data)
- Survey interviews with open and closed ended questions with mine operators in the Brownsberg area.
- Conversations and observations in the various mine sites, with mining service providers and gold miners.
- Qualitative interviews with key stakeholders

2.1.1 Ground truthing

Ground truthing was performed by visiting mine sites that were revealed by the SBB map, to determine: whether the sites were abandoned or still actively mined; how many mining teams were present; and what services are provided to gold miners at the site (e.g. cantinas/bars, brothels, technicians etc). Local guides pointed out where the still active mining locations were, informed the researchers about area history (e.g. when certain sites were abandoned) and made introductions to the various mining camp owners or their representatives. GPS recordings were taken at each mining area and during travel to the mining areas.

2.1.2 Survey interviews

During the ground-truthing mission, the consultant made an effort to visit all known mine sites and interview at least one representative of the mining team –preferably the owner or foreman- of each mining camp. Thirty-five survey interviews were conducted with representatives of mining teams, corresponding to at all but three observed camps. The owner of one camp refused to speak with the

researchers, and the inhabitants of two other camps were not at their camp when the interviewers came by. The number of workers of these camps was estimated on the basis of their size and equipment.

Survey questions focused on:

- Number and origin of the mining camp inhabitants, e.g. nationality and ethnicity of the team members and relations to Brownsweg.
- Type of equipment used.
- Land ownership, concession rights claims and fees at the location
- Knowledge and perceptions of the park boundaries, in relation to their present location
- Experience with evictions and contact with OGS and STINASU

Because some of the questions dealt with sensitive topics such as issues around the legality of the operations, not all questions were asked to all interviewees. Based on the reactions of the gold miners, the researchers would either stop asking about a certain topic, or continue. When conversations were comfortable, additional questions were asked, including questions about productivity, land claims, and other theme's.

2.1.3 Qualitative interviews

Qualitative interviews and consultations were held with:

- People in the mining service economy,
- Small-scale gold miners encountered along the way,
- The head captain of Brownsweg, Mr. Finisie (also accountant of the Organization of Authorities of Brownsweg, ODB),
- Government Supervisor (Bestuursopzichter-BO) Ms. Finisie, and office assistant Ms. Wijnerman,
- The chairman of the Commission Regulation Gold Sector, Mr. G. Dompig,
- Chief exploration and geology at the Geology and Mining Department (GMD), Mr. B. Paansa,
- The director of STINASU, Mr. L. Tholen,
- Chairman of Foundation Protect Our Biodiversity in Suriname (ProBioS), Mr. E. Sleur.

These interviews focused on the history of mining in the BNP and its surroundings, local and government perceptions of mining in the BNP, conservation challenges and opportunities, dependency of the community of Brownsweg on the BNP area for mining and other economic activities, relevance of tourism for Brownsweg community and so forth.

On November 27, 2015, WWF Guianas organized a stakeholder meeting at the WWF Guianas office to discuss the protection of the BNP and the roles of STINASU, the local community and small-scale gold miners therein. Participants included representatives of WWF Guianas, the Nature Conservation department (Natuurbeheer), OGS, SBB, the Ministry of Regional Development (*Regionale Ontwikkeling – RO*), STINASU, TROPENBOS, Organization of Saramacca Authorities (VSG) and Foundation PROBIOS, as well as independent researchers. During this meeting, participants commented on the draft study results and clarified outstanding questions.

3 HISTORY OF THE BROWNSBERG NATURE PARK

Understanding the current presence of small-scale gold miners within the BNP boundaries, and the conservation challenges faced by STINASU and its partners is difficult without knowledge of the history of this area. This chapter briefly describes the historic relation between the Brownsberg and small-scale gold mining, which is schematically depicted in Figure 2.

3.1 LATE 19TH CENTURY: DISCOVERY OF GOLD DEPOSITS ON THE BROWNSBERG

Between 1890 and 1910, Suriname becomes part of a worldwide gold rush. By 1901, the gold mining sector counts 5,551 registered workers, most of whom originate from the Caribbean region. Around this time, by the end of the 19th century, the American entrepreneur John Brown begins his mining activities in the Brownsberg general area, where he builds a mining camp on the Mazaroni plateau. Brown and his team, mostly workers from the Caribbean region, mine deposits in and around the later Browns creek - which feeds the Ireneval and Leoval, as well as the Mazaroni creek, now locally named *Wakibas*. Brownskreek, Mazaronikreek (*Wakibas*) and Verjarikreek (locally named “Kriki Neygi”) are all tributaries of the Koemboe kreek, which is the main creek in this area (Paansa, Geology and Mining Department, pers. com., 23 November 2015). These creeks continue to be main gold mining areas today.

In 1908, Suriname’s gold production reaches a peak of 1,209 kg/year. Yet soon after, the gold industry collapses due to poor management, ineffective gold mining techniques, conflicts between gold miners and concession owners, and fixing of the world gold prices (Heemskerk 2009). In 1976, gold production reduces to a mere 2 Kg/year. Also in the Brownsberg area, small-scale gold mining comes to a (virtual) standstill, and it remains like that throughout the 1980s.

3.2 1970s: CREATION OF THE BROWNSBERG NATURE PARK

In 1914, the Suriname Aluminum Company, L.L.C. (Suralco) -the Suriname daughter company of the US-based mining giant Aluminum Company of America (ALCOA)- starts with initial reconnaissance of the bauxite deposits at its concession on the Brownsberg. Several decades later, in 1968-69 Suralco undertakes systematic drilling for bauxite at this location.

Just one year later, in 1970, the parastatal Foundation STINASU acquires an area consisting of the Brownsberg and surroundings (8,418 ha) for scientific and educational purposes, through a long-lease (*erfpacht*) title for 75 years. Brownsberg Nature Park obtains the status of a “nature park” (*natuurpark*) and not of a “nature reserve” (*natuurreservaat*). In practice this means that, legally, the Government of Suriname (GoS) cannot be held responsible for protection of the park.

Despite its proximity to the Brownsberg and its use of area for livelihood activities (e.g. hunting), the local population of the Saramacca Maroon community of Brownsweg is not consulted about, or involved in the decision to establish a Nature Park.

