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Paul Romeijn

Green Gold

on variations of truth in plantation forestry

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Henk Ruitenbeek

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Acknowledgments

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Summary

The “*variations of truth in plantation forestry*” is a study on the Teakwood investment program. Teakwood offered the general public in The Netherlands the opportunity to directly invest in a teak plantation in Costa Rica. The program was pioneered in 1989 and truly gained momentum when it was joined by the world’s largest environmental organization WWF and an insurance and banking company called OHRA in 1993. Thousands of people invested, many millions of Guilders were transferred and about a dozen teak investment programs followed in its wake in The Netherlands alone. Teakwood offered ‘*Green Gold*’ (OHRA, Summer 1993), it was heralded as ‘*modern development work*’ and it attracted broad media attention. The strong proposition of Teakwood attracted the involvement of the Government of The Netherlands (Romeijn, April 18, 1996). From November 1995 onward, the Teakwood investment program increasingly met with opposition. OHRA terminated its Teakwood investment program in the autumn of 1996.

The Teakwood investment program was introduced to the market as being based on solid and conservative assumptions on timber yield and financial return. The present study describes the erosion of the credibility of these assumptions by following key statements over time. These statements are effectively “*variations of truth*” since they come from the Teakwood contract partners themselves and from organizations and individuals which the Teakwood contract partners have recognized as authoritative, including the Rainforest Alliance and the Forest Stewardship Council, FSC. The Rainforest Alliance is based in the USA and it certified the Flor y Fauna forest operation as “*well managed*” in 1995. The FSC is an organization which is based in Mexico. The FSC accredits forest certification organizations worldwide and it endorsed the Rainforest Alliance certificate for the Flor y Fauna plantation management in January 1998. However, the Flor y Fauna plantations management were found not to comply with several FSC Principles and Criteria.

WWF proclaims that the FSC accreditation is the only credible initiative in the field of forest certification and forest products labeling and that the FSC label can help avoid confusion with consumers. Timber products that are derived from forests that are certified by FSC accredited organizations may carry the FSC label. This includes the products that may one day be derived from the Flor y Fauna plantations. According to WWF, the consumer is confused by a proliferation of dubious certification and labeling initiatives:

How do you know whether environmentally-friendly claims are true?

The answer is, you don’t unless the product bears the Forest Stewardship Council (FSC) Trademark. This confirms that the wood used to make the products comes from forests

which have been independently inspected and certified as well-managed according to strict environmental, social and economic standards (WWF, June 16, 1998).

The assumptions for the projected rates of return to investors of the Teakwood investment program and key statements on its certification were scrutinized by a wide range of organizations and public bodies. These include - but are not limited to - the FSC, Rainforest Alliance and WWF. They were also examined by Courts of Law, The Ministry of Agriculture, the Advertising Standards Committee and the Consumer Organization in The Netherlands. Ranges of justifications were given for the assumptions that form the basis for the projected rates of return and for the forest management certificate. These justifications are analyzed in the present study as “*variations of truth*” and compared with the original statements upon which they rest.

Credibility, transparency and accountability are as essential to forest certification as they are to building a ‘civil society’. The “*variations of truth*” are examined in the light of these three properties. The author of the present study published a series of annotated Teakwood pronouncements, or “*variations of truth*”, as Treemail Internet circulars to professionals worldwide, between January and July of 1996. These Internet circulars were found to produce an increasing pressure on the Teakwood contract partners and their associated organizations, much in analogy to a feedback loop in sound reproduction. This feedback was found to generate pressure if additional statements and justifications from these organizations were published in new circulars and if these statements were inconsistent, un-transparent or non-accountable. One example of the pressure from the feedback process is found in a complaints procedure that the Rainforest Alliance felt compelled to invoke and execute, although no complaint was ever filed. This feedback process, including the Rainforest Alliance complaints procedure, is analyzed. The quality of the data provided in the Internet circulars was safeguarded by the peer pressure of the professional recipients worldwide.

Independence is accepted as being a cornerstone to third party certification. This study raises grave concerns over the meaning, interpretations and perceptions that are attributed to the term ‘independence’ under the FSC accreditation umbrella. The study describes the elasticity of interpretations attributed to the term with respect to the WWF involvement in the case of Flor y Fauna. WWF’s role was found to include - but not to be restricted to - a role as direct beneficiary of the timber proceeds, sales agent for the plantation’s timber, as funder, founder and promotor of the FSC, and as holder of Board Membership within the FSC. Independence was indeed found to be proclaimed vital by the accrediting and certifying bodies alike and indeed by the very Teakwood contract partners, including WWF. This particular issue of independence thus makes the Flor y Fauna case one of fundamental - rather than scandalous, transpired or passing - relevance to the international forestry profession.

The certification of forest management and the labeling of forest products count among today's top issues in the field of international forestry. In 1998, the World Bank and the WWF, an organization that describes itself as having played a key role in setting up the FSC, formed a global alliance for forest conservation and sustainable use, which includes the aim to bring the management of an additional 200 million hectares of the world's forests under independent certification by the year 2005. This aim of the current joint World Bank and WWF global initiative is a parameter of the relevance of the subject matter of the present study.

Erosion of credibility of the justification for the projected rates of return and the forest management certificate is established in the course of this study. Of course, only key findings are presented in these paragraphs, accessory data being left out. It is established that, in contrast with earlier pronouncements and in contrast to the conditions for plantation management certification by the Rainforest Alliance, OHRA has stated in court that the Teakwood projections are higher than anything described in the scientific literature. It is proven that the justification by the Teakwood contract partners and the Rainforest Alliance of the projected proceeds on the basis of the sale of timber against 'imputed log value' is incongruent with sale of the standing timber as it is stipulated in the contract between OHRA and the Teakwood investors. It is established that the Rainforest Alliance, WWF and OHRA presented data on the production of biomass, rather than of wood, to corroborate the projected yield and returns of the Flor y Fauna plantations. This too, is not congruent with the text of the sales brochures, where the calculations and yield figures are based on the production and sale of wood, not of biomass. It is established that there are grounds to assume that there exists a sound legal basis upon which it may be possible to have the Teakwood investment contracts declared dissolved by courts in The Netherlands. It is established that, by untruthfully claiming that no agrochemicals are used at the Flor y Fauna plantation, the WWF joins the ranks of those that the WWF itself accuses of making false claims of environmental friendliness of their forest products.

It is established that advertisements for Teakwood and a WWF booklet contained a false claim to an FSC certificate for the Flor y Fauna plantations. The advertisements were circulated millionfold. However, the FSC does not issue one single certificate, it is there to accredit certifying organizations. In this light, the research by the Rainforest Alliance and the WWF of January and February of 1996 that both proved incapable of detecting even one single advertisement that contained the false claim can be viewed as most peculiar. OHRA submitted the WWF and Rainforest Alliance 'research' results in evidence at a court. The credibility of FSC's conclusion that the false claim to a certificate was 'unintentional' is found to be erosive. It is established that the FSC Director and the FSC Board Members are informed about all these matters.

Collages of supposedly scientifically sound research were presented in court and in an FSC accredited complaints procedure and, without compliant by the Rainforest Alliance, these were accepted as evidence. These were accepted even if the entire reports remained confidential and inaccessible to the other party or parties in the dispute. The Rainforest Alliance conducted what it terms a complaints procedure in a case where no complaint was ever filed. It did so without notifying to the plaintiffs it had appointed that such a procedure was held. It did so on its own accord and without requesting any information from those who it had declared to be ‘plaintiffs’. The Rainforest Alliance did specify neither the complaint, nor the full identity of the defendants. The Rainforest Alliance circulated the results of the complaints procedure over the Internet before it had sent out copies to all those it had named as ‘plaintiffs’. The final outcome or ‘ruling’ of this obscure complaints procedure was found to be critically flawed in most key aspects. The FSC, which was itself “in almost daily contact” with the Rainforest Alliance over the Teakwood case, declared this handling of the non-existing complaint “acceptable” and thus firmly introduced the element of eroded credibility within the jurisprudence of FSC accredited complaints procedures.

The present study demonstrates that information infrastructure is profoundly affecting our perception of credibility, transparency and accountability. In the Flor y Fauna case, flat text Internet circulars distributed via e-mail provided the core of the communication technology. Professionals worldwide were informed and they could make their own judgement regarding the accountability of environmental and financial claims made in the Flor y Fauna case. Further proliferation of information technology, miniaturized video cameras and enhanced remote detection techniques can be expected to enhance the perceived need for activities that are economically and environmentally accountable on grounds of visual proof, even where these activities are located across the globe.

This study proves that the Internet provides a novel instrument to enhance professional ethics worldwide. If properly employed it can help to extract accountability from organizations or individuals that may not naturally be so inclined. This study confirms that the Internet, with the ease of worldwide communication it provides, has a role to play in working towards a ‘civil society’.

Introduction

This text is an expression of freedom. It touches upon the freedom to question and upon freedom of expression, at all costs. The case that represents the subject matter of this study is the Green Gold of the Teakwood investment program. This program is a joint initiative from a teak growing company Flor y Fauna S.A. of Costa Rica, the chapter of the WWF in The Netherlands and the OHRA, an Insurance and Banking Group that is also based in The Netherlands. From early 1993, OHRA sold this investment program to the public at large in the form of a unit linked life-insurance policy, *“in collaboration with WWF”* (Flor y Fauna, March 1993; front cover). The case contains a theme that is relevant to both the forester’s profession and the public interest at large: green and ethical investment. In addition, and as the author of the present study expressed at an earlier occasion (Romeijn, December 8, 1997), the visions of influential non-foresters such as Radfield (1993) and Sayer (1997) on plantation forestry may well come true. According to Sayer: “Production forestry will cease to be based on extensive harvesting from near-natural systems and will look more like conventional monoculture Agriculture. The world’s timber needs could, and probably will, be met from the intensive use of a small portion of the world’s forest lands” (Sayer, 1997). The author of the present study is of the opinion that such investment should be welcomed, especially in tropical forestry, but not at all costs.

The case

The Teakwood plantation was initiated in the late 1980's by Flor y Fauna S.A., of Costa Rica, upon the suggestion of civil servants of Costa Rican Ministries (Flor y Fauna, April 1992, p 9). Teak was planted in the Northern Province of Alajuela, close to the Nicaraguan border. In the early 1980's, Bosque Puerto Carrillo S.A. of Costa Rica had gained experience with teak plantations and an accompanying investment program (Money World, November 1988). The Flor y Fauna Director Ebe Huizinga initially sought investment funds for the teak plantations from private individuals through his company Natura Bergum B.V. in The Netherlands and through SICIREC of Costa Rica. The Teakwood plantations I-V were established prior to the WWF involvement in early 1993.

Institutional investors were sought, but they did not invest in the program (Flor y Fauna, July 28, 1992). Through Flor y Fauna’s lawyers Van Schoonhoven in ’t Veld, contact was made with financial advisor Mr. L.H.Th. van Weezendonk. Plans were drawn up to interest companies, including the AEGON/Spaarbeleg, Centraal Beheer and FBTO, to provide venture capital. In addition, a plan was conceived to involve WWF as a supporter of the program. Mr. L.H.Th. van Weezendonk took up contact with a number of these

organizations but he was fired by Ebe Huizinga late in 1992 (OHRA, April 9, 1996, p 3). According to Mr. L.H.Th. van Weezendonk:

It goes without saying that the point of departure was a solid, clear and transparent juridical and financial structure. Preferably as a Limited Liability Company, a good board of commissioners and at the very least audits by chartered accountants. It is my impression that there was too little interest in such a set-up. This marked the end of my involvement (NOVA, November 23, 1995).

A series of legal disputes between Flor y Fauna and Mr. L.H.Th. van Weezendonk regarding the remuneration for his services followed. Mr. L.H.Th van Weezendonk became one of the principal critics of the Teakwood investment program.

Meanwhile Ebe Huizinga had contacted Van Rossum Van Veen Consultants, who became the company’s representatives in The Netherlands. In early 1993, Flor y Fauna and Van Rossum Van Veen Consultants were able to involve WWF and insurance company OHRA in the Teakwood investment program. Van Rossum Van Veen Consultants drew up the March 1993 sales brochure for Teakwood VI (Flor y Fauna, March 1993). Flor y Fauna, Van Rossum Van Veen Consultants, WWF and OHRA officials together established the Foundation for the continuity of Flor y Fauna, SCOFF, and they became board members to this foundation under the presidency of Ebe Huizinga (SCOFF, Stichting Continuïteit Flor y Fauna, March 31, 1993 and Flor y Fauna, March 1993, p 3). According to Flor y Fauna, Director J. van Rossum of Van Rossum Van Veen Management Consultants, is a member of the SCOFF Board “*in representation of* (Dutch: ‘*namens*’) *the private investors*” (Flor y Fauna, December 1993, Teakwood info).

