
Making knowledge work for people and forests
25
years of Tropenbos International

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This publication highlights the work of Tropenbos International over the last 25 years. The opinions and views expressed in this publication do not necessarily reflect the opinions or views of Tropenbos International or its partners.

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Authors:	Wereld in Woorden (WiW) – Global Research & Reporting (Koen Kusters, Ellen Lammers and Roeland Muskens)
English editing:	Patricia Halladay
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Available from:
Tropenbos International
P.O. Box 232
6700AE Wageningen, the Netherlands
e-mail: tropenbos@tropenbos.org
www.tropenbos.org

Contents

Interviews

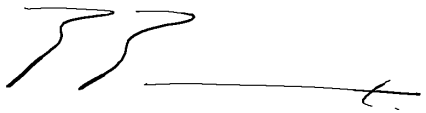

TROPENBOS INTERNATIONAL
1988-2013
25
Making knowledge work for forests and people

Foreword

In 2013 we celebrate twenty-five years of Tropenbos International. Twenty-five years of research on how the world's tropical forests can be used in a more sustainable manner for the benefit of people and biodiversity. Twenty-five years of sharing the results of that research with others to ensure that its findings and recommendations do not end up on a shelf. Twenty-five years of training professionals and strengthening organizations in nine different countries in Asia, Africa and Latin America. And, last but not least, twenty-five years of brokering knowledge, encouraging dialogue among local communities, civil society, policy-makers and business, and building bridges between their different views and interests.

It has been an exciting time. Over the years, TBI has been working with many people from all corners of the globe. These men and women have different cultural and professional backgrounds, but are all committed to one goal: the responsible management of forests and forested landscapes. This has proved to be no easy goal, and often involves a process of trial and error. We want to seize the opportunity of our twenty-fifth anniversary to look back at what we have learned and achieved.

This publication presents several short articles about TBI's activities, both in our partner countries and in the Netherlands. They show how TBI and its staff in the field have responded to the ever-changing national and international policy environments, and what the tangible impact of its work has been. The booklet also contains interviews with people who have worked with TBI in one way or another. Together, the stories and interviews present an overview of the many different ways in which we have tried to make a difference on the ground. We hope this will inspire you. And we look forward to many more years of working together with our partners on a sustainable future for the world's tropical forests.



Prof. dr. R.G.A.(René) Boot
Director Tropenbos International

Prof. dr. M.J. (Martin) Kropff
Chairman Tropenbos International

A future for people and forests

Twenty-five years of TBI

In 25 years the main activity of Tropenbos International has shifted from coordinating research by Dutch universities to supporting research aimed at generating policy relevant knowledge by local researchers. TBI has a singular position as independent knowledge broker, helping with decision-making on the sustainable use of tropical forests.

The mind-boggling biodiversity of tropical forests is fascinating. Although many people all over the world are concerned about their fate they are disappearing at a rapid pace. There is no easy solution, unfortunately. Tropical forest areas are the site of multiple and often conflicting interests, and deforestation has many underlying causes, including the increasing demand for agricultural land and wood, population pressure and poverty. Finding ways to safeguard the future of the forest has proven to be immensely complex. Putting a fence around the forest will not do. A truly sustainable future depends on whether people will be able to benefit from the forest without destroying it. Ideally, sustainable forest management contributes to the objectives of alleviating poverty, providing ecosystem services and fostering sustainable economic development. That is the future that Tropenbos International (TBI) envisions.

The Tropenbos programme was established in 1986, became a foundation in 1988, and changed its name to Tropenbos International

The forest is the future for these children in DR Congo
[Photo: C. Benneker]

in 2001. Its work is based on the premise that a long-term improvement in the use and conservation of forests will not be achieved without a sound understanding of the issues at stake. Knowledge is key. Therefore, the main objective of TBI is to gather information on how to improve the management and governance of tropical forests, and to make sure that national and international stakeholders actually use this information for better policies and practices. The organization is a broker – an intermediary — linking researchers to practitioners and policy-makers.

Twenty-five years. That's how long TBI staff and partners have been working tirelessly for a more sustainable future. "Some people might question the use of our work," says the director, René Boot. "They may point to the fact that forests are still disappearing, despite all those years of research. But that is like accusing a medical scientist of the fact that cancer still exists. In the medical sphere, the public understands that these things are extremely complex and progress is made in small steps. Achieving sustainable forest management is equally complex."

Page 6: HCV Forest in Kalimantan.
[Photo: TBI Indonesia]

Towards research for local policy support

The 1980s witnessed increasing public awareness — and widespread worry — about the disappearance and degradation of tropical rainforests. The Dutch government shared these concerns. In 1986 the Dutch Ministries of Education and Science, Foreign Affairs, Agriculture and Fisheries, and Housing, Spatial Planning and Environment instituted a new programme to fund research on tropical forests, with a steering committee consisting of representatives of the participating ministries.

The programme did not have to start from scratch. Several Dutch universities were already working in tropical forest areas, and the programme was intended to strengthen and coordinate the ongoing scientific endeavours that were taking place at university research sites in Colombia, Indonesia, Guyana and Côte d'Ivoire. A programme committee, chaired by Roelof Oldeman, set the priorities, and Mike Ross was appointed as Executive Director. It soon became clear, however, that the varying priorities of each university made

streamlining their activities a challenge. A different structure was needed. Tropenbos had to become a legal entity with a structure that would allow for funding sources other than just the Dutch government.

On July 18, 1988, the Tropenbos Foundation was officially established. Cees Oosterlee, then rector of Wageningen University, was chairman, Klaas Jan Beek was secretary and treasurer, and Ben ter Welle was director on an interim basis. Two years later Erik Lammerts van Bueren was appointed as director.

During TBI's first decade several important changes took place. Soon after Lammerts van Bueren's appointment, he realized that a closer relation with forest policy and management was needed, and that local ownership over the national programmes had to be strengthened, for example through establishing Memoranda of Understanding between Tropenbos and the ministry responsible for forests in the host country. He needed to make sure that the country programmes would not just deliver scientific information, but would generate knowledge that could be used to support local forest management and policies. To that end TBI started organizing workshops in the host countries where all relevant stakeholders would come together to discuss the most pressing knowledge needs. The outcomes of these workshops would then be used by TBI and its local partners to further develop the country programmes. "Getting the universities to focus more on policy relevance was not always easy," Lammerts van Bueren recalls. "Obviously, the universities had their own agendas and research ideas, and these were not always of direct relevance to our main objective. We had many discussions. This helped me to understand their position better, while they started acknowledging the need for policy relevance. We finally decided to transfer the management responsibility at each research site from the university coordinator to a TBI coordinator. But the tension between the different perspectives always remained."

During the first years TBI gradually gained international recognition and started receiving substantive funding from other donors, such as the European Union and the International Tropical Timber Organization, in addition to the core funding from the Dutch government. These

Forest in Tarapoto Lakes, Amazon, Colombia. [Photo: J. Franco]

Researcher in Vietnam. [Photo: TBI Vietnam]

contributions, according to Lammerts van Bueren, were indispensable to meet the ambitions of the programme.

There were also changes in host countries. In addition to the programmes in Colombia, Indonesia, Guyana and Côte d'Ivoire, a fifth programme was established in Cameroon in 1990. Ten years later TBI had to close that programme, together with those in Guyana and Côte d'Ivoire, due to the shifting priorities of the Dutch government. Around the same time it opened new programmes in Vietnam and Ghana, and started exploring opportunities to open an office in Suriname.

When Lammerts van Bueren stepped down in 2002, René Boot succeeded him. Under Boot, TBI further devolved ownership to the partner countries, for example by appointing local Programme Directors. The role of PhD research also changed. Boot: "In the beginning there were many Dutch PhD students involved in the programmes, but those long-term studies were less relevant in terms of immediate policy support. To guide interventions, you will also need short-term and more targeted research. For this reason we stopped prioritizing PhD research by Dutch students. We did, however, continue to work with local PhD students for capacity-building purposes."

In the course of TBI's 25 years there have also been gradual changes in the types of research questions being addressed, Boot explains. The emphasis shifted from the management of forests, with research on methods to improve logging systems, to the governance of landscapes, with attention to the multiple interests of different stakeholders. Boot says: "In the 1990s many TBI researchers were still studying the forest itself, while today you will need a magnifying glass to find such purely ecological research in our programmes. We realized that it is not enough to know how the forest ecosystem functions. You have to look at forests in their wider context. We now know, for example, that agricultural policies often have a bigger influence on forests than forest policies do."

A focus on four themes

In 2012 TBI started a new five-year programme and began to organize its

activities around four main themes. René Boot explains: "As the research agendas of the country programmes were mainly driven by local priorities, it became difficult to maintain coherence for the overall programme of TBI. We realized that we needed to focus on a limited number of themes. Doing that would still allow us to be locally relevant, but at the same time would enable us to make comparisons between countries, to have more influence internationally, and to be of greater interest to international donors. We decided to focus on the themes that have been our particular strength in recent years, and where we think we can make a difference."

The first theme is multifunctional landscapes. As mentioned above, TBI has gradually shifted its focus from the technical management of forest sites to the broader issue of forest governance. For this, the landscape is the most appropriate spatial scale of analysis, because it is at that scale that the goals and interests of different stakeholders are likely to conflict, and where solutions need to be found to reconcile these interests and look for trade-offs. This is in line with a growing interest in landscape-level approaches among international conservation and development organizations.

The second theme – community forestry and local governance – is closely related to the first. In many countries communities have long-established patterns of forest use, often in mosaic landscapes consisting of both forested and agricultural lands. Community forestry may enable local people to benefit from the forest while managing the resource base to ensure the continuous delivery of products and services. This is widely recognized as a viable approach to forest management in tropical countries, but many challenges remain, in particular those related to the economic competitiveness of more destructive activities, such as plantation agriculture.

The third theme is the timber value chain. The focus is on the domestic timber trade and its linkages with international trade. In many countries the amount of timber harvested for local purposes is as large as or larger than that for export. The local timber trade provides jobs and income for millions of people, but is often poorly regulated and associated with social injustice,

Logged tree in agricultural field at Juaso District, Ghana [Photo: M. Wit]

Farmer collecting elephant grass to feed cattle, Indonesia. [Photo: TBI Indonesia]

environmental degradation, wasteful practices and loss of tax revenues.

The fourth theme is financing mechanisms for sustainable forest management. There is a significant gap between the financing that is currently available from public and private sources and the funding that is required to secure the future of the world's forest ecosystems. The private sector is well positioned to help fill this gap and private funds are expected to continue to grow in the near future. The challenge is to reorient private finance toward environmentally sustainable forest management practices.

In addition to these four themes TBI has the objective to build capacity and strengthen organizations. This has always been one of TBI's priorities. When the Tropenbos programme was developed in 1986 the report of the initial consultation meeting stated: "The future management of lands in the humid tropics ultimately depends upon the rate of development of human resources." With this in mind, TBI has been providing education and training to large numbers of professionals working in the forest sector, including policy-makers, practitioners and staff of universities and research institutes. René Boot cannot stress its importance enough: "The people who get a good education today are the ministers of tomorrow. Look at Guyana: most people at the top of the government's Forestry Commission have received their training within the TBI programme. This is the long-term effect that we strive for."

Added value

How has TBI made a difference? Lammerts van Bueren does not have to think long to answer that question: "In order to make a difference you have to work in the real world. You have to get your hands dirty. For this reason we decided early on that one of our sites had to be located within a concession area — that we had to collaborate with the private sector. Many NGOs were appalled. Some even tried to convince the ministry to stop our funding. They accused us of making a pact with the devil. And today everyone is talking about the need to collaborate with the private sector. We were front runners in that respect."

Another important feature, according to René Boot, is TBI's independence, unlike

the many national research organizations that are influenced by political agendas. Moreover, TBI does not compete with other organizations, but instead looks for linkages and dialogue. Also, TBI is small, which means it looks for the best partners for projects rather than carrying them out on its own. Boot says: "We are flexible. We can easily change course. This is because we do not employ our own researchers, but instead work with national research organizations and universities. If we had researchers on our own staff, it would be far more difficult to adjust to rapidly changing policy agendas."

Both the current and previous director emphasize the importance of being present in the partner countries for a long period of time, building up local networks and trust, and increasing local capacity. Lammerts van Bueren: "I am particularly proud of the fact that local TBI Programme Directors are often asked for advice by national governments. They are the ones bringing in research-based information and evidence. Their contributions to national debates are always highly appreciated, and have been translated into national policies. During my time this was notably the case in Guyana and Indonesia. I am sure this accounts for the success of all TBI country programmes today."

TBI aims to further strengthen the country programmes so they can become even more independent, says René Boot. Eventually, each country programme should be able to function as a critical national knowledge broker by itself. Considering the local political realities, this will not happen overnight, but it is the logical next step in the evolution of the organization. Boot: "First, we shifted our focus from the forest to the landscape, and from management to governance. Second, we moved from educating Dutch students to local capacity building. Third, we ensured that the formulation of research questions is no longer guided by the interests of Dutch universities, but by local relevance. And now there is one more step to take. This last step is to further strengthen local ownership, so country offices can eventually become national organizations. I hope that some time in the future TBI will become a network of independent country offices."

René Boot

Erik Lammerts van Bueren

Moving away from illegality

Transforming the Ghanaian timber market

For many years, illegal chainsaw milling was a source of severe controversy in Ghana. Authorities and local communities were locked in a stalemate on the issue. TBI Ghana initiated a multi-stakeholder dialogue between the parties, with an impressive result. A new law passed in 2012 promises to resolve the complex issue of supplying timber to the domestic market while benefitting small-scale millers.

On July 17, 2013, the District Assembly Hall in Goaso, Ghana, hosted a milestone ceremony. Two artisanal milling groups signed a partnership agreement with a sawmill company to produce legal lumber for the domestic market. The company will supply logs to the artisanal millers, who in return will protect the company's forest concessions from illegal chainsaw milling. The government officials present at the ceremony applauded this novel cooperation.

Only a couple of years ago, it was unthinkable that these three parties — the sawmill industry, chainsaw millers and government — would even sit at the same negotiation table. The agreement is the outcome of years of work by TBI Ghana and its partners on the issue of illegal logging and is a major breakthrough for the country's sustainable forest management.

Artisanal milling [Photo: EU Chainsaw Milling Project]

Illegal chainsaw milling — which refers to the on-site conversion of logs into lumber for commercial purposes — has long been a threat to Ghana's forests. At the same time, it is the major source of supply (about 84%) of timber to the domestic market. According to Sam Nketiah, Programme Director of TBI Ghana, Ghana experienced an economic slump in the early 1980s and many Ghanaians left the country in search of opportunities elsewhere. When the economy started to recover, many of those who returned came back with chainsaws.

Because lumber production for the domestic market was still at a very low point, people considered the chainsaw millers to be a positive influence. This didn't change when the conventional sawmill business started to pick up, because these businesses were mainly interested in supplying the international market.

Page 14: Abandoned chainsaw lumber in Tano Offin Reserve, Ghana. [Photo: R. Zagt]

There was a strong local demand for chainsawn lumber, but this informal business was notoriously difficult to control. The government tried unsuccessfully to regulate it, and in 1998 took the drastic measure of issuing a ban on chainsaw milling.

In response, chainsaw millers started operating under the cover of night. They worked haphazardly, felling undersize trees and causing damage with large falling trunks because they had neither the time nor the training to work carefully. The results were unsafe working conditions for the millers, unnecessary destruction of the forest and a loss of revenue for the government. The police and sometimes even the army tried to enforce the ban, but this only escalated the conflict.

People needed lumber and thus kept buying illegally harvested timber. Moreover, traders in chainsawn lumber paid farmers directly in cash or in kind for the trees on their farms, whereas conventional loggers paid only a very small sum of compensation for damaged crops. With the chainsaw millers living among them, communities were unwilling to disclose their activities to the authorities.