3.3 1990-2011: NEW RUSH ON THE BROWNSBERG GOLD DEPOSITS

After the interior war (*Binnenlandse Oorlog*, 1986-1992), after a long period of non-activity, mining activity in the interior of Suriname, including the Brownsberg general area, takes off again (Head Kapitein Finisie, pers. com 22 October 2015). This time, many of the small-scale gold miners in and around the BNP are

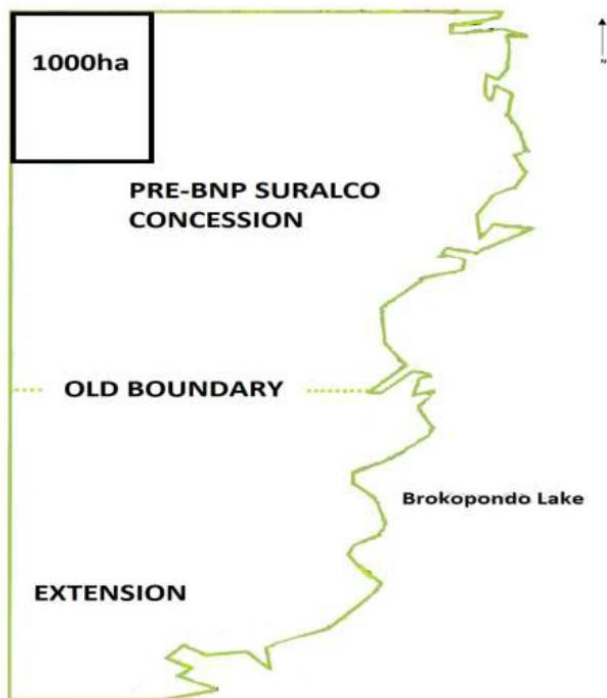
local people from the community of Brownsveg. They work alongside Brazilian migrant gold miners, Saramacca Maroons from the upper Suriname River area, other Surinamers and a handful of gold miners from other regions (e.g. Guyana).

Around 1997, STINASU begins to confront small-scale gold mining activity in the park. White (2012) reports that:

Beginning in 1997, clean sweeps were implemented to clear the BNP of miners. The process consisted of expelling the miners and confiscating large machinery. These efforts were repeated in 1998, 1999, but proved ineffective at keeping the miners out of the park. In 1999 miners reportedly sued STINASU to return confiscated equipment.

Indeed, the gold miners return rapidly after every eviction and it soon becomes clear that a solution will need to involve the local gold miners. Around 2001, Minister Demon (2000-2005) of Natural Resources (NH) installs the Commission Homoet; an interdepartmental Commission with representatives of the Ministries of Natural Resources (NH), Regional Development (RO), Justice and Police, and Defense (and later also Finance, i.e. the tax department) (B. Paansa, Geology and Mining Department, pers. com. 23 Nov. 2015). The Commission Homoet has the task to resolve the conflict between the park interests and the small-scale gold miners. Initially, an attempt is made to rehabilitate the area, since it is already mined out, but this effort fails. Subsequently the Nature Management department (*Natuurbeheer*), represented by STINASU, proposes to reject the largely destroyed area of Wakibasus and Koemboe in exchange for 4,000 ha of pristine forest area to the South of the contemporary border (2001). An area of 5 km by 2 km (1000 ha) in the northwest corner of the park is identified for rejection and will, according to plan, be allotted to the local gold miners (Figure 2).

Figure 2. BNP with the extension and the area to be rejected



The main aim of this new strategy is working with the miners and not against them. Notwithstanding the lack of legal endorsement, STINASU adopts a policy of tolerance (*gedoogbeleid*) vis-à-vis gold miners within the 1000 ha “rejection zone”. Small-scale gold miners can work in this area under the following conditions:

- Miners have to keep camps free of illegal weapons;
- The use of mercury is forbidden;
- Hunting and poaching are deemed inappropriate activities;
- A donation is to be made to local community ;
- Land reclamation has to be done; and
- New miners have to be turned away by current miners

(White 2012, citing Harold Sylbing December 2011).

In 2002, following plan, the Minister of Natural Resources approves the southern extension of BNP with 4,850 ha (ANNEX 1). At the time, small-scale gold miners are already active in the extension, but neither STINASU nor the Ministry informs these gold miners about the fact that they are now working in a Nature Park. Available documents suggest that, in contrast to the original plan, the 1000 ha “rejection zone” was not legally rejected (meeting at WWF Guianas, 27 November 2015). The STINASU office in Paramaribo does not possess any documentation showing the legal endorsement of either the extension or the rejection (Tholen, director STINASU, pers. com. 30 Nov. 2015).

When small-scale gold miners violate the agreement, STINASU responds with new evictions of small-scale gold miners from the BNP. However, STINASU proves unable to keep small-scale gold miners outside the park boundaries. Not only do the presence of extensive, relatively easily accessible gold deposits and the absence of suitable employment alternatives work against conservation. The limited efficiency of STINASU in halting gold miners is also due to mismanagement, corruption, frequent staff turn-over (De Dijn, presentation at WWF Guianas meeting, 27 November 2015), limited institutional memory, and being severely understaffed and underfunded (Tholen, director STINASU, pers. com. 30 Nov. 2015). In fact, in 2012, different news sources report that STINASU staff collect fees from small-scale gold miners in exchange for permission to work in the park (Kraaijer, 2013; Starnieus 26 March 2012). Small-scale gold miners who were interviewed for the present study confirmed that several years ago, the “big boys” with heavy equipment paid STINASU for the “right” to mine at Ireneval.

3.4 2011-2015: NEW PLANS TO MANAGE BOTH THE GOLD MINERS AND THE NATURE PARK

In 2011, the Suriname government installs a Commission for Regulation of the Gold Sector, hereafter called OGS, with a mandate to reestablish government authority in small-scale gold mining areas in Suriname. Upon establishment, the Commission OGS begins to support STINASU in its efforts to control small-scale gold mining activities within the BNP boundaries. In October 2011, OGS expels small-scale gold miners from the Ireneval area but shortly after the OGS team leaves, miners repopulate the site.

In February of 2012, WWF Guianas documents and publishes an overview of the environmental impacts of small-scale gold mining activities in BNP. The report and related images (WWF 2012) create a national outcry for action. New evictions follow, but to little avail; small-scale gold miners return to the mine sites as soon as law enforcement agents leave.

In 2013, in an effort to work towards a more durable solution, the Commission Regulation Gold Sector (OGS) presents a plan to relinquish 1200 ha in the northwestern portion of the park and assign it to small-scale gold miners from the Brownsweg community. This plan is much like the plan earlier proposed by STINASU and the Commission Homoet, and again targets the already largely destroyed northwest tip of the park area. The chairman of the OGS management team expressed that, given the environmental and the socioeconomic reality, it makes most sense to allot this area to the small-scale gold mining community of Brownsweg (G. Dompig, pers. com. 10 November 2015; see also Healy, 2014). After all, the area is no longer suitable as a nature park and keeping people out will become an endless cat-and-mouse play. Moreover, men from the local community of Brownsweg, which is not benefitting from the park, need a place to work. The OGS wishes to transform the area into an OGS working area, where local people are mining in a contained location, and eventually get training in more responsible mining techniques (ibid.).