Bonner, 1993 (p 4), notes about WWF, the World Wide Fund for Nature, that:

In 1998, the World Wildlife Fund, which has its international headquarters in Switzerland and national organizations throughout the world, changed its name to the World Wide Fund for Nature. The United States and Canada have stayed with the original name -World Wildlife Fund. All these organizations prefer to be identified by the abbreviation WWF.

In the present study, the World Wildlife Fund for Nature is generally referred to as WWF, in accordance with this wish.

WWF states:

In just over three decades, WWF-World Wide Fund For Nature (formerly known as the World Wildlife Fund) has become the world’s largest and most respected independent conservation organization. [...]

WWF provides high quality conservation services by using the best scientific information available, seeking dialogue to build bridges, and taking a responsible, long-term view. WWF aims at all times to be trustworthy, transparent, and solution oriented (source: WWF homepage <<http://www.panda.org/wwf/history/history.htm>> - site visited in June 1998).

Epilogue: How to save our national parks

It might be of some comfort to believe that the story of Yellowstone is unique. After all, the national park system is extremely diverse; what happens in one place need not occur in another.

Unfortunately, Yellowstone is not unique. The entire park system is in trouble (p 377).

“From an internal perspective, two serious problems in the park system,” says John Reed, former chief of the Biological Resources Division in Washington, “are lack of current, well-articulated guidelines for science and natural resource management; and a serious lack of accountability in actions and decision making pertaining to many natural resource management activities”.

“Accountability is a problem,” Reed explained, “when our organizations permits individuals seriously lacking in professional skills and relevant experience in natural resources to occupy key natural resource management advisory positions and to make major policy, funding and programmatic decisions without truly being held accountable for their actions. I have reviewed scores of funding proposals from parks, many addressing the same kinds of issues, and I saw that the wheel was being reinvented over and over again, and that there was nothing in place to correct this in any organized fashion service-wide” (p 379).

(Chase, 1987)

The weekly *de Groene Amsterdammer* describes the WWF as follows:

With 708,000 contributors in The Netherlands alone (sufficient to generate gifts in the order of eighty million Guilders last year), the World Wide Fund for Nature has grown to become a true multi-national for the protection of fauna and flora (*Groene Amsterdammer*, December 17, 1997).

According to article 2 of its association, the WWF Netherlands chapter is established as a foundation (Dutch: ‘*stichting*’) that represents the WWF International chapter. According to the same article, the goal of the WWF chapter in The Netherlands is to “*promote nature conservation*” and it aims to reach this goal by “*het bijeenbrengen van gelden*”). Article 3 defines that the collected funds will be transferred without delay to “*registered projects of the WWF International chapter and the IUCN*” (Kamer van Koophandel Utrecht, 1998).

As a consequence of these articles of association, all the contractual arrangements of the WWF Netherlands chapter and its public pronouncements in the Flor y Fauna case were made in representation of the WWF International.

The OHRA Insurance and Banking Group is based in Arnhem, The Netherlands, where it is known as the country’s sixth largest insurance company. In the study, the OHRA Insurance and Banking Group will generally be referred to as ‘OHRA’, which is in accordance with the company’s advertisements. The newspaper *de Telegraaf* writes that OHRA employs over 1,000 people and aims to increase the number of people it insures from 40,000 to 60,000 within 10 years (*Telegraaf*, June 7, 1996). OHRA was represented by its legal advisors Stibbe, Simont, Monahan, Duhot and Ekelmans den Hollander in the various court

cases covering the Teakwood investment program. The OHRA Insurance and Banking Group of The Netherlands is not to be confused with the worldwide OHRA merchants group based in Japan.

In the first half of 1993, WWF requested Prof. J.C. Centeno to make an economic analysis of the Flor y Fauna teak plantation in Costa Rica. Centeno is, according to WWF officer Van Kreveld, *“recognized worldwide as an authority in the field of silviculture”* (OHRA, Summer 1993, p 23). According to Professor Centeno’s publication ‘Teak Sting’:

Julio Cesar Centeno is a forestry specialist from Venezuela from whom WWF requested an economic analysis of Flor & Fauna’s teak plantations in 1993. He was one of the key negotiators of the International Tropical Timber Agreement, UNCTAD, Geneva, serving as spokesman for tropical countries. He served as forestry advisor to the Secretariat of the United Nations Conference for Environment and Development [UNCED 92], and as Director of the Latin-American Forestry Institute between 1980 and 1990. He was invested by Prince Bernhard of The Netherlands with the Golden Ark Award for his work in the forestry sector. He serves as a member of the Governing Board of SGS-Forestry in Oxford, United Kingdom, and as acting Vice-Chairman of the TROPENBOS Foundation in The Netherlands (Centeno, February 18, 1996).

More recently, in an Internet circular about a case where certified timber was mixed with non certified timber by a forest operation called Precious Woods which is certified by the Rainforest Alliance, Centeno signed as follows:

Julio Cesar Centeno is a former member of the Board of Directors of the Forest Stewardship Council (FSC) and one of the organization’s founding members; former member of the Governing Board of the SGS-Qualifor forest certification program; former member of the Board of Advisors of the Rainforest Alliance Smartwood Program (Centeno, September 14, 1998).

The conclusions of what was to be known as the ‘Centeno report’ were unambiguous and highly critical of the fundamental parameters upon which the rates of return to investors were calculated: timber yield and timber prices (Centeno, December 22, 1993). WWF discussed the results of the report with the author on November 2, 1994. At this meeting the WWF was represented by J. De Wit, A. van Kreveld and W. Braakhekke. Also present at this meeting was Ir. A.J.M. Wouters, of the Ministry of Agriculture in The Netherlands (Centeno, November 18, 1994), who later was to become the President of the scientific advisory board of Flor y Fauna. Ir. A.J.M. Wouters was author of a Ministerial report (LNV, January 1994) that drew the conclusion that, quite contrary to findings of Centeno, “OHRA and FYFSA have been conservative in their calculations” on “the rates of return and prognoses” (LNV, 1996, p 11). The Ministerial report also labeled the Centeno report as “sloppy and inaccurate” (LNV, 1994, p 9).

Financial arrangements can make or break a research programme and an entire profession. There are many ways to silence people apart from forbidding them to speak and all of them are being used today. The process of knowledge production and knowledge distribution was never the free, ‘objective’, and purely intellectual exchange rationalists make it out to be (Feierabend, 1993, pp 126-127).

Prof. Centeno sent a report of the meeting to J.P. Jeanrenaud, Director of WWF International. A quotation from this report reads as follows:

It seems there is a general consensus that the projections on yields used by FLOR Y FAUNA are in fact over-estimated, and that they will be revised and lowered. The extent of such a revision, as well as its consensus, are not clear.

I was informed that the University of Wageningen is assisting FLOR Y FAUNA to model growth and predict yields. It is not clear when results will be available.

I was not able to receive or see a copy of the report from the forester of the Government of the Netherlands which, according to Wim’s letter to the Tico Times [author’s note: Centeno refers to a ‘letter to the editor’ of 1993 by W. Braakhekke of WWF, see section ‘Who was who in Teakwood’]: “... draws the conclusion that Flor y Fauna and OHRA have been careful in their calculations ...”, as referenced in your letter to Arnold [Van Kreveld] of September 21st. I understand from Wouters remarks that he is in fact unsure such projections are valid. Nevertheless, he argued that neither had it been proved that they could not be attained (Centeno, November 18, 1994).

This quotation demonstrates that WWF did not inform Professor Centeno that Ir. A.J.M. Wouters was the author of the said Ministerial report (LNV, 1994). WWF Director S. Woldhek later refers to the meeting as follows:

In our conversation with Mr. Centeno in Zeist on November 2, 1994, these matters were discussed in an open manner. With that the case was closed as far as WWF was concerned (WWF, March 20, 1996, p 3; OHRA submitted this document in evidence as exhibit # 30 to a court on March 26, 1996).

In November 1995, journalists from the television program NOVA, on recommendation of Prof. Dr. Ir. R.A.A. Oldeman, contacted Ir. P. Romeijn, director of the international forest policy advisory company Treemail for information about Teakwood. Romeijn is an academically trained tropical forester (University of Wageningen). He helped initiate spacing trials in field research at the Costa Rican based CATIE research institute and later assisted in the preparation of the Wageningen Agricultural University’s research station in Costa Rica. He is the author of an MSc literature study on teak and of an MSc study on the history of plantation forestry in the tropics. He worked under contract with FAO and IUFRO prior to setting up his advisory company in The Netherlands (for further details see: < <http://www.treemail.nl> >).

Romeijn consented to an interview in NOVA that was broadcast over national television on November 25, 1995. In the program, J.C. Centeno and L.H.Th. van Weezendonk were also

interviewed, as were others including WWF Director S. Woldhek. Following the broadcast, in December 1995, Romeijn established contact with Centeno per e-mail. On October 9, 1996, Romeijn gave a second interview on the Teakwood investment program in NOVA. At the time of the first interview for NOVA, Romeijn was not aware of the ‘Centeno’ report (Centeno, December 22, 1993), the bailiff’s report (Groot, December 1993), the Ministerial report (LNV, January 1994), the declaration to court in support of the Teakwood contract partners by the author of the Ministerial report or of his position as President of the scientific advisory board to Flor y Fauna, or of the court cases related to Flor y Fauna. The author accessed these documents between December 1995 and February 1996. At the time of the first NOVA interview, the author had not yet heard of the Ministerial order to remain silent that is rumored to have been issued to Ir. J. Bauer, who was one of the author’s supervisors during his trainee post in Costa Rica and who is now the sector specialist of the Ministry of Foreign Affairs and stationed at the Embassy of The Netherlands in Costa Rica (see: the first Internet circulars). Attempts by the author to have the rumor either verified, denied or given a ‘no comment’ status by the appropriate body in The Netherlands remained unsuccessful despite a call upon the Law, i.e., the ‘*Wet Openbaarheid van Bestuur*’. A dozen telephone inquiries in February and March of 1998 resulted in an equal number of promises that an official response would be forthcoming, yet no response was ever received from the Ministry.

Romeijn provided Centeno with translations of Dutch materials that appeared in the media, in court and elsewhere on the Teakwood investment program. Upon the request of Centeno, Romeijn dispatched a press release by Centeno to the Central Press Agency of The Netherlands, ANP. He also authored the ‘Treemail circulars’ that were published over the Internet in the first half of 1996. As a rule, these circulars consisted of annotated public materials that were translated from Dutch into English. Most of the circulars contained the following disclaimer (or other words to the same effect): “*Although the materials have been compiled and translated with due care, Treemail fully disclaims any responsibility as to the correctness of its contents and refers the readership to the original documents*” (Treemail, July 18, 1996b). The same disclaimer holds true for the present study. It is noted that Treemail and its Director have never received or accepted any payment or other form of remuneration for activities related to teak investment or the preparation of the present text.

The Forest Stewardship Council, FSC, was founded in 1993 and was granted its corporate personality before Mexican law on October 25, 1995, with major and continued financial support from both the WWF-NL and DGIS. The FSC was founded to enhance forest management. It does so by accrediting certification bodies worldwide and by creating consumer confidence in forest products that carry the FSC label. By 1997, the FSC had accredited five certification institutions worldwide, including the USA based Rainforest

Alliance. The Rainforest Alliance certified the Flor y Fauna plantation management on April 1, 1995, as a ‘well managed forest’ under its Smart Wood certification scheme (Smart Wood, February 1998), using the organization’s draft guidelines (Smart Wood, November 1993) of November 1993 (Smart Wood, February 1998). The FSC accredited this certificate in January of 1998 (FSC, January 28, 1998).

In order to earn marketplace confidence, the structure of a Certification and Labelling programme needs to be governed by rules which are transparently applied and clearly identify accountability for the various activities involved. Accreditation plays an important part in achieving such confidence by *effectively licensing or franchising certification bodies to operate, provided that they follow clearly defined and accepted rules*. In this way, it is often argued, accreditation forms the core of any C&L programme (Upton, 1996).