Most importantly, it proved impossible for the government to enforce the ban simply because too many people benefited directly from chainsaw milling or depended on it for their livelihoods. Research initiated by TBI Ghana in 2007 showed that the illegal

business provided direct employment for approximately 97,000 men and women and supported the livelihoods of more than 700,000 people, which is almost as many as those who depend on the formal timber industry. Chainsaw milling also resulted in an annual loss of revenue to the state of about $18 million from unpaid stumpage fees.

"This research gave us ammunition to approach the government and suggest that things could be done differently," says Nketiah. "We felt that all parties involved needed to come together to address the problem of illegal lumbering and search for alternatives." That understanding was the start of a multi-stakeholder dialogue process (MSD), funded by the EU and led by TBI Ghana in partnership with the Forestry Research Institute of Ghana and the national Forestry Commission.

It was a challenging process. According to Nketiah: "Despite its difficulties in enforcing the ban, the government was unwilling to consider any kind of formalization of chainsaw milling. In fact, the chainsaw operators were criminalized. At the start of our project it was inconceivable that policy-makers or Forest Commission officials would sit down at the table with them. As for the chainsaw millers themselves, they would rather run and hide! So we went to meet all stakeholders on their own turf. We wanted to raise awareness among the chainsaw millers that their methods caused damage to the environment; they always pointed at the trucks and bulldozers of the conventional logging companies, arguing that they were much more destructive. The millers were, perhaps understandably, suspicious about our intentions. Once when we visited a forest community we got back to our vehicle only to find that all four tires had been punctured. They thought we had come to arrest them." But in 2009, after two years of talking, explaining and negotiating, TBI Ghana and its partners managed to bring everybody to the table and that is when the MSD really took off.

In the meantime, the issue of illegal logging had gained in political and economic urgency because of the EU-Ghana Voluntary Partnership Agreement (VPA). In 2009, Ghana was the first country to sign a VPA as part of the EU Action Plan for Forest Law Enforcement, Governance and Trade (FLEGT). The VPAs are meant

Multi-stakeholder dialogue meeting in Ghana. [Photo: EU Chainsaw Milling Project]

Lumber market in Kumasi, Ghana [Photo: H. Vellema]

to improve sustainable forest management in partnership countries and ensure that only legally harvested timber is imported into the EU. Even though the VPAs are primarily concerned with international trade, Ghana decided to include the domestic timber trade in the agreement. The government realized that it would not be able to achieve sustainable forest management without addressing this trade.

The MSD was thus very timely. "It was a considerable achievement," says Alhassan Attah, Executive Director of the Timber Industry Development Division of the Forestry Commission, "that TBI Ghana managed to create an inclusive platform for discussion on this controversial issue." The dialogue had a tangible result: a new policy was formulated. The Policy for Supply of Legal Timber to the Domestic Market of 2012 allows former chainsaw operators to be integrated into the legal timber business. They are classified as artisanal millers and must abide by the new regulations.

The new policy brings about three major changes. First, the artisanal millers will receive training and must obtain a valid licence. Second, they will use band saws; unlike chainsaws, these cannot be carried on one's back and therefore their use is easier to monitor. Third, the timber produced by artisanal milling is only for the domestic market, not for export.

"We are now piloting cooperation between artisanal millers and conventional logging companies," says Attah. "Through such a partnership, the artisanal millers gain legal access to the raw material, while they commit to guarding the forest against illegal loggers." The partnership will help solve another problem. Harvesting for the export market by conventional loggers is typically selective: they remove only those trees for which they obtained a contract from the buyer. The artisanal millers will benefit from taking out the remainder of the earmarked trees, which in turn will contribute to the good health of the forest.

The best result of the new policy may be that people who had to resort to illegal and therefore insecure and unsafe work to earn a living for their families can stay in the same business but work legally. This in turn brings other advantages. Before, the traders in illegal lumber earned the bulk

of the profit, while the chainsaw operators who did the hard work in the forest received only small returns. "The fact that they will be trained and licensed will give them more negotiation power. There will be more equality," Nketiah predicts.

However, not all chainsaw millers can transform into artisanal millers. TBI Ghana and the Forestry Commission are therefore looking into alternative jobs. Now that the conflict associated with the illegal logging has decreased, there is more breathing space to explore opportunities such as sustainable charcoal production, replanting of degraded forest reserves or improved agricultural practices, working together with forest communities.

Further reading:

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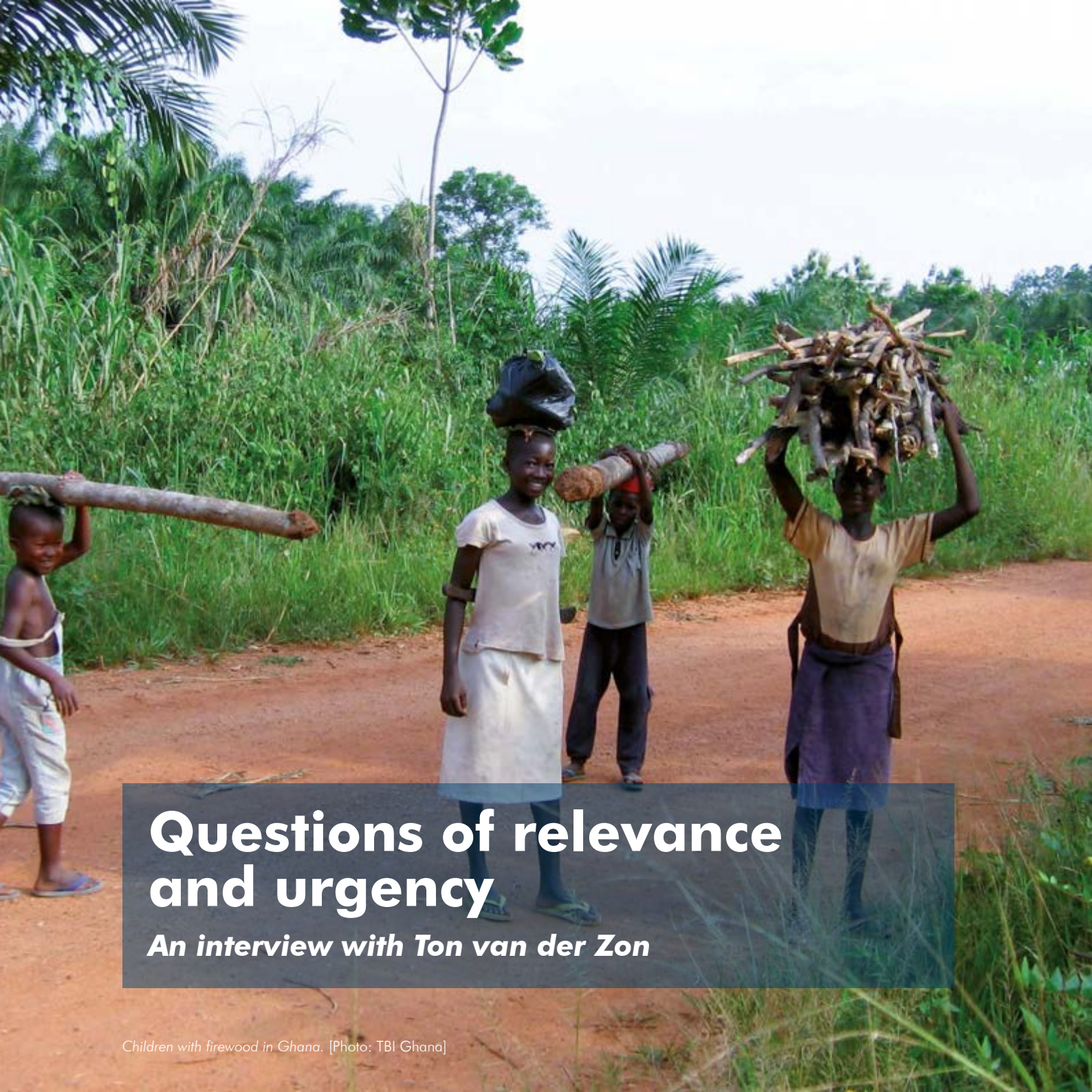
Sharing the lessons learned

Gaining knowledge through research is one thing, sharing it is another. For TBI, this sharing is an essential part of its work. In 2009, TBI organized two regional workshops in Ghana and Guyana about chainsaw milling (CSM) in domestic timber markets. More than 150 participants from 15 countries (from Africa, the Guiana Shield and the Caribbean) took part, revealing that chainsaw milling is found in countries with various levels of forest resource availability and a range of socio-economic conditions. The main factor driving CSM is the strong local demand for cheap timber. The low capital investment required makes it an easily accessible business and the jobs it provides are very important in poor rural areas. Policy responses that effectively address CSM are rare. Where it is banned, regulation enforcement is difficult and illegality is rampant. Where the practice is legalized, there is often extensive abuse of the regulations.

In 2011, TBI organized the seminar "Bridging local and global interests: Integration of domestic timber markets in FLEGT/VPAs and REDD+." The seminar was attended by more than 100 policy-makers from the European Commission, various producer and consumer countries, industry, NGOs and research institutions. It contributed to a growing recognition that local timber production and consumption in tropical countries should be incorporated in international forestry initiatives.



Questions of relevance and urgency

An interview with Ton van der Zon

Children with firewood in Ghana. [Photo: TBI Ghana]

Science and policy often seem to be from two separate worlds. Bridging the gap is difficult. Ton van der Zon, who has a PhD degree in taxonomy and more than 30 years of experience as a policy-maker, knows both worlds very well. Between 1991 and 2005 he was responsible for the Dutch policy on forests and biodiversity and by extension for TBI. From 2009 until early 2013, he worked as environmental and water expert at the Dutch embassy in Ghana, where he collaborated intensively with the local TBI programme. Van der Zon is thus well positioned to reflect on TBI as a provider of knowledge that is relevant to policy. In the shade of the apple trees in his garden we talk about the sometimes troublesome relationship between science and policy.

At the ministry of foreign affairs you were responsible for TBI. What did that mean?

Since the government financed TBI, I had to make sure that they did what the politicians wanted them to do.

What did the politicians want them to do?

In the beginning TBI tended to carry out pure forestry research, focusing on information related to the production of timber. But the Minister for Development Cooperation Jan Pronk, who was a real nature conservationist, wanted much more emphasis on the sustainable management of forests. He was pretty clear about that. I think this shift in focus is visible in the early years of TBI.

Ton van der Zon

Researchers working in the field in Ghana. [Photo: TBI Ghana]

So, politicians influenced TBI. What about TBI's influence on policies?

In the late 1990s the ministry started to stress that TBI's research had to become more relevant to our bilateral programmes. This meant that TBI had to put more focus on research that would directly support local policy within the countries where they operated. It seems clear to me that TBI has indeed changed in that direction and that the new approach has been successful. I know that in Ghana TBI has become an active player in the national policy context. They have, for example, played a crucial role in the process toward the FLEGT[1] agreement.

What about influence in The Hague, the seat of the government?

Having influence in The Hague is more difficult, mainly due to the erratic character of politics. Country focus and sector focus keep on changing. This is not conducive at all to a stable and constructive relation between research and policy. What is more, most researchers have little clue about the workings of politics. I doubt that many researchers realize that to influence policies you will need to target the politicians, not the civil servants who simply follow orders. This means lobbying. An organization like TBI should have at least one person who makes an effort to influence the prevalent and often misinformed ideas that exist among the different political parties.

Policy-makers may complain that scientists study the questions they themselves find interesting, and not those that are relevant to policy development.

Fundamental biological or forestry research, for instance, is not directly relevant to policy-making in The Hague, but it could end up being relevant at the local level. TBI in Kalimantan carried out research on the relationship between *mycorrhizae*[2] and tree growth, which is potentially very important for reforestation programmes. Not all research is automatically of direct relevance, and it doesn't always have to be, but you will have to think about it. What's the use of researching monkey behaviour when

[1] The Forest Law Enforcement, Governance and Trade (FLEGT) agreement between Ghana and the EU, in which Ghana commits to legality criteria for timber exports to the EU, was signed in 2009.

[2] *Mycorrhizae* are symbiotic associations between a fungus and the roots of certain plants.

you end up with a nice book about the monkeys, but neither the forest nor the monkeys are there anymore? Of course, fundamental research is required to generate new knowledge and new ideas, which may become extremely relevant in the long term. But, in a time of scarcity, you have to keep on asking yourself whether the issues have relevance and urgency. And TBI is doing that.

Some plead for a process of co-creation, in which researchers work closely with policy-makers on the development, implementation and analysis of policies, to ensure a constant stream of information going both ways.

I am sceptical. Researchers and policy-makers have different time scales. For policy-makers everything needs to be done in a hurry, and sometimes this results in oversimplification. Scientists need a lot of time to do robust and high-quality research. Both have their own rhythm, and they do not combine well. Rather than aiming for co-creation, it would be useful if more people would cross over from one side to the other every now and then. Think of scientists becoming policy-makers, and policy-makers that enter PhD programmes. Also, I think there is a need for more research that critically assesses existing policies. For example, FLEGT focuses on the legality of timber, but does that really lead to sustainable forest management and the long-term conservation of the forest? It is good to know that TBI is addressing these kinds of questions in its current programme. Policy-makers often focus on the details of policies without really knowing the bigger picture and they need critical researchers to provide them with reality checks.

Telling fact from fiction

Artisanal logging in the Democratic Republic of Congo

Access to the valuable timber of its vast forests is a source of conflict in the Democratic Republic of Congo (DRC), where a new law on community forestry was passed in 2002 but still has not been implemented. TBI set up an extensive research project to obtain information about the controversial practice of artisanal logging and found that its impact on the forest is not as bad as governments and logging companies claim.

Stretching across Central Africa, the rainforest of the Congo Basin is the second largest on earth after the Amazon. Around two-thirds of the region's forest are found in the Democratic Republic of Congo. The presence of valuable timber and many other precious natural resources have scarred Congo's history and continue to contribute to a volatile political and economic reality. In early 2010, as soon as a direct air link between Nairobi and Kisangani was established, TBI set up an office in the capital of DRC's Oriental Province.

Kisangani, a city of one million inhabitants with the feel of a small town, is a long way from Kinshasa, the seat of the national government. For more than a century, the central government of what is today Africa's second largest country has claimed exclusive authority over the nation's forests. This practice was instigated by Belgian rule in 1885 and continued after independence. In 2002, this changed with the approval of a new Forest Law. The law recognizes the concept of community forestry and

Road through the forest in Banalia, Tshopo District, Oriental Province, DR Congo
[Photo: C. Benneker]

allows local governments and local communities to participate in decisions about forest use and management.

When TBI arrived in Congo, the forest law was the talk of the town. Why? Because eight years down the line, it had not yet been implemented. The government is still working on specific decrees that are needed to give substance to the law's provisions about community forestry. International and local NGOs have been lobbying in Kinshasa to speed up the drafting of these regulations, but so far to no avail.

Page 24: Mr. Baseko Sangola, president of the Association of sawyers (ASLKIS), looking at the book Wood on the agenda: Artisanal logging in DR Congo. Kikongo, Kisangani, DR Congo.
[Photo: J. Bolongo]

TBI decided to take a different approach by researching what was actually happening on the ground — which formal and informal arrangements for forest management exist, who arethe stakeholders and what are their interests — and use this information to inform decision-makers within the government. Charlotte Benneker, who was TBI's Programme Director at the time, says: "Community forestry is right up TBI's alley. We are not only concerned with forest conservation; we also have a development agenda. Community forestry reflects that perspective: it's about both forests and people, about the protection of biodiversity and the enhancement of livelihoods."

