



Regional Workshop on strategies against the threats from illegal gold mining in the Protected Areas of the Guianas



12-14 February 2020



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RENFORESAP in Brief

RENFORESAP was officially launched on October 1st to 3rd, 2018 in Paramaribo, Suriname. The project "Strengthening the Network of Protected Areas in the Guiana Shield and their contributions to sustainable development in respect of local cultures, values and lifestyles" is a transnational approach amongst protected area managers of French Guiana, Suriname and Guyana.

The project engages the management of protected areas in the region and is being implemented by the French Guiana Amazonian Park (French Guiana); the Protected Areas Commission (Guyana); the Ministry of Planning, Land and Forest Management (Suriname) and the Ministry of Regional Development (Suriname).

Objectives

The purpose of the project is to strengthen the resilience of the forest and the livelihoods of the local populations in a context of increasing impacts of global change on the Guiana Shield ecosystems. Its overall objective is to strengthen the capacity of protected or conservation area management in order to meet the common challenges they face. The specific objectives are to strengthen dialogue between protected areas managers and teams and to capitalize the best experiences.

Actions Foreseen

The specific actions to achieve these objectives are the organization of 3 regional workshops bringing together the managers of protected areas and the production of 4 participatory thematic overviews on how best to support local development in isolated areas in terms of ecotourism development, participatory science for the sustainable management of natural resources in the Amazonian environment, control strategies against the threats from illegal gold mining, and transmission of traditional knowledge and cultural heritage.

Not considering the preparatory phase, the project runs for three years (2018-2020), bringing together the different managers of protected areas in the region, as well as international organizations of nature

conservation working in the region (such as, but not limited to, Conservation International, WWF Guianas, Frankfurt Zoological Society FZS...) and an international organization working on indigenous people's livelihoods improvement coupled with conservation (Amazon Conservation Team ACT). The implementation has been coordinated alternatively from Cayenne, Paramaribo and Georgetown with the Project Manager posted in the three different countries. The working language is English, with key general documents available in four languages (Portuguese, Dutch, English and French).

The expected results of the project include: a better visibility of biodiversity conservation issues of the Guiana Shield at a global level, a strengthened contribution of protected areas to local and sustainable development and to biodiversity conservation, a better exchange on the challenges and solutions to the problems faced by the Amerindian and Maroon communities in the region, and an improved dialogue between the countries of the Guyana shield on the medium and long term issues of conservation and eco-development of the Guiana Shield ecosystems in the wider Amazon basin.



Regional Workshop on strategies against the threats from illegal gold mining in the Protected Areas of the Guianas

The third and last of the three regional workshops proposed for the achievement of the project objectives was held on February 12th to 14th 2020 in Cayenne and Regina, French Guiana around the theme '*Strategies against the threats from illegal gold mining in the Protected Areas of the Guianas* '.

Objective:

Improve the management of Protected Areas through the sharing of best practices and experiences between stakeholders and communities on how to contribute to an action plan on the strategies against illegal gold mining in the Protected Areas of the Guianas and identify opportunities for cooperation. Over fifty representatives (80 for the first day) of Protected Areas and experts in the thematic area from Guyana, Suriname and French Guiana participated in discussions highlighting the efforts, successes and challenges in their individual countries and how these can be integrated into the management of protected areas.

Outcomes:

With respect to the issue, key discussions were held on each country's legal framework, current situation, monitoring and innovative approaches; on the communities' involvement in the decision-making considering the fact that they are directly affected by the impacts and threats of gold mining. Participants stressed the importance of defining new cooperation strategies, of including the local communities in the management planning of their areas and of helping develop new alternative economic activities within and around Protected Areas.

Through a series of presentations, panel discussions and working sessions, the participants shared their lessons learned and best practices, each country inspiring one another by specific mechanisms, operations and strategies, relations with local and indigenous communities, to fight against illegal mining in Protected Areas of the Guianas.

Day One – February 12th, 2020 - CAYENNE

The first day featured the opening of the workshop followed by three sets of presentations from each country, a presentation from an international agency, a discussion panel and a group discussion.



i. Day One – Welcoming address

Workshop Launch

The workshop commenced with special remarks given by each country representative, starting with the welcoming address delivered by **Mr. Claude Suzanon**, President of the French Guiana Amazonian Park. Mr. Suzanon reviewed the history of cooperation within the Guianas up to the creation of the Park and its RENFORESAP program. He highlighted the importance of the Guiana Shield on the international level, noting critical characteristics such as it being an area of 270 million hectares covering 6 countries and such as holding around 15% of the world's freshwater. He compared the region to a gem that is unfortunately degraded and deteriorated by illegal gold mining and its impact on biodiversity. He further called for cooperation and collaboration between the three countries, “strength comes from unity”, as they have to preserve this gem and also make sure that their population can benefit from the rich ecosystems that they live in. As a conclusion he indicated that 2020 is an important year for the Guianas and South America, alluding to the current situation in the Amazon forest that touched the international community, to the IUCN meeting taking place in Marseille, France and to this year being the international year for biodiversity. As a conclusion, he insisted on the common destiny that the people of Guianas share.

Ms. Denise Fraser, Commissioner of the Protected Areas Commission (Guyana), stressed the significance of the Protected Areas for the conservation of the Guiana Shield's bio and cultural diversity, geology, etc. She expressed her satisfaction that this workshop gathered a wide range of expertise and experiences, different bodies, institutions and agencies in order to effectively fight against the threats of illegal gold mining that their countries and Protected Areas are facing. She encouraged those in attendance to fully participate over the next few days in developing strategies and means of dealing with the issue.

Mr. Wilco Finisie, Permanent Secretary from the Ministry of Regional Development (Suriname), spoke about sharing expertise and means between neighbors so as to protect not only the forests and ecosystems but also the people who live in the forest, i.e. the Maroon and Indigenous communities. Mr. Finisie brought the audience's attention to the fact that both legal and illegal gold mining are a threat, at least in Suriname. He made a distinction between large mining rights and small-scale mining rights and insisted that both forms of mining have negative effects on the environment. He also encouraged the participants to not only think of the protection of the ecosystems but also to think about how they support families who depend on mining activities.

The opening of this workshop was honored by the presence of **Mr. Marc Del Grande**, the Prefect of French Guiana. In his speech, he praised the work of Mr. Claude Suzanon and his commitment to create partnerships throughout the Guiana Shield. He indicated that starting this workshop this Wednesday is symbolic as the President of France, Emmanuel Macron, just after the Council of Ministers traditionally held on Wednesdays, would be holding the 3rd Council on Environmental Defense, council in which where French Guiana is always spoken about. In the first council, they discussed the controversial Montagne d'or gold mining project which was eventually rejected along with all industrial mining projects in French Guiana. In the second council, they discussed the creation in French Guiana of two integral biological reserves which are currently set up. He also reaffirmed the will of France to protect the extraordinary biodiversity and the different local communities living in the interior that are threatened by illegal gold mining and the importance of involving them. To fight against illegal activities, armed forces and Gendarmerie are in the field, launching patrol operations deep into the forest. Mr. Del Garde insisted that, even though this scheme needs to be improved, France will not lower its guard. He noted that in 2019, more than 25 million euros of criminal asserts were seized and 32 environmental delinquents were put to prison. He mentioned the partnership with the French Guiana Amazonian Park and the possibility of creating an Amazonian Operational Reserve Force staffed with Amerindian people. He spoke about the economic aspect as well and the need to structure legal gold mining according to higher environmental standards and set up legal gold miners in sites that were mined illegally.

He further emphasized on collaboration, cooperation and the sharing of good practices between Suriname and French Guiana on the issue on the Maroni border river, especially on how to be able to strengthen the ban on mercury in gold mining. He added that the transboundary relations are improving in terms of police cooperation, joint patrols and Suriname's decision not to renew authorizations for

gold mining barges along the Maroni river. He stated that this workshop is a strong sign that environmental regional cooperation has an important role to play against the issue and quickly change the lives of local populations.

OVERVIEW OF THE RENFORESAP PROJECT

Mr. Arnaud Anselin, Deputy Director of the French Guiana Amazonian Park presented an overview of the RENFORESAP project after a short video about the context and objectives of this initiative. He indicated the program's partners and explained the financing with a budget of 662 000euros. He also insisted on the goal of this program to have the three Guianas to work as a team, cope with the challenges that they face and put the spotlight on the Guiana Shield. He reminded the attendance that this workshop was the last workshop of a cycle of three, with four themes to address: Ecotourism; Participatory science for the sustainable management of natural resources, transmission of the cultural heritage, and this workshop's theme on strategies against illegal gold mining. The Participatory science theme was not dealt with in a workshop but in a side event during a workshop held in Columbia in August 2019. He alluded to the launch of the project in October 2018 in Paramaribo, the first workshop in Lethem, Guyana in May 2019. He stressed the importance of the year 2020, with the IUCN Congress. As a conclusion, he pointed out an example of good cooperation, the fact that at the request of the Minister of Regional Development, the program coordinator rotated between the 3 countries in order to better work with local teams.

Ms. Sevahnee Pyneeady, RENFORESAP Coordinator, French Guiana Amazonian Park, introduced the different sessions and presented again the objectives of the workshop. She indicated that considering that they were too many (around 80) participants the session of knowing each other was cancelled. She reminded the audience that it was a 3-day workshop and that everyone here, protected areas managers, experts in the fight against illegal gold mining activities, representatives of public institutions, NGOs, local communities, environmentalists, etc. was gathered to discuss on issues and challenges that each of the countries encounter as well as finding opportunities for cooperation. She went through the agenda, presenting each working session. She explained that the outcomes of this 3rd workshop would be a synthetic overview on this thematic, the improvement of protected areas management and identifying opportunities for cooperation.

Overview of the gold-mining sector in the Guianas – Countries' legal framework

The first session of the workshop saw presentations from representatives providing a general overview of the legal framework of the gold-mining sector within each country.

Ms. Stéphanie Mahé, General Directorate of the Territories and the Sea (DGTM)- Mining Department, French Guiana, presented on behalf of French Guiana. She explained the role of her department, the French Mining Code and the different mining permits and authorizations allowed in French Guiana whether for primary gold or alluvial gold.

Mr. Quincy Thom, Senior Environmental Officer, Guyana Geology and Mines Commission, presented on behalf of Guyana. He spoke about his organization, about the mining legislation in Guyana, the mining sector in general and in the context of protected areas.

The final presentation for this session was delivered by representatives of the Ministry of Natural Resources, **Ms. Valérie Lalji, Deputy Director, Ministry of Natural Resources** and **John Johanns, Mining Inspector from the OGS, Gold mining Management Department**, on behalf of the Surinamese delegation. Ms. Lalji gave a general presentation of the mining sector in Suriname. Mr. John Johanns focused on the different methods of gold mining in the country.

FRENCH GUIANA REGULATORY FRAMEWORK – Stéphanie Mahé

In the French Mining Code, a mine is the exploitation of leasable minerals, which are defined and listed in article L.111-1. The exploitation of another substance (non-leasable mineral) is a quarry (different administrative regulations). In France, the owner of a piece of land is also the owner of the subsoil, unless it contains a leasable mineral, in which case the ownership falls to the State.

According to French law, in order to mine, the company needs to obtain a mining title and then an authorization to start working on the land. The main documents used to regulate mining are the Mining Code, the Environment Code and 3 decrees: decree n°2006-648 supervises granting of mining titles, decree n°2006-649 relates to all the mining work, exploration and exploitation and decree n°2001-204 establishes the condition to authorize mining concessions (called “AEX”) which is a special disposition for the French overseas, French Guiana.

The different types of mining titles in French Guiana are the following:

- Research permit that allows you only to do prospecting
- Exploitation permit, which is specific to French Guiana, allows you to explore and exploit
- Concession

The different types of mining authorizations in French Guiana are the following:

- DOTM: is called the declaration of the opening of mining work which corresponds to work “that are of low impact”
- AOTM: authorization to open mining works

There are also 2 other types of administrative authorizations which cover both the land and works: ARM for prospecting and AEX for exploitation. ARM and AEX are mining authorities that cover one square kilometer and a company can obtain a maximum of three of each at the same time. These mining authorizations respond to the needs of small-scale gold miners here, which is why these mining titles deal with such small surfaces. They necessarily are examined on a case by case basis by the environmental authorities and they will decide whether an environmental impact study has to be done or not.

In French Guiana, the SDOM, the Departmental Scheme for Mining defines the conditions under which mining can be conducted in the department. It was established in 2011 and entered into force in 2012 and defined 4 zones where mining activities can take place. Zone 0 is the most restrictive zone. In Zone 0, all activity is forbidden, for example no exploration, no exploitation, as in the French Guiana Amazonian Park. Zone 3 is the zone under classic conditions.

The main mining exploitation is alluvial gold, which constitutes most sites in the country, about 80 active sites. The second type of mining exploitation is primary exploitation where gold is extracted from the rock and this type of exploitation requires more complex installations. There are a few active sites, and only one that is authorized for gold cyanidation process.

Alluvial gold is mined in a closed circuit using gravimetric sorting methods. Companies use mechanical shovels to open and close the basin. Once mining is over, shovels backfill the ponds with the overburden and rechannel the river. After the end of the exploitation, miners have to restore the land and reforest, eventually the vegetation gradually grows again.

Finally, the government is aiming at reforming the mining code with two main goals, transparency and simplification. Their intention is to take into account and better analyze the social, economic and environmental parameters and impacts of the project: with stronger involvement of the public. Concrete examples of this reform would be:

- A better framing of mining works (for instance, public consultation for site restoration)
- More means to fight illegal gold mining
- Simplification of the AEX procedure.



ii. Participants from the 3 country-partners during the 1st session

GUYANA LEGAL FRAMEWORK – Quincy Thom

The Guyana Geology and Mines Commission (GGMC), established in 1979, is the organization that monitors all mining activities in Guyana. Its mandate is to monitor and enforce the mining regulations that governs the mining sector. This sector is not limited to gold, there are also diamond, quarrying, sand mining, radioactive exploration, etc. The GGMC has several Technical Divisions, all of which are mandated to monitor and manage the mining sector.

The Geological Service Department has a mandate to assist miners with exploration, to look at the most feasible mining areas. This could alleviate some of the negative impacts associated with mining, because if miners know exactly where to mine, they will not destroy the entire rainforest, mining blindly.

The Mines section is composed essentially of mines officers, who are the foot soldiers of the Commission, they are stationed in all of the mining Districts. Their mission is to monitor and regulate all mining activity in their respective districts, they are also empowered to regulate mining, collect revenue and sell licenses. They are an arm of the head office that is located in Georgetown.

The Mining Act amended in 2005 defines mining in different scales; depending on the amount of materials excavated. Any mine that processes more than 1000m³ in a 24 hour-period is considered a large-scale mine. For a medium scale mine, it ranges from 200 to 1000m³ and for a small and artisanal mine, it is between 20 to 200m³ of material moved, inclusive of overburden.

Artisanal mining is not specifically defined in the Mining Act, when the Act came into force artisanal mining was not considered to have much impact. However, artisanal mining is very impacting because these miners are mobile making it difficult to monitor them. Inversely, the large-scale mines are the easiest to monitor, because they are stationary, they are large and they have to do an Environmental Impact Assessment, so they are bound by the terms of their environmental permit.

As of 2018, there were 1132 small and medium scale mining operations throughout the six mining districts of Guyana. There were 2 large-scale gold mines recorded during the same period:

- “Guyana Goldfields” produced 163 567.99 ounces which represents 26.7 % of the total amount of gold produced in Guyana,
- - “Troy” is the second large scale mine. The company produced 90 684.37 troy ounces, which represents 14.8% of the total amount of gold produced,
- The small medium and artisanal miners produce 358 820.6 troy ounces which represent 58.5% of the total gold produced. In other words, 6.1% of Guyana’s GDP.

Mining is important to Guyana as it creates jobs. In Guyana, this represents 18 000 direct jobs and 30 000 indirect jobs. In 2018, the production of gold was 613 072.96 troy ounces.

Guyana is divided into 6 mining districts; all of these districts contain mineral properties within their borders. Mineral properties can be issued to large-scale companies, they are called Mining Licenses (ML). Large-scale companies have to provide geological information during their prospecting phase before they can be granted a mining license. They have to show the financial capabilities and geological data that they can sustain these mines. The medium and small-scale companies are provided a Prospective Permit Medium-Scale (PPMS). They also have to prospect before they can convert into a Mining Permit or an MP which is smaller than the large-scale Mining License or ML.

Guyana is faced with issues of illegal mining, especially miners that are not in compliance with licensing. In addition to licensing, there is also the issue of permission. In fact, in Guyana, mining is by consent, if the mine is on an Amerindian reservation, it means that there has been consent by the villagers, consent by their council, there has been consent by the Minister and by the GGMC, meaning that although you have a license (making your operation legal), you would still require permission to operate the mine.

With regards to Protected Areas in Guyana such as Shell Beach, Kaieteur, Iwokrama, Kanuku, and Kanashen, the regulations say “Mining is not allowed within our Protected Areas or in the 1 km buffer zones surrounding the legally established protected areas”. According to section 251, subsection 1, of the mining amendment regulations of 2005, “mining is not allowed in specified nature reserves and parks where resource extraction is prohibited”. However, most of these areas have the potential to be mined, considering the rich endowment of minerals deposited in these Protected Areas, (Especially Kaieteur National Park) so these are the hotspots that have to be monitored and protected with regards to the threats of illegal gold mining.

In terms of strategies against the issue of illegal mining in the protected areas, the key strategy to guard against this threat is collaboration, with NGOs, governmental agencies, between the three countries. There are other strategies to be developed such as:

- Cross-border monitoring
- Miners Education and Environmental Consciousness Raising
- Empowering the local communities and strengthening the capacity of the local community rangers, because most of these protected areas have communities which are often impacted by illegal mining.

SURINAME LEGAL FRAMEWORK – Valérie Lalji

Suriname is a country with a population of 560.000 inhabitants, with an economy dominated by the mining industry. The Ministry of Natural Resources manages everything that is related to natural resources, hence mining. Suriname joined in 2017 an international initiative, the EITI (Extractive Industries Transparency Initiative) in a way to better use the extractive industries for the development of the country. The ministry’s intention is to improve the transparency of the mining sector, better monitor mining activities and reorganize artisanal mining.

In Suriname, there are 2 mining rights, small-scale mining rights and large-scale mining rights. The country has also signed 2 mining agreements with multinationals Newmont and Iamgold which have been turned into laws. Small-scale companies’ sites are under 200 hectares; over 200 hectares, with a maximum of 40 000 hectares, it is large-scale mining.

