



## Fast Forward to Conservation or Take Time for Consultation

*A Dilemma in Gabon's Gamba Protected Areas Complex*

- Drilling for oil in an conservation area
- 'The area is big, and the hunters are many'
- Involving villagers, chiefs and policy makers
- 'If Shell leaves, Gamba will die'
- Biological surprises

The Gamba Protected Areas Complex, situated at the coast of West-African Gabon, provides all the stuff nature documentaries are made of: elephants, crocodiles, gorillas, hippopotami, mamba snakes and just a handful of people. It's natural wealth is exceptional, even by African standards. But 'protected area' is an elastic concept in Gabon. Logging and oil companies have official permits to work here, despite protests of national conservation authorities. Poaching has soared as a consequence. A conservation project is attempting to save a gem, in the face of powerful interests.

# A unique mix of habitats and biomes

*Five minutes after leaving the village of Setté Cama, guard Jean-Louis takes a sharp bend with the fibreglass boat and stops the engine. Slowly, we drift to the shore of the lagoon. Then, suddenly, we are eye to eye with a *Loxodonta africana*, the African forest elephant.*

The big mammal has an amazingly dark brown skin, enormous jug-ears and shining white tusks. We have surprised him taking its morning shower and he doesn't like it. Snorting loudly, he takes a few steps in our direction. But the water is too deep for him to reach our boat. He suddenly turns around, clambers laboriously up the high shore, and disappears into the forest. The sound of branches breaking and the sight of swaying tree tops enables us to follow his trail for several minutes.



*Logs at Petit Loango beach*

This is the Petit Loango Reserve, one of the oldest protected areas in Gabon. Species and habitat diversity is overwhelming. Soon after our encounter with the elephant, we walk on the beach. A large monitor lizard appears from a pile of stones. The prehistoric-looking animal hurries as fast as its short legs permit to the safe haven of sea, and disappears in the waves. The forest animals in this area have a curious relationship with the nearby Atlantic Ocean.

This coastal part of Gabon is probably the only place remaining in Africa where western lowland gorillas, forest elephants and hippopotami can be found on the same beach.

Unfortunately, we are unlucky and do not encounter this sight. But while on a forest trail to the small settlement of Sounga, we are followed by large groups of chimpanzees. The animals are especially attracted by the whistle calls of guard Jean-Louis.

For dessert, on this beautiful day, we encounter a group of five hippopotami, floating lazily in the water of the lagoon. Their occasional snorts and grunts echo within the closed forest wall on both sides of the lagoon and roll back over the water. The moment we decide this should be it for the day, a fluorescent green mamba, one of the most dangerous reptiles in Africa, gracefully slips through the crystal-clear water and hides itself under our speedboat.

The Petit Loango Reserve is part of the Gamba Protected Areas Complex, a unique mix of habitats and biomes, representative of the biological diversity of coastal tropical forest ecosystems of the western part of Central Africa. Gabon's government decided years ago that this ecosystem should be preserved for the future and awarded it protected status.

But Gabon is a developing country with rich natural resources. Protective status is no guarantee of a sustainable future for the Gamba area. Much of the Complex has been logged at least once; currently, two forestry companies are operating in the region. Even more disruptive are the oil exploration activities occurring all over the coastal area. Contrary to national legislation, special authority has been provided to Shell-Gabon and other oil companies to explore and exploit several oil and gas fields.

Probably the most negative effect of these activities is the improved access they offer to poachers. Uncontrolled hunting threatens to destroy the wildlife in the Gamba Complex in a few years. Conserving this unique area for the future by means of an integrated conservation and development approach, is a challenge both Gabon's government as well as WWF have taken up. It is too early to say if they will succeed. If they don't, a unique piece of Africa is likely to disappear forever.





WWF/CANON/MICHEL GUNTHER

*Drilling for oil in a conservation area*

# 'If Shell leaves, Gamba will die'

*Arriving at the airport, there can be no doubt that this is Shell-town Gamba. The red-and-yellow Shell flag flies only centimetres lower than Gabon's national flag. Most of the parking lot is reserved for Shell vehicles; the majority of people wear black boots and blue or yellow overalls emblazoned with the Shell logo. White-skinned people arriving or leaving do not wear this uniform but - almost without exception - they are also staff of the Anglo-Dutch multinational.*

Boomtown Gamba itself, with its 7,226 inhabitants, is a collection of residential areas inhabited by expats and large suburbs with more simple houses for the lower-paid. Between the city and the ocean the Shell-area stands out: gigantic oil tanks and extensive building-complexes. Once a week, the oil is pumped to a terminal some dozens of metres into the ocean; from there another pipeline goes further into the ocean and, at some point, reaches a waiting supertanker.

Oil production is carried out in fourteen concessions, all located in protected areas. *The*

*Direction de la Faune et de la Chasse* (DFC), the government department in charge of protected areas, is opposed to oil exploitation within the Gamba Complex. But special authority has been provided to Shell by the Gabonese Government.

Most experts agree that the direct negative effects of the oil exploration and exploitation are limited. ‘The impact of petroleum activities at the oil fields is probably as minimal as possible,’ says Marc Thibault, technical advisor of the WWF Gamba Complex project. The main reason is the isolation of the areas, which allow the oil fields to be treated as offshore platforms. Only company vehicles and aircraft are able to reach the area. The risk of new communities arising in and near the protected areas because of economic attraction is thus minimised. Hunting and firearms are also strictly forbidden.

‘However,’ says Thibault, ‘there can be no doubt that the Shell operations here at present are the biggest constraint to this conservation area. The presence of Shell has attracted thousands of people to this sensitive area. These people have money to spend and one of the things they want to spend it on is bushmeat. Per capita, the inhabitants of Gamba, the only city in the protected area, are amongst the biggest consumers of bushmeat in Gabon. Poachers and traders make big profits here. But already the hunters have to move further and further afield to satisfy their needs. There is a real danger that these activities will completely wipe out the animal population in this area.’

### Why protect dangerous animals?

For almost an hour, a group of ten Shell employees - mainly male technical personnel and three female secretaries - quietly listen to an introduction by Aurélien Mofouma, education officer of the WWF-project. The session is part of an environmental training program offered to Shell by the WWF. During the current half-day session, the aim of the conservation project is explained, followed by rules for preservation the area. As long as these rules have to do with safety (no open fire, not allowing non-Shell people in the exploitation area, keeping a non-access corridor around the pipelines), everybody seems to agree.

Then the WWF-trainer touches the subject of hunting, which is, as he stipulates, illegal in the whole Gamba area. Hunting for commercial goals, as well as the trade in bushmeat, are totally prohibited. The only exception is traditional subsistence hunting by villagers. And only in the hunting season.

This announcement marks the end of the silent classroom. Everybody has something to say. Some of the Shell-employees seem sincerely surprised: they never heard of any regulation relating to hunting.