The TBI office in Kisangani decided to focus its research on *exploitation artisanal*, or artisanal logging, a controversial business that takes place in community forests. Artisanal logging — the on-site conversion of logs into lumber by small-scale operators using a chainsaw[1] — is on the rise in Eastern Congo, where a lucrative market for timber exists due to postwar reconstruction and demand from neighbouring countries. Although artisanal logging is poorly regulated and is often carried out illegally, it is an important part of local economies. TBI set up an extensive research project to map the artisanal logging business and invited students and staff of the University of Kisangani, NGOs, and local government officials to collaborate. In 2012, the book *Wood on the agenda: Artisanal logging in*

[1] In DRC, chainsaw milling is referred to as *exploitation artisanal*. In Ghana (see p. 16), the term "artisanal milling" refers specifically to a regularized, well-trained and licensed form of chainsaw milling.

DR Congo[2] was published. Contributions from 33 researchers shed a new light on artisanal logging and revealed that some of the persistent prejudices that government officials and international NGOs hold against the practice are false.

The first of these prejudices is that artisanal logging is the main cause of forest destruction. Benneker: "Congo's forests are huge and the country has very few roads. Artisanal loggers operate only within five km of those roads because otherwise transporting the timber becomes too expensive. They don't fell undersized trees because that, too, is inefficient cost-wise. All in all, claims of the damaging impact seem to be exaggerated."

Second, artisanal logging is not the backward business of ignorant villagers, as the Kinshasa government likes to portray it. Instead, a wide network of formal and informal actors collaborate in a complex value chain. This includes villagers and urban elites as well as many government officials.

Third, local communities are not the defenceless victims of a trade that doesn't benefit them, an opinion often expressed by NGOs. It is true that according to national law all forest land belongs to the state. However, the research showed that at the local level an intricate system of customary land rights exists. It guarantees that no tree is felled without the permission of the customary owners of the land. Moreover, communities ensure that there is a certain level of benefit sharing. Admittedly, community chiefs have often taken the largest share. And, says Alphonse Maindo, the current director of the TBI programme in Kisangani, "Many of them were initially uneasy with our work of informing their communities about the forest law and its implications for artisanal logging. They feared this would undermine their power and ultimately their income from deals with the loggers. We told them: 'Individual benefit is good, but community benefit is better.' Quite a few of them are now actively supporting our work." And anyway, Benneker adds, "Villagers are not powerless vis-à-vis their leaders. When the

Artisanal milling in DR Congo.
[Photo: TBI DR Congo]

[2] *Le bois à l'ordre du jour. Exploitation artisanale de bois d'oeuvre en RD Congo: Secteur porteur d'espoir pour le développement des petites et moyennes entreprises*. (Original title in french).

Artisanal milling in DR Congo [Photo: C. Benneker]

leaders take too big a piece of the pie, their communities give them a clear warning."

The main goal of TBI's research project was to obtain a factual picture of the pros and cons of artisanal logging. Benneker says: "I often heard people say that the money earned through artisanal logging is 'wasted on women.' Instead, we found that many families invest in their children's schooling, in agriculture, in small processing equipment such as maize mills or a motorcycle. Some even pulled out a moneybox made out of bamboo stem where they kept their small savings."

Many stakeholders in the forest sector are attached to their prejudices. Alphonse Maindo says: "Many conservationists, for instance, tell the communities that they are not supposed to cut trees or kill animals. But the forest is the communities' primary source of livelihood. We believe that people have the right to use forest resources, but that together we should find the most sustainable way of doing so. We hire local experts to conduct research. We discuss the results with the people. And we try to elicit their knowledge about how to conserve the biodiversity of the forests. We found that there are plenty of traditional practices that fit in our contemporary notion of sustainable forest management. We want to help encourage these good practices."

Charlotte Benneker believes that TBI's research has contributed to a revaluation of the artisanal logging business. "For all those different stakeholders involved in the project, including us, it was a massive learning experience. By analyzing data together and discussing the unexpected outcomes, we learned that the reality is more complex but also sometimes more positive than we imagined." At a workshop in Kinshasa where all forest sector decision-makers were present, the Minister of Environment of Oriental Province who had been involved in TBI's research, presented the findings. His message was this: instead of imposing an entirely new system, decrees on community forestry and artisanal logging should build on traditional land-use patterns and practices and the existing structures for forest use and governance that have proved their worth over time. Even if not all officials were immediately taken with this grassroots perspective, it has become one to be considered

within NGO and government circles. Maindo: "We focused our programme on research and capacity building, and this happened to result in a lot of dialogue between the many different stakeholders of the Congolese forest sector. That new, evidence-based views are on the table can only be a good thing."

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Bridging interests

TBI's research programmes in various countries reveal widespread feelings of distrust among local populations, state agencies, conservationists, development NGOs and logging operators. Building effective forest co-management regimes is therefore a complex process that is greatly affected by the local political and economic context. Moreover, what is happening at the global level also has an impact locally. Prompted by international policies on timber trade, climate change and the emerging carbon market, national governments and private players are increasingly and eagerly eyeing the forests' riches. And, where interest is keen, discord is always just around the corner. This underlines the importance of TBI's efforts to facilitate and inform a continuous dialogue between local, national and international interests, making sure that local voices are heard.

Lasting impact

Sustainable use and management of forests in Cameroon

Although Tropenbos no longer works in Cameroon, many of the ideas and technologies it developed there are still in use today. Reduced impact logging (RIL), for example, has become mainstream practice, and TBI's research in the Campo-Ma'an area has laid a solid foundation for the management of one of Cameroon's richest forest areas.

In the early 2000s the Tropenbos Cameroon programme developed stringent conditions for the transportation of logs through Campo Ma'an National Park in order to protect its fauna. Although this initiative was based on sound research, the management of the logging company operating in the area was aggrieved, because the new conditions restricted their operations. Indeed, recommendations from conservation-oriented research may sometimes conflict with commercial interests. This is not always the case, however. Research can also trigger innovations that benefit both business and conservation. Rather than protecting — or frustrating — particular interests, the goal of Tropenbos has always been to provide evidence-based information that influences the behaviour of all stakeholders toward greater sustainability, preferably with a long-term impact.

The work of the Tropenbos Cameroon Programme on reduced impact logging (RIL) is

Log landing site, Cameroon. [Photo: H. Vellema]

a good example of research that benefits both business and the environment. Wyb Jonkers, who was coordinator of the programme between 1992 and 2002, explains: "We developed methods to improve the sustainability of timber harvesting, enhancing the growth and regeneration of economically important tree species in their natural environment. We wanted to develop more efficient timber harvesting techniques that caused less damage to the forest than the prevailing methods in Cameroon at the time."

Jonkers had gained considerable experience with sustainable logging methods in South America and Southeast Asia but realized that these methods could not simply be copied in West Africa since the conditions for the sustainable extraction of timber there are completely different. In West Africa the density of commercial trees per hectare is low compared to Latin America and Southeast Asia, but the trees are huge — they are true forest giants, some with a diameter of more than 2.5 metres. Moreover, commercial trees often grow in clusters, which means that terrain conditions and harvesting sites need to be mapped before planning and building logging roads and trails. This became the first principle of the RIL method developed by Tropenbos in Cameroon.

In addition to careful mapping and planning, the method included directional felling and winching. Directional felling means that falling trees are aimed away from other valuable trees to reduce the damage they might cause. Winching involves pulling the logs to the trail using a steel cable, rather than using a heavy vehicle (skidder) to pick up each individual tree trunk. When winching, the skidder does not leave the main trail, which means that much more vegetation will survive compared to conventional logging practices.

While developing and testing the new logging methods, Tropenbos collaborated closely with the Netherlands-based company G. Wijma en Zonen BV (GWZ), which was operating in Cameroon. At the onset of the project, the company managers were sceptical. They assumed that extensive mapping would be too time consuming and thought that directional felling and winching would not be feasible, given the large tree sizes and the heavy weight of the logs.

Page 30: Forest near Kribi, Cameroon. [Photo: H. Vellema]

The work of Tropenbos proved that these new practices were feasible, however. Moreover, the new method generated extra employment for local people (e.g., for mapping), and the operational costs did not increase due to the reduced need for using heavy machinery. "Despite their initial scepticism, the top management soon acknowledged the advantages of our method, and the labourers became enthusiastic as well," Jonkers recalls. "In fact, the success caused the research design to fail," he adds with a smile. "We wanted to compare new and old methods in terms of their impact on the forest, but the lumberjacks were not willing to resort to their old way of doing things. This was their professional pride. They simply wanted to do their work in the best way possible."

Enthused by the results, GWZ adopted the new method, which eventually helped them to obtain a Forest Stewardship Council (FSC) certificate. Jonkers: "I am not saying that GWZ suddenly became a saint, but our work has helped them move in a much more sustainable direction." Several other logging companies in Cameroon now use RIL as well.

Tropenbos's activities in Cameroon not only focussed on sustainable timber production, but also on biodiversity conservation. The programme was given the opportunity to put its knowledge into practice when asked by the World Bank to coordinate the Campo-Ma'an Biodiversity Management Project in 1999. The Campo-Ma'an area comprises 7,098 km^2, including a national park, and is an important biodiversity hotspot in Africa. The main goal of the project was to preserve the large variety of plant and animal species in the park and its surroundings. "A challenging objective," says Tinus De Kam, who was the *Conseiller Technique Principal* of the project from 2000 to 2002. He remembers tumultuous times: "In that particular area there were many interests, and all these needed to be balanced. There was the Ministry of Water and Forests, and then there were the logging companies, the owners of large-scale plantations of oil palm and rubber trees, the environmental NGOs, and, of course, the local people. Around 60,000 people live in the Campo-Ma'an area and they found themselves restricted in their use of its resources. While they had always used the forest to hunt for bushmeat, their practices had become illegal inside Campo-Ma'an

Trucks transporting logs in Bipundi, Cameroon. [Photo: H. Duiker]

Rural landscape in Cameroon. [Photo: H. Vellema]

National Park, which was established in 1999. Overnight they were no longer hunters, but poachers. And so they kept coming to our office to complain. Never a dull moment. Coordinating this project was definitely the most exciting assignment I ever got."

There was also resistance from logging companies, who had to abide by new, much stricter regulations inside the Campo-Ma'an Management Unit. Many practical issues needed to be resolved, including the use of a road that crossed the national park. One of the largest logging companies had its sawmill in the western part of the area, but its concessions on the other side of the national park, which meant they wanted to transport their logs through the park. Tropenbos studied the best options and concluded that the company could use the road only under two stringent conditions. First, having trucks going back and forth all day would make it difficult for large mammals such as elephants to cross the road, and thus it would divide their habitat into two parts. The trucks were therefore allowed to travel the road only twice a day: once in the morning to go the concession site, and once in the afternoon to go back to the mill. The road was closed and guarded from 5:00 p.m. until 8:00 a.m. This meant that the trucks travelled in convoys. Second, to prevent illegal trade in bushmeat, the convoy was not allowed to make stops inside the park and was always accompanied by forest guards.

Addressing these practical issues, which often involved trade-offs between different interests, took much of De Kam's time. Looking back, however, he thinks that Tropenbos's most important contribution was not the daily management of the Campo-Ma'an project, but the development of a strategic plan for the area. This plan was based on two years of intensive research on both biodiversity and social issues, which was conducted in close collaboration with the Dutch development organization SNV. The plan laid out detailed guidelines for the future, balancing the interests of biodiversity conservation, local livelihoods and commercial parties. "It became the Campo-Ma'an Bible," de Kam says. "Although we coordinated the project for only about three years, our work has remained the basis for the management of the area."

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Tropenbos in Cameroon

Cameroon is generously endowed with trees. More than 40 percent of the country is covered with tropical forest, and another 30 percent is classified as "other wooded lands." In the 1980s the Cameroon government began to understand the huge economic potential of these resources and developed a forestry policy aimed at making the country a market leader in the international trade of African timber. They had to start from scratch, however; the country's forest sector lacked the technical expertise to increase timber production in a sustainable manner. The government turned to the Tropenbos Foundation to contribute the scientific information for sustainable forest management in general and timber harvesting in particular. This request led to the establishment of the Tropenbos Cameroon Programme in 1992. Ten years later, when the Netherlands government decided to terminate its assistance to Cameroon, the first phase of the programme ended. In 2008 Tropenbos returned, but in 2011, due to changing priorities at the Dutch Ministry of Foreign Affairs, it left the country again. Many of its achievements endured, however. The organization left behind hundreds of publications documenting ecological issues, the importance of forests to local communities and options for sustainable forest management. In addition, a large number of professionals was trained, some of whom earned their PhD in the context of the Tropenbos programme. Moreover, many of the ideas and technologies developed by the programme were adopted by other organizations in Cameroon and are still in use today.

"Forests grow slowly"

An interview with Klaas Jan Beek and Rudy Rabbinge

Seedling of Clusia grandiflora, Guyana [Photo: Marieke Wit]

The Chair of TBI's board has traditionally been important not only to liaise with the Dutch government and other funders, but also to help shape the direction of the organization. We spoke with Klaas Jan Beek (Chairman 1996–2003) and Rudy Rabbinge (Chairman 2003–2012) about their roles and about the changes they had seen. Both men had a significant influence on the development of the organization. Beek was one of the authors of the long-term strategic plan that TBI developed in the late 1990s, which laid down the contours of the present-day organization. Rabbinge played a crucial role in further fine-tuning that strategy, successfully positioning TBI in the rapidly changing arena of international cooperation.

Klaas Jan Beek

How important is a long-term strategy?

Beek: When I became chair in 1996 something had to happen. There had been an external evaluation led by Ton Dietz. He told me all the things that needed improvement according to the Ministry of Foreign Affairs, which was the most important funder. It became clear that we had to focus our research activities much more on development.

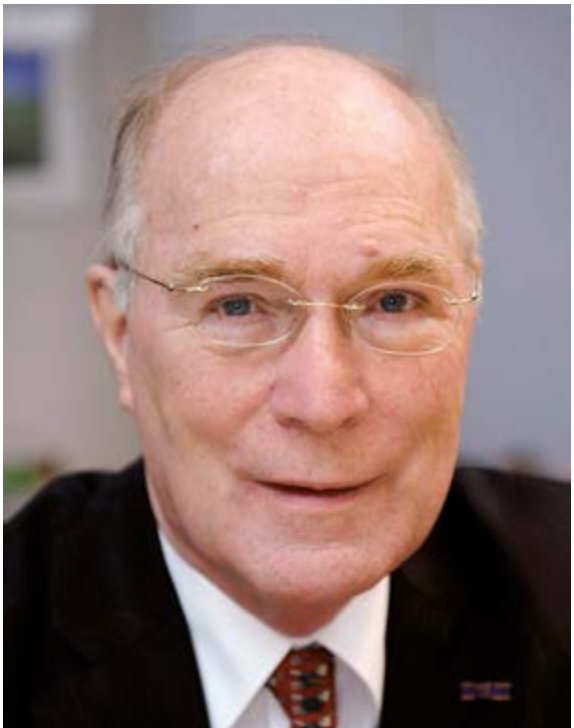
Were you ever afraid you would lose the government's support?

Beek: Yes, when Eveline Herfkens became minister things became a bit tense. We even worked on an exit strategy at the time.

Rabbinge: She wanted to transfer everything to the World Bank.

Beek: We survived Herfkens's policy, but it wasn't easy. We were forced to close some country offices, which was really unfortunate.

Rudy Rabbinge



Looking back, however, I can only compliment the Ministry of Foreign Affairs for its consistency and continuous support of TBI. Forests grow slowly; similarly, it takes a lot of time for this type of work to have an impact. This requires trust and long-term commitment by the funder, and that is exactly what the ministry has given us.

Were there other moments of crisis in the history of TBI?