In 2013-14, OGS lobbies with the Minister of Spatial Planning, Land and Forest Management (ROGB) and STINASU for support of this plan, but STINASU is hesitant to give up a piece of the park. Instead, it prefers

that all gold miners are removed from within the BNP boundaries (G. Dompig, Chairman OGS management team, pers. com. 10 November 2015; L. Tholen, director STINASU, 30 November 2015).

In the meantime, OGS starts to execute its strategy. In 2014, with support of the Ministry of ROGB, local authorities and the district government, the 1200 ha is allotted to the gold miners – yet in practice, not on paper. A 7-km long diagonal line is cut to demarcate the new border¹, with signs indicating “OGS” placed every 50 m. OGS staff also hold meetings in the village and the mine sites, and an agreement is reached between the small-scale gold miners, traditional authorities and OGS. The parties sign a Memorandum of Understanding (MOU) to seal the agreement. The MOU stipulates, among others, that *local* small-scale gold miners are allowed to work within the demarcated area, on the conditions that they will not cross the “OGS-line” and Brazilian equipment owners shall not be invited. The gold miners and the traditional authorities assume responsibility for monitoring compliance with the MOU (G. Dompig, Chairman OGS management team, pers. com. 10 November 2015).

Today (2015), OGS staff are stationed at a control post on top of the BNP plateau to patrol the area and come into action when they are alerted that gold miners cross the OGS-markers. However, they are not very mobile and only act upon demand from the main office in Paramaribo (Ms. S. Ruyschaert, Biodiversity officer WWF Guianas, pers. com. 30 November 2015). Moreover, monitoring activities seem to focus on the “toleration zone” (Ireneval, Koemboe, Wakibasú). A gold miner at Koemboe reports: “OGS comes sometimes; every two months lower staff come look at the border”. At Witikreek, there appears to be much less monitoring: “When we worked on the mountain they stopped us (STINASU). ... But here, this far, they do not come. It has been a long time ago that STINASU and OGS came here.” (gold miner at Witikreek). A gold miner from another mining camp at Witikreek confirms: “They do not come back here. [...] I have not seen them for a long time. Before they had *krutus* (meetings) at Ireneval, where they work near the borders [of the park].” Jabokai seems to fall outside of the monitoring range of both OGS and STINASU. No single camp representative at Jabokai had ever spoken with representatives of these organizations. It appears that in November 2015, new evictions of small-scale gold miners from the BNP have taken place, notably at Witikreek and a part of Ireneval (E. Sleur, chairman PROBIOS, pers. com. 1 Dec. 2015).

As long as the “toleration zone” is not endorsed by an ordinance from the Ministry of Natural Resources, gold miners in this area continue to work illegally, but tolerated. In the opinion of the chairman of the OGS management team, such a policy of tolerance creates a lack of clarity and makes it difficult to work towards a sustainable solution (G. Dompig, pers. com. 10 November 2015). On the other hand, the director of STINASU points out that by creating the OGS-border, the authorities already gave away part of the park. The danger is that, once the “toleration zone” is mined out, gold miners will move further into the park (L. Tholen, 30 November 2015). A positive development is that, after a period of silent hostility, OGS and STINASU are again on speaking terms and willing to collaborate in finding a solution for Brownsberg. The OGS has shared its map of the “toleration zone” with STINASU and has committed to the delivery of All Terrain Vehicles (ATVs) to STINASU to facilitate control of the park boundaries. As long as there is no agreement on what border to protect, however, monitoring and control will be difficult.

¹ Note that this is a different border than the border of the 1000 ha rejection area identified by STINASU in 2001, which was a 2 km x 5 km rectangle.

3.5 LESSONS FROM HISTORY

We can distill several lessons from the history of BNP:

- There is gold on the mountain, and a lot of it. The local population of Brownsveg knows that the mountain has rich gold deposits that can be mined with small-scale gold mining techniques. As long as gold mining is economically more attractive than alternative employment options, gold miners will continue to encroach on the mountain.
- Clean sweeps do not work, nor will a large fence and armed guards.
- The fact that the park has little to no economic benefit for the community does not help the call for conservation. Several earlier reports have warned that conservation of BNP has little chances of success as long as the local community is not heard or involved (Healy 2014, White 2012).
- As long as different authorities (OGS, STINASU) cannot agree on what border needs to be protected (a) we cannot expect that gold miners respect the park boundaries, and (b) monitoring and control efforts will be little effective.
- As long as there is no uniformity about the legal status of the park boundaries, it remains unclear whether small-scale gold miners in the “toleration zone” are working legally or illegally and gold miners receive mixed messages. This confusion obstructs working towards a sustainable solution.
- The status of BNP as a nature park rather than a nature reserve creates vulnerability and creates ambiguity about the role of the GoS in protection of the park.
- It is of crucial importance that the different stakeholders maintain open communication and seek ways of collaboration; also if viewpoints differ.

Figure 3. History of Brownsberg Nature Park

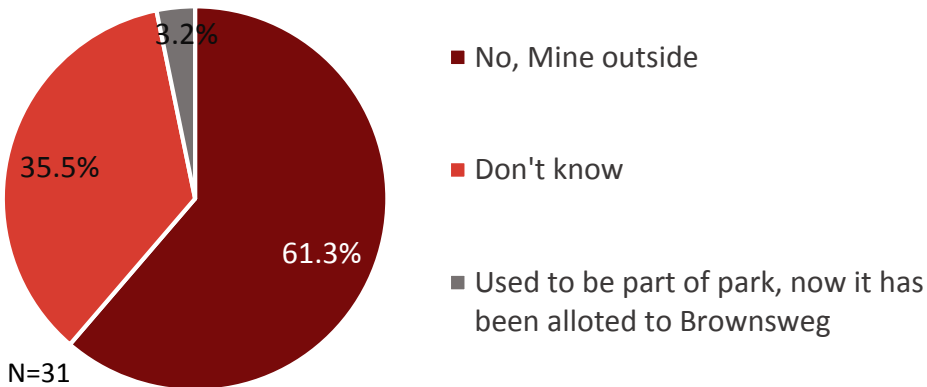


4 RESULTS

4.1 KNOWLEDGE OF THE PARK BOUNDARIES

At present, the BNP has a surface area of approximately 12,250 ha. When asked whether they were working within the BNP boundaries, two-thirds of gold miners reported that they worked outside the park and one third indicated that they did not know. While it is possible that some individuals gave desirable answers, our impression is that the grand majority of gold miners did not consider their working location as park area. The gold miners at Ireneval, Koembie and Wakibasus were mining in the zone that was allotted to the gold miners by OGS, and Jabokai is far removed from the mountain and tourist trails. The gold miners at Witikreek were generally least certain about their possible presence within the park boundaries.