*Shell employees in the classroom*

BUREAU M & O

Others laugh or react in a more cynical way. ‘If hunting is not allowed,’ asks a young man dressed in a fierce yellow overall, ‘then why is it that you can buy bushmeat here everywhere, without any restriction?’

‘We are not yet in a position to control everything,’ admits the WWF-trainer. ‘But we do what we can.’ But, the young Shell-employee continues, ‘to be effective, you need many vehicles, boats and aeroplanes. If not, there is no way you can control this huge area. Do you have these?’ Some vehicles and boats, replies Aurélien Mofouma, ‘concerning aeroplanes – the only ones available in the area are possessed by Shell.’

But what, an elderly man asks, ‘if a python threatens to kill my baby. Do you still want me to protect the animal then?’ Of course not, the WWF-trainer says, ‘self-defence is always legal. But if you have killed a protected animal, like a python, according to the law you are obliged to inform the authorities about it.’ A roar of laughter illustrates how far these obligations are from daily practice.

Then one of the women raises her hand: ‘Some of these animals are dangerous, others bring about many problems for people in the area, like the elephants. So, what exactly is the purpose of protecting them?’ The silence after this question is gratefully used by Aurélien Mofouma for a plea for conserving nature and protecting animals threatened with extinction. ‘Nature is our resource for the future. What if one day the oil industry leaves the area here? Then we have to attract tourists to earn some extra money. But tourists only will show up when there is a rich and abundant nature.’

The WWF-trainer grabs the opportunity to warn of the possible dangers of consuming bushmeat. ‘There is no control at all on this meat. It is quite possible to catch dangerous diseases like Ebola or HIV by consuming illegal bushmeat.’ The argument does not convince the Shell employees, who point out that there is hardly any control on *legal* meat either in the

## ***The richest tropical forest ecoregion of the continent***

The Gamba Protected Areas Complex is located in the richest tropical forest ecoregion in Africa. Actually the Complex is located in three ecoregions: the Atlantic Equatorial Coastal Forest, the Guinean-Congolian coast mangroves and the Western Congolian Forest-Savanna Mosaic. The ecoregions corresponding to the coastal forests of Gamba are Africa's richest moist forests and exhibit pronounced narrow endemism.

The Gamba Complex borders the Atlantic Ocean with a long sandy littoral zone comprised of vegetated dunes and shifting coast line. Around the lagoons of Ngové (Iguéla) and Ndogo the landscape is essentially flat, with many lakes as well as permanent and temporary open floodplains depending on the season. The variation in geological formations in the area has resulted in several habitats and the presence of a wide array of associated species.

In the northern and eastern sections of the Gamba Complex humid evergreen tropical forest confirm the biological richness of the area. Wooded and grass savannahs add to the habitat diversity. The Doudou Mountains, rising to approximately 700m are a centre of endemism in Gabon. Its biological importance however is still poorly known. The presence of these different habitats, as well their interconnections, serve to increase the biological diversity of the Gamba Complex and reinforces the uniqueness of landscape.

country. But the WWF-trainer is not disconcerted: 'Stop eating bushmeat. If you don't do it for yourself, than do it for your children. They have the right to experience this rich nature too.'

But what about the hunters, someone wants to know, the villagers and the big traders in the city who profit most from hunting? The villagers are not the problem, replies Mofouma, as long as they obey the rules. 'The real problem is you in the city, demanding ever increasing amounts of bushmeat. And the bushmeat traders – the law applies to them too.'

That is the end of the training. The Shell employees leave the room, many of them still looking sceptical. 'That is the normal pattern every time,' says Mofouma. 'Everybody agrees with the necessity of protecting nature, as long as they are allowed to hunt or eat bushmeat. People feel they are entitled to that, living here in this area.' Still, the WWF-trainer is optimistic about the effects of his efforts. 'I am convinced that much of the information is picked up by the people and they will start thinking about it. This is what the evaluations we have done so far show.'

The present training sessions involve some 150 Shell-employees, most of them belonging to middle management. After an over-all evaluation, a decision has to be made about expanding the training to the higher echelons of the company. Aurélien: 'We really have to reach these people too. Many of them practice game fishing in the weekends. And some of them directly profit from illegal hunting activities. The other thing is that Shell's higher management are convinced that they do the best they can for conserving nature here. That may be so, but we feel much more can be done.'

### **Oil spills**

In 1997, Shell-Gabon produced its first ever public Health, Safety and Environment Performance Report. One year later, the oil company organised a national workshop on oil spills and contingency measures and produced an emergency procedures manual. In February 2000 Shell-Gabon introduced an environmental management system in order to comply to the International Organisation Standardisation (ISO).

These are praise-worthy initiatives. After all, there is in Gabon no legal obligation to do so. Or, to put it more correctly, implementation of existing environmental laws in Gabon is lacking. The Environmental Framework law, issued in 1993, has yet to come into effect. In 1997 a National Gabonese Action Plan for the Environment was launched, but again, no effective implementation yet.

So Shell-Gabon's environmental behaviour is not based on legal obligations in this African country, but on the company's internal guidelines which apply to operations all over the world. An illustration of this is the clean-up programme of the Vevy lagoon in 1997. The programme included the removal of sediments and disposal in a contained basin as a permanent landfill, as well as the re-vegetation of all areas affected by the clean up operations. A total of around 150,000 cubic meters of sediment were removed by dry excavation techniques and disposed of in a contained landfill. The programme - the first clean-up operation of this magnitude in Shell Gabon's history and undoubtedly one of the first in its kind in Africa at all - is estimated to have cost ten million dollars. The rumour is that the Government was not happy at all with how this money was spent and



### *Logging in the Gamba area*

would much have preferred it to be used in a more financially rewarding way.

At the site of the clean-up operation itself, not much is to be seen, though the work is completed. The Vevy lagoon, on the ocean side of the Gamba terminal, looks quietly beautiful, although some oil residue can still be seen on the surface water. The enclosed basin looks like a rise in the landscape surrounded by a one-meter high dyke. In between, grasses and other plants have already covered the sand.

However, the contractors seem to have overlooked one potential danger: the elephants, of which there are plenty in an area which has been relatively quiet for many years thanks to the oil operations. At several places, the dyke around the basin has already been severely damaged by the wandering animals.

Without regular monitoring and repairing of the damage, this could lead to serious problems in the future. The location of the containment basin - just a few metres away from a lagoon, which has open connections with large parts of this conservation area - could prove to be disastrously wrong.

Shell-Gabon still struggles with the company's new attitude, which first of all implies openness to the outside world. The newly appointed environmental officer at Shell's Gamba complex agreed to speak to us but vehemently denied us the right to quote him. And he was also not willing to hand over the company's environmental report, public though as it was.