Rabbinge: In 2011, when we had to renew our contract with the government, environmental concerns had become what they call a "post-priority". This put us in a difficult position. We then wrote a new strategic plan in which we clearly stated that TBI's main objective was to guide development interventions, and that we were planning to further strengthen local ownership of the programmes. The plan explicitly linked TBI's work to the issues of climate, water and food security. All of this was in line with the report of the Scientific Council for Government Policy titled *Less Pretension, More Ambition*, which was very influential at the time. Our approach was built on the strategy written by Klaas Jan and the previous TBI director Erik Lammerts van Bueren, and emphasized the relationship with the private sector and TBI's role as an intermediary institution.

What is the added value of TBI?

Rabbinge: To see the added value, simply go and have a look in the countries where TBI works. Take, for example, Colombia, where TBI has been instrumental in developing the national policy on protected areas.

Beek: TBI has also been very important in terms of capacity building. Thousands of people have received an education in the context of a TBI programme. This includes not only master's and PhD students, but also training for rangers and loggers. In addition, I think TBI is known and valued for its publications. The organization has always been very good at communicating the results of its work.

Rabbinge: TBI is not stuck in the straitjacket of the universities, where everything is about the H-index.[1] At TBI it is all about science for a well-defined aim, and not about science for the sake of science.

The role of Dutch PhD students within TBI's country programmes has decreased over time. What is TBI's relation to Dutch universities today?

Beek: TBI can function very well as a facilitator. It has networks, research sites and great partner organizations in the countries where it works. If a researcher wants to carry out a study in Ghana, he or she would be wise to contact TBI first.

Rabbinge: But scientists are arrogant – they want to do things by themselves. That is very human, but the result is that they keep on re-inventing the wheel. Klaas Jan and I are a bit older, we have been around, and we have seen how inefficient this can be.

[1] The H-index is based on the number of times the work of a researcher is cited by other scientists.

Why do scientists have this inclination?

Rabbinge: Because they don't like to be steered, while that is exactly what TBI tries to do. TBI will always challenge researchers to make their science relevant to the local context: to start with the problem, and only then formulate questions. This is not like in the past, when a taxonomist went into the forest to describe one family of plants, and, when done, would simply move to the next family.

Is there a future for TBI?

Rabbinge: There certainly is. But it has to be aware of three things. First, the organization has to remain embedded in other knowledge institutions. Second, it has to focus on its niche, which is its role as intermediary. Third, it has to work to raise broad public support in society, by involving ministries, NGOs and the private sector. This simply means that TBI needs to keep on talking with key people in a range of sectors of society.

Beek: To be of interest to the private sector, I think that TBI should not cling to just the focus countries of the Ministry of Foreign Affairs, but should also look at some of the upcoming economies, Brazil in particular. That's where most business opportunities are and where it can help make a difference.

Klaas Jan Beek

Between 1963 and 1980 Klaas Jan Beek worked as a soil scientist in Rome, Brazil, Mexico, Chile and the Netherlands for both the FAO and Wageningen University. From 1980 until his retirement in 2000 he was Professor of Land Evaluation at the International Institute for Aerospace Survey and Earth Sciences (ITC) in Enschede. Throughout his career he has had numerous management functions in national and international organizations, for example as rector of ITC, chair of the International Water Management Institute, vice-chair of the Netherlands Commission for Environmental Impact Assessment, chair of the Netherlands Foundation for Water and Climate, and chair of Tropenbos International.

Rudy Rabbinge

Rudy Rabbinge is an agronomist by training. Until 1998 he was professor of Theoretical Production Ecology at Wageningen University. Later, and until his retirement in 2011, he was University Professor of Sustainable Development and Food Security at the same university. He held many management positions, including dean of Wageningen Graduate Schools, president of the Royal Institute of the Tropics, member of the Board of Directors of the Alliance for a Green Revolution in Africa, chair of the Science Council of the Consultative Group on International Agricultural Research, and chair of Tropenbos International.

Looking beyond the forest

Sustainable development near Taï National Park in Côte d'Ivoire

In order to find out how to best protect an area one should not only know the forest itself, but also what is happening beyond its boundaries. In Côte d'Ivoire Tropenbos explored the links between biodiversity conservation and human activities, such as changing agricultural practices and the consumption of bushmeat.

"When I found those hands in the soup, my appetite was suddenly gone." By then, Hans Vellema had already finished at least a quarter of the soup, without knowing it contained monkey meat. In the late 1980s Vellema was working as a researcher for the Tropenbos Programme in Côte d'Ivoire. A local farmer offered him the dish during a land-use inventory on the west side of Taï National Park. Obviously, local people were still consuming bushmeat despite a national hunting ban. It seemed to be common practice. But due to its illegal nature nothing much was known about the extent of hunting and bushmeat consumption, and the threats to biodiversity that these entailed.

The consumption of bushmeat became one of the focus areas of Tropenbos's research in Côte d'Ivoire. The Ivorian Tropenbos programme also supported research on agricultural systems in the surroundings of Taï National Park and how they could be improved in order to reduce the pressure on the forest. As

Overview of Taï Forest from Mont Nienokoné, Taï National Park, Côte d'Ivoire. [Photo: Tropenbos International]

such, the programme placed forest management in the wider context of people's livelihood strategies.

The Tropenbos programme in Côte d'Ivoire can be considered the precursor of much of Tropenbos's later work, says Vellema, who now works as Programme Coordinator at the head office in the Netherlands. "It is important to look at what lives and happens inside the forest, because you need to know what you're protecting," he says. "But looking inside the forest is not enough! It is generally beyond the forest's boundaries where the main threats and solutions for conservation are to be found."

What is inside Taï National Park is certainly worth looking at. It contains the largest stretch of intact primary rainforest under protection in West Africa and is home to many unique species. These include several mammals on the Red List of threatened species, such as the Pygmy hippopotamus, Olive colobus monkeys, leopards, chimpanzees and Jentink's duiker. The area, which is located in southwest Côte d'Ivoire, was proclaimed a national park in 1972, a Biosphere Reserve in 1978 and a UNESCO Natural World Heritage site in 1982 — all in the cause of protecting its biodiversity. But by the time Tropenbos started its Ivorian programme in 1988 a look outside the park immediately revealed the threats facing the forest. Although there had been little settlement in the Taï area before 1970, the population increased fourfold to 500,000 between 1975 and 1989, including about 150,000 people in the immediate surroundings of the protected area and hundreds of illegal small-scale cocoa plantations in the park.

This explosive population growth has largely been due to migration. Since the early 1970s thousands of migrants have come to the area to settle. Many originated in the dry Sahel areas in Burkina Faso and Mali, and were looking for land to cultivate. Since the late 1990s, another large group of migrants has come from Liberia, fleeing the civil war there. Due to the rapidly growing population and the extensive growth of tree crops such as cocoa, land became increasingly scarce in the area between the park and the country's border with Liberia. In response, many farmers started shortening their fallow periods, which soon led to widespread soil depletion and decreasing yields. Moreover, because

Page 40: River in Taï National Park, Côte d'Ivoire. [Photo: H. Vellema]

the migrants were not sure whether they would be allowed to stay, they lacked the long-term perspective that is needed to invest in sustainable agricultural practices. All of this further increased the pressure on the national park.

The Ivorian government wanted to prevent illegal settlement in the protected area and took strong action against offenders. Occasionally, the huts and properties of peasants living in the buffer zone of the park were completely destroyed. The researchers working in the area realized all too well, however, that such a harsh approach was leading to a negative attitude to the national park on the part of local people. Restrictive measures were bound to fail unless they were accompanied by investments in effective land use in the agricultural zone. Based on years of agriculture research in the area the Tropenbos programme helped to set up demonstration plots where farmers and extension officers could learn about sustainable agriculture and agroforestry and share experiences.

The increasing population also resulted in a sharp increase in hunting for bushmeat. A Tropenbos study conducted between March 1998 and April 1999 found that there were about 73,000 subsistence hunters, and almost 2,500 (semi) professional hunters in the Taï region, targeting some 75 forest species. Hans-Ulrich Caspary, the main author of the study, explains: "We found that the professional hunters were mostly young guys. They stayed in the forest for weeks and used shotguns to hunt for primary forest species such as monkeys and forest antelopes. The subsistence hunters usually made their own traps to catch small rodents in and around their fields." The demand side was studied too. The researchers monitored the quantity and range of game species on offer in 86 restaurants and markets in the region on a weekly basis. It became evident that bushmeat was much more important than livestock meat for the local consumption of animal protein.

In 2012, the Ivorian government asked Caspary to act as an external advisor and help develop a new hunting law. He believes that the results of the 1999 study did not fall on deaf ears: "The new draft of the law has a much more realistic approach toward hunting, which was one

Market in the forest, Côte d'Ivoire. [Photo: H. Vellema]

Taï National park, Côte d'Ivoire. [Photo: Tropenbos International]

of our main recommendations. It recognizes the importance of traditional hunting for local people's diets, for example by decriminalizing subsistence hunting of some small species such as the cane rat."

Although he still shivers at the thought of monkey soup, Vellema looks back at his time in Côte d'Ivoire with great pleasure and is proud of the programme's achievements. He stresses the importance of the involvement of the Agricultural University of Wageningen (now called Wageningen University). The university had extensive experience in research on tropical land use in the agricultural zone of the Taï region and the Tropenbos programme linked this work to the management of Taï National Park and its buffer zone. Vellema says: "In Côte d'Ivoire Tropenbos pioneered research on the complex interactions between the national park and the surrounding land uses and activities, addressing agriculture, land tenure and conflicts about land and resources. In this way an interdisciplinary and more holistic approach to forest management was developed that later became mainstream within Tropenbos."

The Ivorian Tropenbos programme ended in 2002, but Hans-Ulrich Caspary came back to the area. He now works as advisor to the Taï National Park on behalf of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The park is exceptionally well conserved, he says. This is due to a large extent to the continued support for the park's management by international organizations, which in turn is heavily based on Tropenbos's research. "We still intensively use the reports and books that Tropenbos has published about this area," says Caspary.

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Streamlining science

Due to its diversity of plant and animal species, the Taï region in Côte d'Ivoire has acted as a magnet for researchers from all corners of the world for decades. For long their scientific endeavours were not coordinated, nor were they focused on specific topics, and the research results were scattered over numerous publications. Soon after Tropenbos started its programme in Côte d'Ivoire in 1988 it therefore took on the ambitious task of collecting and synthesizing all the studies that had been conducted in the area. In 1993 the programme became part of the international PACPNT project,[1] which aimed to reduce the pressure on the park. Within this project, Tropenbos was responsible for the scientific component and for the translation of scientific data into hands-on recommendations for the managers of the park and other non-scientific actors in the project. Tropenbos urged scientists to highlight the practical relevance of their work and to share the results with the other stakeholders in the project, while at the same time it encouraged park managers to request useable scientific knowledge. In this way, Tropenbos put research firmly on the agenda in Côte d'Ivoire.

[1] PACPNT stands for Projet Autonome pour la Conservation du Parc National de Taï. PACPNT was a large international project aimed at the conservation of the Taï National Park, involving the Ivorian government, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GTZ, now GIZ), the German government-owned development bank KfW (now KFW Entwicklungsbank), the World Wide Fund for Nature (WWF) and Tropenbos International (TBI).

“I learned about the forest the hard way”

TBI Colombia recognizes traditional concepts for modern forest management

Abel Rodríguez, an indigenous elder, knows more than 400 species of trees. And Rodríguez is not the only one. This indigenous knowledge is vital for the management of tropical forests. With 20 years experience in stimulating local research, Tropenbos International Colombia sets the example for using traditional knowledge in forest management.

In a way, the situation in Colombia for indigenous people is better than in other countries. The conflict-ridden South American country has arguably one of the best legal frameworks in the world to protect the cultural identity and interests of the ethnic groups living within its borders. The 1991 constitution stipulates that Colombia is a multi-cultural and multi-ethnic society. This simple recognition makes a huge difference: Colombia is not just Catholic, Spanish-speaking and mestizo — other religions, languages, cultures and ethnic backgrounds are equally important and receive protection and recognition. The rights of indigenous people and Afro-Colombians to (collective) ownership of parts of the Colombian territory are specified in the constitution.

For more than twenty years Tropenbos International Colombia has worked with academic institutions, policy-makers and local communities (indigenous, afro-descendent and settlers communities) to identify traditional knowledge. TBI Colombia promotes a

dialogue among local communities and government officials and scholars and encourages them to work together in the conservation and sound use of tropical forests.

What is indigenous knowledge? That is not easy to define, admits Carlos Rodríguez, Programme Director of TBI Colombia. "You could say that it consists of the body of knowledge about the living environment, the 'beings' and ecological interactions, inter-human relationships and the relationship between humans and nature that all indigenous communities need for survival. This knowledge is integrated with everyday life, and that fact sets it apart from our 'Western' knowledge. Our conception of scientific knowledge is that it can be isolated from everyday realities. This makes it difficult to 'translate' indigenous knowledge into modern, scientific concepts." It is exactly this translation of extremely valuable indigenous experiences into concepts that fit into existing management strategies, with which TBI Colombia has a specialized and growing expertise.

It is worrying that traditional knowledge is under threat. Historically, local knowledge was passed on from fathers to sons, from mothers to daughters, from generation to generation. But this knowledge transfer is fading. Most young people have lost their interest in the ways of the old. Traditional knowledge plays no significant role in the modern education they receive. Additionally, the growing presence of "civilization" in indigenous communities — for example, mining activities — threatens the survival of indigenous knowledge.

Luckily, there are people like Abel Rodríguez. Abel Rodríguez is a Nonuya, an indigenous group from the Caquetá region in the Amazonian region of Colombia. He learned as a child how to make a living in this isolated territory; this information was vital to his survival. Rodríguez is an outstanding botanist by any standard. He knows more than 400 types of trees. He knows how and when they blossom, where they grow, how they interact with the environment, the fruits they produce, and other things. He recounts: "*I learned about the forest the hard way: I had to be awake for long hours at night, I had to lend my ears to the elders and make special diets. Our learning was a spiritual process; that is why we consider knowledge as very valuable… I began to study shamanism, I learned how to understand the cycles of time and the ecological and cultural relationships in our world... My traditional education was interrupted when I went to study at the local boarding school*."

Since the 1980s Rodríguez has been involved in the local research programme of TBI. He started as a guide for a TBI research group who were studying land use in the Caquetá area. Initially, he kept very much to himself in the company of the visitors. Rodríguez thought he would

Page 46: "Maloca" traditional indigenous house, Middle Caquetá, Colombia.
[Photo: D. Matapí]

disrespect the visiting scholars if he contradicted them. But over time he realised that his knowledge of the forest was complementary to the things the visitors knew. He agreed to share information about the plants in his territory and their uses: "*I understood that external researchers had a different way of learning and they valued things differently. Instead of getting upset, as many locals did, I explained it in a way I thought they would understand*."

This was the beginning of the innovative approach of TBI Colombia, whereby local knowledge and local research are central. TBI Colombia uses local research grants for local research and therefore many of the publications it produces are based on research done by local communities and individuals. Often, local people are even the authors of the publications, which open the realm of indigenous knowledge to the outside world. "A good example is the *Annual Cycle Muina+*," says Carlos Rodríguez. In this book, Hernando Castro and his grandfather Vicente Makuritofe, who are Uitoto indigenous people from the Colombian Amazon, describe their "ecological calendar": the seasonal changes of nature and how they are influenced by the stars, the moon and the earth as a whole. The book describes how the sky affects the life cycles of all animal and plant species. "This is highly sophisticated knowledge," Rodríguez stresses, "They know, for example, that in a specific period of the year, rains will fall and this will cause certain trees to blossom, but the flowers will release a toxin that makes the river water undrinkable for a number of days. They know how and when water should be stored. This calendar has also been used in the planning of health services for local communities."