The consumer is supposedly confused by a current proliferation of dubious certification and labeling initiatives (Intermediar, 1996; WWF, August 1995). According to WWF:

How do you know whether environmentally-friendly claims are true?

The answer is, you don’t unless the product bears the Forest Stewardship Council (FSC) Trademark. This confirms that the wood used to make the products comes from forests which have been independently inspected and certified as well-managed according to strict environmental, social and economic standards (WWF, June 16, 1998).

WWF claims a key role for itself in the establishment of the FSC:

WWF played a key role in launching the Forest Stewardship Council, an international body that is pioneering the independent certification of timber from forests managed under strict social and environmental standards (<http://www.panda.org/action1.htm>, ‘Fighting for Forests lives’. Date of retrieval: November 11, 1996).

The theme

The subject matter of this study - the Teakwood investment program - was chosen because it contains themes that are relevant to the forester’s profession and to the public at large, including the following five aspects. First, the investment program provides a touchstone to the very profession of ‘forester’. Second, the Teakwood contract partners, including WWF, claim that the program is highly relevant to international forest policy, politics and economics as one of the first operations to have received certification for its forest management and that it sets a ‘worldwide example’. Third, the Teakwood program has set the stage for a highly remarkable form of justice by the Rainforest Alliance which ruled in a case without any complaint and without informing the supposed ‘plaintiffs’ of this event. Fourth, the Teakwood program provides the profession with one of the first well documented cases of forest management certification and its subsequent accreditation by the Forest Stewardship Council, FSC, one among the many self-appointed environmental bodies. Fifth, Teakwood is acclaimed to be of relevance as a means to enhance the awareness about the importance of forest management within the larger context of

environmental management with the society and public at large. Sixth, the Teakwood program is claimed to be important to the development of green and/or responsible investment, one of the instruments to enhance sustainable development.

Centeno observed:

The case involving Flor y Fauna, OHRA and the Rainforest Alliance portrays the mismanagement of certification to provide ‘green’ credibility to a project based on fundamentally flawed assumptions, with many of the characteristics of a case of fraud. It also highlights the difficulties with implementing credible certification programs, as well as the challenges involved in the operation of reliable accreditation systems, capable of efficiently assessing potential certifiers, and of adequately monitoring their activities (Centeno, November 4, 1996).

From the outset, “*the world’s largest and most respected conservation organization*” (WWF home page < <http://www.panda.org/wwf/history/history.htm> >, site visited in June 1998), WWF, claims that its research had ascertained that: “*the Flor y Fauna plantations set a worldwide example in ecological and financial terms*” (Flor y Fauna, March 1993, p 15). OHRA declared its full agreement with the text of this brochure, before a court in 1995 (Gerechtshof te Leeuwarden, 1995, p 10). In a joint WWF and IUCN publication, these organizations emphasize the importance that they attribute to the Teakwood program. In this article, the Director of the Rainforest Alliance is quoted as follows: “*Richard Donovan emphasized that certification processes encompass more than ecological criteria. He qualified the project as: an impressive combination of social responsibility and economic viability*” (BOS INFO, October 1995, p 4).

The Teakwood program’s social weight in terms of *international forest policy and politics* is expressed by the nature and high profile of the organizations involved in the program and by its characteristics as one of the early forest plantations to have received an independent third-party certification for its management. The weight of the program in terms of forest policy and politics is further demonstrated by the research mission of the Ministry of Agriculture in The Netherlands (LNV, 1994). According to pronouncements of the Minister of Agriculture and his colleague of the Ministry of Finance before Parliament (Tweede Kamer, 1996a, section 1), the research had been commissioned because of the relevance that these Ministries attach to the Teakwood program within the context of the Position Paper on Tropical Rainforests of the Government of The Netherlands (RTR, 1991). Within the objectives outlined in the Position Paper on Tropical Rainforests, international coordination of the establishment of a certification system for forest management and forest products features prominently. The Government of The Netherlands is a principal funder of the forest certification *cum* accreditation umbrella that is provided by the Forest Stewardship Council, FSC. The FSC accredited the certificate for the forest management at the Teakwood plantations and it continues to do so (FSC, January 28, 1998). The importance of the Ministry of Agriculture of The Netherlands’

mission was further enhanced by the presence of high-ranking officials from OHRA, WWF and the Tropical Forest Action Plan (or TFAP, also known under its Spanish and French acronym PAFT). These officials accompanied the principal investigator of Ministry of Agriculture during his visit to the Flor y Fauna plantations in Costa Rica. The certification of forest management and forest products certification (Upton and Bass, 1995) was one of the most hotly debated issues in international and national forest fora. The Government of The Netherlands has invested strongly in boosting these debates following the UNCED conference of 1992 (United Nations, 1993).

In addition, the influence of the Teakwood program on forest policy and forest politics is shown by the increasing emphasis that is placed upon private enterprise in the management of tropical forest by the Position Paper on Tropical Rainforests of the Government of The Netherlands (RTR, 1991). This is recognized by the Teakwood contract partners who describe their operation as ‘modern development aid’ (e.g., OHRA, Spring 1996; *Teakhout: modern ontwikkelingswerk*), which according to Flor y Fauna stands in strong contrast to the entirely ineffective ‘regular’ aid that is provided to developing nations by the Ministry of International Cooperation of The Netherlands (e.g., *Financieele Dagblad*, April 9, 1996).

The *economic* weight of the Teakwood program can be expressed by the magnitude of the investment involved. The Teakwood program, as initiated by OHRA in 1993, and the other teak investment programs had allegedly attracted around 400 million Guilders in 1995 (FEM, 1995, p 60). The expectation for the total turnover for 1995 has also been described as 500 million Guilders (MoneyView Onderzoek, March 1995, p 20 and Bloomberg, November 10, 1995). In the wake of the success claimed by Teakwood, more than 10 investment programs had become active by 1995 in The Netherlands alone and by that time plans and actions had evolved to expand such marketing activities to other countries. An additional expression of the economic weight is the number of advertisements in newspapers, radio and magazines by Teakwood and the additional teak investment programs combined (e.g., OHRA, February 1, 1996).

It is claimed that the Teakwood program is remarkably responsible because it operates within an economic environment that has been described in harsh terms. According to a WWF press release Teakwood operates “*in a field where some other companies might want to try to grab a quick buck on the bandwagon of green teak investments, OHRA has been very careful and responsible in its approach to the public*” (WWF, May 10, 1996). This statement is amplified by the Rain Forest Alliance Smart Wood Program Director R. Donovan:

There is a long history in Costa Rica (and elsewhere) of some plantation operations or companies making exorbitant claims regarding timber or financial yields, environmental

benefits, and other social or economic benefits. Based on our assessment, Flor y Fauna is not that type of company (Smart Wood, December 21, 1995).

In addition, FSC Director Dr. T. Synnott shares this view. He described this Rainforest Alliance statement to be “*entirely correct and responsible*” in a letter to Treemail of January 8, 1996 (FSC, January 28, 1996).

Can parameters of the impact of the Teakwood program on the *society and the general public* be formalized? They could possibly be expressed in terms of the press coverage in televised and written media or in the diversity of the media that covered the Teakwood program. To the extent of the author’s knowledge, within the subject range of tropical forests the attention of the media in The Netherlands for Teakwood was paralleled only by the SE Asian forest fires of 1998, albeit that the attention for the forest fires was of shorter duration. There was the publicity which was required to raise the investments from public at large within The Netherlands. The Teakwood program received public attention in various rounds of questions to Ministers raised by the Parliament of The Netherlands. There were a number of court cases, there were the threats to legal action and there was real legal action issued and/or implemented by one or more of the Teakwood contract partners. There was attention from the side of scientific community for the disclosed and undisclosed publications including those claimed to be ‘scientific’. There were over 3,000 messages on Teakwood and teak plantations from concerned professionals which were received by Prof. Centeno in 1996 alone (see Fig. 4, p 127).

Teakwood partners alleged a ‘potential’ involvement of the Ministry of International Cooperation to assist in the preparation of a large scale international expansion of the Teakwood program (Flor y Fauna’s representative, Financieele Dagblad, April 9, 1996). Reputable institutional investors, including Bloomberg (Bloomberg, November 10, 1995), gave their attention to the Teakwood program and teak investment in general. The Teakwood program was claimed to be of relevance for the Policy on Tropical Rainforests by the Ministers of Agriculture and Finance in The Netherlands in an address to Parliament. President Figueres and Minister of the Environment Castro of Costa Rica explicitly endorsed the Teakwood program (e.g., Tico Times, March 1, 1996. Dutch uproar over teak firm: President gives his blessing to tree farms). A competitor to OHRA, the insurance company Delta Lloyd, ridiculed teak investment schemes in general in a prolonged radio advertising campaign that has run at least for a full two years standing (Beleggers Belangen, July 19, 1996). Teak investment schemes were scrutinized by the consumers association in The Netherlands (Consumenten-Geldgids, January 1996). There was attention from the Central Bank of The Netherlands which publicly warned investors about teak investments, initiated a court case against one responsible of teak investment schemes and called upon Ministers to protect the general public ... all to no avail. In Germany, the Green Fund investment scheme was severely criticized on state television (ARD-1, August

have been voiced, published or otherwise presented about Teakwood. The present study includes an analysis of the “*variations of truth*” upon the theme of the Teakwood investment program; *variations that were presented by the Teakwood contract partners themselves*. The variations were, in part, distributed to professionals worldwide through Treemail Internet circulars that included full reference to the information source. In turn, reactions from the Teakwood contract partners followed. The integrated system of input and feedback and an analysis of the information presented by the Teakwood contract partners over time is the subject of this study. Where information from the Teakwood contract partners was inconsistent, incorrect, contradictory or false, the feedback led to increased pressure which, in turn, led to new “*variations of truth*”. These new variations, in turn, led to increased feedback that induced further pressure and that ultimately led to the general erosion of the credibility of the statements. This study includes an analysis of this process of erosion.

The process of the erosion of credibility can be followed by understanding a number of key statements. These statements, or “*variations of truth*” come from the Teakwood contract partners themselves and from organizations and individuals which they recognized as authoritative, including the FSC and the Rainforest Alliance. The study indicates that the rates of return were calculated upon a 1990 base price of 450 US \$ per cubic meter of standing timber. This was increased to 560 US \$ when volume projections were lowered. The sale of standing timber was replaced by the sale of semi-finished and finished products, under a confidential contract between OHRA and Flor y Fauna. This kept-up the projected rates of return at a time when yield projections were lowered once more. The original and advertised yield projections of wood were then re-labeled as projections of biomass production. Finally, it was admitted in court that the yield projections had no base in scientific literature. All the above was contrary to what was described in the sales brochure. In the course of events, the advertisements were labeled ‘misleading’ by the Advertising Standards Committee of The Netherlands, which found the advertisements to be in violation of article 7 of the Dutch Code of Ethics on Advertising. The Teakwood contract partners incorrectly advertised that they had received a certificate from the FSC for the management at the Flor y Fauna plantation. Teakwood contract partners and the Rainforest Alliance claimed to have studied the advertisements and not to have found a single one to contain this false claim. Later, these organizations admitted that the claim was made and

that the claim was incorrect. In addition, indications are that site selection was poor for planting teak, that around 30% of the plants died (artificially or naturally) before the first thinning. Flood, fire and disease struck the plantation despite the mitigation - or exclusion - of these risks in the texts of the sales brochures. These indicators, and more, provide the “*variations of truth*” in the analysis of the process of the erosion of credibility that is included in this case study. The analysis of the process of the erosion finds its natural end with the termination of the Teakwood program. The outcome of the analysis is given in the section ‘results’ of this study.

This study does *not* cover issues or questions of which the nature is exemplified by the following list:

1. Are Flor y Fauna’s Director Ebe Huizinga and his family hard working people?
2. Are the Flor y Fauna plantations more environmentally or socially beneficial than other forest enterprises?
3. Have the Flor y Fauna teak plantations indeed been established over the area claimed?
4. Should (the Flor y Fauna) teak plantations be considered environmentally sound enterprises?
5. Should natural forest management be preferred over plantation forest management?
6. Should the application of fertilizers and agro-chemicals be considered as bad practice in the case of management of teak plantations?
7. Was each and every piece of publicly voiced criticism to the Teakwood programme correctly formulated in juridical or forestry terms?
8. Is Costa Rica to be considered as the preferred location for foreign investment in teak plantations in terms of cost/benefit ratio and in terms of political, economic and social stability?
9. What are the motives for individuals or organizations to emit pronouncements in the way they did?
10. Are certification of forest management and labeling forest products important or promising tools to enhance forest management and is the FSC system of accreditation of such certification well conceived?