Questions about Shell-Gabon's willingness to comply to the company's own environmental guidelines were raised again when it purposefully



discharged exploration sludge in the Ndogo lagoon, in May 2000. Local communities reacted promptly and threatened the company. A few months later, an oil-spill accidentally occurred in front of the Gamba terminal. Notwithstanding its own code of conduct, Shell-Gabon failed in notifying the local authorities and protected areas managers in a timely manner.

### Oil reserves near exhaustion

Local people see Shell's clean-up activities in the Vevy lagoon as just another sign of the company's approaching departure. After some thirty years of operations, the most profitable reserves in the area are near to exhaustion. Shell is not expected to be very interested in setting up new operations in the Gamba area. From an environmental point of view this seems to be an attractive option. But is it? 'There

is a real danger,' says Marc Thibault, technical advisor of the WWF project, 'that when Shell leaves, smaller oil companies with fewer environmental scruples will take over. Then it will be much more difficult to monitor the situation as we are able to do right now.'

Another, more acute, danger is the possibility that commercial gas or oil reserves are discovered closer to the lagoons, navigable rivers or existing settlements. If so, treating the oil fields like offshore platforms, such as with the present Shell operations, will prove to be impossible. On behalf of the oil company Amerada Hess exploration drillings were carried out in 1999 in front of the Petit Loango Reserve. Thibault: 'If oil exploitation starts in these areas, illegal human activity will be hard to stop. The oil companies do not have a mandate to prevent these human activities and will be unwilling to take action. Local authorities are currently not in a position to stop massive illegal hunting and other activities which threaten the flora and fauna in the Complex. Then we really are in trouble.'

Local people, however, are at the moment mainly concerned with Shell's future in the Gamba area. A departure of the oil company – the only employer in the region, and in fact the only reason for the existence of the city of Gamba – would be nothing less than a socio-economic disaster.

A few days after our visit to the Shell complex, we meet Aloise Bivigua, Head of District Three of the city of Gamba. Many years ago, he himself came to Gamba to work as a driver for Shell. 'Like everybody else here,' he says. 'All of us came to Gamba because of Shell. And if Shell leaves, then we have to leave too. Gamba then will become a ghost town.' Several bystanders concur. 'If nothing is done, Gamba will die,' someone says. But what can be done to prevent the departure of the oil company? 'There is nothing we can do about that,' Bivigua answers. 'The Government has to act, but we do not know if they will do so.'

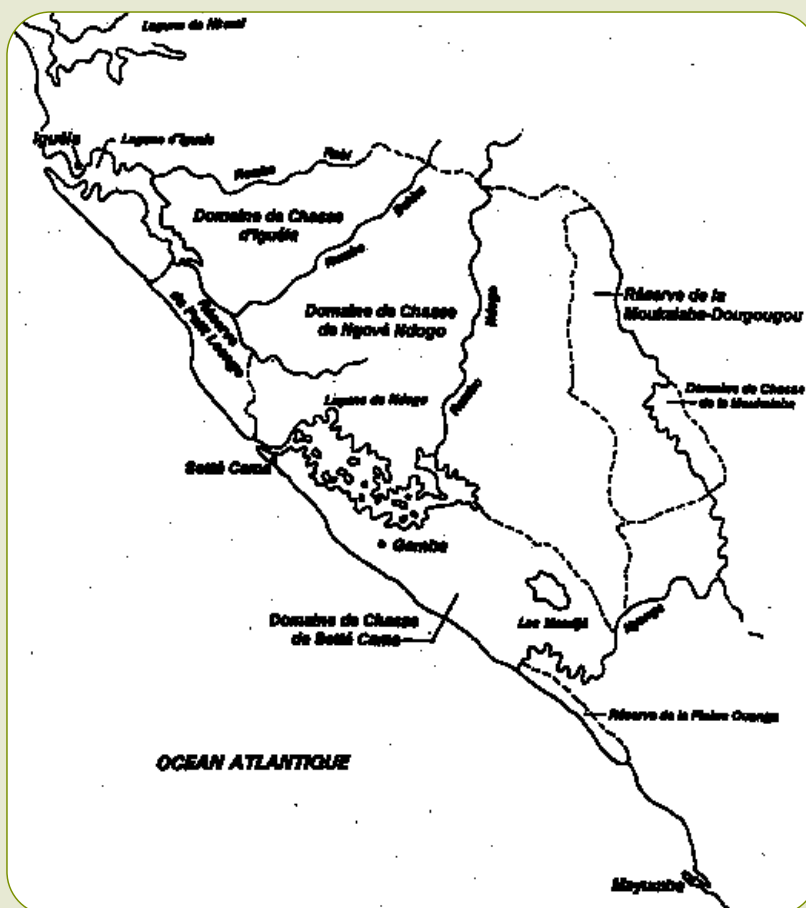
### Trust fund

Shell-Gabon is not willing to speak out on its future in the area. It is, however, pointed out that the main oilfield of Rabi is capable of producing onto the year 2007. 'At that time, maybe new techniques will make it possible to go on.' On the other hand, a full scenario has already been drawn up for a closing-down Shell-Gabon's operations.

Many people are convinced that Shell's operations in Gabon will be terminated completely within a maximum of ten years. Says Marc Thibault: 'Most people prefer to deny this reality. There are even government plans to invest heavily in this area. Building a harbour in the lagoon, constructing roads,

## The Gamba Protected Areas Complex

The Complex comprises 8 protected areas, covering 11,300 sq. km. There are three main blocks, of which Setté Cama has the oldest protected status. The Setté Cama Wildlife Utilisation Area (Aire d'Exploitation Rationnelle de la Faune), as it is officially called, is a collection of protected areas along the coast, totalling some 700,000 ha. The uninhabited Moukalaba Wildlife Utilisation Area (100,000 ha), separated from the Setté Cama group by some 30-50 km, is the second contiguous block within the Gamba Complex. The region between these two areas is called the Doudou Mountains and has only recently been classified, linking all of the protected areas into a single block. The Doudou Mountains Reserve has an area of some 332,000 ha. Most of the Gamba Complex is uninhabited. In the most populated area around Setté Cama, no more than fifteen settlements occur and the total population is estimated at some 2,300 people. The town of Gamba, with a population of almost 8,000, is the only urban complex. Apart from the Gamba residents, most human pressure on the protected areas complex comes from the settlements bordering the area.



other development projects. That, of course, would have a disastrous effect on this conservation area. But besides that, it seems rather pointless in a situation where many inhabitants will leave Gamba when the oil industry leaves.'

In contrast to official government policy, Gabon's Minister for the Environment has already warned Shell to think about the future of the area after its departure. From a conservation point of view, this should include measures such as cleaning up the whole area, closing down of roads, and dismantling all constructions that could attract people to the conservation area. From a socio-economic point of view, however, it is less obvious what responsibilities there would be for the oil company.