Indigenous knowledge is not gathered just out of scientific curiosity, or to preserve it from cultural erosion. TBI Colombia has made a name for itself by showing how local expertise can be used for local and regional planning and for managing natural resources. Several TBI publications describe the approach of TBI Colombia, making it possible to replicate its experiences elsewhere. Indeed, the TBI model has been followed by numerous institutions in Colombia, both governmental and non-governmental.

Daily registration of fish consumption by indigenous people, Colombia
[Photo: R. Polanco]

Representation of the forest. Drawing. Mixed technique. [By: Abel Rodríguez.]

The intimate relationship of indigenous people with their surroundings makes them highly susceptible to changes in the ecosystem, including those that are climate related. Indigenous knowledge is vital when designing adaptation strategies for climate change. One of the main recommendations of the project "The climate is changing and you should too" is to use diversity as a powerful tool for climate adaptation. Indigenous communities are promoting the diversity of seed banks, since they recognize that diversity makes them more resilient to climate change and its effects.

The Colombian constitution makes it easier to incorporate indigenous interests in policy-making, Carlos Rodríguez says. "Indigenous authorities are recognized by the government; in fact, indigenous councils are part of the government system. That makes them much-needed participants in meetings with all relevant stakeholders."

The government recognizes the indigenous ownership of some 20 million hectares of land. This collectively owned land must be governed by local authorities, which are established according to local traditions. An important task of these authorities is, according to the constitution, "[to] design policies, plans and economical and social development programs...in harmony with the National Development Plan" and "to look after the conservation of the natural resources in their territories." This means that the local indigenous authorities must develop management plans that include their vision of how to take care of natural resources.

Working for more than 20 years in the northwest Amazon, TBI Colombia has helped the indigenous people in the region to establish their own government structures and to develop plans for the sustainable use of natural resources.

In spite of the favourable legal framework, forest management and the protection of indigenous culture and knowledge are still extremely difficult in Colombia. Public safety is compromised. This has especially been the case since the arrival of — in the words of Abel Rodríguez — "the good people," when things got scary. The "good people" are the illegal armed groups. In the 1990s, large parts of the Amazon region and other remote areas of Colombia became virtual no-go areas.

Many individuals were driven away and possibilities for research declined.

The gradual return of institutions to the remote areas and the current peace negotiations between rebel groups and the government should have brought some breathing space, but this was a vain hope. Indigenous lands are invaded more and more frequently by mining activities, which are degrading the ecosystem and social relationships. The quest for gold creates situations that are equally dangerous as the activities of armed groups. Even Abel Rodríguez now lives in the capital, Bogotá, where he puts his memories of the flora and fauna from his native land into writing and into highly appealing drawings of trees and plants that have found their way into art exhibitions in Colombia, Brazil and Canada.

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Traditional cartography

Cartography is essential for sustainable forest management. Nowadays GPS tools obviously play an important role. But there is more to cartography than meets the eye.

The local leader Uldarico Matapí co-authored a book for TBI Colombia titled *Traditional cartography of the Yucuna-Matapí*, explaining the intricate relationships between indigenous communities and the territories they live in. For indigenous people, territory is multidimensional: it encompasses not only the physical-geographical area and political-administrative dimensions, but also the shamanic, mythological and inter-ethnic aspects. The traditional understanding of the territory is a vitally important element that should be taken into account in spatial planning processes.

"The post-war period is often more damaging than the war itself"

An interview with Manuel Rodríguez Becerra

Canoes in the Choco region in Colombia. [Photo: TBI Colombia]

Manuel Rodríguez Becerra has dedicated most of his professional life to sustainable development and the protection of tropical forests. In the 1990s, he was Colombia's first Minister for the Environment. Today he is a professor of management studies at the University de los Andes in Bogotá and a columnist for Colombia's national newspaper, *El Tiempo*. He is also the author of numerous books on sustainable development. Between 2001 and 2008 he was vice-president of the international board of TBI. We talked to him about the challenges for forest conservation in Colombia and about TBI's contribution to safeguarding tropical forests.

What is the biggest contribution of TBI Colombia to the protection and management of forests in the country?

Their biggest contribution is without a doubt their method of identifying, collecting and organizing the traditional knowledge of indigenous people in Colombia. This knowledge is essential for the conservation of tropical forests, and is also of great importance to ethnic minorities themselves. The culture of indigenous people and Afro-Colombians is disappearing. Transmission systems, mainly oral traditions, are not able to cope with the slow but constant encroachment of Western culture on indigenous territories. The "way of the woods" is disappearing. That is an enormous loss. The system of local research that TBI has set up is the main instrument for preserving this vital knowledge and for using it in forest management.

Manuel Rodríguez Becerra

You were environment minister in Colombia. In your experience, how is this indigenous knowledge perceived in political circles in Colombia and among civil servants? Is it valued enough?

Well, there is room for improvement, I must admit. People at the ministries, those who design the policies, generally do recognize the importance of indigenous knowledge. But at a political level the interest in minorities and their potential contribution to development is often forgotten.

What would you say is the biggest threat to both tropical forests and their inhabitants in Colombia?

The biggest threat is the extractive industries. In other words: mining. Large-scale agri-business is not allowed in the indigenous territories, but recently the door has been opened for mining activities. The Colombian president [Juan Manuel] Santos announced at the Rio+20 sustainability summit — what cynicism! — a plan to open almost 20 million hectares of Colombia's most vulnerable territories, most of it in the Amazon region, to mining.

You addressed this in a column in one of Colombia's leading newspapers. You wrote "bye-bye Amazon." Is it that bad?

Of course, the president stressed that the plan is to use the most modern mining techniques, with minimal ecological damage. The threat, however, is not the damage that mining itself causes. The greatest damage is inflicted through the whole circus around mining pits: the infrastructure, the roads, the influx of personnel, the use of water, the waste, the pressure on local agriculture to feed all these people. If the plan goes ahead as anticipated, this would surely mean a huge blow to the Amazon region.

What was the reaction from stakeholders in Colombia?

Of course there were protests. TBI specifically contributed to the debate by voicing the objections against mining from a local perspective. And, despite pressure from mining companies, some things have changed for the better. The protests have had an impact. The mining concessions have been put on hold until there are good plans designed for the whole area; the most vulnerable areas are excluded from all mining activities. And there is more good news: earlier this year a plan was presented to double the size of the Amazon reserve from 1.3 to 2.7 million hectares.

And there is even more good news: peace negotiations are underway between the FARC [Fuerzas Armadas Revolucionarias de Colombia] rebels and the Colombian government.

Of course peace is good. The war has caused extensive damage to forest areas in Colombia. Take for example the massive deforestation inflicted by paramilitary groups in the Darien Gap in the north of the country; this was done to open up grazing grounds for cattle farmers. But frankly, experiences in other countries show that peace puts extra pressure on nature. The

post-war period often is far more damaging than the war itself.

How is that?

Well, the first thing is that former combatants — in our case, the soldiers of FARC — will need to find other ways to make a living. For many of them this will mean farming; this results in extra pressure on available farmlands, including lands in vulnerable areas such as the Amazon or the Chocó, where many of the Afro-Colombian communities are located. And if the soldiers don't get enough income from farming or other legal activities, there is a serious risk they will resort to illicit activities like illegal mining in the area that they know so well. Likewise, the government and legitimate companies will look for ways to profit from the areas that were inaccessible before. So the pressure will grow to use these lands for living, for mining, for agriculture. And new activities will lead to more infrastructure. A better infrastructure will attract more people. Etcetera.

That sounds very serious. Are these topics "on the table" during the negotiations in Cuba between the government and the FARC rebels?

Yes, they are. These concerns are part of the negotiations on agrarian reform and land distribution. Also, FARC has proposed to stop the involvement of foreign companies in the exploitation of Colombian natural resources.

Are Colombian NGOs involved in these negotiations?

I can imagine that TBI Colombia could provide valuable input on these topics. Indirectly, there is pressure from NGOs on the negotiations. TBI Colombia is very active in these matters. The experience TBI has collected over the previous decades makes it an indispensable source of knowledge to reconcile the quest for human welfare and the ecological conditions of the Colombian tropical forests. Recently, civil society organizations in Colombia held a seminar to identify inputs for and views on the peace talks; these also related to risks and opportunities for sustainable development. If this will have an impact remains to be seen. The negotiations are closed to other parties. Direct mechanisms to influence the talks do not exist.

A balancing act

Making responsible use of Suriname's forest resources

2013 was an important year for the forest sector in Suriname: the country was accepted as a participant in the World Bank's Forest Carbon Partnership Facility. This is likely to promote the sustainable management of Suriname's unique forest reserves, although it is unclear whether indigenous forest communities will also benefit.

Unspoiled rainforest covers nearly the entire area of Suriname. Unlike some other South American countries, Suriname's deforestation rates have been notably low. This is good news. Yet at the same time, Suriname could benefit much more from the presence of the forest and its precious resources. In the ten years since TBI first explored opportunities for cooperation in Suriname, interest in the rainforest has increased significantly, says Rudi van Kanten, TBI's Programme Director in Suriname. There is a much greater awareness that the forest needs protection and that it offers opportunities to boost the national economy and raise people's living standards.

Timber harvesting is one of the economic activities carried out in Suriname's forests. When the armed conflict in the hinterland ceased in 1992, timber harvesting gradually picked up, and recent investments focused on serving the Asian market have increased it further. In terms of volume the total annual timber harvesting (436,000 m^3 in 2012) is less than half the

Forest in Suriname
[Photo: H. Lensing]

officially established maximum harvest of one million cubic metres. The sustainability of this logging, at both the commercial and the community level, remains a concern, however. At the same time, current production levels are too low to make a sizeable contribution to the national economy.

Bauxite mining used to be the backbone of the economy and gold mining in the forests is on the rise. The mining business, both formal and informal, is lucrative and likely to expand. Critics emphasize the damage it causes to the environment. As in other countries of the Amazon, small-scale gold mining also leads to conflicts with indigenous communities. The government estimates there are 20,000 operators, only a handful of whom are licensed.

If the rainforest is to contribute not only to the country's economy but also to the "well-being of present and future generations," as the National Forest Policy (2005) stipulates, there is a need for alternative and more sustainable activities. Policy-makers and government see an exciting opportunity in the rainforest's provision of freshwater, which is an increasingly scarce resource in the region, especially in the Caribbean islands. With the country's extensive forests supporting the water cycle and acting as water filters, "Suriname may be sitting on a more sustainable gold mine," says van Kanten.

Although that is very much a vision for the future, a present-day opportunity materialised in 2013: Suriname became one of the 36 Country Participants of the Forest Carbon Partnership Facility (FCPF). Rudi van Kanten recalls that TBI was among the first organizations to point out the potential for Suriname of the Reducing Emissions from Deforestation and Forest Degradation (REDD) programme, in a seminar on the subject given by René Boot in March 2008. After the 7th Country-Led Initiative of the UN Forum on Forests was held in Paramaribo in September of that year, the rainforest quickly gained prominence on the country's political agenda.

In 2009, when REDD became REDD+, Suriname's government became even more interested in the FCPF programme. REDD focused only on preventing deforestation and forest degradation, which globally account for 15% of CO_2 emissions, but are not critical problems in

Page 56: Forest in Brownsberg, Suriname.
[Photo: TBI Suriname]

Suriname. REDD+ includes forest conservation, sustainable forest management and enhancement of carbon stocks. For Suriname, a High Forest Cover, Low Deforestation (HFLD) country, REDD+ is a welcome financing mechanism for sustainable forest management.

TBI Suriname participated as an observer in the National REDD Working Group coordinated by the Ministry of Physical Planning, Land and Forest Management. It provided technical input and together with the World Wide Fund for Nature (WWF) organized two seminars that contributed to the country's REDD Readiness Preparation Proposal. The proposal was submitted to the World Bank's Forest Carbon Partnership Facility in 2009. After an extensive to-and-fro period and a change of government in Suriname, the proposal was finally approved on 23 March 2013.

The approval is a boost for the country's forest sector. It means that the government qualifies for US$ 3.8 million in grants for activities to make the country ready for REDD+ projects. These projects are meant to reduce emissions from deforestation and are supposed to benefit local communities and other stakeholders involved in sustainable forest management and biodiversity conservation.

It is not a given that REDD+ will enhance the livelihoods of local communities, however; in fact, it is unlikely given the absence of a strong legal framework for forest rights and governance. Marie-Josée Artist works as community development specialist for the Association of Indigenous Village Leaders in Suriname (VIDS), a partner organization of TBI. The country's indigenous communities have no formal rights to the land on which they live and depend. Therefore, says Artist, "there is a real threat that communities will be forced to participate in REDD+ activities against their will, or that they will participate simply because there are no alternatives. Our government hasn't yet informed the communities of the full picture of what REDD+ means for them. They want to understand which forest areas will be incorporated into the programme and what repercussions this will have for their normal way of living."

Given that Suriname lacks legal regulations for land rights, forest co-management and effective participation, the situation is

Log landing site, Suriname.
[Photo: A. Singh]

Indigenous people, Suriname.
[Photo: P. Creutzberg]

insecure. Artist: "VIDS has made it very clear that the indigenous communities demand to be treated as equal partners in the entire REDD+ process." The communities want the government to act according to the principle of free, prior and informed consent, which gives indigenous peoples the right to say yes or no to projects that may affect the lands they customarily own, occupy or use. Artist concludes: "Indigenous communities should be free to choose their own development path and use some of the REDD+ earnings to make this happen. But this too remains a question mark."

TBI Suriname agrees that attention to the complex issue of benefit sharing is indispensable to the responsible implementation of REDD+. "By making funds available, FCPF and other programmes can help preserve Suriname's unique treasure of vast unspoiled rainforests," says van Kanten, "but tenure clarity and legal recognition of local land rights must be part and parcel of our national forest governance framework." TBI sees that it has a role to play, together with its partners, to make this happen. Rudi van Kanten: "TBI can contribute by enhancing a national dialogue through research and sharing best practices from other countries. To us, content always comes first and our main concern is with the end result: how we can make sure that our technical knowledge will benefit not only policy, but first and foremost, people."

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Carbon and capacity

Now that Suriname is a Country Participant in the FCPF programme, the government must work towards a monitoring, reporting and verification (MRV) system that provides accurate data on the country's forest cover and carbon stocks. "This is not an easy endeavour," says Sarah Crabbe of the Foundation for Forest Management and Production Control (SBB), one of TBI's key partners. The Suriname forest is not easily accessible and human resources are limited. Moreover, an MRV system requires the input of various experts, including foresters, soil specialists, remote sensing technicians, statisticians, botanists and tree spotters. According to Crabbe it is therefore essential for collaboration to be maintained and improved.

TBI Suriname is set to assist, both in uniting the stakeholders and in building the capacity of a new generation of forest and conservation specialists. In the past few years, focus was given to training and research projects that support the capacity and competencies required in the context of the REDD+ programme. All TBI's Suriname partners have been involved in these projects: the Ministry of Physical Planning, Land and Forest Management, SBB, the Centre for Agricultural Research in Suriname and the National Herbarium.

TBI Suriname co-funded a research project to make an inventory of existing data on the country's carbon stocks. It also facilitated training for professionals in developing a scientific protocol to assess the carbon stocks of the country's dominant forest types. As part of one of these projects, sample plots were established in twelve locations across the country's forest belt. Preliminary data were gathered and personnel were trained in field sampling and data analysis. A Remote Sensing Unit has been established at the SBB; it has started producing maps based on radar images of Suriname's forest cover. TBI's capacity building activities will support the establishment of an effective MRV system.

More than a collection of trees

Sustainable extraction of timber and non-timber forest products in Guyana

In addition to timber resources, forests contain a wide variety of non-timber forest products (NTFPs), which are of great value to local people. Based on the Tropenbos Guyana Programme's research, the government of Guyana established legislation to ensure the sustainable extraction of both timber and NTFPs.