The Greenstone Belt, situated in the Northeast of Suriname, is an area with important mineral deposits, especially gold. In this zone, mining rights were issued to the 2 said multinationals, to the state-owned medium scale company Grassalco and to the small-scale mining sector as well.

Unfortunately, Suriname faces the threats and impacts of illegal gold mining. In most cases, illegal mining is associated with artisanal mining and old non-sustainable methods. In the fight against the issue, Suriname is inspired by Guyana’s legal framework and institutions to transform its geological and mining services.

The OGS, Gold mining Management Department, has identified several mining methods used on gold mining sites in Suriname, such as:

- The hydraulics method, with suction hoses, with or without excavators,
- The ground sluicing method, also called Sumajé method, with use of one pump and the hillslopes to separate gold from gravel.

- Panning, with the batea, and metal detector mostly used by the artisanal small-scale miners,
- Mechanical dredges placed on barges that operate on the river,
- Crushers are mostly used for primary gold mining. Tunnels can be dug around 25 to 30 meters deep and the material is dug up and put in a crusher and washed on mats.
- The Jin Chan method, which is a Chinese heap leaching method using weakened cyanide and carbon to extract gold.

Most of these methods are used by the small-scale miners and can represent a challenge. Indeed, the mining legislation is obsolete and there are limited environmental or sanitary rules. The issue of mercury is of significance because it is commonly known that mercury is used in the mining sector even though the law prohibits its importation.

There is a need to organize and better equip the institutions of the mining sector, especially considering the lack of on-site monitoring and qualified human resources. Thus, Suriname is in the process of revising its legal framework with regards to mining. The intention is also to have a gold mining management department which is independent. Furthermore, there are discussions on how to categorize the sector depending on the different scales and types of mining, for instance large-scale, small-scale and artisanal gold mining. There is place for improvement as collaboration already exists with the UNDP, the National Institute for Environment. Finally, programs are carried out with the help of the university Anton De Kom in Suriname in order to educate the artisanal gold miners and teach them other methods.

Participant's Feedback

After the presentations, the attendance asked questions and further information on the countries' legal framework was given:

In Suriname, dredging is considered as being part of the small-scale mining, but the intention is to revise legislation on the matter. As far as mercury is concerned, it is illegal and it is forbidden to import it. Furthermore, Suriname has signed the Minamata convention as they intend to find alternative ways of mining. Finally, Suriname is also revising its legal framework in order to address licensing of illegal small-scale miners and reforestation when sites are mined out.

In Guyana, mercury is legal but only for the final stages of mining and it is banned in large-scale mining. Guyana has also signed and ratified the Minamata convention. The aim is to phase mercury out by finding alternatives because mining with mercury is easier to use, to access and is cheaper.

In French Guiana, mining is forbidden in the core zone and also in the buffer zone of the French Guiana Amazonian Park except for very localized areas. In terms of reclamation and reforestation, they are included in the granted permits. Miners have to reclaim 100% of the site and reforest 30% of the site. French Guiana is also revising its mining code, the environmental aspect will be strengthened, the impacts on the mining sites will be assessed earlier in the process.



iii. Pascal Vardon (PAG), Raquel Thomas-Caesar (IWOKRAMA), Filho Gomes & Jessica George (PAC)

Protected Areas and Goldmining – Country Perspectives

The second session of the workshop saw presentations from representatives providing a general overview of each country's current situation with regards to Protected Areas and Gold Mining.

Mr. Denis Langaney, Territory Surveillance Manager in the French Guiana Amazonian Park, and Jennifer Devillechabrolle, Conservation Officer of the Nouragues Natural Reserve at the National Office for Forestry, presented on behalf of French Guiana. Mr. Langaney gave an overview of the issue of gold mining in the French Guiana Amazonian Park. Ms. Devillechabrolle gave an overview of the situation in the Nouragues Nature Reserve.

Mr. Roy Ho Tsoi, Policy officer, Ministry of Spatial Planning and Land and Forest Management, spoke about the situation in Suriname and especially the Brownsberg Nature Park.

Ms. Odacy Davis, Deputy Commissioner of the Protected Area Commission, outlined the situation of the different Protected Areas in Guyana with regards to illegal gold mining.

CURRENT SITUATION OF GOLDMINING IN THE FRENCH GUIANA AMAZONIAN PARK – Denis Langaney

The Amazonian park was created in 2007. The decree for this creation decree defines the regulations for the core area, which states that mining activities including the extraction of gold are strictly prohibited. In the buffer zone, which is the area where local development can take place and is subjected to common law,

mining activities can be carried out in the sectors where this is provided for by the Departmental Mining Orientation Scheme (SDOM). Illegal goldmining is happening in the north of the Park where the green belt is from the Maroni to the Oyapock river. When the park was created, there were 100 illegal sites. There was a significant drop between 2010 and 2012 following reinforced destruction operations. But as of September 2019, there were 145 illegal sites. Over the past 6 years there have been, on average, 125 illegal sites in the Park with between 45 to 70 sites in the core area. This increase in illegal sites can be partly explained by the increase in the price of gold since the late 1990s.

Most of the illegal sites in French Guiana are alluvial sites. Impacts are considerable because the forest is cut down, riverbeds are destroyed causing high turbidity in the water courses and there is mercury-contamination of the food chain. The other negative impacts on the ecosystem are pollution through the use of fuel and wastes left in the forest.

There are primary sites as well. These sites require digging pits and galleries to reach quartz vein and gold eventually. In addition, those sites need a high concentration of people working at the same time, such as carpenters, hunters, etc. Primary gold sites lead to terracing of mountains and destruction of forest. But overall, the impacts are less severe than for the alluvial gold exploitation.

The other impacts of illegal goldmining are also the destruction of the ways of life of the local communities, people who are living very close to nature and to the forest and rivers and who are seeing their way of life very severely deteriorated due to all the illegal activities, such as alcohol use, prostitution, drug trafficking, etcetera. Moreover, local and indigenous communities suffer from mercury pollution of the whole food chain. Studies have made measurements, particularly among pregnant women, of alarming levels of mercury.

75% of illegal sites in the Park are present on the western side, in the municipalities of Maripasoula and Papaïchton with logistics that come from Suriname. In the Eastern part of the Park, there also are some permanent illegal sites, between 25 to 35 in the municipality of Camopi. These are small sites, under the forest cover and far apart, for which monitoring and destruction operations are difficult due to the organization of the miners who quickly conceal the sites. Incidentally, on-site monitoring and operations are difficult to put in place in the area.

After a destruction operation on site, in most cases, gold miners come back on the site, which can be discouraging.

In the area of Saül located in the very center of French Guiana, there have been some success. Regular operations enabled to evacuate illegal gold miners in a 15-kilometer radius.

With regards to the most recent activities in the area, in the last few months, there have been a deterioration of the condition of the Maroni river with very high turbidity observed in the last quarter of 2019 and which is mainly due to the presence of mines on the Surinamese side, as well as the presence of dredging barges on the Maroni.

SITUATION IN THE NOURAGUES NATURAL RESERVE OF FRENCH GUIANA – Jennifer Devillechabrolle

Nouragues Nature Reserve is a different tool than the Park; even though it is a national reserve, it is managed differently. There is a co-management with the ONF (National Forests Office) and a local non-profit organization GEPOG (Bird Research and Protection Group in French Guiana). The reserve created in 1995 represents 105 000 hectares of tropical forest including Inselbergs (2) and is about 100 kilometers from the coast in the interior. In the core of the reserve, there is an international research station managed by the CNRS, the French National Center for Scientific Research.

With regards to gold mining impact within the protected area, most of it is concentrated in the North East. The Nouragues Reserve is threatened by legal activities which are just next to the borders without any buffer zone. Illegal miners live and exploit areas inside the reserve. They deforest, destroy soil and creeks. The early 2020 figures indicate that 345 hectares have been destroyed in the reserve. One very visible impact of gold mining is the high turbidity of certain creeks, especially in the North of the reserve as they are heavily exploited. Also, as they are near one research site, the Inselberg camp, this constitutes a threat for the researchers.

Thus, there are ecological impacts but also human impacts. On May 16th, 2006, two rangers of the reserve, Capi and Domingo, were murdered in the reserve by illegal gold miners. They were based at the Arataï camp at the entrance of the reserve to receive the public, school children, people being trained, scientists who came to the Arataï to work; it was also an ecotourism camp.

The means of actions of the reserve management team are quite restricted. There are four officers and only 2 of them are sworn rangers. Their missions are to make observations, issue fines but they cannot really fight against illegal gold mining. Nouragues staff essentially work in close collaboration with ONF, including efficiently monitoring the reserve. They also work with the armed forces and the Gendarmerie and the Border Police on a regular basis on field operations to destroy equipment, cut off flows of logistics. The reserve is also creating ecotourism projects in order to occupy the territory and prevent illegal people from coming back.

With regards to the finances, the budget of the reserve is very limited, 245 000 euros (including salaries) per year to carry out 3 missions: monitoring of the conservation status of the reserve, environmental education and the police aspect.

CURRENT SITUATION OF GOLD MINING IN PROTECTED AREAS, SURINAME – Roy Ho Tsoi

With regards to the population density of Suriname, 70 % of the population live around the capital, 25 % along the coastal areas and 5% in the interior.

Suriname has several ecoregions, such as coastal plains, the savannah belt and the Guiana Shield in the interior. Local communities, Maroon and Indigenous communities, live along the numerous rivers in the South of Suriname.

Most of the protected areas do not have local communities within their borders in anticipation of potential issues. Two protected areas are within the Greenstone belt where there are most of the problems related with gold mining. In Brownsberg Nature Park, 4 operations have been carried out to clean out the park from illegal gold miners. In the Central Suriname Nature Reserve, there are imminent threats as legal concessions have been issued in the buffer zones and gold miners could be intruding into the protected area. These areas are remote and very often there are no roads and they can only be accessed using waterways, the rivers.

The Forest Monitoring Unit of the Foundation for Forest Management and Production (SBB) is responsible for remote sensing with satellite images and identifying areas where gold mining is occurring. Monitoring and field operations help realizing that gold activities were done openly by mostly local entrepreneurs and it was difficult to engage them. As a means to clean out the park, 4 operations were launched. However, challenges are significant as miners always find their way and can mine without cutting the canopy, i.e. mine under the trees, to the extent that remote sensing would not be able to sense that.

CURRENT SITUATION OF GOLD MINING IN PROTECTED AREAS, GUYANA – Odacy Davis

There are 5 main Protected Areas in Guyana. Shell Beach, Kaieteur National Park, Iwokrama, Kanuku Mountains and Kanashen which is an Amerindian Protected Area owned by indigenous people. The Protected Area Commission (PAC) is responsible for the oversight of the whole system but directly manages Shell Beach, Kaieteur, Kanuku Mountains and help with the oversight of Kanashen while Iwokrama has its own management.

With regards to challenges, the two protected areas where most illegal incidents or activities occurred are Kaieteur National Park and Iwokrama. Kaieteur was the first protected area to be established, in 1929. The park boundary was reduced in 1972 to a smaller size to allow for mining. In 1999, the park was extended to its current boundary. Historically there has always been mining for gold and diamond because of the rich mineral deposits in the area. For many years, artisanal mining was practiced using manual methods, however over the years, and with the increase in the price of gold, there has been more mechanized mining in the park. Few incidents of illegal mining have been detected in the Iwokrama forest as well.

The PAC and Iwokrama have been able to monitor and determine these sites using various means and technologies. The terrain and dense forest cover impede clear indication of mining from the air. Often ground surveillance is required. When illegal mining is detected in the protected areas, it is reported to the Guyana Geology and Mines Commission which is the agency responsible for regulating mining in Guyana. The GGMC together with PAC and other agencies coordinates the response.

While the focus of the PAC has been to eradicate illegal mining in the PAs, emphasis is also placed on solutions to this problem. Understanding the drivers and incentives for conducting illegal mining in the protected area is crucial to the solution.

Mining for gold and precious minerals in Guyana is an economic activity regulated by the GGMC. There is a legal pathway and process to mining. Kaieteur National Park is located in a mineral rich zone and is also surrounded by legal mining claims. Though mining is not permitted in protected areas, the fact that the area has minerals and that legal mining is conducted on the outskirts, the threat would always exist.

Additionally, one of the main indigenous communities outside of the park, is somewhat land locked, with limited connection to other communities and economic/administration hubs – leading to high cost of living and limited access to basic needs. The main income generating activity is mining which has been practiced for years.

The PAC within recent years has engaged the community, Government and other stakeholders in a very tough discussion related to alternative livelihoods for local communities. There have been talks with the community council to improve tourism linked to the Protected Areas and channel part of its revenue to the community and talks about benefits sharing mechanism. Opening roads has been mentioned as well as it allows for cheaper food, cheaper services.

Another issue that was revealed during discussions with the Community was that most of the local people and local miners were not aware of the boundaries. The solution may lie in educating the community and especially the youth and also raising awareness with all the stakeholders. Other challenges such as land extension, livelihood activities, access to health and education are currently being discussed in an effort to ease this problem.

In conclusion, the situation of illegal mining is not just a question of challenges and impacts on biodiversity, it is also a question of communities, or groups of people, forced to mine to earn money, and a necessary focus on the livelihood of people.

CURRENT SITUATION OF GOLD MINING IN PROTECTED AREAS, PERU -Astrid Aguilar

The Gold Mining and Conservation coordination for South America, from the Frankfurt Zoological Society, works in three countries in South America. They help the Protected Areas Commission (PAC) in Guyana, especially in the Kanuku mountains. They also operate in the Serranía de Chiribiquete in Colombia, in Peru, in the Madre de Dios region and in the Yaguas Protected Area. They are also involved in the Cantão Conservation project in Brazil through an NGO.

According to the legislation, there are different types of mining in Peru:

- Large-scale mining, medium-scale mining, mainly big concessions areas (more than 2000 hectares) given by the government to private companies.
- Small-scale mining, with a productive capacity that cannot go over 350 tons per day, a concession area that cannot be more than 2,000 hectares and a minimum production of 10% of a tributary unit per year, and per hectare of concession.
- Artisanal mining, with a productive capacity of up to 25 tons per day, a concession of up to 1000 hectares and a minimum production of 5% of the tributary unit per year and per hectare of concession and a specific rule to use manual methods and basic equipment.

A tributary unit is a unit decided every year by the government. Last year the tributary unit was around 4200 soles, which is the Peruvian currency.

Unfortunately, illegal mining is an issue in Peru like in the other Guiana Shield countries. A subtle distinction is made with the phenomenon of informal mining:

- Mining is considered illegal when it is carried out in prohibited areas mainly Protected Areas and water bodies, like rivers, lakes, and oceans.
- Mining is considered informal when it is carried out in areas where it is not prohibited and miners have started the formalization process.

Example of the Madre de Dios region, in the Southeastern part of Peru

The Madre de Dios region is known as the most biodiverse region in Peru. However, mainly due to the Interoceanica highway, giving access to pristine areas in the forest, mining exploded completely between 2009 and 2019. In the region, an area called La Pampa is indicative of how gold mining can go out of control. Basically, in 2014, it was estimated to be around 16 000 hectares of deforested area.

In response to illegal mining in Madre de Dios, since 2010 there have been numerous military operations to destroy the tools, equipment like dredges for instance. Unfortunately, raids like these did not last more than 2 or 3 days and miners came back and became more aggressive. Consequently, in 2016 the Tambopata National Reserve, a Protected Area near la Pampa, in the Madre de Dios region was invaded by illegal miners. 759 hectares within the Protected Area were affected. This situation urged the Protected Areas Agency in Peru, SERNANP, to develop a strategy to fight illegal mining. After monitoring the Protected Areas and realizing that there was illegal mining within the borders of 7 Protected Areas and in the buffer zone of 8 Protected Areas, Sernanp investigated the impacts of this phenomenon and found out the following, among others:

- | | |
|---|---------------------|
| • Deforestation – (meaning carbon stock loss) | • Mercury emissions |
| • Biodiversity loss | • Child labour |
| • Desertification | • Human trafficking |
| | • Organized-crime |

With this information, the agency worked on a holistic approach and developed 4 strategic actions:

1. Identify actions and logistics support for law enforcement within the Protected Areas
2. Implement actions that could mitigate illegal mining
3. Develop sustainable economic activities
4. Recover degraded areas

To implement the actions, Sernanp identified different stakeholders:

- | | |
|---|---|
| • Government of Peru | • Agencies in charge of the trade of mercury and gold |
| • Law enforcement agencies and the military | • Agencies in charge of water rights |
| • Ministry of Mines and Ministry of indigenous rights | • NGOs, international corporations and the academy. |

Thus, the Frankfurt Zoological Society is helping SERNANP in the implementation of this strategy.

All this help allowed for the reactivation of a multi-sectoral commission for the government action against illegal mining which was created in 2012 but had gone under sleep. A new military operation called

Operation Mercurio was launched in Madre de Dios, with 2-year law enforcement in the field but also development of formal economic activities and solutions for the social problems of the region.

As a result of the strategy implementation, there are now only 4 protected areas with illegal mining and 6 in their buffer zones. The goal is for 2021 to have no illegal mining in protected areas and the buffer zones with the same type of operations.

Unfortunately, Sernanp still faces lots of challenges:

- Miners go from one site to another, affecting other Protected Areas
- Coordination among numerous stakeholders is difficult
- There is a need of long run investments that will support capacity building and implement initiatives that take time and resources
- Debate over financing protection or restoration is going on
- Impacts put ecosystem integrity in danger, for instance the case of the Malinowski River, which course has changed over the years due to illegal mining

Participant's Feedback

After the presentations, the attendance asked questions and further information on the countries' current situation was given:

In French Guiana, it is estimated that 10 tons of gold are extracted illegally every year when legal production is 2 tons. Even though it may seem that Protected Areas have been created close to gold deposits and some may say that it is placing them under a bell jar, the issue of illegal mining is quite recent compared to when Protected Areas were implemented and biodiversity is rich in the region and needs to be protected.

In Suriname, illegal gold is brought to the legal system, so it is hard to estimate the volume of illegal gold. A 2015 report estimated that 19 tons of gold per year were extracted illegally, 65% of the total amount of gold production per year. No question is asked when gold is sold and there is no traceability of gold. For medium and large-scale mining, there are 6 registered exporters of gold who have a permit from the Foreign currencies Commission; for small-scale mining, there are two. Protected Areas were created before the gold rush of the 1990s and it created conflicts. There is a direct correlation between the increase of gold prices and the increase of illegal mining in the areas.