Thibault: 'Some time ago the company hired a consultant to study the present socio-economic

situation. At that time we were doing about the same kind of work. So we reacted angrily, stating that this was a waste of time and money.' It resulted in talks between the project people and the top management of the oil company on the future of this area.

In May 2000, an independent consultant and a WWF lawyer came to Gabon to do a feasibility study on opportunities for a trust fund and a debt-for-nature swap in Gabon. Marc Thibault dreams of setting up such a trust fund – with Shell-Gabon financially involved – with which to invest in the socio-economic development of the area. If Shell-Gabon were willing to donate a substantial amount of money, debt swaps could be organised. Part of Gabon's large foreign debt could thus be used for further conservation initiatives.





WWF/MICHEL GUNTHER

*Western lowland gorilla*

# ‘The area is big and the hunters are many’

*‘Elephants and buffaloes march through our village at night and eat our maize, manioc and bananas. People are terrified. Something has to be done. So, what is your solution for this problem, what can WWF do here?’*

Jean-Claude, son of the old village chief of Setté Cama, is angry - or at least pretends that he is - and Serge Komby, WWF’s village worker (*collaborateur villageois*) in this area, is an easy target. It is Serge’s task to inventory the communities’ problems and wishes, as well as to map out their relationship with the surrounding protected areas.

On a stroll with him through the sandy main street of this small fishing village, it is not hard to meet people and hear about their problems and aspirations.

However, it is also clear that the presence of WWF in this isolated area has raised expectations to a perhaps unrealistic level.

Jean-Claude takes a deep breath and continues his monologue. ‘The forest brigade, the village worker; everybody says that WWF will improve our situation. But nothing has changed yet. We are still confronted with the elephants. We still have this problem of a dispensary without medicine. And what about our fish? These Angolese trawlers approach the mouth of our lagoon and catch everything. The situation is getting worse and worse. So, is WWF able to chase away the elephants, give us medicine and help us to get rid of these foreign trawlers? I sincerely doubt it.’

Jean-Claude spits on the ground, crosses his arms over his chest and looks at us, playing a waiting game.

Serge Komby sighs and says resignedly: ‘I’ve told

# Subsistence fishing

**G**amba, 6.30 AM. On the outskirts of the city, at a small strip of sand on the border of the lagoon, the supply of fish has been arriving since daylight. At regular intervals boats arrive, mostly small, wooden pirogues with one or two fishermen. Each arrival is welcomed by a small group of potential buyers, most of them women. As soon as a boat



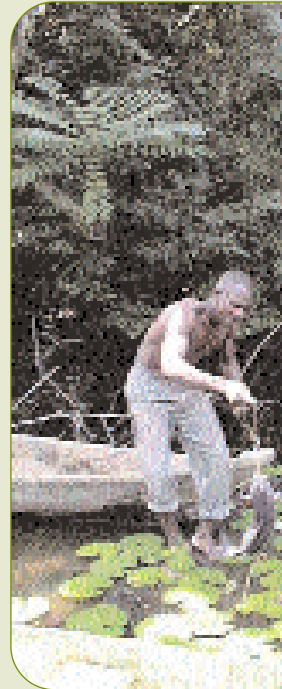
reaches the shore, dresses are pulled up and the women wade out to check the fish supply. One man accompanies them on every occasion. He is not in the market for buying fish, but is only interested in the amounts and the species which are supplied. While the

women check the fish and debate if it would be a good buy, he sits down and makes notes.

His name is Jean-Pierre Bayé, a researcher employed by the WWF project. Every day, he visits the several places in Gamba where fish is supplied, as well as the local markets. In a few words, Bayé sketches the situation. 'The daily average of boats bringing fish to Gamba is around fifteen. Altogether, they deliver some five hundred kilograms a day. However, there are big fluctuations. During the full moon the supply is much less. The highest demand is at the beginning of the month when most people have money. The price-system is

simple. The prices of most fish are fixed at 1,000 franc CFA a kilo, except for some rare species where prices are negotiable.'

The ultimate aim of Bayé's counting and observing is to study the impact of the fishery activities on the ecosystem of the



protected areas. 'At this moment I can't guess what this impact is. One can only guess given the low population pressure. There are some worrying developments: the use of larger and finer nets by local fishermen and the use of trawlers. More attentive are the foreign trawler boats. The fishermen, become bolder by the trawlers, are transgressing Gabonese territory. The trawlers, approaching the mouths of the rivers, are catching fish. These stories have not been reported before. I says, 'this could be a serious threat. Like hunting, fishing in the Gamba is prohibited, but is not disallowed in the lagoons, are considered protected areas for local communities. Recently, there has been reported between villages a conflict over fishing rights.

We get an illustration of this when a new Fiberglass boat arrives. Immediately two pirogues present and hurry to buy one. It soon shows why: there is a lot of fish available in this boat, 3-4 tons. 'These two salesmen,' B

# and foreign trawlers



PHOTOS BUREAU M &amp; O

here but from Togo.' The men are hired by a rich resident from Gamba, 'someone who holds a high position with Shell-Gabon.' The two men from the neighbouring country are professional fishermen, whose methods are quite different from those of local fishermen. One difference is that they work every day, while most local people only fish when they feel like it or are in need of money. The methods the Togolese use can be quite destructive: they regularly block complete rivers and catch everything behind the dams. 'There is a lot of opposition amongst local fishermen against these people and their methods,' Bayé says when the empty fiberglass boat has left. 'The fact that they work for this well-off man, and are under his protection, incites extra irritations. Local chiefs are bribed with a few bottles of pastis, and this way they get permission to fish at places which are traditionally reserved for local people. I feel we have to stop this development. If not, this could be the start of commercial fisheries here. In the end, that could lead to a future ban on all fishery activities in the Gamba Complex, which would really hurt the local people.' On the question of how to stop these activities, Bayé turns from researcher to activist: 'We will organise a meeting with local fishermen and chiefs to seek an extradition order for the two Togolese. We have done this before and it is a very effective method. Although this time it might not be that simple, because powerful interests are involved.'



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*Sette Cama:  
WWF vehicle  
offers a  
welcome  
transport  
possibility*

you before that WWF is not going to solve all of your problems. We try to help you with the problems you have with the big animals. You are aware of our conversations with the women here, about the possibility of constructing fences around the fields.'

'But that is not enough,' Jean-Claude interrupts. 'These animals come into the middle of our village. Some time ago even a hippo came here and almost killed a baby.' So, we ask Jean-Claude, what would be your solution for this problem? 'Shoot them,' he blurts out. 'You have to allow us to kill these animals to solve the problem.'

Obviously, this is not the kind of solution WWF would be willing to support. Besides that, this is a protected area, and killing wildlife is forbidden. In most parts of the area, people do not really care about these regulations, but here, in Setté Cama, they have to. The headquarters of the DFC brigade are located close to the village and every gunshot would be noticed.