Figure 4. Responses to the question: “Do you believe that you are mining within the park boundaries?”



Particularly in the Ireneval and Koemboe area, gold miners considered the OGS border to be the actual park boundary. They commented:

“We are about 300m outside of the park. OGS placed a sign. They arranged that the miners are free to work here. We cannot place Brazilians, it is specifically for community members, because we do not have a place. We stick to these rules. I do not think that people mine passed the sign.” (gold miner at Ireneval, 20 October 2015)

“We are allowed to work here. There is a border at Ireneval, OGS came to the area. The cutting line (*kaplijn*) is at Ireneval.” (gold miner at Koemboeval, 21 October 2015)

“They cut a line, about one or two hours walking from here you can see it. In the direction of the mountain.” (Gold miner at Witikreek, 21 October 2015)

“It [the protected area] starts at Ireneval. A line has been cut, until Kriki 9. This is all part of the reserve.” (gold miner at Koemboeval, 21 October 2015)

“The government placed a border; here is outside the park” (gold miner at Ireneval, 20 October 2015)

Traditional authorities and staff at the government center (*bestuurscentrum*) were under the impression that local gold miners respected the OGS border and did not work beyond it.

At Witikreek, gold miners expressed a lack of knowledge about the park boundaries. Five gold miners at this location reported that they did not know where the border was, and one added that he had never seen border posts. Several gold miners equated the park boundaries with the tourist locations and the actual mountain:

“I don't know where border is, but the tip of Brownsberg is far away. You walk for more than a day to get there. You never see tourists here, only down where we cross the creek [when getting to the mine site]” (gold miner at Witikreek, 22 October 2015).

“The park is further to the front, here you never see tourists. Only where the waterfall is. I have never seen the precise border. Only near the tourist paths there are signs with numbers” (gold miner at Witikreek, 22 October 2015).

“We do not know where the border is because we do not get close to the park. Tourists do not come here, so that means it is not here. Sometimes you see that people place poles in the park, and judging thereby, we are outside the park.” (gold miner at Witikreek, 22 October 2015).

At Jabokai, which lays within the 2002 “extension” and can only be reached from the hydropower lake, gold miners had no idea about the park boundaries, which they considered to be far away.

“Borders are far away from here, too far. STINASU and OGS never come here. I do not know where exactly the borders are.” (Gold miner at Jabokai, 29 October 2015)

The fact that gold miners at Jabokai believed that their working area was a (former) concession of Brunswijk supported their impression that they worked outside of the park.

4.2 NUMBER OF MINING CAMPS, GOLD MINERS, AND PIECES OF LARGE EQUIPMENT

Table 1 presents the number of mining operations, stores, people of different nationalities and excavators encountered by the consultant at different mining zones within the larger Brownsberg mining area. In total, we observed 38 mining camps, among which three were about to move away from the area. Since it is also possible that we missed an isolated camp here or there, we estimate the total number of active mining operations within the BNP boundaries at 35 to 40.

Virtually all small-scale gold miners (est. 86%) in the BNP area were Suriname nationals, and an estimated 61 percent were local people from the Brownsweg community. Most foreign gold miners –all but one Brazilians- were encountered in the Jabokai mining area, which is situated furthest away from the tourist zones. In the area proposed by the Commission OGS as a government gold mining zone, (composed of Ireneval, Koemboe and Wakibas), more than 90 percent of small-scale gold miners were Suriname nationals, and more than two-thirds appeared to be from the Brownsweg community.

On average, surveyed mining camps counted 6.7 workers (incl. owners, foreman, operator and pit workers). The largest operation worked with 16 persons but there were also persons who worked alone,

for example with a small pump, a *sumaje* unit², a metal detector, and/or a gold pan (*bate*). We counted 28 active excavators (not counting broken equipment) within the BNP boundaries, with the largest number of excavators working at Witikreek.

Table 1. Estimated number of camps, workers (by nationality) and excavators in different mining zones within the general Brownsberg area.

Area ->	Ireneval	Witikreek	Koemboe	Wakibasus ³	Jabokai	Total
# Mining operations	8	12	8	2	8	38
# Stores	1	1	0	0	1	3
Total # persons	75	76	62	7 (1 camp)	38	258
# Surinamers	67	76	57	7 (1 camp)	15	222
# Brazilians	7	0	5	0	25	37
# Guyanese	1	0	0	0	0	1
# Chinese	0	0	0	0	2	2 (store owners)
# Brownsweg res.	44	64	48	No data	1	157
# Excavators	6	9	8	0	5	28

In addition to the inhabitants of mining camps, the researchers encountered gold miners who traveled daily to and from the area, usually with a moped or by foot. They were typically working with metal detectors (*piewpiew*), and in the Witikreek area gold miners were observed working with gold pans (*baté*). Since these individuals are very mobile and their numbers could not be verified, they are not counted in Table 1 if they did not have a camp/hut to stay in the target zone. If these mobile miners are considered, the total number of small-scale gold miners working within the BNP boundaries may be about 300. Because these small entrepreneurs are virtually all locals, we estimate that two-thirds of gold miners in the BNP area are local Brownsweg residents.

The researchers received information that some gold miners gather truckloads of ore from within the park boundaries, which they subsequently transport to a location outside the park to wash (B. Paansa, Chief exploration and geology at GMD, pers. com. 23 Nov. 2015). The truck drivers are typically independent entrepreneurs. If this strategy is used, actual mining activities are more extensive than suggested by the number of mining machines that are actually present in the park. We have not been able to verify if and how frequent ore is transported away from the BNP area.

The time that surveyed gold miners had been mining for gold in the Brownsberg general area ranged from just a month to twenty-two years, with an average of 5.7 years. At their present location, the mining camp owners had been working between a month and five years.

² Sumaje refers to a washing plant that uses gravity concentration methods, using a long narrow wooden box and typically a small pump. A sumaje unit is typically operated by 1-3 persons.