"Occasionally the people I worked with would tell me how happy they were about me staying in the village for such a long time. Many tears were shed when I left. On both sides." Tinde van Andel has fond memories of her time living with the Amerindians in Guyana. She spent two years in the northwest of the country to do a PhD study on the use of the forest by indigenous communities, which was part of the local Tropenbos programme. Tropenbos's main research site was located in a different part of Guyana, in the middle of a large logging company's concession area. The researchers who worked there had a somewhat different experience, and may have felt like unwelcome guests at times. Some of the company's staff members working at the concession site did not believe that Tropenbos's work was likely to benefit their company, so the researchers were sometimes frowned upon, says Roderick Zagt, who was the programme's team leader from 1998 until 2002. Yet, looking back, Zagt is immensely grateful for the company's support.

R. Zagt measuring a green heart sapling, Guyana
[Photo: Tropenbos International]

It let researchers work freely within its concession in order to explore better logging techniques.

The Tropenbos Guyana Programme started in 1987. Implemented by Utrecht University, it provided a place for several Dutch PhD students to do ecological and botanical research. Roderick Zagt was one of them. Between 1990 and 1995 he studied the effects of logging on the population dynamics of tree species. In the first years of the Tropenbos programme most of the research focused on understanding the impact of logging and on ways to improve it using reduced-impact logging (RIL) methods.

Although it was common practice for companies in Guyana to log selectively, there was much scope to improve the sustainability of their practices. The logging teams were not trained in matters like cutting techniques and environmental concerns, and a lack of planning resulted in low efficiency and in more forest being destroyed than necessary. With the aim of developing less destructive yet profitable logging methods that were suited to Guyanese conditions, Tropenbos researchers first established small experimental plots where they designed a logging system that limited the impact on the forest. Later, around 1998, they field-tested the new method against conventional practices in terms of ecological impact and economic profitability in plots of one hundred hectares.

The work required close collaboration with the logging company operating in the area. Although the company's staff members did not always see the point of the research, they did collaborate. This was partly because of the formal relationship between Tropenbos and the government's Forestry Commission: it was important for the company to maintain a good relation with the government and this implied they had to collaborate with the Tropenbos researchers. But this was not the only reason. Senior staff also understood that sustainability was becoming an increasingly important issue in their line of business.

Based on their experiments with RIL techniques within the company's concession area, the Tropenbos researchers were able to contribute to the development of a national code of practice for timber operations. Since the soils in Guyana are

Page 62: Indigenous children, Guyana.
[Photo: Tropenbos International]

poor and the trees grow extremely slowly it is important for logging companies to adhere to strict rules related to rotation cycles and felling intensities. The code of practice laid down rules for allowable cutting intensities, and also contained prescriptions for forest inventories, skidding, the establishment of biodiversity reserves, storage and handling of chemicals, and occupational health and safety. Guyana's Forestry Commission soon started applying the code to forest operations in the larger concessions. Eventually, with the passing of a new forest act in 2009, adhering to the code became a legal obligation for all logging companies operating in the country.

Although adopting the code of practice for logging was a major step toward sustainable management of Guyanese timber resources, forests are more than a collection of trees. In the mid-1990s Tropenbos became increasingly interested in the local use and value of forest products other than timber, such as fruits, bamboo, rattan and medicinal plants.

In Guyana Tinde van Andel started an extensive study on the variety of these non-timber forest products and their use by indigenous people. As there were no indigenous communities in or near the main Tropenbos site van Andel had to find another research location. She ended up in the northwest of the country, where she lived and worked with the local people for two years. "At that time, some of the remote villages were neglected by the logging companies and policy-makers," she says. "Outsiders hardly ever came there, let alone foreigners, so the people were happy with the attention from abroad, as it put them on the map — also politically."

Tinde van Andel spent much of her time in the forest, documenting NTFP species and uses. She eventually identified 587 species that were being used by local people. These made up about 60% of the total plant species found in the area. Most of the plants were used for subsistence purposes; some were sold at the market. "It is fascinating to walk in the forest with people who have always lived there. You realize the forest is their life. They use forest resources for food, housing, medicines — even to brush their teeth — they use the forest for everything."

Indigenous people and NTFPs, Guyana. [Photo: Tropenbos International]

Indigenous people collecting NTFPs in the forest, Guyana. [Photo: Tropenbos International]

As part of her PhD study van Andel also produced a field guide describing the NTFP species, their uses and how they can be harvested sustainably. The guide has been reprinted twice, and it is still frequently downloaded from the internet. The people who download the guide generally do not report back to her, says van Andel, so she does not know all the ways it is being used, but every now and then she receives messages from NGOs in Guyana saying they are using her thesis as the basis for local NTFP-based projects.

The most important marketable NTFP that van Andel studied was palm heart (*Euterpe oleracea*). It is sold to a factory that exports it to France. Tinde an Andel found that hundreds of Amerindians were harvesting palm heart. In fact, many people had abandoned their agricultural plots and focused entirely on palm heart extraction. This had resulted in unsustainable extraction practices. The palm's reproduction was threatened since it was not given sufficient time to recuperate after cutting; the rotation periods were too short. People were recutting the palms one year after harvesting, while the palm needs at least four to five years to regenerate. There was an urgent need for a management plan to ensure a future supply for the factory and to safeguard an important source of food and income for the local population.

Similar to the code of practice for logging that was developed based on Tropenbos research, the results of van Andel's study formed the basis for a code of practice for palm heart extraction that was developed by the Guyana Forestry Commission. The code laid down the rules for sustainable extraction and required the factory to buy palm heart only from sustainably harvested sources (those areas where a minimum rotation period of four years had been observed).

As these examples show, Tropenbos researchers provided the scientific foundation for sustainable forest management in Guyana. More importantly, the results did not end up on a shelf. According to Zagt, the winning strategy was to combine sound research with close collaboration with the government in striving for improved practices. "In the early days we were sometimes accused of being too academic, but now people see the value of data, as that is what you need to develop robust management

plans and legislation." In addition, Zagt stresses the importance of training a new generation of forestry professionals. "We left behind a legacy: an attitude toward forests that is based on a view of the forest as a resource that requires careful management on the basis of sound scientific knowledge, rather than a resource that is up for grabs."

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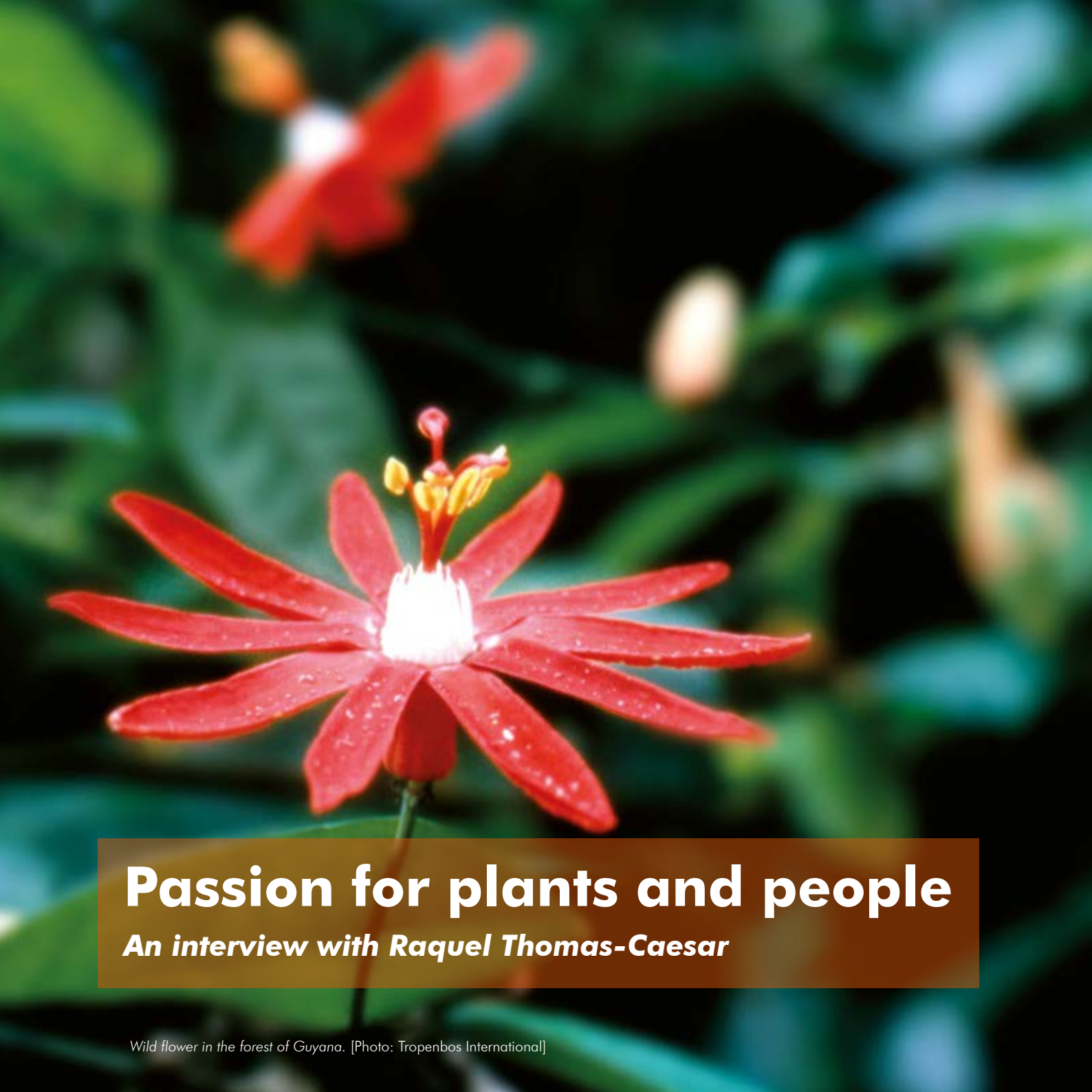
NTFP research at Tropenbos

In the 1990s the idea gained ground that NTFPs were often as or more important to local people than timber. Tropenbos picked up on this idea and started to research NTFPs in its partner countries, resulting in a wealth of both methods and data from various disciplines. Mirjam Ros-Tonen and others developed a research strategy and synthesized the methods used, yielding a template for NTFP research that has been widely disseminated. Tropenbos's methods for NTFP-related research have been used by researchers from all over the world.



Passion for plants and people

An interview with Raquel Thomas-Caesar

Wild flower in the forest of Guyana. [Photo: Tropenbos International]

The Iwokrama International Centre (IIC) manages the Iwokrama Forest, a unique reserve of 371,000 hectares of intact tropical rainforest in central Guyana. The centre is involved in commercial activities such as low-impact timber harvesting and ecotourism through co-management arrangements with local communities. The centre also evaluates the social, economic and ecological changes that occur as a result of these activities. The IIC is testing the proposition that forest conservation and economic activities can be mutually reinforcing — that it is possible to use a forest without losing it. The ultimate objective is to become a model for a type of business development that contributes to the worldwide conservation of tropical forests.

The IIC employs around 50 permanent staff members, several of whom received part of their training from the Tropenbos Guyana programme. Tropical forest ecologist Raquel Thomas-Caesar, for example, conducted a PhD study on phenology (patterns of flowering and fruiting) and seed dispersal in four different forest types at the TBI research site in Guyana. Thomas-Caesar lived and worked at the site for two and a half years between 1995 and 1997. Today she is Director of Resource Management and Training at the IIC.

What is the most important thing you learned working at the TBI site?

In terms of forest ecology and forest botany, some of my most important teachers were indigenous people such as Sam Roberts, who was working as a tree spotter for TBI. But my

Raquel Thomas-Caesar

Marcel Polak and students of the University of Guyana.
[Photo: provided by R. Thomas-Caesar]

learning experience went beyond gaining knowledge about plants and trees. Perhaps the most valuable things I learned were related to people and organizational management.

What did you learn about management?

We lived and worked at the TBI location, which was situated in a local timber township near the forest, and which consisted of eight buildings, including a laboratory and an office. There were also two main research sites in the middle of the forest. The PhD students supported the programme manager and together they functioned as a management team. Responsibilities were rotated. For example, every week someone was appointed to be responsible for transport schedules, since vehicles were shared. And whenever there were problems or tensions at the camp we had to solve them together. In that way I learned about conflict resolution. Also, I worked with field assistants, which meant I had to supervise and manage people. These experiences have been invaluable; they prepared me for the rest of my career. In the end, conservation is not only about managing natural resources, but also about managing people.

What was it like to live there for two and a half years?

I am what we call in Guyana a GT girl. It means that I was born and raised in Georgetown, the capital. When I left Georgetown for my PhD research my friends were worried. They asked: Why are you going to live in the bush? How will you survive? Little did they know that I had an apartment with electricity and running water, and even access to a laboratory. And, of course, there were so many superb colleagues, both Dutch and Guyanese. It was such an enriching experience; I would not have traded it for anything.

How did a GT girl end up in the forest?

I have always had a passion for plants and people. But when I went to the University of Guyana in 1986 I had no idea that I would end up working as a tropical ecologist. At the time the only options at the university were biology, chemistry, physics and mathematics. I chose biology and was thinking about a medical specialization. But then, around 1989, I took some classes taught by Hans ter Steege and Marcel Polak, who were TBI researchers involved in teaching bachelor courses at the biology department. I think that Polak was the

first teacher to take us into the forest for a field trip. For me it was the first time I ever entered the forest. It was quite a revelation. Imagine, a country with 85 percent forest cover, but the people from the coast hardly visit the interior. I can say now that those first field trips provided the foundation of my career and nurtured the deep love of working with plants that I still have today.

Do the urban Guyanese not know enough about the forest?

Well, I think it has improved. Today the University of Guyana offers degrees in forestry and environmental sciences and also provides more opportunities for students to go into the field. At Iwokrama we facilitate student visits to the forest. We also have an intern and volunteer programme. More recently we have been facilitating school groups as well.

Why is that important?

First of all, I think there is a dimension of personal development. Exposure to nature helps children to develop compassion, not only towards the environment but also towards other people. It is about caring for your surroundings. But there is also a very practical reason why it is important for the Guyanese, and especially youth, to learn about the forest. Guyana has developed a globally recognized Low Carbon Development Strategy, which depends on the sustainable use of the country's forest resources. This means we need to build capacity not only among professionals but also among the general public about matters related to low-carbon development. It needs to be integrated as an important value in people's daily lives. We need to equip ourselves to be prepared for that future. This involves visionary policies from the government, but at the same time we need to nurture an attitude of respect towards the environment, starting with the country's youth.

A break with the past

The impact of forest land allocation on rural livelihoods in Vietnam

In the mid 1990s, in response to rapid deforestation and widespread poverty in forest areas, the Vietnam Government decided to radically decentralize forest governance. What has been its impact? A comprehensive assessment was never conducted. TBI Vietnam took up the challenge and is investigating whether forest land allocation to local stakeholders helps improve people's livelihoods.

In the early 1990s, the Vietnam Government realized that the country's rainforest was under threat. Forest cover had decreased from 43% of the country's area in 1945 to only 27% by 1990. The quality of the forests had also declined. During the war, the U.S. air force severely damaged the forests by large-scale spraying of defoliants. After 1975, one of the government's responses to widespread poverty was to clear-cut large areas of forest land in order to establish state-run farms for rubber and coffee. Illegal logging was another cause of forest destruction.

But the tide has turned. Aerial images of Vietnam reveal that forest cover is once again above 40%. Since the mid 1990s measures to preserve the forest have been accompanied by a series of policies that promoted a rapid shift towards decentralized forest management.