Saying goodbye to Jean-Claude, we ask him to warn us as soon as wild animals are spotted in the neighbourhood of the village. For the next three days and nights we will be staying in the DFC brigade's headquarters near the village, so we have a chance to experience the nuisance with our own eyes. However, we do not hear from Jean Claude again. Which is, of course, no proof but some indication that there might be slight exaggeration in the stories which are being told. 'The image of herds of elephants or buffaloes marching every night through the village is far beyond reality,' Sergy Komby says. 'There is some annoyance and we are trying to find a solution together with the local population. But it takes time, and there are some people who do not want to wait for that.'

Talking to other villagers later that day, the image of a frustrated population with a hostile attitude is indeed corrected. Most villagers praise the

conservation efforts so far. The establishment of the DFC brigade meant a breakthrough for the isolated village. Whenever possible, villagers are offered a ride to Gamba when DFC or WWF vehicles go there, which is highly appreciated. Gamba is only forty kilometres away, but there is no road and the sandy area is almost impassable. Even a 4WD needs two hours to bridge the distance. The only way for the villagers to reach Gamba is by boat, which is too expensive for many because of high petrol prices.

Apart from the transport, WWF helped to rebuild the Sette Cama water well and provided of course some employment to the village. Which eventually raised expectations about extra income in the near future through tourism. However, there are other pressing problems in the village - in addition to those already mentioned, people also express their need for electricity - and some impatience seems only natural.

### Reluctance toward the rural world

From the village of Setté Cama, it is only a five minute walk to the DFC brigade headquarters, located on a beautiful spot at a spit of land between the ocean and the lagoon. The complex of some six fine-looking wooden buildings is the result of a decision several years ago by WWF and the Gabonese Government to join forces to support wildlife management and development activities in the Petit Loango Reserve. Later on, the field of activity of the brigade was expanded to include other protected areas in the surroundings of Setté Cama. Some boats, vehicles and equipment have been provided to improve patrol coverage and open tracks for controlled tourism. The office building at the entrance is the place to get permits for anyone wishing to enter the protected areas.

Next door, several sun-bleached skeletons are dispersed. The elephant and hippopotamus carcasses have been seized from poachers, but many bones from humpback and sperm whales have been collected on the beach.

At the brigade post, we meet Loembe N' Safou, assistant of the warden. Officially, she is charged with the task of raising awareness in the local community on conservation issues and illegal hunting. However, in the three months she has been here, there have been hardly any opportunities to meet the people. A lack of money is the main reason for the inactivity. 'We can't buy decent uniforms and we have no money to buy petrol. Everything we can afford is used for the car and the boats for patrolling goals, because that is our main task. Which means that I can't go out and spend time in the villages.'

The sparse information she has got so far, however, leads to the conclusion that much work has



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*Sun-bleached skeletons near the DFC office*

yet to be done to help people understand the conservation issues. According to N'Safou, who also has worked in Cameroon, there are large differences between the two countries: 'In Cameroon, people have experienced nature conservation for a long time already. Here, it is all new. I noticed this in the Lopé Reserve, where I worked before I came here, and it seems it is the same in Gamba: people hardly know anything about nature conservation and wildlife management, and they do not seem to bother much.'

N'Safou's hands are itching, as she says, to start her real job. However, the lack of petrol, coupled with the bad infrastructure, is a big barrier. In the meantime, she is mainly active in patrolling the area, searching for poachers. 'People from the city,' she stresses. 'Local people are fishermen, they hardly practice any hunting. Some trapping around the fields, shooting one animal a month for a special occasion. That is about it. So we concentrate on the commercial hunters. But the area is big, the hunters are many and we are not even a handful of agents.'

A lack of motivation though as well as reluctance toward the rural world by most of the DFC people may also explain some of the indolence. Since 1996, out of a total of twenty DFC trained by WWF in ecological survey and participatory rural appraisal techniques, only one agent was still involved in the Gamba project field activities in 1999. This opposed to 26 villagers trained in 1997 and nineteen of them still doing the job after two years.

### Forest concessions

Management in the Gamba Complex is of limited scope and merely concentrates on efforts to control illegal hunting activities. No special emphasis has yet been placed on protecting particular habitats or ecosystems. In addition to oil exploitation, logging has not been excluded in these protected areas. Much

of the area has been logged at least once. Although forestry is technically not permitted in protected areas, forestry concessions have been issued for every protected area in Gabon, and the Gamba Complex is no exception. The Complex master plan, that has been adopted by the government, stipulates that no logging concession will be allowed within the Gamba Protected Areas Complex after 2000. If enforced, this proposition will greatly help the conservation of wildlife and forest habitats. According to recent information from the DFC, in November 2000 no logging concessions were operating anymore in the complex.

Up to now, conservation in Gamba merely has meant controlling poachers and the trade in wildlife. Within the area, hunting of any kind, apart from subsistence hunting, is technically prohibited. The DFC brigade in Setté Cama has defined subsistence hunting as up to four animals, with no more than three of a given species. If someone is caught with more than this in his possession, he is considered a commercial hunter or poacher and treated as a law offender.

It is assumed that the requirements of most settlements are largely met by trapping and shooting, within a radius of only a few kilometres. However, poaching is practised in many uninhabited areas where access is good, and many town-dwellers provide guns to smaller settlements. Many residents of Gamba poach widely within the Setté Cama Hunting Domain, gaining most or all of their income from this activity. The negative impact on wildlife is evident.

### Checking the market

Strolling Gamba city one evening, we are invited by a middle-aged man drinking a beer on the terrace of a local pub. 'This is the most important bushmeat trader in the region,' whispers WWF employee, Octave Mboumba. The following conservation discussion touches many subjects, from the possible departure of Shell from Gamba to the present bug plague in fruit trees, and whether climate change could be held responsible for this. The subject of hunting and the bushmeat trade is carefully avoided by both sides. When, after some time, we decide to go on, the atmosphere has become quite cordial and our host insists on paying for all drinks.

'He knows our objectives, and we have a fairly good idea what he is involved in,' Octave says afterwards. 'Like other bushmeat traders, he is waiting for our next steps. Until that time, they wait and observe our activities.'

At present, these activities are merely collecting data and evidence on the magnitude of the poaching and bushmeat trade in the Gamba area - which is



*The result of a one-morning road block control near the city of Gamba*

substantial. In addition to the communities bordering the Gamba Complex, large quantities of game meat, including protected species, are regularly transported to distant urban centres.

Octave Mboumba checks the markets in Gamba daily, as well as the local restaurants where bushmeat can be consumed. He also regularly visits the neighbouring settlements and urban centres.