In Guyana, there is no estimation of the volume of illegal gold produced. All gold is purchased by the Guyana Gold Board or licensed dealers and buyers. Some shops as well are given trading licenses by the government. With respect to mineral deposits in Guyana, $\frac{3}{4}$ of the country has gold and diamond therefore it is impossible not to have deposits within a Protected Area. However, Protected Areas are essential to preserve and protect biodiversity and the aim of the government is to conserve different types of biodiversity such as wetlands, savannas, lowlands, etc.

In Peru, there may be around 16 to 18 tons of illegal gold extracted per year only for Madre de Dios. Unfortunately, in the world there is a lack of transparency and traceability in gold trade, whether legal or illegal. In the country, there is an agency that monitors gold exports, but support is needed to reach gold traceability.

GOLD MINING SECTOR OF THE GUIANAS AND IMPLICATIONS FOR NATURE CONSERVATION AND PROTECTED AREAS MANAGEMENT (WWF)

Clément Villien, Forest Program Officer at the regional office of World Wildlife Fund France in French Guiana gave a presentation on the implications of gold mining in nature conservation and Protected Areas management. He apologized on behalf of the regional manager, Laurent Kelle who could not attend.

At the Guiana shield level, the French Guiana office of WWF France, works closely with WWF Guianas which is the organization for Guyana and Suriname. Moreover, the activities of gold mining in the Amazon, whether they are illegal or informal, go beyond the Guiana Shield.

A few numbers:

- In 2012, about a million people lived from this activity in the Amazon basin, about 50,000 people in the Guiana shield and about 10,000 people in French Guiana.
- When considering two periods of time, 2001-2006 and 2007-2013, mining became a significant driver of deforestation in the Amazon.
- With regards to mercury contamination, it was estimated in the end of the 90s that around 200 tons of mercury is used for goldmining in the Amazon per year.

Moreover, in the Guiana Shield, there is a geological continuity throughout Suriname, Guyana, French Guiana and Brazil – the “Green stone belt”. Hence, the fact that gold mining activity occurs in areas where there are deposits, it allows you to see how widespread gold mining activities are in relation to these different deposits. When looking at the history of mining linked to deforestation in 2015, there were about 180 000 hectares that were deforested through the four territories, including 113 000 hectares from 2008 to 2015. There is an impact in the Protected Areas where they overlap gold deposits in the Greenstone Belt. With regards to the scale of the territories, deforestation is not very important in these areas, however waterways are contaminated and deteriorated. Rivers are suffering from turbidity or mercury pollution. The difference in regulations in each of the countries is a real challenge. For example, concerning the turbidity of the Maroni river the discussion between two different territories with two different legislations needs close cooperation. On the contrary, the miners do not take the borders into account, there are illegal flows and very well-organized networks and they have existed for a long time. They are constantly adapting to the operations carried out in the territory. These people are often looking for a better life or trying to survive and hence have strong determination and resilience.

Another challenge is cooperation, with Brazil for example, there is a trans-border agreement in the fight against illegal mining, between the armed forces, the police, etc. enabling them to arrest miners. So, these cooperation agreements should be strengthened. In terms of new initiative, traceability of gold is key to be able to tell the difference between illegally and legally produced gold. For this, there is a need for indicators and elements that enable to certify the origin of the gold. Scientific research initiated by WWF and then followed by the BRGM (Bureau de Recherches Géologiques et Minières) with the “Or’igin” project, shows that by analyzing gold, it is possible to distinguish gold that has been amalgamated with mercury. WWF also has partnerships with ONF, SEMA, WWF both in French Guiana as well as in Suriname and Guyana and ONF international, to regularly map the deforestation due to goldmining. Finally, WWF has an

upcoming project, in collaboration with the NGO “Alliance for Responsible Mining”, financed by the FFEM, the French Fund for World Environment, in which a pilot site is set up to demonstrate the feasibility in Suriname and Guyana of mercury-free gold mining to help these countries to implement the UN-Minamata Convention on mercury.

Participant’s Feedback

After the presentation, the attendance asked questions and further information was given:

With respect to mercury, it can be difficult to determine when it is naturally present in the soil or if it is imported by illegal miners. However, when there is amalgamation of gold, it is evidence of liquid mercury being used by miners. Nevertheless, when gold is melted, one cannot see whether it is legal or illegal. That is why, there is a demand for sustainable gold and certification process to be created. A project, initiated by WWF and taken over by the BRGM (the French geological survey), aimed at creating a database, collecting and comparing grains of gold from legal sites. There should be a mapping of the different types, a chemical identity card that would be developed. As refining gold removes its traceability, the refinery aspect also needs to be considered as this could also allow for a better traceability and certification. Globally, it is estimated that 40% of the world’s gold is refined in Dubai and another 40% is refined in Switzerland and in terms of demand, China and India are the major gold buyers.

Mr. Arnaud Anselin informed the participants that Brazil and especially the Tumucumaque Mountains National Park should have been part of the RENFORESAP project, however they lack human resources and declined the proposal of being a partner for this reason. Nevertheless, it remains the intention of the French Guiana Amazonian Park to get to collaborate with Brazil and its Protected Areas.

Monitoring: How are Protected Areas responding to incidents and impacts of illegal and legal gold mining?

MONITORING BY THE NATIONAL OFFICE FOR FORESTRY (ONF) IN FRENCH GUIANA – Alexandre David

The presentation concerns the monitoring of the impacts of mining on the forestry domain managed by ONF. There are several types of Protected Areas: National reserves such as Les Nouragues and La Trinité and Integral reserves where there is nevertheless an impact of mining activities, such as Lucifer Dékou Dékou and Petite Montagne Tortue. There are also other regulations on areas of environmental interest, with a slightly lower protection level exposed to activities. Regarding legal activities, there are about 130 mining permits, 87 AEX located in the Greenstone belt. Some are very close to the Nouragues Nature Reserve and the Lucifer Dékou Dékou biological reserve. French Guiana has mostly alluvial gold mining, both for legal and illegal activities. Monitor nozzles are used in illegal alluvial gold mining, which is forbidden in legal mining. There is some primary mining in the form of pits.

The ONF has a special unit of five people whose job is to do remote sensing of the impacts. ONF works with satellite imagery and is working on monitoring legal activity with private contracts between legal miners and ONF to check their activities. Illegal and hidden activities are also monitored throughout the territory managed by ONF using Sentinel-2 satellite images. In 2018, about 150 images were treated and about 1100 hectares were detected, areas that have been deforested or where water is turbid, which could be legal tailings ponds or correspond to illegal activity. This remote sensing gives a good overview of what is going on in the territory. Deforestation history can be monitored thanks to Sentinel-1 radar images, which give a view of cut forest areas every six days. This technique is extremely interesting as it allows the identification of new sectors where there is either legal or illegal exploitation. It could be reactivated sectors, allowing direct patrols. This also provides overview of deforestation and zones suffering from the impact of suspended matter. Nevertheless, it is still necessary to go into the field. In 2018, about 11000 km of forest was covered and about 1000 GPS locations were recorded as well as aerial photography. All these GPS data are put into a data system and identified as legal or illegal, so that it is possible to see which mining company has been deforesting. This history goes back to 1996.

A report is then created on these impacts according to different indicators, for example the impact of deforestation on biodiversity or the impact of the destruction of river or creek beds on water quality, with data available up to 2019. In 1990, the span of deforestation was 326 hectares and 27,102 hectares in 2016. So about 1,000 hectares per year. 60% of this is due to legal gold mining. Direct impacts on water bodies was 25 km in 1990 and more than 3000 km in 2016, 40% for legal mining and 60% for illegal mining, with 100 km destroyed per year. We also check that ore rinsing is done in a closed circuit and without pumping in the river. The reclamation project is also addressed: all the cut trees have to be kept on the side, the creek has to be put back in its regular course and all of the tailings ponds must be filled in. A project is currently underway to draw up full sheets to better consider the reclamation of the waterbed in the middle of the mining site. For example, it was detected that cut trees were burned or placed in the tailings pond, which is not allowed.

MONITORING BY THE FRENCH GUIANA AMAZONIAN PARK – Denis Lenganey

While the legal mining activities are monitored by the ONF, the National Park team monitors illegal goldmining on its territory. Twice a year, monitoring is conducted by helicopter over four days to cover the entire known mining area within the Park's territory. Since the creation of the park, 31 monitoring missions have been performed. Missions are also performed on the rivers to collect other types of information, such as turbidity. In addition, interventions are carried out by the Park's environmental inspectors. Their capacities and prerogatives have been extended to the mining code since 2017 to allow them to intervene throughout the Park and not only in the core area. This also made it possible to participate in more missions with the Gendarmes and military. The Park's officers are now armed after having been properly trained (there are only 3 national parks in France where agents are armed). The environmental inspectors carry out around 80 to 100 missions a year. They move for 1 to 5 days on illegal sites to destroy them. These missions usually involve Gendarmes and Army Personnel, but occasionally some missions are conducted independently.

The turbidity of the Maroni river is obviously also a major challenge, especially for the populations living along the river. There is a European directive on water and French Guiana must comply with it. Remote

sensing techniques developed by the BRGM and environmental authorities were used. To monitor water quality, different parameters, including the turbidity, must be measured. The park has participated in a study led by the CNRS, the University of Pau, University of Toulouse in France with the aim of studying the transfer of mercury into the environment. Fish from the Camopi-sector were sampled and their flesh analyzed. Thanks to these analyses it was possible to distinguish between mercury that was present naturally in the environment and the mercury coming from gold mining. It is possible to see that, in the small village of Trois-Sauts, in the far south, there is no gold-mining there but the fish there still contain relatively high quantities of mercury, also further up the food chain in the super-predators of these waterways because of mercury naturally present in the environment.

Monitoring activities are also conducted on key species that are sensitive to pollution and water quality. For example, the Park's officers have been trained to monitor the health of two species: the giant river otter and the tapir. Although the tapir seems to handle turbid water quite well, a drop in the tapir population allows the measurement of the hunting pressure coming from gold miners in areas that are normally uninhabited.

MONITORING IN SURINAME, AMAZON CONSERVATION TEAM (ACT) – Katia Delvoye

The Amazon Conservation Team (ACT) has several offices: in the North East Amazon, the North West Amazon, in Europe, and has a headquarter in the United States. The Suriname office has been founded in 1996. The Amazon Conservation Team partners with indigenous and other local communities to protect tropical forests and strengthen their traditional culture.

The team's strategies are

- *land*: *safeguard* the forests and all that is in them,
- *livelihoods*: sustain the lives of local people by providing people with alternative income opportunities (instead of non-sustainable income undertakings such as mining and commercial wildlife trade), and
- *governance*: strengthen cultures and increase communities' self-determination.

The ACT has produced an [online story map](#) which provides a great deal of information about gold mining in Suriname, and explains what has been happening in the country between the 1980s and 2015. For example, 73% of gold production in Suriname stems from gold mining activities in the country. The website also shows the extent of deforestation carried out over the past 10-20 years and provides information on river pollution.

ACT also has created a [geospatial environmental monitoring portal for Suriname](#), which enables users to overlay and analyze Global Forest Watch (GFW) land & forest cover datasets, such as near real time deforestation and fires data, together with Suriname-specific layers and recent satellite imagery.

MONITORING IN SURINAME, MINISTRY OF SPATIAL PLANNING, LAND AND FOREST MANAGEMENT OF SURINAME – Roy Ho Tsoi

Only two protected areas lie within the Greenstone Belt. Since 1996, four operations have been carried out to clean sweep these protected areas. After every clean sweep, the people returned in full force and it became more and more difficult to deal with the situation as they were more prepared for police intervention. These were major operations in which the game wardens, police and the army were involved. The miners were being inventive and continued with their mining activities below the canopy. Laws are in place to try to protect the people's livelihood, but this creates problems for the Brinckheuvel Nature Reserve where local entrepreneurs have obtained concessions meaning that they may leave the Brownsberg Nature Park. Attempts are being made to deal with the situation remotely, following the system used in French Guiana, but this is proving difficult due to the large number of areas concerned and their dispersal and lack of accessibility.

A great deal of deforestation is taking place around the Brownsberg mountain and an area of a hundred acres is reserved in the Brownsberg Nature Park where local people are allowed to mine. Clean sweeps have been carried out in this area where a significant amount of damage was caused. Two Brazilian gold miners are currently at work within the nature Park and are difficult to detect by satellite due to their inventive methods. One approach being implemented is the involvement of local communities, many of whom are not involved in illegal mining activities and who can monitor the situation and feedback information. After a clean sweep has been carried out, it is important to provide continuous monitoring and this requires financial resources. Suriname currently has a shortage of helicopters for monitoring purposes and is therefore limited in this aspect even though remote sensing can be used. There is an area of around one thousand acres in which gold mining is permitted. Until 2016, game wardens, the army and police force regularly monitored this area, but this has been stopped due to a lack of financial resources.

MONITORING IN GUYANA, PROTECTED AREAS COMMISSION – Timothy Babb

How are illegal and legal mines monitored in Guyana? Within the PAC, the Ecological, Threat, Monitoring and Research Department is responsible for monitoring illegal mining. The department comprises of the GIS officer, the research officer and the senior Protected Areas officer, as well as the site-level manager and the Rangers, also with responsibility for developing and implementing threat monitoring protocols.

Activities include overflight protocols, mercury and water-quality testing protocols, and Ranger- and patrol-based protocols. Within Guyana, the PAC manages three protected areas directly: the Shell Beach protected area, the Kaieteur National Park and the Kanuku Mountains Protected Areas, of which the latter two are mainly affected by illegal mining. Kaieteur, which is the oldest PA, sits within one of the most mineral-rich parts of Guyana. The Kanuku Mountains are not significantly affected by mining but have seen small occurrences in its preliminary stages.

The primary method of monitoring illegal mines is overflights and ground truthing. In Guyana, a Cessna 206 is used rather than a helicopter, which can spend about four hours in the air circling and looking for mines. This kind of monitoring allows the observation of significant details. During the flights, data is collected: coordinates, operation type (land alluvial mining or river dredge), equipment type, presence of

engines, ATVs, boats, the number of individuals, trails. The size of the operation is also estimated. Another method used is mercury and water-quality testing. A probe is placed in the water and measures about 18 parameters, with the main focus on turbidity. For mercury testing, tissues of the main fish species used by the locals are analyzed. Sediment samples are also taken. The efforts are focused on the main rivers where people may cross and may be affected by upstream mining. There are also Ranger-based patrols that includes turbidity tests and observation of biodiversity along the trails and check for any signs of illegal mining. There are some instances of river dredge mining moving across the protected area boundaries, possibly entering at night and leaving during the day to avoid detection. The miners basically change the geomorphology of the river creating localized dams.

Once a report is made a collaborative intervention is then organized to apprehend the individuals that may be committing these acts. There are many challenges associated with monitoring the Protected Areas in Guyana: these areas are very remote with no network service. There is also a safety issue as, unlike Rangers in other Protected areas, PAC Rangers are not armed. There is also a limited capacity as the Kanuku Mountains is a large Protected Area of 610 000 hectares and is patrolled by only a few persons, who also have the job of acting as tourist guides on a daily basis. These Rangers have the opportunity to go and monitor these areas only once a month as it is not something that can be done rapidly and every day. This gives the miners the opportunity to constantly go back to these areas. So even when interventions are performed, there is still a recurrence of illegal mining.



iv. Members on the panel session on monitoring goldmining in the PAs

MONITORING IN GUYANA, IWOKRAMA – Micha Davis

The Head Ranger is mainly responsible for the ensuring monitoring activities are carried out the IWOKRAMA Protected Area. The area also contains a Wilderness Preserve area, which is set aside, and is a kind of untouched area. Normally, only research is conducted in this area. There is also a Sustainable Utilization Area, in which a lot of tourism activities are conducted, as well as timber and training and research. This helps to support activities that generate revenues to support the organization. The mining activities can be monitored because there are many communities around this protected area and it is based on a collaborative management agreement with these communities, who understand that it is important to protect their resources and the future generation. They are therefore the eyes and ears with regard to any illegal mining activities, and their reports are acted upon as soon as received. Monitoring activities are conducted by boat as many areas can be accessed via the river. There are also two checkpoints at both ends of the road that crosses the reserve. There are some small-scale mining activities in the area, which are hard to detect due to their mobile nature. When arriving by boat, the miners can hear the boat arriving from a distance and hide in the forest, making it very difficult to track. Whilst rangers are not armed, their main weapon is to educate people, which is why they go into the communities share knowledge with the local people. This means that when a major operation is conducted, together with different agencies like the Guyana Police Service, Environmental Protection Agency or the Guyana Geology and Mines Commission to assist us in terms of law enforcement, no-one can claim that they were not aware that these kinds of activities are prohibited within this protected area. Many illegal miners, camp close to the protected area and hop across the boundary. The monitoring activities also collect different data in terms of wildlife and water quality testing, as well as observing any negative or positive impacts on the forest and the different impacts of the operation.

Participants' Feedback

The participants discussed the issue of the correlation between miners going back to restored area and the increase of gold prices. What mechanisms are in place to prevent the recurrence of illegal activity in a Protected Area? A solution that was highlighted is the implementation of working groups especially for small-scale mining. After removing people from mined out and restored area, they are relocated to working areas so that they can continue gold mining there.

In French Guiana, operations on the ground have to be done repeatedly to have an impact. After two or three destruction operations, it is becoming difficult for the miners to invest again in equipment, etc. However, the higher the price of gold goes, the lower the breakpoint. By way of an example, in one year, the price of gold had a 50% increase, from 30€/g to 45€/g. Protected Areas need increased means to be able to repeat and maintain the efforts. There is the example of Saül which is a small village in Central French Guiana where the French Guiana Amazonian Park managed to recover an area that was heavily invaded by illegal miners. Armed forces and rangers managed to harass them and disrupt the illegal activity, afterwards, they took action to strengthen tourist activities. However, the characteristics of the village are specific, it is difficult to access and it was difficult for the garimpeiros to come back with their equipment. Nevertheless, once flow of equipment and fuel is cut off, there is a chance to win the fight.

The participants also discussed the question of budget, especially for monitoring. French Guiana Amazonian Park devotes 70 000 to 100 000 euros per year to monitoring and helicopter campaigns, which represents around 10% of the overall budget against the fight against gold mining. ONF spends almost the same amount for monitoring and helicopter campaigns.

In Suriname, with respect to enforcement and fines, there are sanctions and they have gotten harder. However, the miners can still retrieve their equipment if they indicate their GPS localization and accept to be registered by the authorities.