The festival for planting trees is in the spring. [Photo: Pham Ngoc Bang]

The Forest Land Allocation (FLA) programme started in 1994. It involves local people in protecting forests and developing plantations, which is intended to help increase their income. Land-use rights over almost nine million hectares of state forest land have been allocated to households, communities and economic entities. But is the FLA achieving its goal of improving people's living standards?

When TBI arrived in Vietnam in 2001, the country was ranked among the fastest-growing economies in the world. It still is. But it also has a large income gap between a growing group of rich people and millions who remain very poor. The majority of the poor live in the forested areas of Vietnam's northern and central highlands.

Tran Huu Nghi, Programme Director at TBI Vietnam, explains: "The FLA policy is meant to contribute to poverty reduction by giving out land-use certificates. Forest users don't get to own the land, but they are given the right to use and manage it. They may also receive payments for forest protection or tree planting. The intentions are good and the policy looks very nice on paper, but there were indications that the reality was less clear."

TBI Vietnam designed a research programme to assess the impact of the FLA programme on rural livelihoods. The goal was to determine whether household and community management of forest resources helped to alleviate poverty, and if not, why not.[1] The research showed that the best forest land had gone to state entities. Management boards and state forest enterprises have been made responsible for more than 45% of the country's forest area. A much smaller share — around 26% or about 3.5 million ha — is managed by a total of 1.2 million households. The areas allocated to these households are often not high-quality natural forest, but land designated as "production forest," a euphemism for mostly barren land where people are encouraged to establish forest plantations.

Page 72: Rural landscape in Vietnam. [Photo: TBI Vietnam]

[1] TBI research also investigated the impact of the FLA on forest cover and quality. It shows that deforestation is ongoing and the increase in forest cover is mostly due to the establishment of plantations. The research conclusion is that there is no strong evidence of a positive impact of FLA on the country's natural forest.

"That local communities are allowed to plant trees such as acacia or rubber is a positive development," says Tran Nam Tu. He is a doctoral student who in collaboration with TBI carried out research on the impact of FLA among forest communities in the highlands of Central Vietnam. "Before, people weren't allowed to plant trees, and so this policy has the potential to improve their livelihoods. And in certain areas it did help to increase household income. But there are obstacles too."

First, Tu explains, the FLA was accompanied by a government ban on shifting cultivation, which is people's traditional agricultural practice. "Farmers who used to practise shifting cultivation may resort to planting acacia trees, but it usually takes seven years before they can secure the first harvest for the paper pulp industry from their acacia plantations. For timber it takes even longer. What do they do in the meantime to get food and generate an income?"

Second, where the natural forest has been allocated to a state entity, local people are often no longer allowed access to the forest resources; this further limits their opportunities to make a living. Third, many households lack capital to invest. Without money, they cannot bring the land allocated to them into productive use. Those who do secure credit from a bank struggle with an additional stress: the bank often starts demanding repayment after only four or five years, long before the first yields.

"The user rights that people get over land are a definite break with the past," says Nghi, who is based at the TBI office in Hue City. "Before, people were not entitled by law to inherit land, or to transfer, mortgage or lease it." However, the new entitlements do not come without risks. In Vietnam, there is a strong demand for land from the wood-processing industry, which wants to establish large-scale forest plantations. The private sector thus seeks to lease land from local households. Tu: "I met many families who had transferred the rights to their land because they were in need of cash. It's a short-term decision, prompted by poverty, and having lost their access to land, people have few options other than hiring themselves out as labourers." The government is faced with a dilemma: it wants to facilitate the wood-processing industry but is concerned about the potential effect of land dispossession and landlessness in the

Mosaic landscape, Vietnam
[Photo: TBI Vietnam]

Forest Land Allocation forum, 2008, Vietnam [Photo: TBI Vietnam]

uplands. This often makes local authorities hesitant to approve land transactions.

Over the past four years, researchers affiliated with TBI Vietnam spent considerable time among the forest communities. They prioritized socio-economic issues, which has not previously been the case in Vietnam. Many decision-makers, practitioners and even researchers in the forest sector in Vietnam still see forestry as primarily a technical subject. TBI's involvement, especially its collaboration with Hue University of Agriculture and Forestry on Tran Nam Tu's doctoral research, is starting to show that the sociological dimension is at least as important.

Research that focuses on the impact of local governance processes on people's livelihoods has revealed another problem: the FLA policy tends to disproportionately benefit certain ethnic groups; local elites were able to get the best land. In some areas this has unintentionally worsened income inequality within and between communities. FLA allowed those at the commune and village level with access to power and networks to accumulate land and thus capital.

TBI Vietnam makes a point of sharing its research findings with forest managers, decision-makers within the national and provincial governments, and research institutes. In April 2012, for instance, with support from the Ministry of Agriculture and Rural Development, TBI organized a national workshop in Hanoi on FLA policy and practice. The event was held in cooperation with the Department of Science, Technology and Environment (under the Ministry of Agriculture and Rural Development (MARD)) and the Forest Inventory and Planning Institute. Nghi reports: "Our research provided a lot of interesting findings for policy-makers, who sometimes have little insight into what is happening on the ground in rural areas. The government's idea is that land allocation leads to increased individual commitment to manage forests sustainably. We tell them that just giving out land-use certificates is not enough to achieve this. People will not automatically benefit and be committed, or even have the opportunity to sustainably manage their forest resources. Local elites may continue to dominate decision-making on forest issues, or

people may need additional support such as access to credit and technology."

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Contributing to capacity

The research conducted by and through TBI is valuable not only in terms of its potential impact on policy and forest governance. Nghi: "The TBI programme enables us to exchange experiences with other tropical countries and has opened up connections with research institutes and universities in the West." Vietnamese and foreign universities work in partnership in the TBI Vietnam programme, often through PhD research. In the past twelve years, TBI supported six MSc and seven PhD students from Vietnam, who worked on topics that are highly relevant to the country's forest sector. After completing their PhDs, the graduates returned to their jobs, sometimes received a promotion, and were always able to directly apply their acquired knowledge and skills.

Nghi: "Our government, MARD in particular, is very appreciative of the role that TBI has been playing in contributing to human resource development. For TBI Vietnam, strengthening the capacity of local organizations and institutes is indeed one of our major goals." In 2011 the vice-minister of agriculture and rural development awarded a medal of honour to TBI's director René Boot. "This was a very special moment," Boot recalls. "Later, I found out that the ceremony was strongly supported by the TBI alumni who work within the ministry. More than anything it was a token of appreciation of the people who we have been working with over the years. This made it very personal. To me it signified the value of capacity building."

In addition to enabling students and staff to pursue post-graduate studies, TBI Vietnam has also offered a wide range of short courses, including topics such as project management and communications, gender-related issues, GIS and Remote Sensing, use of GPS and land allocation. Nearly a thousand people (forest users, researchers and managers at national and provincial level) have attended these training courses.

Beyond the campus

An interview with Joana Ameyaw and Tran Nam Tu

Dutch and Ghanaian students working with local stakeholders in Ghana. [Photo: TBI Ghana]

In the past 25 years, TBI has supported roughly fifty professionals from partner countries in obtaining their PhD degrees at international universities. This often happens through a partnership between the home university, a Dutch university and TBI. Joana Ameyaw works at the Kwame Nkrumah University of Science and Technology (KNUST) in Ghana. Her PhD, which she hopes to defend at Wageningen University and Research Centre in 2014, focuses on innovative methods for natural resource management education. Tran Nam Tu is close to defending his PhD thesis at Utrecht University. His research deals with the impact of forest land allocation policies in Vietnam on rural livelihoods. He works at Hue University of Agriculture and Forestry (HUAF) in Vietnam.

Tran Nam Tu

PhDs are usually exclusively a university affair. What is the value of having TBI as a partner in your research?

Tu: My PhD project resulted from discussions between HUAF, TBI and Utrecht University about building capacity at HUAF. The idea was to integrate socio-economic tools and approaches into our forestry courses. In the end, it was decided to design a PhD project on forest land allocation that would include curriculum development and student exchange. I have benefited a lot from the knowledge of TBI on forest land allocation and the good relations that TBI Vietnam has with many organizations in the forest sector. Now that I have nearly finished, TBI Vietnam helps me share my research findings within the sector.

Joana Ameyaw

Joana: The universities are primarily interested in theories and the relevance of your work for science, but TBI always raises the issue of the relevance of your research to society. And I fully agree with them on that. They insisted that we share the research design with all stakeholders at the inception of the project. They similarly insist that we share and discuss our findings beyond the campus. But most of all, TBI helped me believe it was possible to take on an unconventional research project!

What is unconventional about your PhD?

Joana: My colleagues and I at the College of Agriculture and Natural Resources (CANR) realized that we needed a new curriculum and different teaching methods. Much has changed in the practice and policy of natural resource management and our teaching was lagging behind. At first we didn't realize that what we really needed was an expert in the field of education. At that time, KNUST and TBI had a joint project, funded by Nuffic, to institutionalize integrated natural resource management within CANR. TBI proposed to include a PhD project on the education of natural resource management. CANR management and staff raised their eyebrows: PhDs were supposed to tackle disciplinary topics. But it did not take long to counter these hesitations. I enjoyed working with students and practising new ways of teaching. Wageningen University offered the possibility for a PhD on education and natural resources and I gladly took up the challenge of becoming an expert in education. It became even more ambitious when we decided to develop a new MSc on Natural Resource and Environmental Governance as a case study for my PhD!

Why did you feel the university needed a new MSc programme?

Joana: Because our curriculum still focused almost exclusively on the science of natural resource management, especially timber. Tree pathology, silviculture — but much has changed in the field since the 1980s. To deliver competent professionals to the natural resource management field, we needed to add two things to our academic programme. First, students need to be equipped not only with knowledge but with skills. Think for instance of Ghana's negotiations with the European Union about the export of legally verified timber. Diplomacy and negotiations skills are what our graduates should be good at. And attitudes matter too. I wish to educate students who have an eye for integrative solutions, who can think independently and are not afraid to address issues such as corruption. Second, it is important to engage all stakeholders in the academic programme. While developing the new MSc we consulted government, the Forestry Commission, civil society and the timber industry. All of them can benefit from research and are also potential employers of the new graduates. I hope that they will keep their word and participate in the teaching and seminars that are part of our MSc.

Were there advantages to conducting part of your PhD at a Dutch university?

Tu: Many. The most important one is the access to academic knowledge. In Utrecht, I had unlimited access to a wealth of journal articles and papers that I would not have been able to consult in Vietnam. Moreover, the opportunity to attend international conferences and meet with famous professors has helped tremendously to open my mind. Another good thing about studying abroad is that you have more time to focus on your studies. No educational duties and no family responsibilities to distract you. But of course the flipside is missing your family sorely!

Joana: Doing this innovative PhD in Ghana would have required collaboration between two universities, because KNUST does not have expertise in education as an academic area of research. I might never have overcome the bureaucratic hurdles of making this collaboration happen. In Wageningen, the Education and Competence Studies Group, along with the Forest and Nature Conservation Group, was ready to supervise my work.

Both of you have played a role in building the capacity of students, one of the important objectives of TBI's work.

Joana: I worked for the Transdisciplinary Student Platform Approach, an initiative by TBI and the University of Amsterdam. For a couple of months, a multidisciplinary group of students from different Ghanaian and Dutch universities worked together on a research project in Ghana. They had to come up with practical solutions to a real-life problem on sustainable development identified by stakeholders in close consultation with TBI. They also learned about interaction with stakeholders, interdisciplinary work and cross-cultural communication. The Ghanaian graduates came out feeling more confident and their experience was highly appreciated by their new employers. It was a great project and interactive to an extent we hadn't envisaged — some of the participants even got married!

Tu: In our case it also worked both ways. Master's students from Utrecht came to Vietnam to conduct their field research. Their work, which supported my PhD, focused on decentralized forest policy and its impact on the livelihoods of local people. My colleagues and I from Hue University supported them and we spent a lot of time together in the field. Together with TBI Vietnam we arranged meetings with communities and local authorities and interviewed provincial officials. For the Vietnamese students who participated it was an opportunity to learn about socio-economic and participatory research methods. In addition, the interaction helped them improve their English. I have told my department at Utrecht University that Hue University is very interested in long-term collaboration and to keep on welcoming master's students to Vietnam.

Did TBI also stay involved in your research?

Tu: TBI Vietnam supported my fieldwork in different ways. They helped to finance it, and also had a very useful network and arranged a team for me to work with in the field. Mr Nghi

Students of KNUST, Ghana.
[Photo: TBI Ghana]

[Programme Director, TBI Vietnam] has been very kind in sharing his and TBI's knowledge and giving constructive feedback. They challenged me to share my research findings with the target groups, in different ways than those used for the scientific publications we are used to at the university. There are many Vietnamese students who got the chance through TBI to do their master's or PhD degrees in the Netherlands. TBI Vietnam keeps in touch with all of them and this has created a valuable network for me. And TBI itself benefits too. Our research projects provide opportunities for them to strengthen their collaboration with various universities and research institutes in Vietnam.

Joana: In Ghana, more and more people from the College of Agriculture and Natural Resources are getting involved in TBI's research projects. That's partly because TBI Ghana is very good at outreach: they always keep all stakeholders updated about their activities. And at the same time, the academic staff at my college increasingly appreciate the value of research that is truly relevant to society.

TBI emphasizes that scientific research should be relevant to policy and practice. Do you expect your findings to have a tangible impact?

Joana: The new MSc will start this September with a very good number of students. We expect it to have a long-term impact in terms of educating students with a broad outlook on natural resource management and relevant skills. I have seen a lot of people in the sector who follow the status quo and yet complain. We want professionals with a different attitude: people who have the competences for initiating change. Whether it will all work out as I dreamed is to be seen. It partly depends on whether the lecturers can adapt to the new teaching methods. But it is definitely promising that organizations working on natural resources are very interested in both the content of the courses and the future graduates.

Tu: The forest policy sector in Vietnam is very complex and it is hard to predict what will have an impact — and when. But we try to make sure that our findings are known. TBI Vietnam has good rapport with the Ministry of Agriculture and Rural Development and other important institutions. I have participated in workshops where many stakeholders from the provincial, district, commune and village levels were present. My research results have also been published in both national and international

journals. We do what we can to get the message across that giving out land-use certificates is very good, but local communities need additional support if they are to really improve their living standards.

What has the opportunity meant in terms of your career?

Tu: I have been appointed vice-director of the Institute of Development Studies, which is one of the research centres affiliated with Hue University of Agriculture and Forestry. But I would like to do more. I've been speaking to the dean of the faculty of Rural Development. I would like the knowledge I gained through my PhD research and my time in Utrecht to benefit its educational programme too. We may set up a course on regional development to enlighten students about what is happening in countries such as Cambodia, Laos and Thailand. Our rural development curriculum, I think, focuses too exclusively on the reality in Vietnam.

Joana: Word has spread at the university that I have learned a great deal about matters related to educational methods and curriculum design. Colleagues keep consulting me, and I've also become involved in a United Nations University programme on Education for Sustainable Development in Africa — ESDA in short — which will run in eight universities in five African countries.

What do you hope to have achieved ten years from now?

Joana: A well-established centre that supports academic education on natural resource management for universities in the entire West African region! It is such an important area of work. If we manage things well, natural resources can boost our national economies and at the same time help address the global problem of climate change. Contributing to sound and forward-looking governance by educating all-round professionals really is my dream.

Protecting High Conservation Value Forests

Bringing governments and private companies together to improve land-use planning in Indonesia

In Indonesia TBI collaborates closely with the Ministry of Forestry to develop and implement tools that can be used to improve land-use planning. A major challenge is preventing negative effects on people and biodiversity due to uncontrolled expansion of large-scale plantations. In order to accomplish this, TBI tries to engage rather than alienate the private sector.