‘We now have collected the essential information on the bushmeat trade in the region. After that, we will cross-check that information with the data from the socio-economic surveys being held in four

villages in the area - where people are asked, for instance, about the amounts of bushmeat they consume - as well as with data on the wildlife situation in Gamba. As soon as we have the full picture, somewhere in 2001, we will go public.’ In principle, this cross-checking could lead to amendments in the current status of protection of plant and animals in the Complex - if they are found essential in the diet of the local population, and if it turns out that these species are not threatened.

How do people react to his activities? ‘Generally, they do not care. People don’t feel threatened. There is no reason to be afraid of the police, because the police are not interested in bushmeat trade or protected

animals. Sometimes people hide their trade when they see me approach. Then I’ll walk around and, after half an hour, pass again. I also take photographs, never of the people, just the bushmeat. Sometimes people get angry. I was born here and they say to me: you should be ashamed to spy on your own people. Leave us, they say, we have to live too. That is sometimes difficult. But I think we have to do this work and afterwards convince people that they can’t go on like this, killing everything which can be eaten.’



### *Jean-Marie Nkombé:*

#### **Working for the Reserve since it was created**



Jean-Marie Nkombé does not know in what year he was born but on his birth certificate it says ‘around 1949’. He does not have a Ph.D. in natural resource management; he hardly can write his initials and does not read. He is from a small fishing village in the Gamba area. In the 70’s, just a few years after the French colonialists that used to safari hunt in the area created the Gamba Protected Areas Complex, Jean-Marie started to work there as a tourist guide. In 1992, when WWF was asked by the government of Gabon to help preserving this paradise for wildlife, Jean-Marie was still

there. Because of his previous work records and as a man of extensive knowledge of the area, both of its native people and its environment, he was appointed by WWF as a multi-function employee: driver, a field worker and finally as a member of the team in charge of doing the socio-economic survey using participatory rural appraisal. In 1999, Jean-Marie was still a part of the sustainable development team with the WWF Gamba project. By his devotion, his full time commitment and his positive influence on the rural communities during the last 20 years, Jean-Marie Nkombé has helped preserve this unique area outstandingly. In 1999, during the visit of the Duke of Edinburgh in the Gamba Protected Areas Complex, Jean-Marie received the WWF Conservation Merit Award from Dr. Claude Martin, Director General of WWF International.

*The long and windy road to participatory management*

# Involving villagers, chiefs and policy makers

*The ecological importance of the Gamba Complex, most experts agree, is primarily based on the unique diversity of the area. 'The movement of species between forest, savannah, and flooded areas,' one project document states, 'their concentration in certain areas seasonally, and their reliance on specific habitats for breeding make the Gamba Protected Areas Complex a biological entity to conserve in its geographical entirety.'*

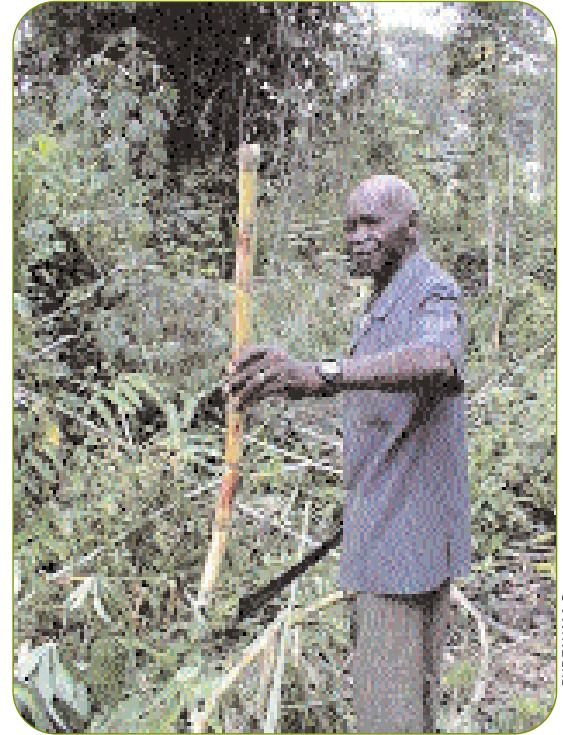
Much of the actual situation though is still unknown. Nature in the Gamba Complex still undoubtedly contains a lot of surprises. Many parts of the area (especially the floodplains and the inundated forests) have been barely explored and may contain a number of unique species. The inaccessibility of the area – except for the few forest roads and oil tracks, the lagoons and rivers that are the only other points of access to much of the Complex – has largely contributed to the survival of these species thus far. Even with road and water access combined, large tracts of forest remain difficult to penetrate and are rarely, if ever, visited by humans.

Several studies have been initiated by the WWF project (see Box), so as to get a better overall idea of the uniqueness of fauna and flora in the area. 'We are now starting to get a clear picture,' says technical advisor, Marc Thibault. 'This enables us to draw up a proper conservation and management plan.'

Additional information will come through the activities of the village workers, who – after receiving ecological training – will cover the whole region, a few times a year, in different seasons. Teams of village workers will count the numbers of large mammals, as well as identify favourable circumstances such as the availability of fruits, etc.

## Internal disputes

Getting acquainted with the local population is another goal of the WWF project. Many of the almost 2,300 people living in the villages of the complex (not including Gamba) have been interviewed by



*Chef de kanton Jean-Marie Mbouity*

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teams composed of DFC agents, WWF employees and village workers. Women are often interviewed while at work in the fields – to avoid male interference. Several district chiefs assist in the job of interviewing and interacting with the population of Gamba-city.

'We have a clear picture now,' says Sonia Blaney, rural development consultant to the WWF project. 'We know what use people make of the natural resources, what their main constraints are, and their needs. This allows to develop a conservation management plan for the Gamba Complex, that includes the needs of rural people as well as the urban population of Gamba.'

The population's willingness to co-operate with the stock taking is described by Blaney as 'satisfying'. 'In the beginning people are suspicious. They do not know us or our goals, and are afraid that our main objective is to forbid them from entering the protected areas. After some time, people really start to co-operate and then they will tell you almost everything.'

## Biological surprises

Recent biological surveys held in the Gamba Complex have shown one of the highest density of elephants and apes of the country. In the Moukalaba region survives the only population of waterbuck of Gabon. Preliminary data of a small mammals survey in the Monts Doudou show a total of seven species of *muridae* and nine of *soricidae*. The relative abundance of small mammals in the Gamba Complex seems to be higher than at any other studied site in tropical Africa.

Bird life is partially known. However, and 380 species of birds have been identified in the area of Setté Cama, and 228 in the Monts Doudou. Some interesting range extensions were obtained for the ibis, the swift, the pitta, the swallow and the rockfowl.