If a Dutch bailiff presents his observations on tropical forest management, in which experts later find serious flaws, as evidence in a court of law and the court weighs such evidence in favor of the Teakwood contract partners, then this is recorded. If WWF informs the *ca*

700,000 supporters in The Netherlands that no agrochemicals are used at the Flor y Fauna plantations through a publication in its in-house magazine ‘Panda’, and the Rainforest Alliance later records that agrochemicals such as Paraquat and Grammoxone are used extensively and without proper training or any protective clothing for the workers at the plantations, then this is recorded. If WWF representative W. Braakhekke writes a letter which WWF subsequently chooses to make public in a court proceeding, stating that WWF has researched the Teakwood advertising materials and that WWF was not able to find one single reference of a Teakwood claim to a nonexistent forest management certificate, then this is recorded. If the WWF Director of Conservation W. Braakhekke sends copies of this letter to H.R.H. Prince Bernhard, the Ministers of Agriculture and International Cooperation in The Netherlands, the FSC, the Rainforest Alliance and the WWF President E.H.T.M. Nijpels, then this is recorded. If the Teakwood contract partners later report that, according to their own count, they had circulated well over 2 million copies of precisely such advertisements within The Netherlands prior to the statement by Braakhekke, then this too is recorded. If subsequently the Director of the Rainforest Alliance Smart Wood Program R.Z. Donovan repeatedly publishes public statements that he too was unable to locate a single one of such advertisements, even if he had already sent a notification of receipt to Treemail of a copy of precisely such an advertisement, then this is recorded. If the Director of the OHRA Board B.J.J.M. Huesmann announces to the Central Press Agency of The Netherlands, ANP, that the first returns were paid to Flor y Fauna’s Teakwood investors where this has not materialized almost two years following his pronouncement, then this is recorded. If the FSC Director T. Synnott finds it acceptable that the Rainforest Alliance conducts a complaints procedure where confidential evidence is weighed in favor of one of the parties whereas the Rainforest Alliance has not issued a disclosure instruction to any of the parties, then this is recorded. The ulterior or other motives of these individuals or organizations are not speculated upon. Motivation at most is introduced as a working hypothesis if lacunae subsist in the scientific analysis of the causal chain.

It is good science to list the information sources so that the work can be replicated and to ensure that results and conclusions derived therefrom can be verified by the readership. A standardized list of resources is deemed insufficient and impracticable to the purpose of providing the reader with an adequate means to properly access *and* assess the information referenced in this study.

Many of the referenced source materials are not easily accessible, if at all. Even where publicly available, they cannot readily be consulted as they are not stored in libraries or not even formally published. This situation is only aggravated by the highly international character of the subject under study as the reader would be required to travel to many countries and several continents in order to verify all the references. In order to offer the

reader of this study the possibility of maintaining the sound scientific practice of validation of the nature of proof, the author has decided to incorporate a substantial selection of the source materials into a CD-ROM.

For the understanding and assessment of the source materials, which constitute the raw data of this study, it is considered essential to provide the reader with a means to grasp the sequence of the events and the precise dates of delivery of the materials. Therefore, the reference list includes many precise dates of delivery for the materials, rather than simply a year of publication. In addition, an annotated chronological file of the materials is recorded in a document entitled ‘Agenda of events’ (ref: < <http://www.treemail.nl> >).

The list of references, the ‘Agenda of events’ and the CD-ROM combined will allow the reader to check the original context of the quotations in this study. The sections ‘Who was who in Teakwood’ and the ‘Glossary of terms’ define who and what is meant when using certain names or words. This combination will offer the reader a similar power of verification as the laboratory records and handbooks in a more conventional scientific study. In keeping with good scientific tradition, this combination is to offer the reader a comprehensive tool to apply the acid-test of validation to the “*variations of truth*” presented in this study.

Material and methods

Information sources

The principal sources of information that were selected for the purpose of conducting this study are *public* presentations issued by the Teakwood contract partners and *public* presentations by organizations and individuals that have in some form commented on the case, including the Rainforest Alliance and the FSC. These organizations issued their publicly available materials in the form of sales brochures, advertisements, contracts with investors, insurance policies, press releases, newspaper articles, televised interviews, radio interviews, court procedures, court hearings, articles, advertorials, Internet circulars, rulings of procedures, public letters and in (partially disclosed) studies that were commissioned by the Teakwood contract partners or others. A slightly unconventional format is used in the chapter ‘list of resources’ in order to facilitate a consistent and precise reference to the highly diverse sources of this study.

Materials

The Internet was used as the principal instrument to perform the study. Information contained in the above materials was distributed via Internet conferences for professionals in the fields of forestry and environment and presented as Treemail circulars. The Treemail circulars were presented in English and predominantly contained translations of public documents that had been published in Dutch. References to the original sources of publication were invariably included with the circulars. The circulars were mainly published over the FUNET conference for forestry researchers and UNEP’s INFOTERRA conference for environmental specialists. With the circulars, professionals worldwide were provided with access to the original claims made in public by the Teakwood contract partners and comments originating from other organizations including the Rainforest Alliance and the FSC. In short, professionals worldwide were provided with an accumulating file that represented the development over time of the claims made by the Teakwood contract partners. This file consisted of precise and referenced quotations without interpretation. In turn, these Internet publications gave rise to public reactions from the Teakwood contract partners, from associated organizations such as the Rainforest Alliance and the FSC and from the expert public of the FUNET and INFOTERRA readership. Input of Treemail circulars into this cycle was continued for a period of circa 6 months, beginning in January 1996.

In addition to the above, a selection of the Treemail circulars was sent directly to the offices of WWF, OHRA, Flor y Fauna, Rainforest Alliance Smart Wood program, FSC’s

Director and Board Members, Prof. Centeno, L.H.Th. van Weezendonk, civil servants at the Ministries of Agriculture and International Cooperation in The Netherlands who were involved in the Flor y Fauna case, a number of individual Members of the Scientific Advisory Board of Flor y Fauna and to Flor y Fauna’s representatives Van Rossum Van Veen Consultants. Moreover, various members of the press in The Netherlands had subscribed to one or more of the electronic conferences and thereby became additional recipients of the Treemail circulars on the Teakwood investment program.

For the purpose of the study, the Internet was conceived as being analogous to the laboratory equipment of a classical scientific experiment. The electronic conferences performed a role like that of laboratory instruments. The Treemail circulars were the various inputs and (electronic) stimuli from the laboratory equipment. The readings from classical laboratory experiments find their analogy in the recording of the events that followed the publication of the Treemail circulars. These events were subsequently logged in the form of follow-up statements by the Teakwood contract partners and others.

The positions over time of the Teakwood contract partners with respect to growth and yield projections of the Flor y Fauna plantations were recorded in a logbook called ‘Growth and Yield’. Observations of positions taken by Teakwood contract partners and their opponents were recorded in a logbook called ‘Agenda of main events’. These documents were published as simple logbooks and contain referenced documentation of the available information from the Teakwood contract partners and associated organizations up to the time of their publication (Treemail, July 18, 1996, a and b). These Treemail circulars provided bare information in the form of annotated quotations. The interpretation of cohesion or loose ends was left exclusively to the individual recipients of the documents.

The two logbooks were circulated over the Internet on June 18, 1996, and so made available to all parties involved in the debate on the Teakwood program. The publication of these logbooks marked the end of the Internet experiment. Save for a three-minute interview for NOVA in September 1996, Treemail gave no further public comments on the Teakwood issue.

The publication of the two logbooks led to reactions from the different parties (e.g., the reference to “the plaintiff’s log” *in* Rainforest Alliance, August 16, 1996). These reactions were recorded in a similar fashion, resulting in a second version of the two documents. Both the first and the second versions of these logbooks are included in the CD-ROM. The second version of the ‘agenda of main events’ is annexed to the present study under the

On February 13, 1998, data collection for the present study was finalized. On that day the author mailed an information request to the Teakwood contract partners, the Ministers and

Ministries of Agriculture and International Cooperation in The Netherlands, the Board members of WWF-NL, the Board members of the Foundation SCOFF, the Rainforest Alliance Smart Wood Program Director, The FSC Director and the FSC Board members. In this letter (Treemail, February 13, 1998), the author requested all the recipients to “*send information on the Teakwood program that you or your institution deems relevant - including additions or changes of previous positions that were published in public documents*”, so that they could be incorporated in an upcoming scientific publication by Paul Romeijn. The Ministry of International Cooperation responded (DGIS, March 9, 1998) that it has nothing to add to earlier documents. OHRA informed (OHRA, February 20, 1998) the author that - while referring to the publications in ‘*het Nederlands Bosbouw tijdschrift*’ issues 1, 2 and 4 of 1997 - they had nothing more to add on behalf of the OHRA insurance and Banking Group and the Foundation SCOFF. The FSC responded: “*Dear Paul, We are not familiar with the Teakwood programme, so I am afraid we cannot help you*” (FSC, March 24, 1998). The other addressees did not respond to the author’s information request. This letter marks the termination of data collection from the Teakwood contract partners for the present study.

TO: All FSC Board Members, Director and Secretariat
FOREST STEWARDSHIP COUNCIL, A.C.
AVENIDA HIDALGO 502, 68000 OAXACA, MEXICO
TEL: ++ 52 951 46905, 63244
FAX & TEL: ++ 52 951 62110
e-mail: FSCOAX@antequera.antequera.com

Heelsum, February 13, 1998
Subject: Information request
Return receipt: =on

Dear FSC Board Members, Director and Secretariat,

Shortly I am to deliver a text for peer reviewing and hopefully subsequent publishing. The text contains information about the so-called Teakwood program. In this context I request your cooperation in order to achieve an optimal account of the facts.

I would be most grateful if you could send me information on the Teakwood program that you or your institution deems relevant -including additions or changes of previous positions that were published in public documents. I guarantee that this information will be reflected in the text.

Even if the scientific publishing process is slow, your cooperation shall ensure that the text is as up-to-date as is humanly possible.

I thank you in advance for your kind cooperation.

Yours sincerely,

Ir. Paul Romeijn
Prins Bernhardlaan 37
6866 BW Heelsum
The Netherlands
tel: +31 317 350100
fax: +31 317 350119
E-mail: info@treemail.nl
note: Dear Mr. Synnott, Could you please be so kind as to circulate this message to all Board Members? Thank you. PR.

Received: from async9.antequera.com (async9.antequera.com [167.114.23.55]) by antequera.antequera.com (8.8.8/8.8.8) with SMTP id QAA03505 for <info@treemail.nl>; Tue, 24 Mar 1998 16:18:33 GMT
Date: Tue, 24 Mar 1998 16:18:33 GMT
Message-Id: <199803241618.QAA03505@antequera.antequera.com>
X-Sender: fscoax@167.114.36.11
To: Paul Romeijn <info@treemail.nl>
From: "Forest Stewardship Council (Oaxaca, Mexico)" <fscoax@antequera.com>
Subject: Re: Information request
X-UIDL: 0634bd3620ab479d920bbce36569c057
Oaxaca, 24 March 1998

Dear Paul,
We are not familiar with the Teakwood programme, so I am afraid we cannot help you.
With best regards,
Eleonore Schmidt
Regional Coordinator for Europe and Africa
Forest Stewardship Council, A.C. Avenida Hidalgo 502, 68000 Oaxaca.

The analysis of this study is of two kinds. First, an analysis of the Internet circulars and the response from the Teakwood contract partners and associated organizations is checked for its use as a tool to extract accountability from transnationally operating organizations that are related to the management of forests. Second, the Flor y Fauna case is analyzed for its relevance for international forestry in the light of ongoing international efforts to enhance forest management and the current call for enhanced accountability of forest operations worldwide. The analysis is reported in the section ‘results’ and, in turn, reflected upon in the section ‘conclusions’ of the present study. The present work is the first scientific study of a certified forest operation that has been accredited by the FSC. It is also the first case study of the accountability of the FSC accreditation system. As such, the present study is unique and the first of its kind.