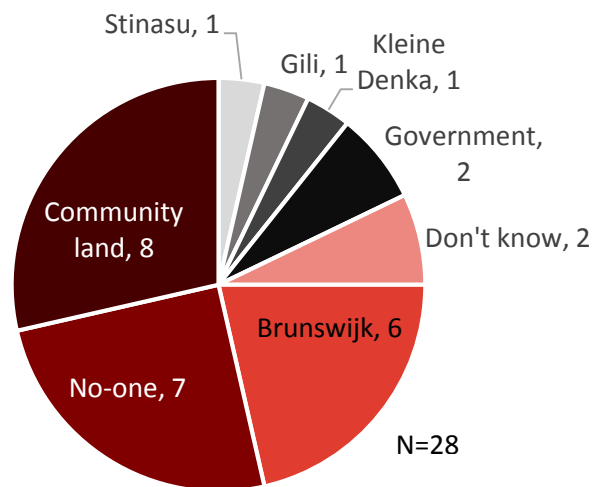
³ In one of the camps only two persons were present, who reported that they were not part of the regular team and did not know anything about it; in the other camp there was only one person present, who reported that he was just a guard, and did not know anything more than the number of workers.

4.3 LAND CLAIMS AND CONCESSION FEE PAYMENTS

Gold miners' perceptions of the park boundaries shape their ideas of land ownership. Eight out of 28 gold miners we asked on whose land they worked commented that they worked on community land (Figure 5). These gold miners were from Ireneval, Koemboe and Witikreek. Two gold miners from Ireneval and one from Koemboe indicated that the OGS had allotted the land to them. A mine owner from Ireneval explained: "This place is for people from Brownsberg. They [OGS] came to the village. OGS gave it to Brownsweg." The Witikreek area is not part of the area allotted to the small-scale gold miners, but gold miners at this location justified their claim by their traditional rights. One gold miner in this area reported: "Witikreek is the hinterland of Brownsweg". A colleague explained, when asked if he had to pay concession fees to anyone: "You work freely here, it is [land] from the village. If someone from outside comes, he will have to speak to the traditional authorities first, or be brought here by someone from the village".

A similar number of interviewed gold miners reported that the land they were mining on belonged to no-one, or that no-one had a concession at that place. Small numbers of respondents reported that the area they were mining belonged to STINASU (mentioned at Witikreek), to the government (Koemboe and Ireneval), or to a man named "Gilli" (Koemboe).

Figure 5. Answers to the question: "to whom belongs the land where you are mining?"



All but one Brazilian small-scale gold miner at Jabokai reported that they worked on the concession of the Suriname politician Mr. Brunswijk. Available information suggests that around 2007, Mr. Brunswijk had a mining concession within the area of the BNP extension. Mr. Brunswijk's mining right probably did not include Jabokai and has reportedly been handed back to the government (B. Paansa, Chief exploration and geology at GMD, pers. com. 23 Nov. 2015). The idea that Brunswijk has mining title rights to the Jabokai area possibly arose when the former concession titleholder was arrested and Brunswijk took over management of the concession (ibid.).

At the time of the present research, security staff of Brunswijk still collected 10 percent of the earnings of mining teams at Jabokai. Two gold mine operators had heard that the concession has been withdrawn and asserted that the security staff had no right to collect the concession fees. One camp that does not

pay to Brunswijk's security staff belongs to a Brazilian man, who works in association with a Maroon man nicknamed "*kleine* [small] Denka". Kleine Denka argues that he discovered this area and hence he refuses to pay to Brunswijk's men.

The four largest gold miners from Brownsweg, that is, gold miners with several sets of equipment, substantial capital and capital investments are (nick)named Gapsi, Fargo, Mili and Pokie. All four entrepreneurs have invested beyond the gold mining sector. For example, Gapsi owns a tourist camp at Stoneiland and Fargo owns the largest local gas station, as well as a building with rental apartments. Miners at the various locations reported that these large gold miners used to work in the BNP mining zones. As incomes withered, however, Fargo and Mili reportedly left for the Nassau/Paramaka region. One gold miner reported that Gapsi was still working at Witikreek but the research team did not encounter him, and others reported that he had left. It is probable that several excavators in the BNP area still belong to Gapsi (and/or other large miners). In these cases, the excavator is rented out to a mining team for a percentage share of the profits (one case reported 50%). Mr. Pokie is no longer active in the mining business.

Small-scale gold miners in the visited locations were not organized in any form, and cooperative structures were not encountered. Such cooperative structures used to exist years ago. In 1994, 12 small-scale mining machine holders from Brownsweg formed an association named NV Gowtuman 94, headed by Gapsi. The group worked near Koffiekamp and eventually signed an agreement with Cambior to work on part of their exploration concession. At present, NV Gowtuman 94 has disintegrated.

The Brownsweg non-profit organization Foundation AHALA was established with the objective to support entrepreneurs from Brownsweg. Some years ago, the group made an effort to motivate small-scale gold miners from the community to donate part of their earnings to a community fund to execute community projects. Among others, the group bought lamps for streetlights and lobbied with the national authorities to provide the electricity connection. Also this group is no longer active.

Gold miners do not pay to the community or the traditional authorities in an organized fashion (e.g. through a community fund). Small-scale gold miners reported that they contribute money when people call upon them for a donation, for example for a funeral. Moreover, one gold miner at Ireneval reported that he sometimes gives a voluntary contribution to the village *kapitein* (village head) or *hoofdkapitein* (upper village head). However, there is no regular collection or contribution of money for a fund dedicated to the wellbeing of the Brownsweg community. Several small-scale gold miners recalled that some years ago, they did contribute in a more structural way. For example, the Brownsweg public school was built with money from community gold miners (with support from Iam Gold). Nowadays, however, many gold miners complain that they hardly earn enough to break even, and they do not regularly donate to either the community as a whole or to the traditional authorities.

4.4 SIGNS OF DECREASING MINING ACTIVITY AT BROWNSBERG

Several indicators suggest a decrease in mining activities in the Brownsberg area in the past (couple of) year(s):

- Comments of gold miners suggest that the earnings are weak and that people are just getting by:
 - "There are no places anymore [to work], we need to leave here too. [The gold production] is weak, but we do not have another place." (Maroon mine owner at Witicreek, 21 October 2015)
 - "the *garimpo* (mine) is weak, there is no *fofoca* (gold rush/big find)" (Brazilian equipment owner at Jabokai, 29 Oct 2015)