The frog species richness of the Monts Doudou has been estimated using rapid assessment techniques and just over fifty species have been identified which represents the highest record for any locality in Gabon. It is estimated that the potential for the Monts Doudou area may be as high as 75 species. Other studies on reptiles show that the three species of African crocodiles are found in the two lagoons area, that four species of marine turtles spawn each year on the two hundred km coast line, and that at least four species of terrapins and one species of land turtle inhabit the area. Other reptiles species frequently encountered include the python, the forest cobra, the banded water cobra, the tree cobra, the gecko, the monitor lizard, etc.

68 species of fishes representing 34 different families have been recorded during a survey using experimental gill net fishing in the Ndogo lagoon.

Invertebrates are poorly known. One study identified 39 genera of ants and sixteen genera of wasps in the Monts Doudou.

A study in 1989 of the demersal assemblages of the continental shelf off the Gamba complex identified 354 marine species including groups such as bony fishes, *elasmobranches*, *crustaceans* and *cephalopods*. Recent observations confirmed that the coast of the Gamba complex is also visited by numerous species of marine mammals among which the sperm whale, the south African fur seal, the humpback whale and the common dolphin.

Habitats of the complex are highly diversified but the flora is practically unknown. During the last ten years different institutions have participated in collection and plant identification in a fragmentary way. At least thirty new species have been discovered during this period mainly in the genera *commitheca*, *begonia*, *impatiens* and *xanthocercis*.

One feature of the rural population in this area is a centuries old pattern of internal disputes, which have made many people leave their villages and set up their homes elsewhere. This has resulted in a pattern of tiny, scattered settlements. Blaney: 'This is a problem, having in mind the need to co-operate in a future management plan.'

This lack of coherence also makes it difficult for people to take effective measures to combat what they see as one of their main problems – the nuisance caused by groups of wandering elephants and other mammals. Blaney: 'They expect us to organise this protection, but that is not the way it should work. Additionally, based on our surveys, the real damage caused by elephants is minor, effecting only about one percent of the crops.'

### Heavy lobbying

A sustainable future for the Gamba Protected Areas Complex can only be reached when currently destructive activities come to an end. These include oil exploitation and logging, activities which are hard

to influence by a local level conservation project. Heavy lobbying on a national level seems to be the most viable option, coupled with local activities to reduce the environmental damage to a minimum.

Relatively more easy is to promote alternatives to the present unsustainable activities practised by the local population. Rural development alternatives could contribute to the conservation of the Gamba Complex. However, project people are careful not to push for these. The initiatives have to come from the people themselves. Which is taking time. Only in 1999 the WWF project started an agroforestry project in two pilot sites located in Gamba and in Setté Cama. Training sessions were given to two groups of women. Some fencing to mitigate the impact of wildlife will be carried out in the coming period.

Says Thibault: 'The economies in the rural areas really are on a subsistence level. There is not much entrepreneurship here. Most people are satisfied with their life. Within almost every family there is at least one person working for Shell, which brings in some

extra cash. So the main needs people mention, when asked, are on the community level: access to health care, safe drinking water, better transport possibilities. We can help people to bring these issues to the attention of the responsible authorities, but I do not feel our conservation project has a specific task here.'

At this point, another observation should be made. The case of Gabon in general is quite peculiar in that it has a very low density of population, which is mostly urban. The rural world is completely dissociated with the flow of riches brought by the oil industry. This situation provokes a progressing rural exodus, leaving rural communities poorer and poorer. The former colonial policy of villages regrouping and the more recent advent of oil multinationals have also upset local systems of land ownership and traditional institutions resulting in the absolute absence of any forms of local associations. It also brought into the mind of people that the state will take care of everything. Hence, any kind of participatory process where local communities would be eventually engaged in their own development and in decision-making is rather against the current.

### Rosy future?

Official project documents outline a rosy future for the Gamba Protected Areas Complex – if everything goes according to plan. Several functional DFC brigades will eventually operate in the area, fully supported by the Gabonese Government. The brigades' staff will co-operate closely with the rural communities, working more as extension officers, rather than as police officers. The local population will actively take part in management decision-making and implementation activities in the Complex area, and will be the first to profit from a sustainable use of the area.

'This is nothing more than an ideal vision,' Marc Thibault acknowledges, 'which merely gives you some idea of the right direction. It will take years before we see significant changes in the way natural resources are managed here in Gamba.'

A lack of involvement by the local population, as well as by the authorities – on a local as well as the national level – seems the most powerful constraint on the conservation project. The operations of the DFC brigades are stifled by a pressing lack of resources. Salaries are not paid, or are paid far too late, there is insufficient staff to effectively patrol the

### Zoning the area

A new methodology to map the village boundaries was developed in the course of the socio-economic survey. A GPS map was used to locate traditional activity sites and define the boundaries of village lands. A sketch map of village lands was drawn in collaboration with the population concerned, siting traditional activity sites approximately. The survey team then went to each site to locate it with a GPS equipped with an antenna capable of recording geographic co-ordinates under the forest canopy. The same method was used to locate the boundaries of village lands. Farming sites, fields and damage caused by animals were measured. When visiting the various sites, semi-structured interviews on natural resource use by the various groups encountered there were conducted. The advantage of using GPS lies mainly in the quality of the data obtained, which is conducive to long-term monitoring. Since sketch maps are not very precise, they make monitoring difficult and can even lead to conflicting interpretations by the various parties concerned. In addition, geo-referenced data can be easily integrated into a geographic information system (GIS), making it easier to measure changes in the characteristics of village lands.

Experience from other projects revealed that local chiefs use GIS to strengthen the cohesion of their community in an effort to resolve land use conflicts. However, technical advisor of the Gamba Complex project Thibault stresses the importance of preparing sketch maps using a participatory approach: 'This exercise stimulates discussion, highlights inter-clan relations and illustrates the interaction between the environment and decisions pertaining to land use.'

In general, Thibault stipulates, maps are valuable tools for managing protected areas, particularly when people live in these zones. 'Determining the boundaries of village lands fosters an increased sense of ownership and may prompt reflection on the urgent need to preserve natural resources. Therefore, it is very important to give a land map to the authorities of the village concerned.'

*Source: Blaney, S. and M. Thibault. 2000. Une méthode pour l'étude des caractéristiques socio-économiques des communautés rurales du Complexe d'Aires Protégées de Gamba. WWF, Central Africa Regional Program Office*

protected areas, and there is a dire need for equipment. The apparent lack of interest at the ministry in Libreville is not a big help in motivating agents to perform in the best possible way, to put it mildly. The biological and socio-economic inventories, on which DFC, the WWF project, as well as the local population via village collaborators worked closely together, were a way of enhancing involvement. Zoning the areas is supposed to have the same effect.

The whole process has to be supported by educational and promotional activities. Environmental workshops will be held in all rural areas, as well as in Gamba city. A project Newsletter has been set up to keep people informed on developments. Educational materials for use in schools are being developed with the help of WWF headquarters in Libreville.