A glossary of terms and definitions is appended to the present study; a separate appendix offers an overview of ‘Who was who in Teakwood’. American (US) spelling is used throughout the present text, except in the case of quotations where the spelling of the original document is maintained.

Methods

The “*variations of truth*” that were presented by the Teakwood contract partners are analyzed in a number of ways. The first angle of the analysis is historical. This part of the analysis starts with an introduction to the species *Tectona grandis* (Linn. F.), or teak, and its silvicultural use. An overview of the history of teak plantations and the introduction to tropical America is presented. This includes a selection of scientific information with relevance to the Teakwood case. Next is the history of the Flor y Fauna plantations, the Teakwood investment scheme and the history of the involvement of OHRA, WWF, FSC and The Netherlands Government.

The second angle of the analysis is a check on the internal consistency and coherence of the “*variations of truth*” over time. The presentations by the Teakwood contract partners are viewed and recorded in their proper sequence. Special attention is given to shifting positions. As the Flor y Fauna plantations were certified as being ‘well managed’, this angle of the analysis covers the Rainforest Alliance Smart Wood certification scheme and its accreditation by the FSC. In part, this check is based on the annotated logbook entitled ‘Agenda of events’ Where the Internet circulars gave rise to new presentations or events, as was, e.g., the case with the Rainforest Alliance complaints procedure and the ruling (Rainforest Alliance, August 1996), then these too are recorded and checked for their consistency and coherence. Because the present study is the first of its kind in describing an FSC accredited forest operation, the archive on the case is registered for posteriority in the CD-ROM.

The third angle of the analysis is a check on the credibility, transparency and accountability. These terms are frequently used in the presentations of the Teakwood partners, the Rainforest Alliance and the FSC and they are as essential to forest certification as to building a ‘civil society’. In part, this check was provided by the public opinion and by the journalists that were subscribed to the newsgroups where the Internet circulars were published. In another part, this check was provided by the Internet which produced an increasing pressure, analogous to a feedback loop in sound reproduction. This type of feedback can only generate pressure when additional statements by the above organizations are published in new circulars and if these statements are in-consistent, un-transparent or non-accountable.

The method of the analysis includes a safeguard of the quality of the Internet circulars. This safeguard was provided for by the peer pressure of the professional recipients worldwide. As the tropical forestry specialists in The Netherlands by and large remained essentially mute over the Internet circulars, they too did partake in this worldwide process. The entire experiment ended naturally with the termination of the Teakwood investment program in 1996.

The Internet provides a number of unique features that make it the most appropriate experimental instrument for the particular purpose of this study. *First*, the Internet conferences provide a platform for circulation to a targeted audience. *Second*, the distribution of documents is worldwide, fast and practically free of charge. In fact, the cost of distribution is negligible, irrespective of the number of recipients. *Third*, electronic conferences in their current form provide a meeting place where all contributors meet on an equal footing, i.e. the documents arrive with recipients in a flat text format that is entirely independent of status, size or advertizing budget of the contributing organization. *Fourth*, the Internet conferences of FUNET and INFOTERRA both provide a service whereby all circulated documents are stored and made available over the World Wide Web for future reference. *Fifth*, all circulars regarding the Teakwood case must be considered to have been ‘peer reviewed’ by the professional readership of these highly topical electronic fora. Given the sensitive nature of the subject matter and the high profile of the institutions involved in the Teakwood case, repercussions from fellow professionals would with certitude have been severe if incorrect information had been broadcast. There has been no reaction of this kind.

Because FUNET and INFOTERRA make all circulations available on the world wide web, all the circulars on Teakwood can be accessed directly by anyone worldwide with on-line access to the Internet. Current Internet search engines are sufficiently powerful to ensure that any operator with the necessary skills can locate the string of publications at any time, even if the operator had not subscribed to these electronic conferences at the time of their original circulation. For this purpose, the Internet search engines only require input of a few key words in combination with Boolean operators such as ‘Teak AND Costa Rica’,
exact phrase), ‘Centeno AND Teak’ or even ‘Treemail’ in order to return an operational string of results. Current Internet search engines that provide such services for documents loaded on the World Wide Web include Alta Vista, Yahoo, Hot Bot, Web Crawler, Excite, InfoSeek, Ilse and many others.

The cost associated with attaining a similar and targeted performance by means of alternative media is prohibitive. Alternatives to the Internet for circulations of this magnitude are indeed most likely to remain out of reach of any forest research institute. In order to employ alternative media, a proper distribution list would first have to be

established. Even if an adequate distribution list could be drawn up, the problems of circulation through other means than the Internet remain near to insurmountable. Sending a fax message of several pages to a worldwide audience is altogether costly, time consuming and laborious. Air mail is slow and unreliable by comparison. The forestry library system is not conceived to deliver such services and is entirely incapable of performing the above functions. Technical journals are unsuited media as they require lead time for publication and only reach a very limited audience, especially in tropical countries. Newspapers would be almost an alternative, but they do not reach a targeted or worldwide audience. However, with the Internet a targeted and worldwide audience can readily be reached by selecting the appropriate subject oriented Internet conferences.

The Internet circulars have indeed resulted in pressure on the Teakwood contract partners and their associated organizations. One of the associated organizations, the Rainforest Alliance, put it like this:

A significant input of resources has been required to support the efforts of the parties to this debate. In Smart Wood's case, these efforts have without question impaired our ability to perform our central functions (Rainforest Alliance, August 16, 1996).

Teak plantations

Tectona grandis L. (VERBENACEAE; teak) and its silvicultural use (Part A)

The species

Name: *Tectona grandis* (Linn. F.)

Family: Verbenaceae

Vernacular names: Teak (En, Da, NI), Teck (Fr), Teca (Sp), Jati (Indon), Tekku (Mal), Tiek (D), Djati (NI), Giati (Viet), May Sak (Camb. and Laos) and “sagun, sagon, skhu, toak, shlip tru” (India; source Benthall, 1933)

Tectona comes from the Portuguese word *Teca* which, in turn, is derived from the Greek word *tektion*, which means carpenter” (Béhagel, 1997, p 4). Teak is a large deciduous tree, with height up to 50 m and a girth to over 1 m, with a rounded crown and, under favorable conditions, a tall clean cylindrical bole, which is often buttressed at the base and sometimes fluted. The branchlets are quadrangular, channeled, with a large quadrangular pith. Leaves opposite, large, broadly elliptical or obovate, usually 30 to 60 cm long, but larger in young plants. Bark is 8 to 12 mm thick, grey or light greyish brown, fibrous, with shallow longitudinal fissures, exfoliating in long, thin, narrow, somewhat corky flakes (Troup, 1921).

The inflorescence is a white terminal panicle, 60 cm long, 50 cm wide. The pollination is entomogamous, autogamy does not take place. The inflorescence is annual, forming a few dozen fruits per panicle, one nut usually producing two seedlings. The flowers ripen till January and fall gradually during the hot season. The fruit can be dispersed by wind for some 10 to 15 m, but is readily transported by run off water. The germination is epigeous, the nuts split open on one or two sides, the side pieces separating from the central axis of the nut like valves. Through the openings thus caused the radicles first emerge and descend, the cotyledons soon making their way upwards through the cracks (Troup, 1921).

Teak provides one of the best known tropical timbers of the world and has gained a reputation through a unique combination of working properties. The qualities of the timber have long been appreciated both for local use and export. The timber is distinguished according to provenance, for instance Burma- or Java- teak, each of the provenances differing considerably in physiognomy and technical quality (Romeijn, 1987). An exceptional combination of good timber properties has given teak a universally high

reputation. For ship building it is unsurpassed and stands in a class of its own. It is also extensively used for house building, bridge- and wharf-construction, furniture, carving, general carpentry and numerous other purposes. Furthermore, the wood is appreciated as fuelwood, and poles produced from thinnings are popular because of their exceptional straightness (CTFT, 1950; also see TRADA, 1979).

According to Chaturvedi, 1995, “Teak is amongst the best studied and researched tree species and every aspect of its cultivation and harvest is known and well documented”. Krishna Murthy’s bibliography on teak of 1975 records near to 3,000 literature references. He makes no claim to completeness of his work and he does not appear to have considered the extensive record of research on this species in the Dutch language. According to Jacobs (1988), when the Dutch Journal *Tectona* was suspended in 1955, it occupied 3.15 m of shelf. Another bibliographic search was conducted by Mathur (1973). Many additional publications on teak have followed since the publication of these bibliographies. Teak is thus a well-known plantation species. The Indonesian island of Java reportedly has an area of 1 million ha under teak plantation (Prosea, 1993, p 448).

For the tropics, Keogh (September 1996) notes:

Teak is the most widely cultivated hardwood species, constituting, in 1980, about 75% of the area under high-grade tropical hardwoods or 11% of the area of tropical forest plantations (Grainger, 1988). In 1990, teak constituted only 5% (estimated at 2.2 million hectares) of the reported area under tropical plantations, of which more than 90% was located in Asia, mainly Indonesia, India, Thailand, Bangladesh, Myanmar and Sri Lanka (Pandey, 1990) [author’s note: 1992 is more likely to be the correct date of the publication by Pandey because this is the date of publication that Keogh gives in his list of references]. Although the figures are from different sources, this apparent drop in teak’s proportion may reflect the relative lack of importance compared with other purposes and species. Information on the area occupied by particular species within plantations is scarce (FAO, 1993).

The seedlings are very intolerant of shade and throughout all development stages teak remains a strong light demander. The saplings and young trees are very sensitive to any suppression or root competition (Troup, 1921). Weeding is therefore a common practice in the early stages of plantation development and safeguards a proper establishment of the trees in a teak plantation. The closure of the canopy generally marks the end of weed competition.

“Contrary to many opinions, teak is not a fast growing species” (Keogh, 1979). The initial growth of teak can be very fast and after some five months after germination the tree can reach a height of 5 m. Till the first inflorescence at an age of 4-5 years, the saplings form an unbranched shoot (Edelin, 1984). Conforming to Leeuwenberg’s architectural model (Hallé *et al.*, 1978), the first inflorescence in teak is followed by forking by the formation of relay branches just under the flowering part. This marks the end of the tree’s monopodial

development (Edelin, 1984). The first flowering in teak can occur as late as year 7 (Edelin, 1984).

The postponement of flowering and the length of the first shoot are important factors that determine the stem quality and is important factor for selection and improvement (Nanda, 1962). Catinot (1970) suggests that a healthy growing meristem produces auxins that inhibit the activation of dormant lateral meristems. If the flow of these auxins is stopped by flowering, drought or otherwise, lower lying meristems may be activated and thus produce early and undesirable branching lower down the first shoot. Wouters, in his Ministerial report, records the occurrence of undesirable early flowering of the teak trees at the Flor y Fauna plantations during his visit to Costa Rica in December 1993 (LNV, 1994).

Flor y Fauna has a different perception of the occurrence of early flowering in its plantations and sees it as a sign of good health. In its sales brochure for Teakwood V of 1992, Flor y Fauna informs investors that:

Teak does particularly well in Costa Rica. For example, we see this in the Teakwood I and II projects. Some of the trees there have reached a height of 10 m and have already flowered. Normally this occurs only after 4 years. The trees of Teakwood I and II have only been planted in the course of 1989 as tiny stumps (Flor y Fauna, April 1992, p 12).

According to Nanda (1962), the occurrence of such early flowering may indicate a poor selection of provenance of the planting stock and, according to Catinot (1970), may indicate poor growing conditions for teak.

Faster growth in teak is associated with a higher heartwood percentage, while wood density is independent of growth rate (Bhat, 1995).

According to Flor y Fauna there are no records of pests or diseases that can damage a teak plantation in Costa Rica (sources include but are not limited to: Flor y Fauna, 1992, p 24; Flor y Fauna, March 1993, p 13). CATIE (1991), lists recorded pests and diseases for teak in Central America, including Costa Rica, and grade them according to classes of damage inflicted that range from “sporadic” to “epidemic” (also recorded in Chaves and Fonseca, 1991). Other sources, including Bauer (1982), Chable (1967) and Interiano (1974), had reported on pests in Central American teak plantations prior to 1993. Smart Wood indicates nematode problems and the need for phytosanitary thinnings at the Flor y Fauna plantation and Smart Wood describes “*Nectria* sp and *Agrobacterium* sp” as “common pests and diseases” for the adjacent Forestales International teak plantation (Smart Wood, August 16, 1996, February 1998).