Innovative partnerships

This session focused on innovative partnerships, in terms of diplomatic cross boundary partnerships, inter agency partnerships and Protected Area/Local community partnerships.

INNOVATIVE PARTNERSHIPS IN SURINAME, MINISTRY OF REGIONAL DEVELOPMENT – Wilco Finisie

Suriname has known the phenomenon of small-scale mining and illegal mining for a long while now and it is very challenging to have a specific policy for that. The problem has to be approached in a holistic way, taking into account the livelihood, income, employment and other socioeconomic aspects. Suriname started looking at a strict participatory approach, instead of just an approach from the government towards the problem, a top-down approach. There is also a better cooperation with the local communities, mechanisms have been developed in Brokopondo district especially in Protected Areas. For example, communities were encouraged not to speak with goldminers separately but through an association of goldminers. In this way more participation from the group is being created, the target group of goldminers, as well as more participation from the local communities. By means of that participatory approach, areas are allocated to the illegal goldminers where they may carry out their mining activities with the approval from the government. In that way, there is less chance that they will go and work in other areas, because now they can be controlled.

INNOVATIVE PARTNERSHIPS IN GUYANA, IWOKRAMA – Raquel Thomas-Caesar

The Protected Area of Iwokrama in Guyana is managed slightly differently from the other Protected Areas and is not looked after by the Protected Areas Commission. In 1989, this area was designated by late President Desmond Hoyte as a dedicated area for research and development in relation to the tropical forest. As such, it can be used for the development of models for sustainable use, which include eco-tourism and logging. The area is unique in that it can be accessed by the public via road running from Georgetown to the border town with Brazil, which means that access can be gained to the rest of South America. This road presence has benefits as well as challenges and such route have to be monitored. The rivers bordering the Protected Area are also accessible by the public.

Several partnerships are in place, including a Memorandum of Understanding with the Commonwealth. Iwokrama is a Commonwealth and Government of Guyana program at international level but partnerships also exist at national level. There is close cooperation with the Guyana Forestry Commission, the Environmental Protection Agency, and various regulatory organizations including Guyana Geology and Mines etc. Illegal hunting has been an issue so regulatory agencies are also coming into force in that area and a partnership has been established with the Wildlife Commission.

Police officers are stationed in Iwokrama based on a partnership arrangement with the police force. Ranger stations manned by Iwokrama staff and police officers are positioned at those points along the road. The collaborations in place are highly effective and work well. One particularly important area of collaboration is the one with the communities. Iwokrama has links with 20 indigenous communities and there are nine indigenous nations altogether in Guyana. One of the indigenous communities is located within the Protected Area and, in contrast to Suriname and French Guiana, these people do own land. This makes the situation easier in a sense that they have more control over their living space and are also protected by the Amerindian Act. Iwokrama has also drawn up its own act (the Iwokrama Act 1996). Special agreements are in place to monitor and issue arrests for illegal activities including illegal mining.

INNOVATIVE PARTNERSHIPS IN GUYANA, PROTECTED AREAS COMMISSION – Francisco Gomes

Emphasis is being placed on how to encourage local communities in the Protected Areas to become more involved in helping to manage illegal activities. A KAP survey (Knowledge, Attitude and Practice) has been conducted on the people who live around the Protected Area in the Kanuku Mountains.

There are 21 communities living around the Kanuku Mountain Protected Area who also have title to land bordering the area. The Protected Areas Commission has gone to great lengths to find out what these people understand about the Protected Areas in terms of fishing, hunting and farming rights. A trusting relationship has thus been established with these communities and the Commission liaises with the community leaders who report back on any illegal activities and provide valuable information on the local area. Thankfully, only one illegal activity has been reported so far where an engine was found and deactivated in a Protected Area.

It is seen as key to involve the communities in these monitoring activities and in return the Commission is keen to assist in educating them in using the land sustainably so that it will be available for future generations.

INNOVATIVE PARTNERSHIPS IN FRENCH GUIANA, PREFECTURE & EMOPI – Anne Suard & Sébastien Linares

The French government is conducting various diplomatic actions to make Protected Areas safe and combat illegal activities which threaten the natural reserves, population and resources. From the point of view of local populations, the diplomatic action taken feels quite remote and has taken the form of the Minamata Convention signed by 115 countries. The aim of the Convention is to reduce the use of mercury as far as

possible particularly in mining regions. This was one of the first French diplomatic missions to address this issue and Guyanese and Surinamese diplomats have also been involved. Bilateral action is also taking place and France is working with Brazil and Suriname to reach agreements and move forward together, for example within the Guiana Shield. France has also signed police and legal assistance cooperation conventions with Brazil alongside military cooperation which enables the French armed forces and police to work with Brazilian partners. The work is synchronized with the sharing of information, coordination of actions and intervention in the field. The cooperation models used vary depending on the country in which they are applied and differ, for example, between Brazil and Suriname. A major operation was carried out last June in Brazil against illegal gold mining and reprocessing in which France was involved. Plans for cooperation are moving forward with Suriname and joint patrols will probably start again on the Maroni River, with the Surinamese on their side of the border and the French Guianese on theirs, working together. The specific issue of the delimitation of the border in the Maroni and Lawa rivers in Suriname requires a short-term solution so that the rights of local populations can be acknowledged, but national delimitations need to be discussed first of all and this is the current focus of French diplomats with their neighbor country.

Illegal goldmining is a concern in French Guiana and has historically been dealt with by the government with repressive means. The policy was revised in 2018 and has now become a 4-part policy: repressive approach, economic approach, social approach and cooperation approach. Concerning struggle on the field, at present 600 people are involved in the repression of illegal goldmining and the operational aspect is dealt with by the gendarmerie who coordinates activities. A specific feature in France is the military support of the armed forces, which is exceptional within the framework of French law. The aim is to destroy illegal sites and prevent the logistics flows which supply these sites. The policy is conducted by two bodies: the government, represented by the prefect, and the public prosecutor.

Numerous convictions have been recorded over the past year and the prefect is working on the management of these problems.

It should be noted that more than 90% of miners are Brazilian and most of the logistics flow comes from Suriname or Brazil and cooperation is therefore vital.

Further solutions and models have also been proposed at economic level such as the introduction of economic projects, sustainable mining (outside of protected areas), eco-tourism and efforts to revive activities in the French Guiana Amazonian Park and the Nouragues Nature Reserve. Concerning the social aspect, one of the most important stakes is the involvement of local populations. The Amazonian Operational Reserve project, launched by the EMOPI (Coordination regarding illegal mining and fishing), aims at involving the local youth so that they can participate and support the armed forces and Gendarmerie, part-time during the year, with their knowledge of the territory.

Various stakeholders are involved in the policy to combat illegal goldmining, including the prefect and the gendarmerie and the armed forces. There is a dedicated structure within Gendarmerie known as the Centre for Cooperation and Operations which works on police operations coordination.

Two more major players in this area are the National Forestry Office, which has historically been combating illegal gold mining as a major threat to the forest ecosystem, and the French Guiana Amazonian Park. Other important players include the customs authorities and the border police as well as the General Directorate for Territories and Sea (DGTM), which oversees legal mining. There is now, since 2018, a small body for decision-making (EMOPI) which consists of three people responsible for developing a diversified policy

within an inter-ministerial framework, directly under the authority of the prefect. A strategic plan is currently being developed for the next four years to combat illegal goldmining as well as administrative and communication support to coordinate the actions of all state departments involved.

Participants' Feedback

Further information was given during the debate after the presentations.

In French Guiana, when equipment is seized, most of it is destroyed, some of it can be redistributed, such as pirogues, fuel and communication mean that are considered useful on the ground. As far as gold is concerned, it is put in the budget of France. There are talks to inject seized gold into the fight against illegal gold mining thus to the advantage of French Guiana. Last year, the equivalent of 24 million euros in equipment was seized.

In order to prevent corruption from setting in, cooperation between stakeholders and monitoring of the troops when they are sent in the forest is key.

In Guyana, some Indigenous people indulge in gold mining activities as opposed to French Guiana where most of the local and Indigenous people are against these activities. Even though one can wonder if they are not contributing to deforestation, deforestation levels in Guyana are very low, it maintains 87% of forest cover. Also, Indigenous communities co-manage Protected areas and own the right to their land. As gold and soon oil are important economic sectors in Guyana, local communities develop different types of livelihood. Mining is by consent in these communities, and some communities have been involved in gold mining for a longtime now, more precisely in traditional mining called pork-knocking, such as in the

Chenapau community (close to the Kaieteur National Park). Their situation is peculiar as they are cut off and are only used to doing mining and so it can put pressure on the Kaieteur National Park. Thus, the Protected Area management has to help them find alternative livelihoods and change their mindsets towards mining.



v. Members of the panel session on Innovative partnerships

Finally, the question of tradition was addressed as, when used to define Indigenous people, it is associated to ancient customs. Some attendees found it hard to consider that gold mining was an Amerindian tradition and wonder if it was not just the only activity left for them to do in their villages. A whole community could not consider mining as part of their cultural heritage. A sensible answer was given by the Guyana delegation; indeed, traditions change and evolve. Mining as a tradition is not an ancestral heritage but if the community has been mining for 60 to 80 years, mining has become a traditional economic activity for this particular village.

Group Discussion

The participants were divided into 5 groups. Each question was assigned a facilitator and every 15 minutes the groups changed to address another question. Here were the 5 questions for discussion:

1. What are the similar/common challenges faced by the PAs of the countries?
2. What are the weaknesses of the various mining legislation of the countries?
3. What other opportunities exist for cooperation among PAs of the countries?
4. How best can RENFORESAP improve and sustain coordinated action after the project?
5. What else can be done to prevent miners from returning to PAs after a clean sweep?

1. What are the similar/ common challenges faced by the PAs of the countries?

The similar/common challenges identified by the groups are the following:

- Protected Areas are attractive for the miners as there is less competition because no legal miners operate there
- Lack of financial and human resources to enforce laws, to patrol, to monitor illegal goldmining especially within large areas
- Lack of economic opportunities and alternative sustainable livelihoods for local communities
- Influence of Brazilian goldminers
- Gaps in the legislative frameworks of each country
- Importance of the mining sector for the economy of each country as the 3 countries are highly mineralized
- Lack of land planning or difficulty to enforce land planning
- Governance:
 - Need for better dialogue between local communities and the Protected Areas
 - Lack of participation in the decision-making processes
- No (efficient) tools for the management of transboundary rivers
- Lack of sharing of scientific knowledge about the impacts of illegal goldmining between the 3 countries
- Difficulty to put a value on what is/ could be lost because of goldmining

- Feeling of inhabitants that they do not benefit from goldmining (injustice)
 - Depressive effect on local people
 - Temptation to involve in goldmining themselves as a form of empowerment
- Disregard for environment from the miners
- Weakness of regulations
- Difficulty to look to the future for the local youngsters facing illegal goldmining
- Illegal goldmining threatens the traditional way of life
- Mixed livelihoods of local communities (traditional/state intervention/market/civil society)
- Difficulty to address small-scale & artisanal mining in terms of enforcement of regulation and monitoring for example
- Easy access to resources to start an illegal mining activity
- Recent involvement of Chinese in the logistics for goldmining + new techniques
- Need to partner up with other police institutions

2. What are the weaknesses of the various mining legislation of the countries?

The weaknesses identified by the groups are the following:

- Fines and penalties for illegal activities are too low and enforcement of regulation is not efficient as countries lack tools and finances
- Enforcement law is not fully implemented
- Different views, standards, policies, necessities, economic challenges in all 3 Guianas regarding the mining regulation and by-products
- Good governance: for future mining law, we have to involve local communities, taking into consideration Protected Areas and the environment. FPIC = needs to be more defined in terms of the steps and what it means in practice (codify)
- Failure to have recognized enforcement agencies in the different countries
- Requirement conditions needs to be raised so it should not be easy to get a license
- Need a common definition for environmental crime
- Lack of operating techniques /methods to reduce river pollution

Specific to Guyana and Suriname:

- the mining law needs to be flexible through all type of mining, it is outdated and needs to be revised especially with respect to goldmining. New policies and environmental law need to be put in place
- a need for harmonization of regulations; the challenge is the lack of land-use planning and management; there is a need for monitoring LUP implementation

Specific to French Guiana:

- the current mining code legislation is too complex, it should be simplified so that legal miners replace illegal miners
 - the ecological French standards are impossible to work clean
 - regulation and standards can collide

- Definition of small- to large-scale mining needs to be revised and extended, not only the scale and size should matter but also the production and techniques
- legislations should include financial warranties for restoration
- even when an infraction has been committed, sometimes the culprit does not pay any fine due to the slowness of the French system

Specific to Suriname:

- local communities are not involved in the law
- gaps in law and bylaws, they need to be made/ revised

3. What other opportunities exist for cooperation among PAs of the countries?

The opportunities for cooperation identified by the groups are the following:

- Exchange visits between Protected Areas staff on the ground and for operations; managers, rangers, police, judicial personnel
- Hearing about projects in other areas
- Exchange workshops
- Sharing research strategies, priorities and results
 - Finding ways to involve universities and researchers, etc.
 - Data sharing/ data basing & protocols
 - Websites (e.g. ACT)
- Radar and satellite imagery for monitoring (Bio-Plateau Project for Suriname/ Brazil/ French Guiana)
 - Sharing imagery
 - Software
 - Sharing method
- Exchange visits between tribal communities
- Building a common project, fundraising to develop and share common techniques – e.g. via GSF & IBG
- Transboundary opportunities:
 - Security cooperation: army and police e. g. Brazil-French Guiana and Suriname – French Guiana (for information sharing)
 - Community monitoring and management: more control of river access through communities and of airstrips, early warning systems and assistance of local communities
- Capacity building:
 - Justice
 - Traditional knowledge and rules
 - Technical skills- rangers
- How to address:
 - Human trafficking and prostitution
 - Drug trafficking

- Mercury and Fuel trafficking
- Impacts on communities and psycho-social issues (South America e.g. ESCAZU Agreement)
- Learning beyond the Guianas e.g. Peru, Colombia, Ecuador, etc.

4. How best can RENFORESAP improve and sustain coordinated action after the project?

The ideas, identified by the groups, for RENFORESAP to improve and sustain coordinated action are the following:

- Other projects currently exist for example a partnership between WWF, CI and government initiatives (EPA - Guyana). RENFORESAP should aim to link the project's outcomes to these existing projects/ initiatives.
- A focus should be placed on mainstreaming biodiversity in the mining sector. A (UNDP – CBD-GEF) project is currently ongoing in Guyana and may be implemented in other countries in the Shield. RENFORESAP should investigate this.
- A second phase of RENFORESAP should make water resources a key thematic. There is a current plan to highlight “Water” at the upcoming IUCN Congress. It presents opportunities for future transboundary cooperation on the issue of water (see BIOPATEAUX project).
- There is need for an in-depth situation analysis of the Guianas to identify gaps. There needs to be a more concentrated effort on tangible – “on-the-ground” actions in any second phase of RENFORESAP.
- RENFORESAP should provide more opportunities for local communities/ stakeholders to travel to other countries/ areas to see and experience first-hand approaches to the issues (exchanges at the local/community level).
- More involvement of miners and associations in these cooperation efforts/actions, especially to attend workshops and exchange visits.
- Environmental education: support teaching of sustainable mining practices + other environmental practices in schools (in the different languages).
- Coordinated research on specific topics through the universities of the Guianas should be done. A platform for coordination of Universities already exist through IBG – RENFORESAP that investigate this measure.
- There is need for a situation analysis of the mining legislation across the Guianas and where possible streamline actions to address illegal mining in Protected Areas. A first step can be coordinated strategies for the regulation and ban of mercury since all territories have signed on to the Minamata Convention.

- Partners of the RENFORESAP Project should agree on a mode of cooperation beyond 2020. This should be done before the end of the project in Dec 2020 and also highlight contact/coordinating persons in the three countries.

5. What else can be done to prevent miners from returning to PAs after a clean sweep?

The actions identified by the groups to prevent miners from returning to Protected Areas are the following:

- Monitoring, with military and police
- Checkpoints and more controls
 - New strategies around the bound
 - Regular patrols
- Keep the Protected Areas clean → establishment of new studies
 - Including local community, close to illegal activities, to give them mining rights
- Involve local community
- Propose alternative mining land
- Return regularly and increase patrols and monitoring
- National policy/ legal mechanism to prevent people going back to the area in the long run
- Transboundary cooperation mechanisms to coordinate action
- Permanent monitoring station in “hotspots”
- Education & awareness of local communities to “win” their support and help with monitoring
- Finding alternative livelihood opportunities in order to break the cycle of entrapment



vi. Group Session

Day Two - February 13th 2020 - CAMP CISAME

The second and third day of the workshop were held in Camp Cisame in Regina.



The first session of the day was facilitated by **Sevahnee Pyneeandy**.

Mr. Damien Ripert, EMOPI - Chief staff against illegal goldmining and fishing, gave a presentation of his structure.

EMOPI's (Coordination regarding illegal mining and fishing) purpose is to strengthen coordination of prefectural departments fighting illegal gold mining (and illegal fishing at sea). In French Guiana there are 4 approaches to this fight:

- 1) Repressive approach with operations against illegal sites and their suppliers
- 2) Diplomatic approach with regional cooperation with Brazil, Guyana, and Suriname, the workshop being an example of this effort
- 3) Economic approach
 - a) Preventive, by bolstering resilience of legal local activities to fight illegal sites
 - b) Curative, after the clearance of a site, with the example of an ecotourism activity in Saül after 2008.
- 4) Strengthening relations with the local population

In all the Protected Areas of the 3 countries, it is agreed that the populations most vulnerable to illegal mining are located inland. They experience the phenomenon first-hand without really understanding it and are not aware of safety operations set up to fight illegal gold mining. The aim is therefore to reach out to

Indigenous populations. Much work has been done with the Customary Council on communication with these populations. A more practical method is to involve them directly in the fight, e.g. in the south, Amerindian recruits within the RSMA (Adapted Army Regiment in French Guiana) are specifically hired to fight against illegal gold mining. They are then trained in the forest by the Gendarmerie's reinforcements. The aim is to promote their successes and set them up as local examples, to show that it is possible to fight illegal gold mining. It is a means of ending the victimization of these local populations and involving them directly in the fight. In 2015, a parliamentary initiative looked into the identity problems of young Amerindians and the issue of suicide. This reflection is being rekindled, with renewed hope this year of having a fully-fledged self-operating program.