The name "Indonesia" has long evoked images of lush rainforests and the orangutan. The Southeast Asian country is famous for its magnificent forests, which are among the world's most important for their variety of species. Indonesian forests harbour the world's greatest diversity of palms and are also ranked first for their richness in mammal species. However, due to deforestation that has taken place on a massive scale, the country also has a less favourable record as one of the world's largest emitters of greenhouse gases. In just over a century, Indonesia's forested area has been reduced by nearly half: from 170 million hectares (ha) or 84% of the total land area in 1900 to 94 million ha or 52% in 2010. The main causes of this loss are illegal logging, which makes large areas susceptible to forest fires, and the clearing of forest in order to establish large-scale plantations of oil palm, rubber and industrial timber.

GIS training
[Photo: TBI Indonesia]

In 1987 Tropenbos initiated its first project in Indonesia, known as the Ministry of Forestry / Tropenbos Kalimantan Programme. The Ministry of Forestry's Research and Development Agency (FORDA) was — and still is — TBI's main partner. In 2007, FORDA asked TBI to expand its programme; since then, the Indonesia program has had two offices, one on East Kalimantan and one in West Java.

The Indonesian TBI programme has always had a strong focus on capacity building. Spatial planning has been an important training area, because addressing the problem of deforestation cannot be done without effective land-use planning. In turn, effective land-use planning requires up-to-date forestry information, which was lacking in Indonesia. Geographical data about Indonesia's large forest estate were limited, and maps were unreliable. TBI helped to develop capacity and technical solutions to address this gap. Indonesian PhD and MSc students were supported to work at Dutch universities on developing technologies to monitor forest cover and detect the extent of illegal logging, using both radar and visible light applications. Their research contributed to the introduction in Indonesia of remote sensing systems used for forest cover monitoring.

In 1998 the thirty-one-year presidency of Suharto came to an end. Soon after, an administrative policy of decentralization was introduced, which transferred many responsibilities to district governments. These local administrations were not quite prepared for their new tasks, however. As a consequence, decentralization resulted in an increase in illegal logging. Moreover, following the districts' new authority to award investment licences, legal forest conversion also increased. TBI responded by involving district government officers in its capacity-building programme to improve land-use planning at the district level.

In addition to TBI Indonesia's close collaboration with FORDA and local governments, the office did not shy away from engaging the private sector, which has a great deal of influence on the future of the country's forests. One of the core activities of TBI in recent years has been the development and implementation of a toolkit to assess High Conservation Value Forests (HCVFs). This work exemplifies TBI's integrated approach, working with both the

Page 84: Overview of the forest in the Kampar Peninsula, Indonesia.
[Photo: K.D. Santosa]

government and the private sector and focusing on improving land-use planning.

The High Conservation Value (HCV) approach was developed by the Forest Stewardship Council (FSC) in 1999. It is used in forest certification systems to define natural areas of exceptional environmental, biodiversity, socioeconomic, cultural or landscape value. In 2002, TBI Indonesia, with several partners, formed a consortium to adapt the generic FSC toolkit for HCV assessment to the country's circumstances. However, it took a good many years to get all partners on the same page. Petrus Gunarso, TBI's Programme Director based in Kalimantan, recalls that some partners wanted HCV areas to be strictly and exclusively treated as conservation areas. But this was not realistic, says Gunarso. "It would have been unacceptable for the timber and agricultural industry to the extent that they would have refused to work with the approach altogether." After all, conducting an HCV assessment of a certain forest or concession area is a voluntary activity; companies do not have to comply.

A better way forward, TBI thought, was to assess — together with companies and government — how HCV areas can be managed in the best interests of preserving biodiversity, supporting local livelihoods and contributing to the national economy. In other words, says Gunarso, "We have always advocated the use of the HCV approach as a way to encourage dialogue and negotiation between stakeholders about investments that take account of local socio-economic and environmental needs and priorities." In 2008, the first edition of the HCV Toolkit Indonesia was published, in Bahasa Indonesia and English; since then, more than 450,000 ha of forest and non-forest land have been identified as HCV areas.

TBI is one of the HCV auditors in Indonesia. The largest HCV assessment conducted to date took place on the Kampar Peninsula, which is an enormous peat-land ecosystem on Sumatra covering about 700,000 ha. In 2010 a pulp and paper company, PT RAPP, asked TBI and FORDA to lead a consortium to carry out an HCV assessment. PT RAPP wanted guidance on the options for its future activities on the peninsula. On the basis of the assessment work, TBI proposed zoning the landscape into

Birds in a peatland, Indonesia.
[Photo: TBI Indonesia]

Indigenous woman in a traditional canoe, Kampar, Indonesia. [Photo: TBI Indonesia]

two areas, each with a different purpose: approximately 47 percent could be used for limited production and community development purposes, while the remaining 53 percent would be protected and/or rehabilitated as protected peat area.

The Ministry of Forestry at the district and provincial level is looking into the results of the assessment and how these can be used for land-use planning purposes in Kampar, which remains an issue of controversy among the many different stakeholders on the peninsula. A major achievement is the Kampar Initiative, which was established to seek the support of all stakeholders in finding a balance between restoration of the peninsula's ecological services, protection of habitats, sustainable management of plantations and socio-economic development of local communities.

"There is a big demand for HCV assessments," says Gunarso. "Because awareness is quickly growing in the private sector that biodiversity and carbon stock protection is essential for our common future, an increasing number of companies invite us to undertake an assessment. Moreover, eligibility for participation in international schemes such as the Roundtable on Sustainable Palm Oil (RSPO) requires companies to undertake an HCV assessment. Participation in such schemes is important for companies that wish to be recognized as responsible players." Although the private sector is often equated with irresponsibility, and not without reason, Gunarso suggests that there is no escaping the fact that the business sector is an important stakeholder in sustainable forest management. It is naïve to think the government will take care of everything. In addition, the central Jakarta government's record in looking after conservation areas across the archipelago is not exactly impressive, and district governments often think that doing nothing best serves conservation objectives. There have even been instances where the district government pressured companies who had abided by the HCV assessment and not planted certain areas of their concession. "For the local government, less yield means less income from taxes and so they would threaten to transfer the licence to another party," says Gunarso, who adds that it is basically a matter of the local officials not being familiar with the importance

and objectives of the HCV approach. TBI Indonesia is therefore lobbying the central government to include the HCV approach in its Indonesian Sustainable Palm Oil (ISPO) system, which would at the same time make it possible to introduce a system for monitoring HCV implementation. "The Ministry of Agriculture, which deals with plantations such as oil palm, still seems reluctant," says Gunarso, "but the Ministry of Forestry is certainly interested."

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Capacity building in HCV

TBI Indonesia not only participates in HCV assessments but also helps to train professionals in the HCV approach. TBI has, for example, supported the *Institut Pertanian Stiper (Instiper)*, a university based in Yogjakarta, to set up a training facility to improve skills in the HCV approach. More than 170 people have participated, from the palm oil industry, industrial and natural forest concessions, consultancies, NGOs, universities and government.

Meet the middlemen

Connecting the worlds of forestry and finance

In the absence of a healthy financial basis for sustainable management, the forest will disappear. TBI is therefore looking for ways in which the private sector can be guided toward investing in responsible forest businesses.

Herman Savenije and Kees van Dijk, senior researchers based at the TBI office in Wageningen, have known each other since 1979, when they both lived in Colombia. Together, they have more than 60 years of experience working on forest management, mostly in Latin America. In the 1990s they noticed that although there was much talk about people's participation in sustainable management, the financial mechanisms to support this were largely neglected. Participation is unlikely to be effective without a healthy financial basis. After all, if people are to maintain the forest, it helps if this is financially attractive to them; all too often, it is not. Driven by a growing consumer demand for commodities such as timber, beef, soy and palm oil, large areas of forest are being converted to other uses. The challenge, Savenije and van Dijk realized, is to make sustainable forest management commercially competitive with other land uses. This cannot be achieved without involving the private sector.

According to the World Bank, the private sector invests US$ 15 billion every year in tropical forests. This is nine times more than the combined investments of governments and

Colombian pesos in the Amazon. [Photo: F. Nieto]

development agencies, but it is still not enough. Moreover, while the availability of private money is good news — particularly given that official development assistance is under increasing pressure — there is also cause for concern, since private-sector goals are not always aligned with local, national or global public interests. There is an urgent need to reorient private financing to support sustainable forest management practices. The question of how best to do that is one that challenges Savenije and van Dijk.

In 2006 Savenije and van Dijk, in collaboration with the FAO and several other organizations, embarked on a research project to explore the financial basis of forest management in 18 Latin American countries. National researchers conducted the country studies: each team consisted of one financial expert and one forestry expert. When the national studies were completed, Savenije and van Dijk, together with their colleagues in the countries, prepared a cross-country analysis and an overall synthesis. They found that the problem is not just a lack of money for forest management. An important barrier to responsible private sector engagement appeared to be the lack of political priority and well-functioning institutions that give security and guidance to investments in sustainable forest management.

The synthesis report was published in 2009. It formed the basis of a range of follow-up activities, such as national multi-stakeholder workshops to discuss policy implications. These workshops were organized through the FAO. Savenije and van Dijk acted as intermediaries, facilitating and informing the discussion, but not taking a political stand.

In several countries the workshops led to immediate action. In Guatemala, for example, the government established a credit mechanism for small producers to plant trees, while the Paraguayan government decided to change its regulations in order to allow pension funds to invest in forests.

The work in Latin America also formed the basis of several new studies. For example, Savenije and van Dijk initiated a study on the perspectives of Dutch financial institutions on forest-related investments, and participated in an international effort

Page 90: Overview of forests and plantations in the Kampar peninsula, Indonesia. [Photo: K.D. Santosa]

to synthesize experiences with financial mechanisms for sustainable forest and land management in more than 50 countries. One ongoing follow-up study in Bolivia focuses on the opportunities for and constraints to small and medium forest enterprises (SMFEs). Small producers and indigenous communities are very important actors in the forest sector, yet they tend to be forgotten in policy discussions.

Kees van Dijk, who is supporting the nationally led research, explains why a better understanding is needed: "Many people think that middlemen are just exploiting small-scale forest producers, but we found this is not always the case. Middlemen often play a crucial role, because they provide the capital and the machinery, and they are the ones taking the financial risk. Moreover, they are much better tailored to the needs of small producers than banks are. In the field you will often come across a mix of formal and informal financing arrangements, but information about these arrangements, and the rationale behind them, is seldom taken into account in the development of financing instruments and policies. We are currently investigating how the money flows and under what conditions, and we will use that information to inform financial institutions as to how they can better serve small producers and intermediaries."

Middlemen are crucial; this is true not only at the local level. Among international financial institutions, unfamiliarity with forestry in developing countries and with investment policies and conditions at the country level are hampering business development and financing. This lack of information calls for people who can connect the worlds of on-the-ground forestry activities and international financial institutions. That is exactly what Savenije and van Dijk try to do. In 2011, for example, they organized a business meeting in the Netherlands where tropical forest companies and financial investors could get to know each other.

Being the middleman is not always easy. Professionals from the finance and forestry sectors speak different jargon. Moreover, there are many stereotypes at play: People working in the financial sector are only interested in fast money and fast cars, while people working in the forest sector are long-bearded rangers wearing feathers

Forest in Da Lat, Vietnam
[Photo: TBI Vietnam]

Forest and coffee plantation in Tarapoto, Perú [Photo: H. Savenije]

on their hats. Savenije and van Dijk had to overcome some of their own stereotypical notions when they decided to approach Dutch financial institutions. To actually enter the offices of investment banks and pension funds was a big step, they acknowledge. But by now all the initial hesitation is gone. The two men have become well known as reliable experts among several financial institutions, and more and more frequently they are approached by investors who need advice on forest-related matters. "Obviously, we share our views based on the years of experience we have in the sector, and often we also end up sharing the contact details of people and organizations within our own networks," says van Dijk. "We have become true brokers. Not only of knowledge, but also between people and organizations."

Private businesses and financial institutions have a growing interest in tropical forest, but this is not likely to lead to actual sustainable investments without intermediaries that can bridge the worlds of finance and forestry. Next to that, there is a need to build enabling regulatory and incentive frameworks that guide private interests toward sustainable investments. Such frameworks need to be devised at the national and international levels and should apply to both tangible forest products and to forest services such as carbon sequestration and the provision of clean water. van Dijk: "We should stop thinking in terms of donors and recipients. Private-sector actors have the money, and governments need to make it attractive for them to invest in good forest management."

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The carbon market is only a part of the solution

What is the most promising financial mechanism for sustainable forest management? Herman Savenije and Kees van Dijk believe there is no single answer. The future, they say, is all about multi-functionality. The forest delivers a wide range of goods and services, which means that the financial basis of forest management should combine different types of payments. They particularly stress that investors should not focus only on the carbon market. Van Dijk explains: "A farmer depends on the money that his or her land generates, and carbon credits alone will simply not deliver enough income per hectare. These types of payments should be seen as extra sources of income, which can potentially help to broaden the financial basis for sound forest management. Diversification is the way forward."

European Tropical Forest Research Network

Established in 1991, the European Tropical Forest Research Network (ETFRN) aims to ensure that European research contributes to conservation and sustainable use of forest and tree resources in tropical and subtropical countries.

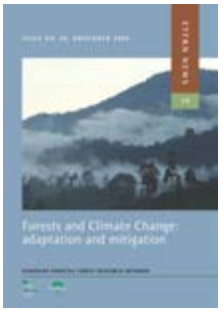
ETFRN promotes a dialogue between researchers, policy-makers and forest users, the increased coherence of European tropical forest research, and increased collaboration with researchers in developing countries through partnerships and other forms of capacity building.

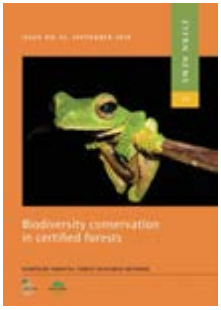
ETFRN provides a range of services, including ETFRN News, which comprises theme-based issues on research relevant to the international development agenda.

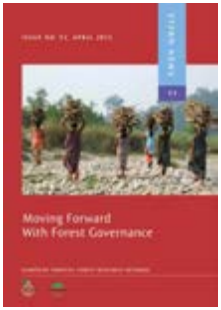
Tropenbos International is ETFRN's coordinating member and national focal point in the Netherlands since 1997.

etfrn

www.etfrn.org







The history of Tropenbos International

25 years of Making Knowledge work for forests and people

Sustainable forestry
Landscape planning and management
Forest governance
Community forestry
Biodiversity and conservation
Ecosystem services and values

1986 TROPENBOS
1988 TROPENBOS
2001 TROPENBOS INTERNATIONAL

1986-1990 | 1991-1995 | 1996-2000 | 2001 - 2005 | 2006 - 2010 | 2011 - 2016

1986: Tropenbos Programme
1988: Tropenbos Foundation established


1986 Indonesia


1987 Colombia


1988 Côte d'Ivoire


1989 Guyana


1990 Cameroon


2000 Ghana


2001 Viet Nam


2003 Suriname


2010 DR Congo


2009 Cameroon

- 1987: Brundtland report
- 1989: Indigenous and Tribal convention by ILO
- 1991: RTR - Dutch Government's Policy on Tropical Rainforests
- 1992: Rio Earth summit *(Agenda 21, CBD, Forest Principles, UNFCCC)*
- 1993: Forest Stewardship Council
- 1995: Dutch Programme International Nature Management
- 1997: Kyoto protocol
- 1998: Forest Law Enforcement & Governance
- 2000: UN Forum on Forests
- 2000: Millennium Development Goals
- 2002: World Bank Forest Policy Review
- 2002: Dutch International Policy Programme on Biodiversity
- 2003: EU FLEGT Action Plan
- 2007: Bali Action Plan *(REDD)*
- 2007: Non-Legally Binding Instrument on all types of forest (NLBI)
- 2007: UN declaration on the Rights of Indigenous People