History of teak

Teak has a long history of cultivation. Lamprecht, 1986, p 16, reports that teak has been cultivated on the Indonesian island of Java for more than 1,000 years. He reports that the Dutch Governor issued a decree on teak as early as 1620. Large-scale teak planting in Java started in the XIX Century (Jacobs, 1988); from 1883 on, professional teak foresters were educated in Wageningen (Oldeman, pers. com.). The generation of information on tropical forests and forestry, including the cultivation of teak, really takes off following the establishment of the research station in Bogor, Indonesia, in 1913 and with the establishment of the training center at Dehra Dunn, in India, in 1878. The journal ‘The Indian Forester’ was founded in 1875 (all in Lamprecht, 1986, p 16).

Traditionally teak has been important for many centuries in Asia for the construction of houses, palaces and Chinese ‘junks’. Only after Europe had depleted its oak wood reserves did the demand for teak grow on that continent. And after the Danish captain H.N. Andersen returned from Bangkok in 1882 with the news that he had sold his shipment of teak logs with a profit margin of 100%, the teak market began to look like a gold-rush. No other crop would be so dominant in determining the history of Burma and Thailand (Hauser, 1997).

“Dutch people have known a lot about these trees ever since the Dutch United East India Company planted them in Java, in Indonesia, more than 200 years ago.” said 57 year old Huizinga, referring to the former Dutch colony (Bloomberg, 1995, quoting Flor y Fauna Director E. Huizinga).

Officers at the East India Company, the world’s largest company in the 17th century, planted the trees to secure a stable future for their grandchildren (Bloomberg, 1995).

The Dutch experiences with the cultivation of teak have been extensively recorded in the scientific journal *Tectona*, which was largely dedicated to this species. Other references are, e.g., Becking (1928), Beekman (1949) and Van Alphen de Veer (1957). For an introduction to the British experiences with plantation teak the reader is referred to a publication by Troup (1921).

Teak yields

According to Glück, the particular strength of forestry science in general lies with wood production (Glück, 1986, p 44). Site selection and the quality of planting stock are critical factors to the success of teak plantations as they predetermine what can be achieved later, in terms of increased yields, with high input and/or intensive management.

Over enthusiasm for high inputs in terms of fertilization and irrigation, especially in the private sector, might lead to increased damage by pests and diseases [...] The fundamental principles guiding site selection are often ignored especially in private commercial sector (Chacko, 1995, p 1).

Even when good planting materials, funding or time are scarce, the need to select seeds of good quality remains.

Seeds used in nurseries should be quality tested, size-graded and certified (Chacko, 1995, p 12).

Dr. R.M. Keogh is a recognized authority on the subject of teak plantation growth rates. The authority of Dr. R.M. Keogh on the subject of growth rates of teak plantations is of relevance to this study because his authority is clearly recognized by Flor y Fauna, WWF and OHRA. For example, at a time when Flor y Fauna projected *ca* 1,000 m³ cumulative timber yield in twenty years, the Flor y Fauna Director addresses Dr. R.M. Keogh as follows (Flor y Fauna, July 28, 1992):

Our teak projects have so far been financed by Dutch private investors. Although various institutional investors have expressed an interest in our projects, we have been unable to raise any institutional money. The main reason for this is that we are unable to supply these investors with any English documentation regarding the feasibility of teak plantations in Costa Rica.

As far as we know, you are one of the very few, if not the only teak expert with sufficient knowledge of the conditions in Costa Rica to be able to supply this.

According to the Rainforest Alliance (August 16, 1996), Flor y Fauna currently employs “*the Keogh equation for Central America*” for the calculation of its yield forecasts, ever since the internal monitoring report # 13 of June 1996 (i.e. Flor y Fauna, June 8, 1996).

Keogh publicly expressed that:

I feel the debate on growth rates of teak has gone on too long; growth rates for this species are well known and it is time to make this abundantly clear! (Keogh, May 1, 1996).

According to the same public statement, a tolerable rule-of-thumb can be applied for the projection of teak yields:

A very tolerable rule-of-thumb can be applied across the tropics regarding highest growth rates in teak plantations. This rule-of-thumb does not change for wide definitions of stem volumes. GROWTH RATES WHICH EXCEED AN AVERAGE OF TWENTY CUBIC METERS PER HECTARE PER YEAR IN TWENTY YEARS ARE UNLIKELY TO BE ENCOUNTERED. In other words, only in exceptional circumstances will the total production of stem woody material exceed four hundred cubic meters in twenty years.

Growers and investors must base their predictions on averages and not exceptional growth rates. Most practicing foresters in the tropics would be content to encounter an average annual growth rate of ten to fifteen cubic meters per hectare per year over twenty years on all their plantation sites (Keogh, May 1, 1996; emphasis by Keogh).

Based on data from Maître (n.d.), Pandey (1983), Miller (1969) and Maddugoda (1993), Keogh has summed up the world’s best growth rates ever recorded for teak in 1996 (see Fig. 1 and Table 1):

Some of the highest growth rates for teak production data found in yield tables and presented in the literature are shown in the graph (figure 1) for Côte d'Ivoire, India, Indonesia, Sri Lanka and Trinidad. These examples are given by way of illustration, to give a sense of scale of the possibilities for teak production. The upper curve, representing total volume accumulation through time in Indonesia, surpasses most observations around the world. The maximum mean annual increment produced, in this case, is 21 m³/ha at 15 years of age and the annual increment is maintained at or above 15 m³/ha up to 80 years (Keogh, November 1996, p 8).

Fig. 1: Best production in teak (source: *ex* Keogh, November 1996, p 9).

Table 1: Best production in teak (source: *ex* Keogh, November 1996, p 9).

Selection and improvement of genotypes

“Good seed is a primary requisite for the establishment of good plantations” (Keogh, 1987, p 9). Proper selection of provenances or seed sources can substantially improve growth and stem quality of the plantation (Keiding *et al.*, 1986). Artificial regeneration of teak is “by direct sowing of seeds, seed broadcasting, stump (derived from seed) planting or by transplanting of seedlings. Traditionally, seeds were collected from plus trees, unfortunately due to the heavy felling of trees in the past, plus trees have become rare. Though seed orchards have recently been promoted but the number is still too few. Laboratories in India, Indonesia and Thailand have been reporting the tissue culture of teak with various degrees of success” (Gavinlertvatana, 1995, p 1) [author’s note: these observations refer to SE Asia].

Genetic improvement in teak silviculture

According to Keogh:

Genetic improvement is in its infancy and it will be many years before it will be possible to forecast growth relationships between genetic strains and site. [...] It must also be remembered that maximum observed growth rates tend to be the exception, under field conditions, rather than the rule. For these reasons, predictions of growth rates for new or young plantations must be based on indicators which themselves rely on careful scientific studies of actual growth found under similar environmental conditions (Keogh, November 1996, p 8).

***Tectona grandis* L. (VERBENACEAE; teak) in tropical America (Part B)**

Introduction and provenances

Teak is native to India, Burma, Thailand, Laos and possibly Indonesia (Keogh, 1987, p 9), although the latter is doubted by various authors including Beard (1942). Dispersal by man has taken place throughout the tropics, including areas of South East Asia where teak is not indigenous. From Togo, where it was first introduced in Africa, it has been spread to numerous other countries. In the Americas it can be found in Trinidad, Honduras, Venezuela and several other countries (Streets, 1962).

According to a study by FAO and UNDP, it is difficult to pinpoint the date and seed source of the first introduction of teak in Costa Rica, but written records of the United Fruit Company exist with date February 2, 1943 (Keogh *et al.*, 1978, p 1). According to Flor y Fauna in 1992, the oldest teak trees in Costa Rica are well over 30 years of age (Flor y Fauna, April 1992, p 12).

The initial sources of seeds used to introduce teak in Costa Rica are believed to include the Summit Gardens in Panama and Trinidad, and later from Honduras (Keogh *et al.*, 1978, p 1). The extension of teak plantations in Costa Rica in 1978 is estimated to cover slightly over 300 ha (Keogh *et al.*, 1978, p 1). According to Lemckert, there are numerous teak woodlots with small farmers in Costa Rica by 1995 (Lemckert, 1995).

The authors of the FAO and UNDP study recommend, to individuals and organizations that consider planting teak in Costa Rica, to source seeds from Trinidad and Tobago because of the tree improvement program for the species (Keogh *et al.*, 1978, p 17).

Growth and yield studies in Central America

According to Keogh:

There are very few well-managed teak plantations in Central America and the Caribbean. There is much room for improvement. The aim should be to obtain at least 8 m³/ha/year [...] We do not know what the maximum production potential is for the species. Crop nutrition, which in theory should be able to augment growth, is a complex field of study and universal predictions of increased growth rates, based on fertilizer applications, are unreliable (Keogh, November 1996, p 8).

For an introduction to information sources on teak cultivation in the Central American and Caribbean regions and an index of main regional references the reader is referred to Keogh, 1979, 1987, and 1980 a and b, 1982, Keogh *et al.*, 1978, Chaves and Fonseca, 1991, and the literature list of the Centeno report for WWF (Centeno, December 1993).

The Flor y Fauna plantations

History

In 1988, Nelson Futch advised to: “Forget wooden nickels, try teak dollars” (Money World, November 1988). The article is about an investment program in a Costa Rican teak plantation called Bosque Puerto Carrillo which started its operation in the early 1980's. The idea of interesting members of the general public in investments in Bosque Puerto Carrillo's teak plantation was taken up by several other companies, including Flor y Fauna. By 1995, the idea of investing in Costa Rican teak plantations was taken seriously by reputed international financial organizations including Bloomberg.

A handful of teakwood companies, one of which is linked to OHRA, began selling private investors the opportunity to invest in teak plantations about five years ago. This year, they are expected to raise some 500 million guilders (\$316 million), almost double what they raised in 1994. The market for teakwood investments is expected to grow to about 700 million, according to industry estimates (Bloomberg, 1995).

One of the attractions of these investments was claimed to be the contribution that investors could make to sustainable land use and that they could do so at moderate or low risk. In combination with prospects of high rates of return, this drew considerable interest from investors. In turn, this may indicate that of the plantations were initiated hastily. “*Teak was being planted virtually everywhere, with insufficient pre-planting research*” (Smart Wood, February 22, 1996) according to the Rainforest Alliance Smart Wood Director in a record of the conditions encountered by the Rainforest Alliance inspection team at the Flor y Fauna Teakwood plantations in 1993.

Sustainability

Sustainability is a difficult concept which has various meanings to different people, circumstances or time frames. “The term sustainable management is a convention of language. It is an illusion to wish to give it one unique definition” (Barret, December 1997). In her PhD thesis, A. Kolk notes the following on the concept of Sustainability:

The popularity of the concept is to a large degree related to its vagueness. Sustainable development has become an all-encompassing term which is claimed to direct projects, policy and research, a “‘metafix’ that will unite everybody from the profit-minded industrialist and risk-minimizing subsistence farmer to the equity seeking social worker, the pollution-concerned or wildlife-loving First worlder, the growth-maximizing policy maker, the goal-oriented bureaucrat, and therefore, the vote-counting politician” (Lélé 1991: 613; ex Kolk, 1996, p 44).

However, the concept of Sustainability in forestry has a long history and is, in fact, even centuries old (Oldeman *et al.*, 1994; Romeijn, April 18, 1998). For the definition of the

term sustainability in forest management, production, stock, production factors and economic output are but a few among the many items that have, at one time, been perceived as the key factor (Oldeman, 1994; Romeijn, 1996). The ongoing international discussions on certification of sustainably managed forest have, as yet, not led to a definition that is *operational* for professional forest managers (Palmer, 1996; Romeijn, 1996). There are many references to the meaning of the term within the forestry profession. For the purpose of this study, the following references are considered relevant as they are recognized by the Rainforest Alliance and the FSC.

The International Timber Trade Organization, ITTO, has defined sustainable forest management as:

[...] the process of managing permanent forest land to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue effects on the physical and social environment (ITTO, 1992).

The FSC Principles and Criteria, in Principle #5.6. of the FSC Board of Directors and Founding Members, ratified version of September 1994, and also in Principle #5.2 of the Board of Directors approved version June 1994 Oaxaca, Mexico, state that:

The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

The FSC Principles and Criteria, Principle #10.2; as ratified by the FSC Members and Board of Directors in February 1996, and the FSC notes, June '96, Vol 1, Issue 3, page 1) state that:

[...] a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation.