- “Gold is weak here [...], we scrape the last bits together. The Chinese store is making a loss; he even needs to confiscate some of the equipment [of gold mines failing to pay their debts]” (Maroon equipment owners at Jabokai, 29 Oct. 2015)
- “There is nothing anymore here. The government has to find us a new spot” (Maroon equipment owner at Koemboekreek, 20 October 2015)
- At several locations, gold miners expressed their intention to move. At Ireneval, for example, two out of the eight camps were inhabited by only two persons who kept guard, as their team was busy moving elsewhere (e.g. Km 32)
- The three largest gold miners - Milli, Fargo and Gapsi- have reportedly left the area. According to the gold miners in the area, at least two of these three large mine bosses went to the Nassau area.
- Low presence of Brazilian gold miners. Brazilian gold miners, who are not tied to a specific mining location because of their cultural roots, tend to go to the places where the earnings are best. Only at Jabokai, Brazilian gold miners dominated the mining population. At all other locations, there were only a couple of individuals. A Maroon gold miner commented that: “Brazilians work the big money, they do not come here. Sometimes they come for 3-4 days and then they leave.” (Mine operator at Witi creek).
- Virtual absence of *cabarets* (brothels) and bar/dancings is a strong indication of a lack of free flowing money. Apart from the bar-cabaret at White House (outside the Brownsberg boundary), which hosted three women -who were complaining about the lack of clientele- the team did not observe any other cabarets.
- Low number of stores. The team counted three stores in the Brownsberg mining areas; one at Witikreek, one at Ireneval, and one at Jabokai. The former two stores were run by Bronwsweg people, and the latter store was in Chinese hands. In a booming mine site one would expect more and larger stores, and a larger presence of Chinese store owners.
- Relatively large number of miners with small pieces of equipment that require little capital investment. For example, we encountered eight mining operations that worked the Sumajé⁴ system. We also witnessed individuals working with a gold pan or *bate* (at Witikreek) and with a metal detector or *piewpiew*. In a booming site one expects gold miners to scale up.

Reports of gold miners about decreasing mining activity are confirmed by comparison of the present data with those from earlier reports about this area. For example, in 2012, White reported the presence of about five large mine bosses, each with a team of at least a dozen rotating workers, at Ireneval. In 2015, these very large bosses had left and the remaining operators worked with smaller teams of typically 6-8 persons. Only one team reported working on a 24-h/day schedule. The 2012 report also documented the presence of three functioning cabarets at Ireneval and possibly two cabarets at Witikreek (not all verified). These places no longer existed in 2015.

⁴ This system concentrates gold using a narrow, long wooden box rather than the larger sluicibox, and a smaller pump. This system can be operated alone, with two or with three persons

5 CONCLUSIONS

Brownsberg knows a long mining history, but the scale at which gold miners operate within the BNP today is unprecedented; in terms of the number of people involved, the size of the equipment used, and the impacts they have on both the natural environment and the local economy. Since more than a century ago, it is widely known that the entire Brownsberg area hosts extensive gold deposits. It is also known that many of these deposits are rich, and can be mined with small-scale gold mining techniques. The BNP's geological characteristics pose a particular challenge to conservation goals.

Another challenge is that conservation of the unique natural resources within the BNP and this wonderful tourist destination so close to Paramaribo is important for many people, but not necessarily for the local community of Brownsweg. Since centuries, the Saramacca Maroons have considered the area now delineated as a protected area as part of their traditional lands, to which they have customary rights. However, when the BNP was established, the community of Brownsweg was not consulted, or formally informed. Nor do community members reap many economic benefits from tourists visiting the park. Examples from all over the world suggest that the conservation of protected areas is more likely to succeed when it engages and benefits local communities.

Through time, stakeholders have voiced different visions on the future of BNP and the role of small-scale gold mining therein. These visions can be grouped in three broad categories, which are explained in greater detail below and in Table 2.

- 4) **Conservationist vision:** ban any small-scale gold mining from within the BNP boundaries;
- 5) **Collaborative vision:** seek collaboration with the local community and allow them to mine within part of the BNP, under the condition that they will not go beyond the “tolerance zone”.
- 6) **Mining vision:** Research gold deposits and mine everything that is worth mining. Parts of the park without gold and abandoned gold mines can be(come) tourist attractions.

The present director of STINASU, supported by the public opinion in Paramaribo, favors the conservationist vision (L.Tholen, director STINASU, pers. com. 30 Nov. 2015). While acknowledging that keeping small-scale gold miners out of the park is an arduous task, he fears that allowing them to mine in part of the park is a way of no return. The risk of the “toleration zone” is that it will motivate miners to encroach deeper into the BNP: give them a finger and they will take an ell.

The collaborative vision was first proposed by the Commission Homoet/STINASU, in 2001, and a decade later (2012-13) again by OGS (G. Dompig, chairman management team OGS, pers. com. 10 November 2015). In both instances, the authorities initiated collaboration with the local mining community of Brownsweg and sought a way to formally allow small-scale gold miners in a (demarcated) part of the park area. A main thought behind this vision is that “clean-sweeps” have not been effective in protecting the Park, and instead create a sphere of hostility between local gold miners (and the local community) and the Park. Allotting 1,200⁵ ha of a nature park to small-scale gold miners may not be popular. However, the advocates of this vision hope that the sacrifice of this -already destroyed- area buys local small-scale gold miners' commitment to stay out of the rest of the BNP.

⁵ STINASU proposed 1,000 ha

Table 2. Three visions on the future of BNP and the role of small-scale gold mining therein

Vision	Conservationist	Collaborative	Mining
Basic principle	Ban any small-scale gold mining from within the formal BNP boundaries.	Allow local gold miners to mine in an already destroyed part of the BNP, under specified conditions.	Research gold deposits and mine everything that is worth mining. Locations without gold and gold mines can be(come) tourist attractions.
Advantages	Clear choice for conservation and protection of BNP.	Largest share of BNP is protected, while some local entrepreneurs find (temporary) employment.	Creates temporary local employment and state incomes from small-scale gold mining royalties.
Disadvantages	Requires extensive resources for continuous guarding of the borders. May lead to hostility between the BNP and local population, and complicate dialogue and peaceful coexistence	If not legally endorsed, it may create ambiguity about mining rights. Requires extensive resources for continuous guarding of the (new) borders.	Unique tourist destination close to Paramaribo will be lost for foreign and local tourists. The international reputation of Suriname as a “green” country will be severely hampered.
Risks	Small-scale gold miners continue to cross the borders, go underground and become unmanageable. Cat and mouse game between park guards and gold miners is weighs heavily on the limited budget for park management while failing to achieve the desired results.	New discoveries will drive small-scale gold miners across the “alternative border”. They may expect that since the border shifted already, it can shift again. This risk is particularly large if the different authorities (i.e. STINASU and OGS) do not agree or are not informed about the exact location of the “new” border, and if there is no strict vigilance.	No long-term solution for local unemployment and poverty. After extraction of mineral resources the (former) Brownsberg will be a severely disturbed area with extremely limited options for economic activities.
Ecological sustainability	Allows for long-term protection of the BNP as a tourist destination and conservation area. The high risks of infringement of gold miners, however, threaten ecological sustainability.	Most of the park will be protected for tourism and conservation purposes. Localized disturbance of soils, wildlife, flora and waterways.	Ecological resources will be decimated; soils will be disturbed and wildlife will leave the area. Also likely disturbance of aquatic resources.
Economic sustainability	Long-term yet -under current conditions- minimal incomes from tourism. Possibility for upscaling tourism incomes.	Short-term economic profits from gold mining. Long-term yet minimal incomes from tourism. Possibility for upscaling tourism incomes.	Short-term economic profits from small-scale gold miners, logging and other extractive industries. No long-term economic sustainability.