Participants' Feedback

Participants were given an opportunity to provide feedback on the preceding presentation.

- Ms. Jessica George from the Protected Areas Commission, Guyana praised EMOPI for involving Indigenous communities. She insisted that when involved, local communities feel ownership of the Protected Area and find it easier to collaborate. They are the ones who live on a daily basis within the Protected Area and their knowledge is an asset to manage it.
- Ms. Astrid Aguilar from Frankfurt Zoological Society (FZS), South America and Mr. Samagnan Djo from the Local Life Committee, French Guiana Amazonian Park addressed EMOPI's idea to set up some young locals as examples, figures and wondered if it wouldn't expose them to danger, Mr. Djo adding that especially in French Guiana most of the illegal miners in the Maroni and Lawa region are unidentified, undocumented and are difficult to monitor.
- Mr. Damien Ripert from EMOPI indicated that local recruits can either be involved as reservists and be sent out to zones where they do not live so that their family are safe but therefore losing the advantages of their expertise of the environment or they can work in their own areas while agencies find ways to support them. The solution also lies in communication with local communities on the disastrous effect of illegal mining on them. Mr. Ripert further stated that this project will be monitored by the French Guiana Amazonian Park, the subprefect for remote communities, RSMA and Gendarmerie, EMOPI and other players. With respect to the identification of the people who participate in illegal gold mining, EMOPI is not specifically working on that aspect.
- Ms. Raquel Thomas-Caesar from PAC & Iwokrama International, Guyana asked for further information on the issue of suicides among Indigenous youth and Mr. Roy Ho-Tsoi from the Ministry Spatial Planning, Land & Forest Management insisted that there also be an ecological and biology aspect in the standard ranger training so that they connect to the ecosystem.
- Mr. Ripert explained that knowledge of the environment is an important aspect of a successful intervention, however most of the trainings are mostly military and police, on the functioning of the Gendarmerie rather than on the environment. Local and indigenous youth bring their environmental know-how and knowledge to the program. The Operational Amazonian Reserve is part of the idea of

an exchange between the expertise of the people who are hired locally and the work of the Internal Security forces.

After these exchanges, Mr. Pascal Vardon, Director of the French Guiana Amazonian Park and Claude Suzanon, President of the French Guiana Amazonian Park gave a short speech as they had to go back to Cayenne.

Mr. Pascal Vardon praised the organization of the seminar and the participants' will to share experiences and solutions. He spoke about a new French Guiana Amazonian Park project consisting of creating a cooperative company in Southern French Guiana. He then addressed the question of the high suicide rate among Indigenous people in French Guiana, 8 times higher than in France, and listed several causes, such as a lack of self-esteem among young. Most of them are required to leave their family and village at a young age to go to middle or high school on the coast. However, many of them fail to adapt and fail their studies and end up coming back to their village with a low education level but also without having had the transmission of traditional knowledge and know-how. They fail at school, fail in the modern world and even fail in their own culture. Training programs are like a second chance for them, such as job integration projects. However, even after the job training, there is no actual job in the village, at least in the formal sector. Thus, one of the projects is to create a cooperative company enabling those with professional training to start working. Mr. Vardon added that another project was to create two job postings to enable local communities to put together projects and receive public grants. This would contribute to them being able to see hope in the future and feel integrated and incidentally be the solution to the suicide issue. Finally, he alluded to the need to keep on collaborating even after the end of RENFORESAP and hoped that during the IUCN Congress, the environmental and social issues of the whole Guiana Shield will be tackled.

Mr. Suzanon encourage the participants to work and think hard in this isolated place. It is through these exchanges that they will be able to make a difference when lobbying towards their respective authorities. He spoke about the effort to collaborate with the countries of the Guiana Shield, Venezuela, Columbia and Brazil especially with regards to environmental protection and local development. It is also their job to make sure that their populations share the same vision and influence governments and decision-making.

Innovative approaches: (techniques of restoration for impacted sites, biodiversity and ecosystem restoration, etc.)

The session was facilitated by Mr. Arnaud Anselin. He gave the floor to Mr. Xavier Richard (SOLICAZ company) from French Guiana, Mr. Ramon Finkie (Anton De Kom University) from Suriname, Mr. Colis Primo (Environmental Protection Agency), Mr. Rene Edwards (Conservation International Guyana) from Guyana and Ms. Astrid Aguilar (Frankfurt Zoological Society (FZS), South America).

FEATURE PRESENTATION BY SOLICAZ – Xavier Richard

SOLICAZ is a French Guianese company created in 2009 with the partnership of scientific research centers: AgroParisTech, EcoFog and CNRS. There is a laboratory in Kourou, a plant nursery in Macouria and the business development is handled in Paris. This eco-engineering company is geared to solving ecosystem degradation through bioinspired approaches or biomimicry. It is certified by the French Ministry of National Education and comprises about 10 people – doctors, engineers, technicians and farm workers. Solicaz responds to 4 UN sustainability goals.

Solicaz fields of expertise are mined-out land reforestation, biomass plantations and management, agriculture and forestry and agricultural land use in French Guiana. The aim is to restore the soil's fertility which should restore biodiversity which will in turn boost soil fertility. To that end, the company uses endemic plants to fix nitrogen in the soil. Solicaz's eco-engineering also consists in creating a symbiosis between fungus and bacteria through inoculation. Bacteria and fungus develop a nodule that latches onto the root. The interaction between bacteria and fungus is well known but finding the right dose and proper bacteria and fungus combination – or bio stimulants – needs cutting-edge technology and expertise. The process includes an analysis of the soil, production of plants, planting followed by tracking and verification.

In the example provided (a gold mining site), it is possible to see the mapping used. In the example of a deviated creek, Solicaz removed the overburden to allow soil reintegration and plantation. Land is levelled by machines. The wood is reused to inject carbon into the soil. In phase 2, seeds are selected from endemic nitrogen-fixing plants. In the nursery, the mycorrhization of the seedlings is checked, and after 4-6 months, the seedlings are often hand-planted out on-site, sometimes with the help of the mining companies. This is phase 3. Heliophile plants, which like to grow and seek sunlight, are selected, also for their rapid growth. Plants that like to grow in the shade are planted beneath them. The plants are checked for their homogeneity, the return of biodiversity is also monitored with evidence of animal tracks for example. Obviously, the results differ depending on the typology of the land and soil. Solicaz only works with legal mines. French law requires them to reclaim all the site after mining and reforest 30% of the land. The company's intention is to help legal mines find funding to reforest 100% of the land.



vii. Feature presentation by Xavier Richard from Solicaz

CONTRIBUTIONS FROM PANEL MEMBERS

ANTON DE KOM UNIVERSITY, SURINAME – Ramon Finkie

The University of Suriname is developing equipment and methods to increase production of gold and reduce the use of mercury. Work is ongoing on gravitation and concentration methods based on the density of the material and the size of the grains of the ore, and different methods are available. In particular, the spiral concentrator, which is yet to be tested, has also been placed on the list of methods aiming at reducing the use of mercury in the mining sector. This equipment can be used on site and is a fine classification method. Trials conducted with the mineral concentrator at the University of Suriname can be consulted. A group of students is working with the concentrator to learn how it works and which type of concentrator works better. Trials were carried out with the sponsor of WWF and the equipment was tested in the field in the Brokopondo area. A training course was given to small gold mining companies. This was a success and a way to introduce them to this type of equipment. The idea is to test the equipment separately and then try to see if it can be used in closed circuit in small-scale mining. When using the Icon concentrator, granulometry can also be used to make sure that the size of the grains is ideal for the method to be efficient.

Further details were also given on the operation of the Icon concentrator, and a student training project between Unasat University of Technology and the University Anton De Kom. An example of these alternative methods used in a site owned by the Grassalco company, state mining company, was also shown, giving details on the process itself, which should lead to an increase in the production. The type of equipment used by the small-scale gold miners was also shown to demonstrate how the presented method will increase production compared to small-scale gold miners.

The work at the University of Suriname also underlined that small-scale miners do not identify their equipment and do not use classifiers, so their work is not efficient enough. This problem is addressed by explaining classification and providing training, so they understand which method or equipment is best suited as a function of material, gold type or granulometry, and that equipment parameters need to be set as a function of gold quality. This contributes to the goal of eliminating mercury from the gold-mining process, which is something the university has worked a lot on. It has been shown to be possible to use borax to separate gold, even if this is difficult due to the poor quality of the material. However, when gold concentration is high in the material, it is possible to amalgamate it with borax.

CONSERVATION INTERNATIONAL, GUYANA – Rene Edwards

The restoration of gold-mining sites is a new area for CI Guyana since last year and is in response to the need for more work in site-restoration science, which remains rather limited in Guyana, and the need to build capacity in the country. CI Guyana therefore collaborates with a US university and the University of Guyana. The project focuses on mapping restoration opportunities. In the past, restoration work in mined-out areas was performed by the Guyana Geology and Mines Commission using acacia. CI Guyana wants to take a step back and look at restoration opportunities in the whole country to develop a map for Guyana. This means using remotely sensed information to look at areas natural regrowth and areas that are not regrowing. This map will be used to inform the main stakeholders in Guyana responsible for restoration of the areas to be focused on. One of the challenges faced by GGMC in their restoration projects is that they

have identified and have been restoring areas that still have gold. There is a risk that miners return to mine these restored areas if they are not guarded or during a holiday period. Mapping allows to focus on areas that are regrowing naturally while interventions in areas that are not naturally regrowing will depend on the presence of gold.

The first idea is therefore a national restoration map. The second output is downscaling this to the local situation. An Indigenous community called Campbelltown has been identified in Central Guyana, that mines and would like to do natural restoration. Effectively, regrowing and non-regrowing areas are identified along with validation on the ground through floristic and insect studies and soil testing. One of the village's objectives for identified restored areas is agroforestry. Of course, if the site is contaminated with mercury it will not be possible. The map can be downscaled to support the community to develop a business case for restoration, allowing the village to decide on what method to use for restoration. The project's third output is the development of a restoration science course at the University of Guyana, but due to the lack of capacity for restoration, CI is working closely with the University Center for Biological Studies and the Biology and Science Departments, and is going to develop a course for natural resource managers, to train people from the government, private sector and communities in restoration science. This will define the baseline conditions for restoration in Guyana.

The outputs from this work will help the country to meet some of the international obligations, for example Bond Challenge. It also obviously helps with carbon sequestration and ecosystem restoration in the local communities. That is why Conservation International is downscaling part of it in Campbelltown because the idea is to be able not just to do the science and to teach but also really demonstrate what is possible. This work started in October 2019, and two students were recruited by the University of Guyana: an MSc student who is attached to the Guyana Forestry Commission and an undergraduate student. Some of the remote sensing work has been performed especially for Campbelltown and some restoration opportunity maps were created for Campbelltown and models are being run for the country. CI has also conducted work on the ground, the floristic and insect surveys and the data is now being collated and analyzed, with a national level map by August. A stakeholder meeting is planned to decide how to go forward. The government is interested in developing a national restoration strategy and this information will be used to inform that strategy.

ENVIRONMENTAL PROTECTION AGENCY, GUYANA – Colis Primo

The Environmental Protection Agency Guyana (EPA) recognizes that mining is a major driver for deforestation, forest degradation and land degradation in Guyana. In collaboration with other stakeholders like the Guyana Geology and Mines Commission, the Guyana Forestry Commission and other relevant sector agencies, EPA decided to develop a project with the aim of mainstreaming biodiversity within the mining sector, addressing specifically the reduction of mercury use within small-scale mining operations. As has already been underlined, Guyana has many agencies that overlook mining activities, including the EPA. Therefore, there is a need for the harmonization of legislation, so one outcome of the project is to strengthen the policy and regulatory framework for regulatory agencies so that there can be centralized efforts, particularly in areas having pronounced impacts for mining. A second outcome is to strengthen institutional capacity and interagency coordination for managing the impact of small-scale gold mining activities. Even though there may be individual regulation and even though there may be individual organizations that look at mining, we also recognize the need for capacity building within those

organizations to effectively monitor and manage the impacts that may result from small scale mining activities. As such, the aim of the project is to build capacities in terms of training and sourcing equipment, and we therefore welcome any training opportunities geared towards building capacity to monitor impacts from mining.

Restoration efforts can be a major challenge in Guyana due to the production variances resulting from pricing on the international market. The issue of the price of gold going up on the international market has also been raised: what mechanism is there to prevent a miner from going back to the area to mine? Guyana does not have such a policy, nor the necessary methodologies or approaches to mitigate this. Hopefully, this project will allow for the identification of such initiatives. In 2014, the EPA worked with the WWF to close off a site in the Konawaruk area (A mining community), but the issue is that the restoration work to rechanneling water course would be a waste of effort if the price of gold goes up on the local and international markets and mining activities resumed in the said area that was restored.

The third outcome of the project is the adaptation of sound environmental management practices for miners. It is the intention to work together with organizations like WWF, Conservation International, GGMC to look at how we can improve miners' ability to use alternative methodology, similar to that presented by Suriname. The fourth outcome is to assess the knowledge of miners: we conclude that they lack the capacities and knowledge and this will have a significant impact on biodiversity and by extension livelihood of communities that depends on that biodiversity.

FRANKFURT ZOOLOGICAL SOCIETY (FZS), SOUTH AMERICA, PERU – Astrid Aguilar

One of the strategic actions that the Protected Area agency SERNANP in Peru decided to develop is the restoration of degraded areas, and it realized there were many challenges, such as capacity building. To overcome the lack of knowledge, SERNANP initiated a pilot for the reforestation on a 5-hectare site. Soil analysis was conducted by a research center, and it was found that mercury remained in areas with water, where it was more concentrated than in the soil itself, which was so degraded that it was unable to retain the mercury. This meant that no remediation was possible, so the site was directly replanted. 6,000 young endemic trees were planted and on returning to the site 5 months later, it was found that 96% of the trees remained. This will be further monitored to check for continued growth or deaths. Biodiversity restoration will also be monitored. Another important dimension of restoration is the budget, which proved to be unexpectedly high. The question was raised as a function of available resources whether to prioritize restoration or protection. It was also necessary to understand how to define successful reforestation or restoration. For example, can a return of half the original biodiversity be considered a success? Can repopulation with only trees be considered a success? Etc. It was also of interest to understand how long it would take to get to this point of success. Regarding protection, restoration and reforestation, it was apparent that regarding NDCs, Paris Agreement, etc. even if this reforestation and restoration can help, it will not necessarily be as effective as the primary forest (i.e., the Amazon forest) in terms of carbon uptake. Finally, there is no legislation regarding restoration and if Peru wants to develop a national strategy, it will be necessary to answer many questions and develop such legislation.

Participants' Feedback

Questions were asked to the panelists and further information was given on the question of restoration and reforestation.

Solicaz was asked if their techniques are used to restore primary gold mining sites in French Guiana. The company's representative explained that primary activities are rare in French Guiana and that either the impact on the forest are less visible as miners dig galleries or big mines have huge terracing and the results can be patchy. Solicaz gave the example of Suriname and two companies they have been working with, Iamgold and Newmont. In those cases, the soil is really degraded with big holes, craters and galleries, so work has to be done quickly. Furthermore, companies may have the intention to come back to mine some more depending on the price of gold, so reclaiming is not a concern to them.

It was added that several sites in French Guiana exploit primary gold, for example in Saint Elie and Maripasoula, and companies do not have the competencies to restore and reforest especially when land is completely eroded and soils have been washed into the rivers. The company Auplata had a branch to develop a plant nursery but the results were not particularly positive and there is a need to look at what is done elsewhere to avoid degradation and erosion of mountains and soils.

Suriname showed interest in Guyana's idea to involve local communities in the restoration process, they agreed to share their experience. Rene Edwards from Conservation International indicated that they are still in the early days and one key element for the success of this initiative is that in Guyana, communities are open to share and the agency respects the principle of intellectual property.

Mr. Arnaud Anselin indicated that the French Amazonian Park will welcome, as intern, a student from AgroParisTech Institute to study the capacity to carry out restoration operations in the French Guiana Amazonian Park.

Finally, the question was raised about the final goal of reclamation: was the goal only to reforest the sites or was it also to allow for productive activities for a sustainable development of the areas? As far as Guyana is concerned, they first used acacia for reforestation, which is a non-native and invasive species, which local communities disapproved. They advocated for using natural endemic species for restoration. The village where the CI project was implemented had two objectives, first to have their natural forests back and second to develop sustainable activities, such as agroforestry, silviculture. In order to help decision-making, a decision tree was used: basically, if there are threats that miners could go back in the area, it is not considered a good idea to restore.



viii. Participants during the working sessions at Camp Cisame

Impacts on Local Communities

The session was facilitated by **Ms. Odacy Davis**, it focused on local communities, Indigenous communities and how affected they are by mining, whether legal or illegal.

IMPACTS ON SURINAMESE LOCAL COMMUNITIES

Ipomadi Toko Pelenapin, VIDS (Association of Indigenous Village Leaders in Suriname)

Mr. Pelenapin is the chief of the village of Kawemhakan, located in Suriname near Maripasoula. The area is strongly impacted by mining. Turbid waters, waste in the river, airplane traffic, foreigners (from Brazil, Haiti, etc.) with use of ATVs. All of this escapes the control of the local people. There is an overall feeling of disrespect and violation. The authorities have been contacted to re-establish the safety of the village. Brazilians are also mining gold illegally on the French Guiana side and cross the river into the village's territory as they please.

Rudi Harold Clemens, KAMPOS (Organisation of the Maroon Tribes in Suriname)

It is necessary to emphasize the importance of involving local communities in the protection and conservation of nature. The Kwintis and other tribes have a traditional duty to preserve the environment. Although the authorities try, with laws and regulations, to act, traditions establish a spiritual bond with nature. The local communities live there permanently whereas the authorities can decide to withdraw whenever they choose. The Kwintis are a hinterland tribe present near the Central Suriname Nature Reserve, the largest one in Suriname. Mr. Clemens can mention 5 to 10 cases where the traditional authorities have decided to remove undesirables from their village and area. For him, local communities are indispensable to protect nature.



ix. Rudi Harold Clemens from Kampos

Marie-Josée Artist, VIDS (Association of Indigenous Village Leaders in Suriname)

There are not many goldmines in Indigenous people territories but there are more in the Maroons territories. As for the Lawa area, there is a lot of mining going on. Ms. Artist wanted to highlight new initiatives and opportunities. For example, the ICCAS (Indigenous and Local Communities Consultation Areas) can fund programs for local communities. Projects can be set up (although subject to government approval). ICCA guidelines are defined by the Indigenous people themselves. In these projects, specific rules must be set up and cooperation established with government bodies which need to accept traditional rules. In order to have innovative projects, communities should be trained in innovative technology to allow digital mapping and the use of drones, etc. There are also archaeological sites in the Lawa area, where there is mining. Strong legislation is needed to protect them. As colleagues have pointed out, communities are losing control and they need to be able to have a say on who comes in and out of their communities.