The FSC Principles and Criteria, Principle #5.1; FSC Board of Directors and Founding Members ratified version of September 1994, states that:

Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

The Rainforest Alliance Smart Wood program issues its certificates in full accordance with the above-mentioned quotations from the ITTO and the FSC. On page 2 of the document ‘Rainforest Alliance Smart Wood Program (1993): Generic guidelines for assessing forest

We believe these [Smart Wood] guidelines are in accord with the intent of the forest management and biological conservation guidelines issued by IUCN, ITTO and FSC (Smart Wood, November 1993).

It is observed that the entire 2,600 ha Flor y Fauna Teakwood plantations I-VIII were established within a 6-year time span between 1989 and 1995. This planting schedule is indicative of a non-cyclic production process. After all, even if the plantation would be replanted following the harvest at year 20, the next rotation cannot be harvested between years 20 and 40. Hence there is no uninterrupted production flow. This is an element of validation of an observation that was made by Professor Centeno in 1993 in his WWF commissioned economic analysis of the plantations.

The future plans of the company are unclear. [...] The sustainability of the operation is uncertain (Centeno, December 1993, p 7).

A further indication can be found in the report of a meeting about the ‘Wouters’ report that was held at the IKC institute of the Ministry of Agriculture of The Netherlands:

No money is allocated to do anything after the harvest (IKC-N, January 28, 1994).

Confirmation that an uninterrupted timber flow will not be forthcoming from the Flor y Fauna plantations came in July 31, 1996, when the Teakwood contract partners announced to cease trading the Teakwood investment policies (ANP, July 31, 1996) and on May 4, 1996, when the Teakwood contract partners announced that they would not expand the plantation (OHRA and WWF, March 4, 1996b). This is further corroborated by the following statement from Smart Wood:

FyF is not expanding its plantation area (Smart Wood, February 1998).

The non-compliance with these FSC Principles and Criteria for sustainable forest management finds further confirmation within The Netherlands Government’s minimal criteria for sustainable forest management on the continuity of social and economic functions of the forest. These guidelines stipulate that the certification body should use a checklist to establish if the minimal requirements are met. The lack of cyclic planning and lack of a mosaic of different age classes in the design of the Flor y Fauna plantation implies that the timber derived from this plantation cannot be considered to be derived from a sustainably managed source according to The Netherlands Government’s criteria (LNV, March 12, 1997; points 1.1, 2.1 and 3.1 of the checklist of principles, criteria and indicators for sustainable forest management at forest management unit level, p 5). According to the minimal requirement for sustainable forest management, “A good forest management system is a cyclic process” (LNV, March 12, 1997, p 7). Therefore, up till today the timber provided by the Flor y Fauna plantations does not meet the standards set for recognition in The Netherlands Government’s minimum requirements.

The importance attached to a guaranteed, continued flow of timber is highlighted by Francis Sullivan, who is both the Director of the WWF Forests for Life campaign and a member of the FSC Board. In a key note address to the Conference on Certification and

Labeling of Products from Sustainably Managed Forests he addresses his audience as follows:

Forest certification is not a panacea, but it is a tool which brings together producers and consumers of forest products to ensure that the forests of origin are being managed to ensure a continued flow of timber, with minimum negative social and ecological impacts (Sullivan, November 1996).

Such assurance did not exist for at least one FSC accredited forest; a forest operation to which WWF itself is a contract partner.

In matters of the FSC accreditation of the Rainforest Alliance certificate, the FSC declared that it has the right to fully access all documents on the Flor y Fauna case study (letter from the FSC Director to Treemail of September 20, 1996, copies on file with the author). The documents that the FSC Director referred to include the classified materials that are listed in the section ‘The obscure complaints procedure’ of the present study. About its formal accreditation of the Rainforest Alliance certificate for the Flor y Fauna plantation management, the FSC states:

Evaluation of the Flor y Fauna certification, and all documents and comments subsequently received relating to this certification are being evaluated as part of this process. FSC has the right of access to all Flor y Fauna and Rainforest Alliance documentation necessary to come to an appropriate decision (FSC, October 3, 1996).

According to the FSC Director T. Synnott, “He who ignores even a single criterion can forget the timber label and this has already happened” (in Dutch: ‘*criterium aan zijn laars lapt, kan het keurmerk vergeten en dat komt al voor.*’ Source: de Volkskrant, December 1, 1997). However, “forgetting the timber label” has not happened in the case of the Flor y Fauna plantations.

The FSC formally accredits the Smart Wood certificate for the Flor y Fauna plantation management on January 28, 1998 (FSC, January 28, 1998). Following the formal accreditation by the FSC, the case could be researched as in an experiment in natural history. As described in the section ‘Introduction’, Treemail subsequently requested the Teakwood contract partners and the associated organizations to provide the author with any additional information that they deemed relevant for the purpose of finalizing a scientific study by the present author.

Risk

As noted above, investment opportunities in Costa Rican teak plantations are portrayed to potential investors as having low to moderate risk. In this respect it is interesting to read some of the remarks on risks by Dilley, at a time when liquidation of the Bosque Puerto Carrillo operation appeared imminent:

Risks inherent in a Forestry Investment.

The risk of fire, insects, plague or other natural enemies do exist to some degree. It is accepted that there has never been recorded an incident where an insect or disease has developed to the point of causing the complete loss of any Teak plantations. This is not to say that it technically is not possible and or that there are no diseases or insects that may attack teak trees. There are in fact several and there have been attacks of different types on trees at Bosque. The damage has been in most cases minor, but the potential for a plague to develop increases with the size of the plantation and the lack of human and financial resources to fight a potential attack may cause a plantation to be heavily impacted. All of these types of event cause damage (including fire) to the plantations and reduce the potential returns from the harvest of timber.

Political risk may exist to the extent that a plantation may not be allowed to be harvested eventually due to a change in regulations. There may be events of war, nationalization, changes in tax structures and or corruption that cause a loss or diminishing of potential returns. While all agree that the risks may be lower in Costa Rica than in other potential teak growing countries some of the exposure certainly exists.

Management risk may exist in that poor decisions are made that detract from or cause the corporation to produce a lower return than might otherwise be available due to good as opposed to poor management. Everyone has now had some taste for what management risk may be.

Market risk may exist to the extent that the product may not be received at a satisfactory price at some point in the future due to the quality of the product, global supply and demand factors and international exchange rates.

Liquidity is not normally considered a risk but, if you have no way to convert the investment into cash it certainly is not as attractive as the same investment that does provide for liquidity. For example if the companies shares were listed on an exchange there may be a way to quickly sell your investment if your criteria for investing changes or an emergency creates a need for immediate cash. Bosque at present provides no liquidity. In most circles it is considered that one must expect at least an additional 2% return on an investment if there is no or limited liquidity.

The useful life of a forestry investment may extend for decades with returns being negative in early years and possibly substantial very far in the future. An investor must consider the potential risk that is related to the time factor involved in receiving his expected return. This is simply stated as a time period of exposure to the inherent risks in the business.

There are many other risks, but these are perhaps the major concerns.

Risk versus reward analysis in considering an expected return from a forestry investment

Despite prior claims of no risk, there are risks that are associated with any investment, and as is abundantly clear in this case, there is a possibility that returns will not be forthcoming when expected. In analyzing the return that should be expected for taking certain risks it is useful to examine what may be considered no risk and the far end of the spectrum being wildly speculative. At present it is globally recognized that a US treasury security (bonds, T-bills, savings bonds) have no or the lowest risk of any investment known at this time. In other words there is less chance that you will not be

repaid your money if you loan it to the US government than anyone else. The current returns on a 30 year US Treasury bond will be approximately 6.96%. At the other end of the scale an Irish sweepstakes ticket is highly unlikely to produce any return. For the 1 in millions that are paid it will be very handsome indeed. In practice every other investment lies somewhere between these two extremes. You would quickly see that for instance if the potential return on the sweepstakes ticket was only the 6.96% percent paid on the bond, there would be little rational for taking such a substantial risk in buying the ticket.

In looking at the forestry investment one must accept the long term nature and lack of liquidity of the investment as one factor. Any combination of investments in blue chip stocks such as Boeing Aircraft, IBM, Johnson and Johnson, etc. may be expected to produce an annualized return of above 15% combined of dividends and capital gains where you have proven management, wide product and market diversification and instant liquidity. Logic obviously dictates that the potential return from a forestry investment in a foreign land with management that has as yet not proven to be capable and offering no current income nor liquidity must be significantly higher.

Based upon all of these factors one may consider that a potential return that justifies the risks should be in the order of at least 20% per annum. There of course may be other aspects of the investment that add value such as the residency status. For this reason I have prepared a present value calculation based on internal returns of 20%, 15% and 10%.

Upside potential is possible due to the ability of the corporation to convert as much of the product that is Teak into the highest valued products possible at the lowest cost. The market price for these products may also increase at a rate that exceeds inflation due to an increasing demand and decreasing supply scenario. Those that argue that Teak prices may increase dramatically should consider that as the price increases the market will shrink and buyers will look to substitute products. There is no rational that has been presented that would support a price increase scenario that would be in excess of 3-4% above inflation (Dilley, 1996).

A further risk to forestry operations in Costa Rica is the activity of volcanoes. Grijpma, in a letter to the editor in ‘*Houtwereld*’ (Grijpma, 1994), reports that there were several lengthy occurrences of volcanic ash showers in Costa Rica. Grijpma informs us that this occurred, e.g., between March 1963 and March 1965 as a consequence of the volcanic eruptions of Mount Irazú. In this case, according to Grijpma, the volcanic ashes were deposited over an area of 8,000 km² while causing severe damage to the vegetation over an area of around 100 km². On September 7, 1997, the Costa Rican newspaper *La Nación* reports activity for the Arenal volcano in the village of La Fortuna de San Carlos. The readers are referred to Frenzen *et al.*, 1994, for an overview of the records of the most completely monitored effects of a volcanic eruption, that of Mount St. Helens.

Climate is yet another factor that can represent a risk to forest investment. Castro Hernandez (no date), in the general specifications of the Hacienda Altamira, writes the following about the Flor y Fauna plantation property:

Located in the Atlantic Zone of Costa Rica, with no periods of drought (Summer) that exist in the Pacific Zone. It is currently being used for cattle breeding and fattening operation, along with rice, citrus and palmetto plantation.

The Smart Wood certification summary provides some further information on the climate of the Forestales International Cantarrana teak plantation. According to the Rainforest Alliance this plantation is adjacent to the Flor y Fauna plantation; the Cantarrana plantation is located at “*10°30' North - 84°30' West*” (Smart Wood, April 1998) and the Flor y Fauna plantation is “*approximately centered at 10(30' North Latitude by 84(20' West Longitude*” (Smart Wood, February 1998) [author’s note: the characters used to describe ‘degrees’ are given as they appear in the original text].

The FORECO project activities at the Cantarrana property are being developed in a region of Costa Rica typically dominated by Tropical Humid to Very Humid Forest, using the Holdridge life zone classification methodology (Holdridge, 1982). The area of forest development activities is located at an altitude of approximately 100 meters above sea level. Precipitation is quite homogeneous through the year, with a decrease in the months of February and March. However, an unusual climatic feature in this region is the occurrence of a soil moisture deficit in a location without a marked dry season (Smart Wood, April 1998).

About Bosque Puerto Carrillo, Dilley observes:

Low lying areas with standing water should not have been planted. Substantial amounts of money were spent on drainage and replanting in these areas, only to find that in some cases a heavy rain flooded the area again and virtually all the trees were lost or severely stunted (Dilley, 1996).

The Teakwood brochure of 1993 informs potential investors that:

On the basis of meteorological data and research in the region over the last 20 years it can be assumed that the first cut can be achieved in year seven (Flor y Fauna, March 1993, p 9).

At a later stage, the Teakwood contract partners consider the same meteorological data and research to be inaccurate. The OHRA information bulletin of April 1996 states:

However, the meteorological station closest to the plantation was closed down in 1983. Recent and accurate data on the weather conditions in the area near to the plantation are therefore not available (OHRA, March 1996b).

The Costa Rican newspaper La Nación reported a tornado in the province of Alajuela on October 28, 1997.