### Ecotourism

Probably the best guarantee for a sustainable future for the Gamba area would be a delicate mixture of conservation activities combined with ecotourism, which could bring in much-needed income. The potential for tourism is substantial, according to a group of American researchers who studied the area some years ago. But the constraints are many. An almost complete lack of facilities, coupled with very bad infrastructure, effectively prevent tourists from coming to the region.

Current tourism activities in this field are limited to Shell employees spending the weekend in the Setté Cama area big game fishing and large mammal viewing. However, Marc Thibault feels it will not be

too difficult to attract people from the capital, Libreville, for weekend tourism. Especially the large community of expatriates in this country could be a main target group for promotion activities. After that, the international market could be explored.

In the future, the existing DFC brigade camp near Setté Cama might be developed into a small-scale tourism camp. As many parts of the area are inaccessible without a guide, this could offer some opportunities for local communities to get involved in the tourist trade, by training them to become guides. However, says Thibault, 'people have no experience at all in the field of tourism and rendering of services. They tend to be conservative and will not take active part in new initiatives. So we have to move forward very carefully here, in close co-operation with rural people themselves.'

The lack of investment capital and entrepreneurship in the rural areas is contrasted with the situation in the city of Gamba, where many people are ready to exploit the tourism market. Marc Thibault: 'The oil industry has brought capital here, as well as a willingness to take financial risks. I am sure people will start rental services for boats, or accommodation and producing handicrafts, as soon as the first tourists show up. However, if the oil industry leaves, these well-off people will leave too. So, on the one hand we have to slow down because we want to run parallel with the rural population. But, then again, we should not lose too much time. We urgently need economic alternatives here in this region, before activities like logging and poaching have killed all opportunities for a sustainable future.'



## Gamba Protected Areas Complex - project purposes

The long-term development objective of the project is to safeguard Gamba's original and representative ecosystems, and maintain biodiversity in harmony with sustainable utilisation. The project purpose is to establish efficient and equitable natural resource management systems for the Gamba Protected Areas Complex. During the first 5 years the following outputs are expected:

- clearly defined management zones within the complex established;
- internal regulations refined and strengthened in accordance with the proposed zoning;
- effective management and protection systems established;
- applied management-oriented research defined and initiated;

- formal and informal education concerning the need to manage natural resources improved;
- rural development by means of alternatives that contribute to the conservation of the Gamba Protected Areas Complex identified and tested with communities.



# A lack of interest

One evening Marc Thibault gives a presentation on the WWF Gamba project at the French cultural centre in Libreville. At the designated starting time no more than three people are present. Two hours later, some 30 people have shown up. Half of them are professional nature conservationists -most of them white and all working for western-based NGOs-; the other half is Gabonese and members of the Libreville establishment.

Afterwards, I talk to one of the organisers of the meeting. He has worked for several years with a Shell contracting company in the Gamba region. This experience, coupled with his current efforts to sensitise the urban elite, has not made him a very optimistic person. 'Nobody in Gabon is interested in nature conservation,' he says. 'Common people just want to exploit nature, for subsistence or for making profits. And rich people care even less, the only thing they are interested in is ways to earn more money, as fast as possible.'

He describes the attitude of Gabonese establishment as one of total apathy, mainly caused by the patriarchal French colonial system. 'France is still very much present here,' he says. 'The mentality of the local establishment is that the French will take care of a profitable exploitation of Gabon's natural richness, so nothing to worry about.'

Maybe he was overstating things. However, the lack of interest by almost all actors in the Gamba Complex is undoubtedly a reason for concern. The moment the WWF project stops financing DFC brigades in the area, their existence will likely come to an end. Everyone involved realises this is not a sustainable way of working. But it is the hard reality.

Out of necessity, the conservation project in Gamba is moving slowly, carefully planning one step at a time. There is no other sustainable option. There have been too many examples of nature conservation projects -Gabon being no exception- which are in a permanent situation of animosity with the local population due to ignorance of their needs and priorities. The main problem rural people mention in relation to the nearby conservation area is the nuisance caused by elephants and other animals. Maybe there is some

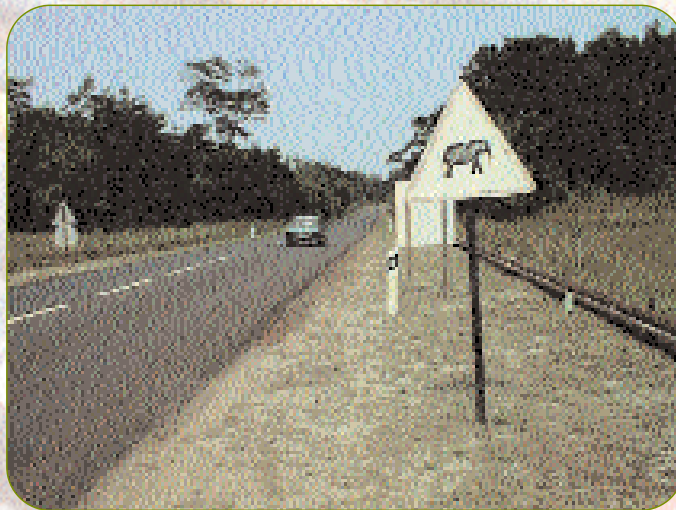
exaggeration in the stories being told, but the project would win the hearts of a lot of people if it helped them to solve this problem. The same is true for the growing number of conflicts between rural people and profit-oriented hunting and fishing activities initiated by the urban population.

A combined approach is needed, one which consists of more effective control on poaching, environmental education and the creation of economic alternatives which do not damage the natural richness of the area. The project correctly works on all these fronts. To enhance the involvement of all parties, a feeling of 'ownership' of the conservation project has to be developed, at the local as well as the national level. Having an all-Gabonese management of the project within a few years, in a country and an area where all commercial activities have long been -and still are- dominated by foreign people, seems a prerequisite. Winning more support for the

conservation goals in the capital, Libreville, is another. In the current situation there is no watertight guarantee that logging activities in the protected area will come to an end - although this is promised in the master plan for the area signed by the Government. Moreover, new oil exploitation activities, as well as plans for developing a harbour in the area, pose direct threats.

Convincing policy makers that there are other profitable ways of exploiting natural resources in the Gamba area is of the highest urgency, and a stronger environmental lobby in the capital should be set up. Efforts to introduce the concept of 'national parks' would be helpful: Gabon is one of the few African countries where there are no national parks. Every protected area has its own sets of rules and prohibitions, which is a confusing situation for policy makers, as well as the local population.

Establishing successful ecotourism pilot projects could be another way of strengthening the environmental lobby. It would also be a way to convince the local population -urban and rural- that there could be a future for the area even after oil exploitation ceases. It is now time to take the necessary steps to guarantee that, when that day comes, enough valuable nature will be left in the Gamba area. ▲



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