The collaborative vision requires government and STINASU commitment to legalizing the OGS border. As long as the demarcated zone remains part of the BNP, the gold miners at this location continue to be “illegal miners” that must be evicted, and it makes no sense to patrol the new borders as they do - officially- not exist. A risk of the collaborative strategy is that the fragile status-quo may be disturbed by many factors, some of which are beyond the control of the various stakeholders, such as gold prices and new gold discoveries. If, tomorrow, a gold miner finds a huge nugget near the “OGS boundary” and several dozens of gold miners flock to the area, it is unlikely that the new boundaries will be respected.

The Mining vision proposes performing in-depth geological research within and around the BNP boundaries, to map its gold deposits in terms their locations, type (secondary, primary), ore grade, depth, grain size and other characteristics. Based on these data, all locations with viable gold deposits should be mined. The reasoning behind this idea is that gold miners will continue to enter the park in search of gold anyway, but they do not conduct proper research. As a result, places with economically uninteresting gold deposits are excavated and many resources are wasted by trying to keep people out. Once it is known where gold can be mined with small-scale gold mining methods, gold miners can be directed to those places and other locations will be left alone. Tourism can focus on the areas without gold, and on visits to old mines.

The risk of this strategy is that there will be no BMP left, as isolated pockets of forest within large crater landscapes form neither sound ecosystems nor an attractive tourist destination. The mining vision is, obviously, not ecologically sustainable, but also offers little in terms of economic sustainability. Once the gold has been dug up and a couple of miners bought nice houses and expensive cars, there will be little left: no park, no wildlife, no clean water, no area suitable for agriculture, and no tourists.

Regardless of what strategy is chosen, it is essential that all stakeholders continue (or start) dialogue and that informed decisions are made based on sound research and consultation with all relevant parties. It is also of utmost importance that the final decisions are clear to, and endorsed by all parties as to not create confusions and internal strife. Moreover, the various parties should be strict in enforcing the decisions; a policy of tolerance appears an invitation to cross the line.

Finally, regardless of what vision is preferred and of whether the area demarcated by OGS will be relinquished, clear and lasting demarcation of the park boundaries is necessary. Traveling to the various mine sites, no single sign or marker showed the researchers that they were entering a national park area. Gold miners had poor knowledge of the park boundaries and the only markers they referred to were the OGS signposts. Also the cut line (*kaplijn*) that marked the OGS reserve is not maintained and has virtually disappeared. Without a GPS device there is absolutely no way of telling where the park starts, not only when entering from the East (Brokopondo lake), but also when coming from the West (turning of the road to Atjony at “White House”) or even from the main road leading up the mountain. If the BNP is to be protected, it must be clear to anyone entering the area what and where is protected.

6 RECOMMENDATIONS

Considering:

- I. Present efforts of WWF Guianas to reduce negative impacts of small-scale gold mining and support STINASU and other stakeholders in protection of Brownsberg Nature Park
- II. That the main objective of this consultancy was to conduct a detailed situation analysis and social mapping of the current mining activities in BNP
- III. The data collected in the framework of this consultancy and our key findings reported here above

The researchers assert that there are many ways to contribute to the protection of the unique ecological resources of Brownsberg Nature Park. Our recommendations are organized in three sections: Policy, Conservation field activities, and Communication and Research.

Policy

Develop and enforce policy for gold mining in the BNP

1. Organize a roundtable (or series of roundtables) with the various stakeholders involved to reach consensus on whether or not the “tolerance zone” demarcated by OGS will be formalized.
2. If the idea of establishing a small-scale gold miners reserve is accepted by all stakeholders, the government must demarcate the area and legally endorse its existence. A zoning plan with certain areas that are open for human usage and other areas that are strictly protected (see example Multiple Use Management Areas – MUMA) is among the possible models that could be followed.
3. If the outcome of stakeholder consultations is that this area will not be allotted to small-scale gold miners, it is recommended that the GoS reserves another working area for small-scale gold miners from the Brownsweg community. This could be one of the existing OGS working areas or another area identified by local small-scale gold miners. If no alternative is offered, local gold miners will continue to infringe on the park.
4. *Enforce*, with the support of all stakeholders involved (OGS, STINASU, traditional authorities of Brownsweg, small-scale gold miners) the formulated policy for small-scale gold mining within the BNP boundaries. Responsible national authorities should be strict and swift in removing gold miners working beyond the (new) borders. The present policy of tolerance is confusing and creates the impression that mining throughout the BNP is possible.
5. The traditional authorities must be involved in all of these efforts.

Change the status of BNP from Nature Park into Nature Reserve

6. Lobby with the Ministry of Spatial Planning, Land and Forest Management (ROGB) for the change of status of the BNP into a nature reserve. The present title of Nature Park is confusing and creates ambiguity about who is responsible for protection of the BNP.
7. A change of status would give the GoS greater responsibility in protection of the BNP. STINASU does not have the human capital, financial resources, or the mandate to control the borders of the immense park area and remove small-scale gold miners. If this task can be delegated to the

government, STINASU can use its scarce resources for management of the tourist facilities and its educational function.

Conservation field activities

Establish and maintain clear, visible borders around the entire BNP

8. At present, it is unclear where the park begins and ends. There are no visible markers, signposts, cutting lines and so forth. In collaboration with STINASU, develop and carry out a practical and functional way of demarcating the area. A combination of methods (e.g. cutline and signposts), depending on the landscape and the movement of people, may be most efficient.
9. Cut and maintain a wide (min. 3 m.) cutting line (*kaplijn*) along the park border at the places where people are most likely to enter the park. A wide line will not rapidly grow close, and can be used for ATV transportation by park guards. Creating a cutting line around the entire park is too expensive, and may not be worth the resources.

Support monitoring of the BNP area through enhancement of the quantity and quality of the park guard team.