IMPACTS ON GUYANESE LOCAL COMMUNITIES

Micah Davis, Head Ranger, Iwokrama Protected Area and Member of a Local Community, Guyana

Despite being close to communities, Protected Areas managers need to understand the culture and uphold the rights of Indigenous people. Combining local knowledge and technology can be effective in terms of selecting and managing Protected Areas. It is known that illegal mining destroys many historical sites. The leaders of some Protected Areas have not realized the full extent of the dependency of Indigenous people on natural resources. For generations, these resources have been cared for. But if technology and local knowledge are merged, there could be a better outcome for these Protected Areas. Communities therefore need to be consulted before creating Protected Areas. Local communities also need to be aware of their rights within Protected Areas. A form of collaborative management agreement should be set up to ensure understanding that, by creating alternative employment solutions, resources are protected for those communities, for the country but also for the whole world.

Francisco Gomes, Protected Areas Commission and Member of a Local Community, Guyana

Mr. Gomes lives in a community near The Kanuku Mountain Protected Area where there are few incidents of illegal mining. Nevertheless, dialogue with local people and education on the use of resources is required as a means of prevention. Alternative livelihoods for local communities should be explored. It is indispensable to build capacity that is sustainable, over time. For this, education is the key.

Jessica George, Protected Areas Commission and Member of a Local Community, Guyana

Ms. George lives in a village right next to the Kanuku Mountains Protected Area. One of the benefits for Villagers is access to employment in a Protected Area. Secondly, having a good knowledge and awareness of the value of the PA resources is another benefit and it will lead to better care of these resources. It would be useful to outline precisely what form alternative livelihoods could be pursued in these areas and communities e.g. agri-tourism which showcases nature and our valued resources without destroying them.

IMPACTS ON FRENCH GUIANESE LOCAL COMMUNITIES

Sylvio Van der Pijl, Customary Council, French Guiana

Mr. Van der Pijl has been the customary chief of Balate for 10 years now. The village has around 1,000 members. He is also President of the Customary Council of the Indigenous and Bushinenge populations which defends the legal, economic, social and educational interests of its members. As such, it organizes meetings every two months to hear project applicants and government bodies. Communities from Central and south inner French Guiana are directly impacted by gold mining. This issue was raised last year by the Council with the Minister of Overseas Territories. Several demands were made, namely tighter control. It was also asked to involve the Customary Chief Council and customary chiefs on the Suriname and French Guiana sides in future discussions that the French government will have on the border issue in the Lawa region. There is much skepticism among the local communities in the coastal area regarding gold mining.

They witness the problems caused in the interior of the country and do not experience the same problems. The Council is also working on issues such as land ownership and education.

Samagnan Djo, Local Life Committee - French Guiana National Park, French Guiana

Mr. Djo is also from the Lawa area which is strongly impacted by gold mining. Photographs taken by the Gran Man of the Lawa River and also by the WWF have revealed the situation to the world. The situation has not changed much. The color and turbidity of the Lawa River show the effects of gold mining.

Crime is a subject that has not been much discussed. Firstly, environmental crime. As observed, the environment is contaminated through improper waste management but also lack of awareness of waste issues in communities. Tons of waste, pollutants and fuel are injected into the environment. There is also deforestation. There is pressure on game which is hunted by gold miners and sold to the community. Therefore, the responsibility is shared. There is also human crime. Mercury concentrations in fish lead to severe disabilities in newborn children. Bearing in mind that some people can eat 1 to 3 kg of fish daily, this is a real issue. Economic crime is also a factor. People come into the sector, extract tons of resources from the land but nothing is injected back into the community. This creates conflicts, especially with Brazilian workers but also with the Ndyuka who are in charge of river logistics and the transportation of goods.

There is also a feeling of unfairness. It is difficult for the local community to obtain deeds, property rights and mining permits, compared with neighbors in Suriname. Yet illegal mining is rife around them.

Populations now tend to cluster around villages for fear of their safety. Freedom to roam the ancestral Waki, Tampok or Litani rivers has been lost.

To conclude, trust is crumbling. The French government sends in military to fight the problem at great cost. There was even loss of life recently in an incident at Awarasoula, on the Suriname side. However, there are few results. Ultimately it will take many different strategies and the involvement of all the Indigenous populations – the Ndyuka in Grand Santi and the Tapanahoni, the Amerindians upstream with the Alukus - to overcome the problem. It is fundamental to keep on exchanging, sharing and listening to contain this issue in these territories.

After these presentations, Ms. Odacy Davis asked how issues regarding the management of Protected Areas are addressed and what options are offered to local communities. Mr. Arnaud Anselin, Ms. Denise Fraser and Mr. Roy Ho Tsoi presented how Protected Areas in their respective countries address the question of local communities' involvement.

FRENCH GUIANA AMAZONIAN PARK – Arnaud Anselin

There are different strategies which involve local communities: local people, Indigenous people or Maroon people. The French Guiana Amazonian Park has a team of around 15 sworn rangers, mostly local. This offers the valued asset of knowledge of the field (more than incoming military, for example).

The Park aims at encouraging the development of sustainable activities within it, to divert away from illegal gold mining. These include integration workshops for young people in Camopi with carpentry training.

There is also a project aiming at training guides to promote ecotourism; a business and employment cooperative is being set up to offer young people administrative support when setting up their own jobs.

Local governance and expression are supported. The Local Life Committee - set up to make the voice of communities heard - is composed of local people who are not elected and are not tribal chiefs. Support involves training members, providing information and know-how so that they may contribute to the life of their communities and of French Guiana as a whole. Help is even offered in the organization of meetings – including cross-border meetings. The overall aim is to strengthen civic expression to give weight to people’s voice.

PROTECTED AREAS COMMISSION, GUYANA – Denise Fraser

Partnership is an integral part of the four-pronged strategy of the Protected Areas Commission (PAC). Local communities are involved in the management of Protected Areas. Most of the staff – Rangers, Senior Rangers, Site level Coordinators or Assistant Site Managers – are from local communities. The communities are consulted about certain decisions: e.g. the location of ranger stations, as they are the best qualified to advise based on their local knowledge.

The German Development Bank is funding a 4.8-million-euro project to build much needed infrastructure in three of Guyana’s Protected Areas. (The National Protected Areas System of Guyana was set up much later than its French Guiana or Suriname counterparts.) The project will support PAC’s work with communities on resource use management and capacity-building.

PAC depends heavily on local knowledge and local communities to help to monitor attempts at illegal mining. Compliance and enforcement are the responsibility of the police and the Guyana Geology and Mines Commission with assistance from other agencies.

There are on-going efforts to engage government authorities to link up the landlocked area of one of the communities near Kaieteur National Park and to find alternative livelihoods for communities engaged in mining. If alternative livelihoods can be found for the population, the allure of illegal mining may be reduced. The issue is to persuade the population of long-term benefits of such livelihoods versus the quick money made in mining.

MINISTRY SPATIAL PLANNING, LAND & FOREST MANAGEMENT, SURINAME – Roy Ho Tsoi

Two cases illustrate the strategy to safeguard Protected Areas. Firstly, there is tremendous pressure from gold miners in Brownsberg Nature Park, much of which has been destroyed, despite repeated operations to remove them. The situation has been alleviated by mediation between government and local communities. The second case concerns a specific situation in Suriname, whereby local communities may own land in Protected Areas. For example, in the Kwinti area near the Central Suriname Nature Reserve, there were plans to start gold-mining activity. In this case, the Kwinti tribe, together with other communities from the same river, reported the activities that were going to start. It was possible to react and stop the gold mining

activities, proving that early action is the most effective. It is very important that local communities are involved in the protection of Protected Areas.

Participants' Feedback

Participants were encouraged to ask questions and further information was given by the representative of Local Life Committee for French Guiana. He insisted that local communities are under the impression that it is easier for people who are not from the communities or even from the country to legally mine. He spoke about initiatives within the community to fight against those who are involved in illegal activities. Unfortunately, they do not have important means. The Local Life Committee is still organizing itself and currently mainly responds to topical issues, such as the open dumping issue, the river checkpoints in Maripasoula. Hopefully, local people do not hesitate to fight, Alukus and Wayanas took actions against pirogues or miners. This may not be the solution but seminars and workshop like this can help them find safe ways to play their role.

Ms. Kaminie Tajib from Ministry Spatial Planning, Land & Forest Management, Suriname emphasized the fact that there is a cry out for safety in the local communities, local and indigenous people want control of their culture, their lifestyle.

Mr. Samagnan was asked his opinion on the effectiveness of strategies and support from the government. He indicated that he does not represent all the local communities but insisted on his emotional attachment, his spiritual connection to his land. He alluded to the difficulty of being citizen of France on one hand and on the other hand to be from French Guiana and part of a local and Indigenous community. He spoke about the fact that Bushinenges and Amerindians do not really make a difference between the French Guiana side and the Suriname side. They consider the whole area to be theirs. Mr. Djo took the example of the river, which is polluted on both sides, both banks. He went on indicating what the communities expect from the government. They want to be able to use their rivers, to fish, to get back to their local food and culture. Local communities are the keepers of the rivers, the guardians of the ancestral land and they want it to be acknowledged and they want to be respected as such.

Contributors from Suriname and Guyana were asked if and how their governments responded to their willingness to be given more power, more control. In French Guiana, for example, some members of the Wayana tribe had asked the French government to give them weapons if it was too difficult for it to fight against gold mining.

In Guyana, the situation is specific as Indigenous communities own land and make decisions for their land. If there is mining, the community consented among themselves to mine. Indigenous communities have a strong voice in Guyana, they have a Ministry, a specific legal framework.

In Suriname, the Kwinti villages are located in the area near Central Suriname Nature Reserve and the reserve was created 20 years ago without consulting them, without including them. Kwintis just want to co-manage the reserve, they want their voice to be reinforced, to be informed of matters related to their area and to be involved.

In French Guiana, the Customary Council is working with the Justice Department so that they can draft laws. Unfortunately, the Customary Council has no decision-making power right now, so this is one of the fights that it carries out together with the customary chiefs in French Guiana.

In closing the session, Ms. Odacy Davis reminded the participants that Guyana has worked on developmental plans for Indigenous communities and municipalities, so that activities make sense. As the financial resources are limited, it is important not to raise too many expectations and have communities feel left out once again.

Sharing Best Practices and Lessons Learned in The Guiana Shield Region

This session was facilitated by Wilco Finisie. The delegation of Guyana and French Guiana gave a presentation. Mr. René Edwards from Guyana spoke about the key lessons learned from the point of view of Conservation International Guyana. There were two presentations for French Guiana. Ms. Jennifer Devillechabrolle presented practices and lessons learned for Nouragues Nature Reserve and Mr. Arnaud Anselin and Mr. Antonio Lopez described a successful and inspiring initiative in Saül.

SHARING BEST PRACTICES AND LESSONS LEARNED IN THE GUIANA SHIELD REGION – CONSERVATION INTERNATIONAL (CI) GUYANA – Rene Edwards

One of the key lessons so far is the importance of regional cooperation. When considering the territory of Suriname, Guyana and French Guiana without the political boundaries, this part of South America, this major part of the Guiana Shield is an area that has a very intact ecosystems but also a wide diversity of peoples from different groups, who have been here for a very long time, or arrived more recently. There is a need to work together. Diversity must also be respected, in terms of ethnic diversity, diversity of knowledge in addition to biodiversity and ecosystem diversity in this area. The work draws on, especially, the local Indigenous communities, the Protected Areas Commissions, Environmental Protection Agencies, the Guyana Geology and Mines Commission, Iwokrama, and the Ministry of Natural Resources. It is desirable to manage Protected Areas well as they fit within a landscape connected to other watersheds, to Indigenous lands and other local communities, and are connected to other activities including agriculture at various scales. They are also connected to forestry, infrastructure, tourism and, even in the Rupununi, to mining. Therefore, it is necessary to take into consideration the other land uses around these Protected Areas. Whilst it may be possible to have an island of amazing management, perfect conservation, great ecosystems, within a Protected Area, if the situation in areas contiguous or connected to the Protected Area are not properly taken into account in terms of landscape connectivity, significant problems may be encountered.

On top of this is the issue of equity and justice. Many communities in Guyana have connections to areas that are under conservation, and as described by various community members, one very important point is that Indigenous and local communities must be involved in the development, the decision to establish

Protected Areas, as well as in their management, as there are many equity- and justice-related issues. One of the big issues faced in Guyana is that many communities ask: “our deforestation rate is low and the situation is well-managed”, “but how is this benefiting me and my family? What types of control do we have in terms of how these areas are managed? Where are the benefits in terms of our own human development?” These are difficult questions that conservationists in Guyana have to answer and this requires a rethink about not only Protected Area management but other conservation interventions in Guyana. The ecosystem connectivity is therefore important for the areas CI Guyana works in.

For the savannah area, there is North and South savannah, woody savannahs, and these savannahs are surrounded by forest. Many policy makers have looked at this area and repeatedly said it is a wasteland as it is not forested. But what researchers have shown is that there is significant biodiversity and ecosystem diversity. And the areas in the savannahs are connected to the forest through the various corridors of connectivity, such as riparian forest and river systems. CI Guyana’s work with local and Indigenous communities means that a lot of time has been spent starting the process of local and regional governance, which is about trying to connect again to local communities. This is another major lesson learned, especially from the establishment of the Kanuku mountains Protected Area: the importance of local community being able to define their own vision and priorities as the foundation for any development that occurs within their territory but also in adjoining areas. And this has been through a village planning process which relates to regional and national plans. The village is part of a process where they go through various workshops, over a period, to define a vision and priority areas, priority actions, strategic actions, resource mapping and zoning and also looking at how community monitoring can be achieved. This is just one community in the North, that is highlighted, but there are several communities contiguous to the Kanuku mountains Protected Area. This process started with a request from these villages in response to the development of the Protected Areas, so they were involved in the early days of setting up this community development planning model. Given that these villages are all contiguous and generally have access to the river or through the communities to the Protected Area, the idea is that, to maintain the integrity of the Protected Area, the communities will have to be able to define what they want to do in terms of their own development priorities and also to be able to maintain the ecosystem integrity on their land. These are just a few specific points to highlight landscape connectivity.

While the areas are Protected Areas and Indigenous lands, there are other land uses around these areas. In the South Rupununi, there is limited mining, in North Rupununi and Central Rupununi, there is cattle ranching, and other large-scale agricultural activities being introduced. So even if there are good Protected Areas and great community planning and management, what is happening outside those areas and how the biodiversity and nature within the area is being affected needs to be taken into consideration. As already indicated, the area is significantly shaped by water, with significant connection between areas in Guyana and Brazil. For example, in North Rupununi, people coming to the area see a savannah that looks bare, but just below the surface, it is teeming with fish. Any type of planning and development in the area must take nature into account.

In conclusion, one of the major points is to ensure connected planning between the villages and the region. There are a few challenges in relation to this approach in terms of how working practices, in particular the financing of these plans, or how this approach can be applied to areas with threats of mining. This is what CI Guyana is attempting to address in another region, in the middle of Guyana, in an Indigenous village

called Campbelltown. A village planning process has been conducted with them. This is one example of some of CI Guyana's priority projects. Work is also ongoing to link this sustainable landscape approach, with a joined-up planning and development approach, and an integrated approach to mining. The approach taken is essentially a value-chain and market-system approach. The idea is that in response to mining, there is an examination of how to develop a responsible mining system within Guyana that really looks at the whole process and is, in many cases, driven by market incentives, also looking at exploration, the appropriate prospecting techniques, to ensure that mining is conducted only where there are commercially-exploitable gold deposits. This would represent the first step.

The second step is about mining without mercury and improving recovery. The third step is about rehabilitation of mined-out sites. The fourth step is about finding markets for responsibly mined gold and traceability. Regarding the experience with Campbelltown, this has represented a very controversial project for CI Guyana, which is often asked why it is involved in responsible mining, given the significant risk. However, at CI Guyana, it is felt that these are intractable problems that have existed over many years and CI Guyana, as a conservationist, could not sit on the sideline and point fingers. This also means that the equity and justice aspects can be addressed. There is also a clear process outline on who CI Guyana works with, in terms of legal pitfalls, and how to engage with communities and miners, in terms of safeguards, and thinking very clearly and applying, in a practical way, rights-based approaches. To conclude, over the 3 years CI Guyana has been working in this area, it has been a valuable learning experience. Through engaging with the miners, often the miners are able to offer many solutions. Through the surveys conducted, it has also become clear that miners, at least in Guyana, value nature, which sounds counterintuitive but there are many areas of interest they share with CI Guyana.



x. Members of the Guyanese delegation at Camp Cisame

Participants' Feedback

Participants were encouraged to ask questions and further information was given.

In Guyana, responsible mining is defined in the national laws, also Guyana is signatory to international conventions such as Minamata and as such have responsibilities from an international point of view. Guyana also pays attention to the feedbacks from Indigenous communities and what they would like to see in terms of responsible mining practices. The responsible mining initiative is co-financed by the government, GGMC, WWF and the Ministry of Natural Resources.

With regards to the Indigenous villages planning, there is community development planning, it has elements of rural planning and elements of urban planning. The communities define the resources within their area, within their customary areas and decide where they would want to be in 10 years. It is a policy within the Ministry of Indigenous Affairs.

In terms of measuring the impacts of responsible mining on biodiversity, what is currently done is defining areas for demonstration and testing the demonstration equipment. Three demonstrations are going to be set up and mining impacts and restoration will be measured.

In Suriname, one of the activities of Amazon Conservation team is starting life planning with the village of Sipaliwini. It is a process and it is going on in some other villages. The idea is to define priorities, land management for livelihoods, preserving their culture and biodiversity.

SHARING BEST PRACTICES AND LESSONS LEARNED IN THE GUIANA SHIELD REGION – NOURAGUES NATURE RESERVE, FRENCH GUIANA – Jennifer Devillechabrolle

Nouragues Nature Reserve is working on strategies that are working and are expected to work in the future. The impact of gold mining can be seen in the turbid creek water, deforestation and destroyed soils. Partnerships and projects are key to fighting this.

The first approach is internal for surveys, because the Nouragues Reserve is co-managed by GEPOG (Bird Research and Protection Group in French Guiana) and ONF (National Forests Office) ensuring that there are eyes on the ground. Four surveys per year are made with helicopter to detect illegal sites. These monitoring are paid by the reserve and piloted by the ONF. Also, detection methods such as GIS with radar detection allow the monitoring of deforestation. ONF forwards the GIS data to the Mining Activity Observatory, a body that includes all the partners.

The second approach is to develop partnerships for field actions. The Reserve team comprises only of 4 persons, with almost no police power and no authorization to go on illegal sites, hence the importance of partnerships. It is necessary to call in the Gendarmerie for legal action and the military for human resources on the ground. Fortunately, ONF staff (from a specific section, not from the Reserve) are also present in the field, with similar missions to the National Park's own staff, although not with the same legal prerogatives. Even so, the ONF rangers have a good knowledge of the field, however, cannot operate without the Gendarmerie who has the legal power to destroy illegal sites. The key to success is the collaboration of different partners in the field. As a result, destruction operations are more efficient and flexible. For

example, a one-day operation using a chopper can be executed, or ground operations with the armed forces and the Gendarmerie.

However, there can be challenges. Communication and coordination are very important otherwise it can be counterproductive. The different organizations do not have the same objectives. Communication can sometimes be difficult: for example, a mission of destruction was organized with the ONF, but the armed forces went in the same area two days before for a reconnaissance mission without communicating this. The destruction operation had to be cancelled as illegal miners would have been on the lookout. This an example of a partnership that sometimes does not work.

The third type of action is submitting projects, which serve as a justification to initiate actions and to propose a different occupation of the territory. Since there are no local communities in or around the Nouragues Nature Reserve, our means of action to stop illegal gold mining inside the Reserve is to conduct activities in the area and create relevant projects. For example:

- the Coracines project is a way to reinvent Camp Arataï, a reception camp for the public and schools at the entrance to the Nature Reserve. This camp received schoolchildren, ecotourism groups and training courses, until the killing of two reserve guards in 2006. Thanks to joint destruction operations and the reinforcement of actions in the area, insecurity has decreased. The reopening of the camp has been under consideration for the last 5 to 10 years. Hence the idea of the Coracines project. In the Coracines project, the idea is to work with all the partners from French Guiana to find a type of governance that will allow lasting functioning of Camp Arataï. It is already open for nature workshops in which young people from MFR (Maison Familiale Rurale – structure dedicated to training of young adults) are helping rebuild the camp. They mostly come from Camopi, Trois-Sauts, Saint-Georges in the French Guiana Amazonian Park, from an educational facility based in Regina, where the boats leave to get here. This site is also used by the armed forces and the Gendarmerie as a temporary base in their fight against illegal gold mining in the upper Approuague.
- There are other projects such as the Orion project, that aims to combine research and defense in mined-out areas with a restoration component. The Orion project would first ensure the success of the partnerships mentioned earlier. It would then be possible to imagine restoration work and by establishing a human presence in an applied research station, the gold miners would not come back.
- There are also purely scientific projects because there is a lack of scientific understanding of the impact on the hydrographic network, so a sampling campaign was initiated, financed by the Office de l'Eau, to study fish, macroinvertebrates, the water's physical chemistry.
- There is also a project for the nature reserve to serve as a test area for a European project on the development of methods to detect the flow of illegal migration. It is the Fold Out project which is a European project that aims to set up a sensor network to detect flows and entries of undocumented immigrants. The project was developed for controlling European borders, but the idea is to test it in Nouragues and use it against illegal gold mining. A first visit from the project partners is expected this year. The idea is to activate all levels of remote sensing, satellite, drones, and even ground-based sensors.

To conclude, the success of all of this depends on politicians and their will to support and finance these projects and partnerships.

SHARING BEST PRACTICES AND LESSONS LEARNED IN THE GUIANA SHIELD REGION – FRENCH GUIANA AMAZONIAN PARK: CASE OF SAÛL – Arnaud Anselin & Antonio Lopez

Saül is one of the rare success stories, of durably pushing back gold miners. Saül is a small village originally created by gold miners in the 19th century. Currently, there are only around 70 permanent inhabitants. Problems arose in the village in the 1990s with an illegal gold mining rush. In a nutshell, Saül quickly became like a Far West village, just like in the movies about the gold rush in California: alcohol, drugs, prostitution. This was the situation there until 2009. There was no sensing or detection equipment like today and there were two or three times more illegal mining sites. Now, it is possible to detect these sites via remote sensing. In terms of impacts, there were cases of diseases like malaria, up to 5 episodes per year, problems of insecurity, with robberies and disruption of economic activities. Saül was known for activities such as ecotourism, some agriculture and lumbering under the control of ONF, of course. Ecotourism operators left the village. There was a cry for help from the population to the authorities who organized a counterattack with the armed forces, the Gendarmerie and the French Guiana Amazonian Park. Patrol numbers were increased in this difficult and mountainous terrain, and it was possible to recover the territory by harassing the illegal miners. The only way to win is to be stronger and more motivated than the Garimpeiros. Time was on the side of the authorities as the illegal miners needed time to organize their equipment. The goal was to shorten this time by continual harassment. Once the equipment was not productive, they tried to get loans from other sites, but eventually this no longer worked. They could not repay and had to leave. Luckily in Saül there were only small illegal sites to deal with, so the impact on the forest was not too severe. Within 2 or 3 years, the forest grew back, the waterways became cleaner, the fauna came back. Luckily, unlike other areas (Maroni, Oyapock...), illegal mines in Saül cannot be supplied easily from the neighboring countries. This geographic situation helped to regain the village.

After a while, the armed forces had to leave Saül to go to other illegal sites and the Park authorities had to organize their own patrols. It was therefore decided to maintain a presence in the area through responsible economic activities: Ecotourism. After two years, it became apparent that there were few cases of malaria, no robberies and the village was clean. Economic activity had been revived through ecotourism. Creativity and imagination are a must. A Local person really knows the forest and can quite easily work in ecotourism. That is what tourists want. It is also fortunate that access to Saül is very difficult, only by plane, so the destination is selective. Trails have been opened and tourism operators are coming back, and these initiatives are being supported. There is a training program and support for grant applications. There are several types of tourism activities, and support will be given to clean the nature trails, make them longer, etc. The more there is a presence in the field, the more the garimpeiros stay away. It has been possible to create trails for bikes, tourism activities such as kayaking, pirogues, tree climbing, etc. Tourism activities for disabled people have also been developed, with adapted trails and tools. Some tests were performed, and visually impaired people and with reduced mobility can have access to some activities in Saül.

This destination was promoted, the network of trails was rehabilitated and there are now around 45 km of nature trails in Saül. 50% of nature trails in French Guiana are in Saül. The isolation of this village is both part of the appeal and the development strategy. There are around 3000 visitors each year, by plane, the only means to access Saül. There is a challenge to promote biodiversity, especially by using the scientific

programs and trying to make it accessible to all, with the underlying objective of this constant fight against illegal gold mining by replacing garimpeiros with tourists. An innovative smartphone app linked with GeoTrek works in Saül and with all the other trails in the Park. The *Amazon for all* Project promotes access for the disabled. Saül was a test zone and received groups with different types of disabilities. A visually impaired person was also recruited for 8 months to configure an application allowing blind people to walk along some of the trails. Saül was a trailblazer. There were other types of promotion. For example, the enormous kapok tree in the village of Saül was elected Tree of the Year in France in 2015, after a huge internet voting campaign conducted by the Park, drawing attention to the destination. Other events were organized such as a trail sporting event since 2016, which is a challenge to organize in such an isolated place, further promoting the village. Finally, a very important current project, called Saül's Municipality Atlas of Biodiversity, aimed at having people participate in science, bringing together scientists, schoolchildren, local people and elected representatives. For all these reasons, Saül is now an attractive village despite its specificities.

Participants' Feedback

Participants were encouraged to ask questions and further information was given.

In French Guiana and in France in general, there are a lot of different types of Protected Areas. When a national park is created, a public institution is also created to manage it and national parks have two vocations, protection and rural development. As for nature reserves, they are often smaller in size, financial and human resources and there is no institution attached to it. The government makes a call for applications to see who wants to manage the nature reserve. Nature reserves focus more on conservation and most of the time these zones are not populated. The legal frameworks of the core areas of the nature reserve and national park are quite similar. The French Guiana Amazonian Park has different specificities as it is quite new and specific rights have been granted to local and Indigenous people living within. They are allowed to circulate, fish and hunt which is usually not allowed in nature reserves.



xi. Astrid Aguilar (FZS South America), Rene Edwards (CI Guyana), Ramon Finkie (Anton De Kom University Suriname), Colis Primo (EPA Guyana)

Day Three – February 14th 2020 – CAMP CISAME

The first session of the day was facilitated by Ms. Odacy Davis, she gave an overview of the strategic planning in Guyana with her fellow colleagues from Guyana, Ms. Sara Henry from the Protected Areas Commission, Ms. Raquel Thomas-Caesar from Iwokrama International and Mr. Quincy Thom from the Guyana Geology and Mines Commission. The presentation for French Guiana was given by Mr. Arnaud Anselin from the French Guiana Amazonian Park and Mr. Jennifer Devillechabrolle from the Nouragues Nature Reserve. The speakers for Suriname's presentation were Ms. Kaminie Tajib from the Ministry of Spatial Planning, Land & Forest Management, Ms. Valerie Lalji from the Ministry of Natural Resources and Mr. Wilco Finisie from the Ministry of Regional Development.

Strategic Planning to Address Impacts of Gold Mining in Protected Areas

FEATURE PRESENTATION – Odacy Davis

The Protected Areas Commission manages Protected Areas in Guyana and is governed by certain legislation. It has two key objectives: the first is to protect and conserve Guyana's natural heritage and capital; the second is to maintain ecosystems of national and global importance linking them to climate change regulations.

There are five Protected Areas in the system and the intention is to expand so that more Protected Areas are added in the country. These five areas currently cover 8.3% of the area of Guyana. Four of the five protected areas are surrounded by indigenous and local communities. Indigenous communities in Guyana have legal title to their land and are also responsible for its management. Besides private land ownership mostly along the coast, the remaining land space are either State Land or State Forest. State lands/Forest can be used for agriculture, forestry, mining, leasing for tourism and other activities. As a result, the planning process for new Protected Areas in Guyana is therefore very lengthy and expensive since consideration must be given to other resource use and user rights in the country. Protected Areas like Kaieteur that were declared before the 1900s were simply declared without much planning, however new approaches are now being considered for the establishment of Protected Areas to be participatory, based science and to have an overall sustainable development approach.

The decision has been made to expand the Protected Areas in the country for several reasons. The constitution of Guyana states the importance of ensuring that the environment is healthy and beneficial for all Guyanese people. A convention on biological diversity has already been ratified and there is a move towards having 17% of land as terrestrial Protected Areas and 10% coastal and marine Protected Areas. At the signing of the Paris Agreement on Climate Change in 2015, the President of Guyana promised to add 2

million hectares to the Protected Area and conservation system. The Green State Development Strategy has also been developed for the entire country. Finally, there needs to be representativeness in the system of protected areas to reflect the true richness of Guyana's biodiversity. Currently 4 of the five protected areas are dense forest and one coastal Protected Area that protects our 4 sea turtle species. The system does not have wetlands and vast savannahs represented.

Guyana has an abundance of mineral wealth, which has been explored and mined for centuries and has brought many benefits to Guyanese. It is envisaged that in order for mining to remain a cornerstone in the Guyanese Economy it must be managed in a sustainable manner. Consideration also has to be given to the Indigenous communities in terms of their needs and level of dependence on various resources alongside considerations about where mineral resources are located and management feasibility.

In planning for new PAs, determining cost and potential conflicts are integral to the overall process. How can the Country develop along a very environmentally sustainable pathway? where are indigenous communities located? what extensions to indigenous lands are currently under review? would communities support a PA in that particular area? What is the level of socio-economic dependence on the different resources in the country? where are people earning their income and through which activity? These questions helped the PAC to determine the "cost/value" and potential conflicts. The final consideration is whether the unique biodiversity/ecosystems of a particular area has more value. Whether there is representation of the same ecosystem in another area with less conflicts? These are serious tradeoffs for consideration in the process.

The PAC used the Marxan conservation planning tool to identify biodiversity hotspots in Guyana. This tool allowed for the overlay of various categories of data inclusive of, vegetation maps, biodiversity and ecosystems, soil, agriculture, forestry, roads and other infrastructure development, housing and industrial development, gold, diamond and other mineral data. Upon completion of the analysis the model identified at least 22.5% of the country which can be placed under protection. The model also showed that most areas of high biodiversity value were also rich in mineral deposits

As an agency, our focus now is working with many agencies and the indigenous communities to add a protected area that provides connectivity with the other forming biodiversity corridors. The North Rupununi Wetlands were identified in the model as the area of highest importance for protection.

The Guyana case study shows that it is important to have a strategic approach to protected areas management and expansion in the light of natural resource extraction. Particularly in countries that depend on the revenue generation from such activities for the development of the State.

CONTRIBUTIONS FROM PANEL MEMBERS

Strategic Planning To Address Impacts Of Gold Mining On Protected Areas In Guyana

Protected Areas Commission - Sara Henry

The Protected Areas Commission in Guyana (PAC) has developed a number of plans to identify current threats in Protected Areas and develop strategies in response to the latter. The two key instruments used are the PAC Strategic Plan and the National Protected Areas System Plan which is still being drafted.

IWOKRAMA – Raquel Thomas-Caesar

IWOKRAMA has also different plans focused on activities such as timber harvesting, tourism, mining, logging and illegal hunting and are conducted in cooperation with the police. There is also a focus on the Indigenous communities in these areas and formal agreements have been drawn up with them through Memorandum of Understanding and a Collaborative Management Agreement. Communication with these communities is two-way as they have a great deal to offer in terms of their traditional knowledge.

Guyana Geology and Mines Commission – Quincy Thom

As far as mining is concerned, this activity is illegal within the boundaries of legally defined Protected Areas. Mining in Guyana is carried out by consent from villagers and their council, when conducted within the boundaries of titled Amerindian Reservations. Protected Areas are not areas that would be open to mining or prospecting and the Geology and Mines Commission would enforce legal sanctions on any Miner or mining operation who mine illegally within the boundaries of our protected areas.

Strategic Planning To Address Impacts Of Gold Mining On Protected Areas In French Guiana

French Guiana National Park – Arnaud Anselin

Gold mining has been a serious issue since the creation of the French Guiana Amazonian Park, especially as the presence of institutions is scarce in the south of the country and the population recalled some of the declarations made when the Park was created. There is some confusion around the objectives of the Park and its missions, and little understanding of the institutional background.

When the Park was first established, a charter was drawn up which included objectives and activities referring to the monitoring of the impacts of illegal gold mining and the combating of this activity. Developments have been such that armed park rangers now patrol the Protected Areas.

The rangers partake in firearms training three times a year which raises questions around the proper positioning of the Protected Area with respect to this phenomenon.

Another complicated issue concerns how to integrate, into a new Park, strategy elements which are part of a more global strategy to combat illegal gold mining that is mainly coordinated by the prefect.

As far as nature reserves are concerned, the strategy of French Guiana is similar to that of Guyana. As part of the Nature Reserves Network in France, French Guiana operates a similar strategy with management plans for each individual area.

The Nouragues nature reserve is the only reserve to have illegal mining within its area. Five-year management plans are implemented as well as intelligence missions in close cooperation with ONF (National Forest Office) and other agencies. The involvement of ONF staff on the ground is proving highly effective.

The Nouragues Natural Reserve is currently planning to review its 5-year management plans focusing on illegal mining and develop 10-year plans within continued collaboration and intelligence missions and signed agreements with partners.

Strategic Planning To Address Impacts Of Gold Mining On Protected Areas In Suriname

Ministry of Natural Resources and Ministry of Regional Development – Valerie Lalji & Wilco Finisie

Suriname applies a strict policy for the protection of its Protected Areas. Illegal mining is prohibited in nature reserves which are governed by a specific law. The nature conservation act is in the process of being revised and various management plans are being updated.

Strategies are in place in the country to protect natural reserves and combat illegal mining. Illegal activities do take place in the Brownsberg Nature Park and Ministry of Spatial Planning, Land & Forest Management has been involved with the Ministry of Natural Resources to organize activities and operations in order to curb illegal mining. Some of the operations have been successful but this is an on-going issue as miners tend to keep coming back.

Miners will naturally be attracted to the Protected Areas in Suriname as the gold deposits in the area are extremely lucrative. The Ministry of Natural Resources has changed the borders of the Park cutting out the northern area and expanding the southern part resulting in legal mining being authorized in the north. Miners in the Protected Areas are encouraged to register as legal companies forming a kind of cooperative arrangement.

Strategy and planning in Suriname also focus on community development. The aim is to minimize the impact of mining in Protected Areas, so the government has decided to create an alternative source of income for local communities working in mining.

The government of Suriname has granted forestry rights and logging concessions for local communities to enable them to develop alternative economic activities. Agroforestry activities, agriculture and the protection of non-timber forest products are also supported. There also are strategic conventions and fixed agreements with Iamgold and Newmont with funding granted for local communities to promote sustainable activities. Negotiations have also taken place with these two multinational companies who work in Suriname to encourage them to buy products and supplies from the local communities.

Participants' Feedback

Guyana was asked further information on the different status of their Protected Areas. For example, in France, there are large but also smaller areas, such as reserves. In Guyana, the Protected Area provides for large Protected Areas like National Parks, they are all considered IUCN category 6. There are talks to first amend the legislation to have smaller areas and biosphere reserves or small conservation areas. The example of French Guiana with smaller reserves managed by NGOs and agencies is interesting, however there is no actual legislation for these. It is noteworthy that the Forestry Commission can establish reserves, like the mangrove areas but the mechanisms need to be improved.

Ms. Josee Artist from VIDS, Suriname, insisted on the fact that Indigenous people need to be involved in the protection of their own areas. She highlighted the fact that in Guyana, local communities are involved in the management process and pointed out that, just like them, local communities in Suriname would like to develop their own strategies and carry them out properly. It is important to have a good collaboration between the institution, government and Indigenous whose plans are to be listened to and supported.

In reaction to her intervention, several responses were observed. The upcoming session on how to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector would be an additional space to discuss the matter. Guyana indicated that they have been sharing a lot and would continue to do so in terms of Indigenous rights and political power. Indigenous communities also have their own management plans for the land they live in, they are determining how other agencies support and work along their framework.