10. Upgrade the park guard team by hiring more guards and ensuring that within three years, the entire team is qualified. The present team of six park guards, who are simultaneously tourist guides, is obviously insufficient to monitor the area. Sponsor and motivate local park guards to obtain certification from the Nature Conservation division (*Natuurbeheer*) of the Ministry of ROGB.
11. Hire “assistant” park guards from the community of Brownsweg to make and maintain the borderline (e.g. painted trees, cutline, signposts) at key locations. These people should check the conditions of the borderline at least monthly, possibly with ATV transportation.
12. Look into the option of hiring and training an independent unit of park guards from the local community, like the model of the Indigenous Park Guards (IPG) used by the Amazon Conservation Team in South Suriname. These people are most knowledgeable about the area and most likely to stay in the area. The Nature Conservation division has looked at similar ideas but these never materialized, in part due to budgetary constraints. STINASU and NB could look into external funding sources to run a pilot project.
13. Provide the means for (STINASU or other) park guards to be more mobile and more frequently visit the various locations in the park where mining takes or took place. Such monitoring trips may be organized in collaboration with the OGS staff. The commitment of OGS to provide the park guard team with ATVs is a first promising step.
14. Once their team is enforced, train park guards in more systematic monitoring of small-scale gold mining activities, using recording sheets and a simple data base. The park guards should also engage with the gold miners and let them know where they can, and where they cannot mine for gold.
15. Train STINASU staff and/or NB staff in the interpretation of aerial photography and satellite images to facilitate monitoring of both affected and still unharmed area.

Explore new (business) models for park management

16. Look into options to transfer (part of) park management to the private sector, for example through collaboration with an experienced commercial tour operator. The tour operator could be in charge of

tourist facilities, reservations, promotion and so forth, while STINASU could –for example- focus more on its educational and research roles.

17. Explore ways in which a larger part of the BNP can be used for tourism, possibly with involvement of local (Brownsveg) entrepreneurs (model Galibi). Presently, only a very small part of the total park area is used for tourism. Extending this area could make the BNP a more attractive business opportunity. An additional benefit is that new mining activity is more likely to be detected if non-miners visit more locations within the BNP boundaries.
18. Work with the private sector to develop a business model that views the BNP as a business that, within five years, should not only be self-sufficient but also earn a profit. The earlier study by EES consulting provides useful directions.

Communication and Research

Continue engagement with the community of Brownsveg and other stakeholders

18. Adopt a co-management model of conservation. Among others, this means that local people from the community of Brownsveg, represented by their tribal leaders, are heard and their interests respected when making decisions about the BNP. It also means that local people actively participate in all park management activities, including monitoring and control.
19. Follow FPIC procedures prior to deciding on issues that affect the livelihoods of the Saramacca people of Brownsveg, and the area they traditionally consider as their traditional tribal land.
20. Work with the community of Brownsveg and STINASU to identify and develop ways in which community members can benefit from the presence of the BNP and the tourists it attracts.
21. Establish a round table with all relevant stakeholders and meet regularly (e.g. bi-monthly) to share information, establish alliances and discuss positions. Open communication will reduce the chances that different parties bring contrasting messages (e.g. to gold miners, to the press) and are surprised (and/or irritated) by each other's actions.

Conduct thorough research to make evidence-based decisions

22. Geological research is crucial for evaluation of the gold mining context; how likely are gold miners to leave the area because deposits are exhausted or, by contrast, massively invade the area because of the discovery of a new, rich vein.
23. Research on the ecological resources of BNP will help develop a conservation strategy. Do specific areas require particular protection because of their (ecologically) unique nature? Is the BNP a habitat to certain endemic or rare species and if so, what is needed to protect these species? Arguments in favor of conservation will likely be stronger if they can build on facts and figures.

7 LITERATURE

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ANNEX I ORDINANCE FORMALIZING THE EXTENSION

DEPARTEMENT VAN NATUURLIJKE
HULPBRONNEN

Bureau No. 5140/01
No. D 866

DE MINISTER VAN NATUURLIJKE HULPBRONNEN

GELEZEN :

- het verzoekschrift van Stichting Natuurbehoud Suriname (Stinasu) dd. 16 mei 2001;
- de adviezen van :
 1. de Districtscommissaris van Brokopondo dd. 21 maart 2002 no.51/02;
 2. het Hoofd van de Dienst Grondinspektie dd. 13 mei 2002 G.I.No.3128/01;
 3. de Wnd. Directeur van Transport, Communicatie en Toerisme dd. 21 maart 2002 MH/TS/216.

Herlezen de dezerzijdse beschikking van 14 maart 1970 No. D 401.

Gelet op het "Decreet Uitgifte Domeingrond" (S.B. 1982 no.11).

Gehoord de Directeur van Natuurlijke Hulpbronnen.

HEEFT BESLOTEN :

- I. Ter beschikking te stellen aan het Ministerie van Natuurlijke Hulpbronnen ten behoeve van de Stichting Natuurbehoud Suriname ter uitbreiding van het Brownsberg Natuurpark, het perceelland vermoedelijk groot 4,850 ha gelegen in het distrikt Brokopondo ten westen van - en grenzende aan het Prof. Dr.W.J. van Blommensteinmeer en nader aangeduid op de overgelegde figuratieve kaart van de landmeter in Suriname, Ing. Eugene E. PEROTI dd. 25 april 2001 door de figuur in het rood.
- II. Afschrift van deze beschikking te zenden aan de Directeur van Natuurlijke Hulpbronnen, de Districtscommissaris van Brokopondo, het Hoofd van de Grondinspektie, de Directeur van Transport, Communicatie en Toerisme en de Directeur van de Stichting Natuurbehoud Suriname.

Paramaribo, 14 juni 2002.
De Minister voornoemd,
Getd. Mr. F.R. DEMON.
Voor eensluidend afschrift,
De Onderdirecteur Domaniale Zaken,



(Dfs. D. VAN EXEL.)



Figuratieve kaart van een perceelland, vermoedelijk groot 4850 ha, of zoveel meer of minder als na eventuele meting en afpaling zal worden bevonden, gelegen in het distrikt Brokopondo ten Westen van- en grensende aan het Prof. Dr. W. J. van Blommensteinmeer en verder aangeduid door de figuur in het rood, voor de ontwikkeling van recreatie en educatieve doeleinden in het gebied in grondhuur aangevraagd door de Stichting Natuurbeheer Suriname (Stinasu) t.b.v. de uitbreiding van het Natuurpark "Brownsberg".

Paramaribo, 25 april 2001.

De landmeter in Suriname.

Eugene E. Peroti

Ing. Eugene E. Peroti