HELICOPTER OVERFLIGHTS

Willing participants were invited for 20-minute helicopter overflights. There were 2 helicopters and they were around 4 to 5 per helicopter. Meanwhile, the other participants, those waiting for their turn and the reluctant participants participated in group discussions.

Participants' feedback after the overflights

Questions were asked about financial help for companies doing restoration. As far as French Guiana is concerned, when applying for any type of mining concessions, companies make the commitment to reclaim 100% of the land and reforest 30%. This is what the law states and they can pay another company to do it or do it themselves. Most of the time, they do the reclamation part, that is to say: filling in the pits and wells that they dug, rechanneling back the river with their own workers. As for reforestation, some of them have their small plant nurseries, so they will take seeds that they find on their site before the reforestation. But this has limits, as this is very specific and needs specialized people, but it is not easy in the mines here. In French Guiana, there are some companies specialized in this activity such as Solicaz. They have a true expertise with mycorrhized and nodulized endemic plants.

As far as financing is concerned, companies do not have any support. Normally, what they are supposed to do is constitute a reserve and take from their profits, so that at the end of the activity, they have the money necessary to do the reclamation. Generally, the estimate is that it costs around 5000 euros per hectare for

civil engineering, restoring the terrain, and another 5000 euros for the reforestation part. That is if they do it with their own resources, in-house. Reforestation is around 7500 euros per hectare for an external business. The cost of labor in French Guiana can explain the price. It was also indicated that in French Guiana, using the *Acacia mangium* tree species is now prohibited.

With respect to monitoring the activities to make sure that they are environment friendly and respect the legislation, ONF and DGTM, the institution in charge of mining, are the ones who intervene. ONF carries out sustainable management of the forest. Companies sign a contract with ONF which monitors the mine. If the restoration and reforestation is not done, the company cannot obtain another mining permit. ONF can also issue citations, fines that can lead to prison sentences.



xii. Valerie Lalji from the Ministry of Natural Resources of Suriname

Group Discussion

The participants were divided into four working groups and assigned the following topics for discussion:

- 1) How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?
- 2) Control strategies that respond to illegal and legal goldmining in and around protected areas:
 - a. Internal strategies: what can be done by the PA itself, what resources can be mobilized?
 - b. External strategies: relates to the mobilization of other institutions

GROUP 1

1) *How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?*

- Partnership
- Revision of the laws that govern the management of protected areas so that more communities can be involved in how activities in the PA and its buffer are managed. There should be inclusion of Free Prior Informed Consent (FPIC) in the revision laws and with its definition. It is believed that this would allow greater inclusion of indigenous communities.
- FPIC should be clearly defined in all plans that oversees the management of Protected areas.
- In the case of indigenous communities, there needs to be higher level of representation since there can be dilution of decisions and suggestions of the indigenous communities.
- All the regulations/laws and management plans regarding mining and conservation of protected areas need to be in line and complement each other. Taking into consideration the rights of local communities and environment.
- Commissions are installed to give advice on sustainable allocation of mining blocks (represented by government institutions and local communities). In French Guiana there is the Grand Conseil Coutumier (Customary Council), the lawful organization representing the indigenous community and the maroon community). Whenever the government has a project, they will need to run it by this Council and it will get back to the communities to inform them and get their feedback. Once they get the decision from the communities, they will formulate some advice for the government. And the government can decide if they will approve the project or not. In the end, the decision is made by the government. The Council would like to see that the law changes on this matter, where they can have full power in decision making rather than an advisory power.
- In Suriname there is also a commission for issuing mining permits, but the Minister of Nature Resources is the final institution who is making the decision.
- You need to implement and educate government institution, local communities and permit holders in order to have a good restauration of former gold mining site.
- Including locals in research activities so they can be aware of the resources within the area and the potential impact that are likely to emanate

- 2) *Control strategies that responds to illegal and legal goldmining in and around protected areas:*
- *Internal strategies: what can be done by the PA itself, what resources can be mobilized?*
 - *External strategies: relates to the mobilization of other institutions*
- Education and awareness of local communities about protected areas and the threats of illegal gold mining activities
 - Monitoring of traffic to and from the area
 - Organization of the groups that have an interest against mining so that their voice can be heard louder.
 - Develop alternative livelihood activities based on the local situation
 - Establishment of networks within the various communities
 - Conversion of minds and mindset
 - Better cooperation from both the international and local standpoint
 - Improved monitoring capacity



xiii. Group discussions

GROUP 2

1) *How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?*

- French Guiana- Local chief asked park management to organize meetings to get help with this challenge as there are limited resources in communities to deal with mining impacts
- Sharing knowledge- both ways, including strengthening local governance of communities so they can be involved esp. Suriname and French Guiana multisector approach inclusive of NGOs etc.
- Use and training – newer methods and technologies for solutions to PA management issue but also for communities managing their own resources and areas... e.g. participatory videos/ photo stories
- Where there are language barriers - finding ways to transfer information to communities to get more active involvement in PA management and solutions
 1. French Education system does not have the capacity to adapt to communities' needs at all times
 2. Suriname – formal language is Dutch but not all communities speak Dutch, some use the local languages informally, but no effort on curriculum for bilingual education, but some efforts were focused on Math.
 3. Guyana -Standard English in schools but efforts to teaching in local languages in some schools
 4. How do communities see language (more holistically) and how do they say in their language so that Government and other institutions can understand? It is often the other way around; efforts have to be two-way to connect
- Project in French Guiana in the National Park- better managing resources. Chose mediators in communities in different communities- they meet with communities and get communities' feedback regarding concerns about natural resources e.g. issues with hunting of protected species spider monkey; mediators trained- legal frameworks on PAs, and benefit from the dialogue
- Can Tribal peoples be given the chance to present their own visions and strategies on land use management, on how to deal with PAs and on how to protect their area

2) *Control strategies that responds to illegal and legal goldmining in and around protected areas:*

- *Internal strategies: what can be done by the PA itself, what resources can be mobilized?*
 - *External strategies: relates to the mobilization of other institutions*
- i. Internal strategies
- Monitoring Systems

- Parc Amazonien - lobbying by reports given to Board Members and some disseminate to media so it becomes an issue to address; very sensitive and has to be done strategically (try to pass the view that illegal mining does not only have impact on environment but also the people)
 - PAs need to have investment into monitoring techniques and equipment- e.g. water quality equipment, access to overflights etc.
 - Need to have more frequent assessments for PAs e.g. Overflights as in some territories where there are more illegal miners coming in e.g. from Brazil
- Local communities also employed as rangers and managers-
 - Including communities in recruiting process for rangers and other staff
 - Community engagement protocols must be clear and follow FPIC
- ii. External strategies
- Collaborative partnership is important- Govt, NGOs, Academia, Donors etc.
 - Important to have dispute resolution systems set up
 - Important that PAs have some level of autonomy e.g. PAC in Guyana is Semi-Autonomous, also Parc Amazonien



xiv. Group discussions

GROUP 3

1) *How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?*

- What is in place that is working/not working
 - ✓ Mining not allowed within protected areas in Guyana. PAC will consult with the GGMC to identify mining sites in new PAs and GGMC may identify new locations
 - ✓ GGMC should take the priority for conservation into consideration when issuing new mining permits
 - ✓ Suriname is reorganizing: Maroon, Indigenous people and agriculture directorates – work with local communities to create long term sustainable development plans (community and national perspective). Platform for defining development for the future, but also to include the govt perspective (link to the govt strategic plan)
 - ✓ Suriname government has facilitated small scale mining in the Brownsberg Park (excised a part). Government is also promoting collective action with miners
- Consultative process needs to be defined and as inclusive as possible and MUST involve the communities
 - FPIC and other safe-guards e.g. gender
 - Communities need to be given the information in a form that they understand, and their feedback needs a translation back to the planners
 - Care/consideration has to be given to the representation (who is representing the community)
- Situation in Suriname is complex: Maroons tribes have sub-clans and sub-clans cannot decide for other sub-clans → need to define a process for consulting with sub-clans / satellite villages
- Consultations are very expensive and communities need time to consider
- Make sure that the budget for the consultative process is well defined and included in overall budget of the strategic planning process
- Project to change law ongoing: recommendations to include more consultation

2) *Control strategies that responds to illegal and legal goldmining in and around protected areas:*

- *Internal strategies: what can be done by the PA itself, what resources can be mobilized?*
 - *External strategies: relates to the mobilization of other institutions*
- i. Internal strategies
- What can be done by the PA itself, what resources can be mobilized?
 - PA managers to collaborate with gold mining sector

- Increase in sharing of information, joint monitoring and joint action
- ii. External strategies
 - Relates to the mobilization of other institutions
 - Multi-stakeholder coordination and action e.g. Suriname and Guyana interagency coordination, French Guiana – EMOPI: collaboration of different services to act against illegal fishing and mining
 - Monitor implementation of compliance
 - Compliance.
 - Need to have trans-boundary coordination and collaboration/cooperation
 - Guyana – Brazil trans-boundary group (Roraima/Rupununi) can be used as an example

GROUP 4

Overall thoughts and ideas

Land use planning: is there a space for inclusion?

- ✓ Need for a strong legislative framework
- ✓ Need for community organizations for community representation
- ✓ Important to do proper planning and involve everyone at the beginning to build a strong foundation
- ✓ Not underestimate the challenges to communicate (different languages, culture)
- ✓ Participatory processes and approaches need to be designed for every context
- ✓ Improve benefits -e.g. employment, voluntary work is hard.

1) *How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?*

Guyana:

- Land use planning is on the table
- In Guyana there are community representative groups like KMCRG, NRDDDB

French Guiana:

- Views of people needs to be taken into account – proper consultations
- Too many expectations raised – no trust/relationships
- Planning must therefore be realistic
- CVL (Local Life Committee) good tool but need for skills to be effective

Suriname:

- Need for legislative framework that sets the tone
- Top down approach

- Government agencies' work overlap and clash
- Environmental education is required
- 2) *Control strategies that responds to illegal and legal goldmining in and around protected areas:*
 - *Internal strategies: what can be done by the PA itself, what resources can be mobilized?*
 - *External strategies: relates to the mobilization of other institutions*

Guyana:

- Participatory planning

French Guiana:

- Relationship and trust need to be built
- There is a need to find a way to do planning that transcends elections cycles
- Challenges to involve people that have job, families, etc.

Suriname:

- There is a need to involve people e.g. in Brownsberg
- Need to settle wardens within the communities
- Involve communities in management
- Look for and promote other livelihood options

GROUP 5

1) *How to promote inclusion of Protected Areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration)?*

Local perspective

- Emphasize the importance of inclusion of all stakeholders (especially local communities) prior to the establishment of a PA, every stakeholder has to mention their need (Suriname specific, no FPIC). This enables both government and local communities to create alternative livelihoods which address the needs of the locals.
- Include local communities in decision making bodies
- Educate the youth within the local community about PA and initiate programs for them to take leadership roles to enable better decision-making
- Foster communication between local community and PA managers
- Training of local park rangers.

The challenges for the sustainability of this initiative is the formalization of these trained rangers' position by central government. (Suriname)

- Political willingness

Guyana has better position for indigenous communities, president wife is a native and there are 3 native Ministers

Regional initiative

- Create an armed force (Suriname, French Guiana and Guyana) financed by the United Nations (“blue helmet”) and benefit from the France action of burning illegal goldmining operations.

2) *Control strategies that responds to illegal and legal goldmining in and around protected areas:*

- *Internal strategies: what can be done by the PA itself, what resources can be mobilized?*
- *External strategies: relates to the mobilization of other institutions*

i. Internal strategies:

- budgetary restrictions, importance of collaboration with international NGO's for funding of activities.
Ex. Guyana, local attorney and the education of youngsters enable stronger communities (***enable leadership within the community***). Preserve local traditions of agriculture, tourism, local mining, etc.

ii. External strategies:

- regional approach; creating a ***World Guiana heritage*** among the 3 Guianas

Use the concept of crime against humanity, already existing at the international stage, crime against nature.

Some ideas:

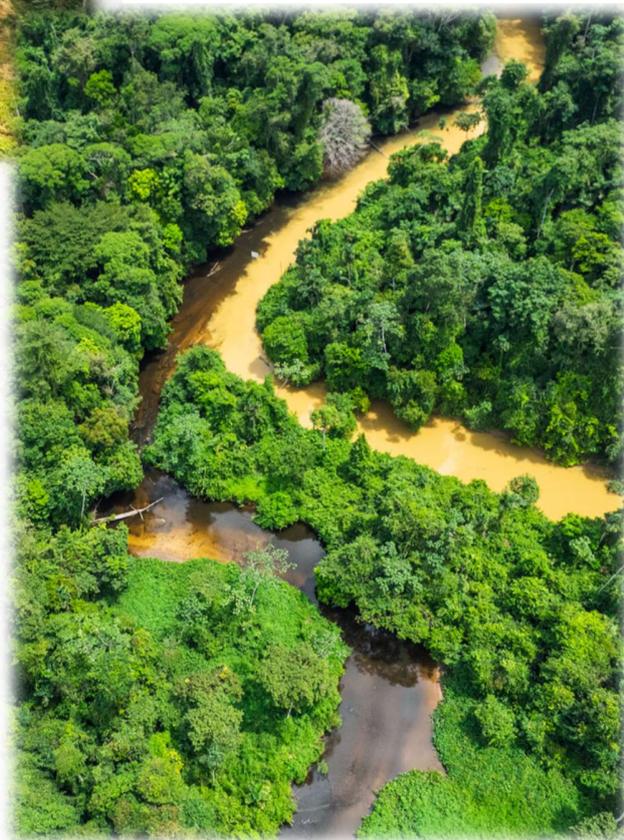
- Raise interest of celebrities to bring this concept,
- Use of active social networks, closed WhatsApp group (no language barriers, responsive group; there are pros and cons; emotional) the RENFORESAP project coordinator can be the administrator,
- Use of the international legal system.

Photos of the overflights



xvi. Belizon forest tracks & Jalbot - end of restoration phase of a legal concession © Clément Villien - WWF

xv. Confluence point of Brodel and Mazin creeks - impacts of legal & illegal goldmining ©Clément Villien - WWF





xvii. Belizon forest tracks & Jalbot - restoration phase of a legal concession ©Sevahnee Pyneecandy - PAG



xviii. Brigitte creek - legal mining site during operation ©Clément Villien - WWF

Workshop's program



RENFORESAP's Regional Workshop on

Strategies against the threats from illegal goldmining in the Protected Areas of the Guianas

12th – 14th of February 2020

Objective of the workshop:

Improve the management of protected areas through the sharing of best practices and experiences between stakeholders and communities

Expected outcomes:

Contribute to an action plan on the strategies against the threats from illegal goldmining in the Protected Areas of the Guianas and Identify opportunities of cooperation

DAY 1: Wednesday February 12 th , 2019 – ROYAL AMAZONIA HOTEL IN CAYENNE	
8:30 – 9:00 am	Registration
9:00 - 9: 25 am	Welcoming Address and Opening Remarks
09:25 – 09:45 am	Presentation of RENFORESAP Project
09:45 – 10:15 am	Getting to know the participants
10:15 – 10:25 am	Introduction of Workshop Theme & Objectives
10:25 – 10:40 am	BREAK

10:40 – 11:40 pm	Overview of the gold-mining sector in the Guianas – <i>Countries' legal framework</i>
11:40 – 12: 55 pm	Protected Areas and Gold Mining – Country Perspectives
12 :55 – 2 :00 pm	LUNCH
2:00 – 2:25 pm	<i>Regional Perspectives - The Gold Mining Sector of the Guianas and implications for Nature Conservation and Protected Areas Management (WWF)</i>
2:25 – 3:40 pm	Monitoring: How are protected areas responding to incidents and impacts of illegal and legal goldmining?
3:40 – 3:55 pm	BREAK
3:55 – 5:10 pm	Innovative partnerships: (1) Diplomatic cross boundary, (2) Inter – Agency (3) PA-Community
5:10 – 6:40 pm	Group discussion on: What are the possible mechanisms of control that protected areas can implement in and around PAs
6:40 pm	END of DAY 1

DAY 2: Thursday February 13th, 2019 – CAMP CISAME IN REGINA	
6: 00 – 10:00 am	Departure to Camp Cisame by bus and boat
10: 00 – 10:30 am	Arrival at Camp Cisame - <i>Workshop and Venue logistics</i>
10: 30 – 12:00 am	Innovative approaches: (techniques of restoration for impacted sites, biodiversity and ecosystem restoration, etc.)
12:00 – 1:30 pm	LUNCH
1:30 – 3:00 pm	Impacts on local communities: - How to involve local communities in preventing the impacts of illegal and legal goldmining on their livelihoods?

	- What kind of alternative income opportunities/incentives can be supported/offered by protected areas and other organisations to local communities?
3:00 – 3:15 pm	BREAK
3:15 – 5:00 pm	Sharing of Lessons learned and Best Practices in the Guiana Shield Region
5:00 pm	END of DAY 2

DAY 3: Friday February 14th, 2019 - CAMP CISAME IN REGINA	
7: 30 – 8:00 am	Registration
8:00 – 9:15 am	Strategic Planning to address impacts of gold mining on PA in the Guianas
9:15 – 9:30 am	Briefing on helicopter overflights
9: 30 am – 2:00 pm (include lunchtime) Start of helicopter rotations Each Flight will be of 25 minutes duration	Group discussion on: 1) How to promote inclusion of protected areas managers and local communities in the strategic planning process of the mining sector (e.g. land use plans, prospecting, granting of mining rights, monitoring of impacts, restoration) 2) Control strategies that responds to illegal and legal gold-mining in and around protected areas: <ul style="list-style-type: none"> • Internal strategies: what can be done by the PA itself, what resources can be mobilised? • External strategies: relates to the mobilisation of other institutions
2:00 – 2:45 pm	Restitution time of group discussion
2:45 – 3:00 pm	Closing Remarks
3:00 pm	END of DAY 3 AND BACK TO CAYENNE

The participants

STRENGTHENING THE NETWORK OF PROTECTED AREAS IN THE GUIANAS

TROMBINOSCOPE • WHO'S WHO • FOTO PAGINA

Strategies against the threats from illegal goldmining in the protected areas of the Guianas

Les stratégies de lutte contre l'orpaillage à proximité et dans les aires protégées des Guyanes

Cayenne & Régina, Guyane Française du 12 au 14 février 2020

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Who's Who . Trombinoscope . Foto pagina

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Strategies against the threats from illegal goldmining in the protected areas of the Guianas

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