For a few considerations on the risks and damage from pests and diseases at the Flor y Fauna plantations the reader is referred to the chapter ‘Teak plantations’ of the present study.

Introduction of the Teakwood investment program

A number of sources that provide a partial description of the introduction of the Teakwood investment program of the Flor y Fauna teak plantations in Costa Rica are identified. The first and most obvious source of information is found in the company brochures. The Flor y Fauna brochure of 1992 (Flor y Fauna, April 1992, p 9) contains the following account:

After thorough prospecting, Mr. Huizinga and his wife Mrs. C. Huizinga de Wit established the Costa Rican limited liability company Flor y Fauna S.A.. The cultivation of palms and tropical plants was initiated on a 13 ha terrain. The profit that was generated with the export of tropical flowers and plants has been used by Flor y Fauna to purchase land for the teak plantations. The planting and labor costs for the teak plantations were also covered by the profits from the flower trade. Meanwhile, the flower trade has been stopped entirely. Today, Flor y Fauna only works in the Teakwood projects.

Over the last couple of years, our pleasant contacts with the various Costa Rican Ministries were intensified. During the numerous conversations, the lucrative growing of teak surfaced time and again. It goes without saying that the starting up of a teak plantation did entail considerable up-front investment. But, as always, the expenses precede the benefits! After all, this is about the proceeds that a good entrepreneur can reap from an investment. If we take the various Governmental subsidies and tax facilities in Costa Rica into account, then returns of 25 to 30 % per year are calculated for planting and nursing of teak trees. In the chapter ‘Financial Aspects’ we provide a more detailed account.

The WWF commissioned report by Prof. Centeno (Centeno, December 1993), provides a different account of the plantation’s early history:

FLOR Y FAUNA SA is a company established in Costa Rica by Ebe Huizinga, a Dutch citizen. The Huizingas also own a business **NATURA BERGUM BV**, through which the interests of FLOR Y FAUNA are represented in the Netherlands, in conjunction with the consulting firm VAN ROSSUM & VAN VEEN [note: emphasis as in original report].

Apparently with the original intention to export flowers to the Netherlands, the company purchased agricultural land in the northern part of Costa Rica, a short distance from the Nicaraguan border. Many of the acquired fincas [agricultural properties] had been abandoned, partly due to the effects of the political and social unrest taking place in nearby Nicaragua at the time.

Difficulties with the flower market motivated the company to look into alternative ways to use the land. Other companies in Costa Rica were already involved in the tree plantation business. The State offered highly attractive incentives to those who ventured into planting trees on abandoned agricultural lands (Centeno, December 1993, p 5).

An account that is more in keeping with the Flor y Fauna company brochures was published in The Netherlands in the newspaper ‘*Algemeen Dagblad*’, July 24, 1992:

Excerpts (the reader is referred to the original source for the complete text):

Costa Rica can consider itself lucky that Tamil Tigers gunned Huizinga away from his plantation in Sri Lanka. This forced him to move his tropical palm and horticultural

plantations and he opted for the only country in the world that has no army: Costa Rica.

The Central American country welcomed the strong-willed Freesian with open arms. The Government drew his attention to the possibilities of growing teak. This is an extremely durable timber that is applied worldwide in shipping, furniture, flooring and window frames.

Huizinga, a former engineer with Philips, followed the advice and planted several tens of hectares. From 1990 onwards, Dutch investors participated in the project that presently covers an area of 500 hectares. The profits that Huizinga claims to be possible are mind-boggling. With an investment of NLG 25,000, an amount as high as NLG 1,376,000 can be made.

The Flor y Fauna Teakwood investment program was also subject of an article in the trade magazine ‘Houtwereld’ (issue 89-15):

Tropical teakwood as a good investment.

From coconut palm to teak tree is the shortest description of the career of Ebe Huizinga who lives in Friesland. By means of advertisements in national newspapers he searches for investors that would like to invest USD 12,000 (about NLG 25,000) in a teak plantation in Costa Rica. The first investors have reacted, lured by a rate of return of 26%.

Huizinga is the owner of Natura BV, a company that grows coconut palms. Through its daughter company Flor y Fauna SA, the company imports coconuts from Costa Rica and from these the company raises miniature palms in The Netherlands. Annually the company produced around 25,000 miniature palms. Two years ago, Huizinga bought a property of thirteen hectares in the Latin American republic. After the first harvest in two years from now, the production will be well over 300,000 coconuts. “My son runs the plantation in Costa Rica”, says Huizinga. “He broke in real well over the last two years and maintains the necessary contacts with the local Government. This brought him into contact with the Costa Rican Ministry of Minerem” - forestry resides under this Ministry - which can partially subsidize forestry projects.

Near the coconut plantation, he bought an additional 63 hectares and in August he would like to start planting young teak trees. “I lacked the start-up capital, so I advertised in, e.g., *de Telegraaf* and *Algemeen Dagblad*. And I must admit, over seventy people and companies responded”

[...] The amounts mentioned are net figures, after deduction of all costs, including the lease of the terrain which is calculated at 30,000 US \$ per participation over these 20 years.

[author’s note: The cost to investors, according to the information in the article, would thus amount to 60,000 US \$ per hectare over 20 years.]

In 1990, Flor y Fauna informed its investors on the issue of teak prices, which is the basis for its calculation of the advertised rate of return.

Excerpts (the reader is referred to the original document for the complete text):

Flor y Fauna letter to investors

date: August 25, 1990

L.S.

A number of participants to Teakwood III have asked us to give a few more details on the pricing of teak; both for the unfinished product and for the finished product. Because this information is also relevant to investors to our previous projects, we comply with this request by means of this newsletter.

Basic assumptions are:

| | | |
|---|--|---------------------------|
| Price of teak sold as standing timber in Costa Rica | | \$ 450 per m ³ |
| Dollar exchange rate on 1/7-1990 | | ca. <u>1.85</u> x |
| | | fl 832.50 |

The price of \$ 450.- is referenced on page 4 of the Teakwood III brochure.

From the brochure's appendix, it appears that the going price for teak in The Netherlands was fl 5,890.- per m³, excluding VAT, on February 1, 1990.

These prices demonstrate that the price for the unfinished product (sold as standing timber) increases sevenfold before it reaches the consumer.

On page 8 of the brochure we indicated the possibility of selling semi-finished products instead of selling standing timber. For these calculations we assumed 30% waste and ca. 5% processing costs, but a final increased revenue of 25%.

The costs of the semi-finished product can now be calculated:

| | | |
|-----------------------|---|----------------------------|
| 10/7 x \$ 450.- | = | \$643.- per m ³ |
| Processing costs 5% | = | ± <u>32.-</u> |
| | | \$675.-per m ³ |
| Increased revenue 25% | = | ± <u>168.-</u> |
| | | \$843.- per m ³ |

We now have a sales price for standing timber of \$ 450.- per m³ and a price for the semi-finished product of \$ 843.- per m³.

To reach the phase of a finished product we again assume the processing costs to be 5%, but a final additional revenue of 20%. The following calculation was made for this purpose:

| | | |
|-----------------------------|---|-------------------------------|
| Price semi-finished product | | \$ 843.- per m ³ |
| Processing costs 5% | = | ± \$ <u>44.-</u> |
| | | \$ 886.- per m ³ |
| Additional revenues 20% | | ± <u>177.-</u> |
| | | \$ 1,063.- per m ³ |

We now have a price for the finished product of \$ 1,063.- per m³. Against the previously mentioned Dollar exchange rate of fl 1.85 this is around fl 1,966.- per m³.

Because the processing time is more than 7 months, a deduction for loss of interest should be taken into account. Thus we can calculate on the basis of a price of well over fl 2,000.- per m³.

However, for export the CIF costs should be added. But it will be clear that these costs are not fl 4,000.- per m³. Apparently some price increases occur during export, import and whole sale. After all, the going price for The Netherlands was fl 5,890.- per m³ on February 1, 1990.

[...] For the time being, Flor y Fauna is only interested in planting teak. Because of the additional revenues, the possibility of a company sawmill can be researched in a couple of years from now.

If Flor y Fauna would sell to local sawmills, this will be traded in local measurements and currency.

The local measure is the pulgada. 462 pulgadas correspond with 1 m³.

The local currency is the colon. Officially there is a floating exchange rate against the U.S. Dollar. But because the U.S. market is close by and it is the most important market for Costa Rica, the exchange rate closely follows the rate of the U.S. Dollar. The current exchange rate is 90 colon = 1 U.S. Dollar. Against an exchange rate of e.g., fl 1.80 to the Dollar, this results in a rate of 1 colon = fl 0.02.

We now present the following price overview of the prices for standing timber in Costa Rica.

1/7-1980 20 colon per pulgada = \$ 102.67 per m³

1/7-1989 90 colon per pulgada = \$ 462.-- per m³

1/7-1990 110 colon per pulgada = \$ 564.67 per m³

The price increase over the last 10 years has been 550%, i.e. 18,5% per year.

Last year the price for teak increased 22%.

The Teakwood III base price is therefore very conservative; a base price of \$ 450.- per m³ and an annual price rise of 8% to be precise.

This is not even the only financial security we have incorporated. Under favorable climatological circumstances, the first cut can be advanced to year 6. From the brochure you can appreciate that we have an incorporated time-margin of two years in hand, a safety margin of well over 30% (Flor y Fauna, August 25, 1990).

By the time Flor y Fauna started to seek investments from the general public for its Teakwood program, a number of critical notes started to surface in the press in The Netherlands. This is perhaps not surprising in view of a (previously quoted) statement by the Rain Forest Alliance Smart Wood Program Director R.Z. Donovan:

There is a long history in Costa Rica (and elsewhere) of some plantation operations or companies making exorbitant claims regarding timber or financial yields, environmental benefits, and other social or economic benefits (Smart Wood, December 21, 1995).

One of the early critical notes on the Teakwood investment program in The Netherlands was published in the newspaper *Algemeen Dagblad* of August 13, 1992.

Excerpts (the reader is referred to the original source for the full text of this document):

Doubts concerning investment in teak trees.

Recently it surfaced just how many of our readers want to become millionaires. And preferably, without doing anything. A tiny article on investments in teak trees in the Central American state of Costa Rica and our telephone did not cease to ring. [...]

Next to reactions from would-be millionaires, there were critical voices regarding the project. These can be divided into two main groups. On the one hand, there are critics who state that the project may well be positive for the third world and the environment but that it certainly does not make anyone a millionaire. On the other hand, there are

those who are of the opinion that the project is not at all good for the environment or the third world and that it can only be good for filling the purses of the investors. [...]

The criticisms of the second group is mainly aimed at the yield projections, the timber prices and the height of the investments that Huizinga portrays. [...]

The most substantial criticisms are on the yield per hectare after 20 years. Experts estimate a maximum yield of 450 m³ and Huizinga departs from double that amount.

Other critical notes to the Flor y Fauna Teakwood investment program were published by Mr. H.G.M. van der Voort in articles for the investors weekly magazine *Beleggers Belangen* (e.g., Issue, No. 7, February 19, 1993, p 25).

Excerpts (the reader is referred to the original source for the full text of this document):

Do you want to own a teak forest in Costa Rica?

Two special offers of questionable character.

With the motto ‘The nicest addition to your investment portfolio is green’, Bosque Teca Verde SA (the green teak forest) offered an investment opportunity in *de Telegraaf* of January 30.

An investment of US \$ 13,000 can grow to a total value of over US \$ 800,000 in 20 years. Bosque Teca Verde SA, based in Costa Rica and The Netherlands (The Hague), represents the business organization Corporación Ambiental Baru SA (CABSA) which is active in Costa Rica and owned by an American. Bosque Teca Verde SA represents CABSA in The Netherlands.

The teak tree investment program is almost identical to what is on offer from Natura Bergum BV, based in Bergum, Friesland, which I reported on in *Beleggers Belangen* of September 10, 1990 (‘Teakwood III, Teakhout of waaibomenhout?’). The uniformity is striking as can be seen from the two tables.

Ownership

The terrain is owned by the Costa Rican limited liability company Flor y Fauna SA whose shares are, in turn, owned by Natura Bergum. Bosque Teca Verde rents the terrain from Flor y Fauna SA. (*Beleggers Belangen*, February 19, 1993, p 25).

[On Flor y Fauna and Natura Bergum, the article continues; author’s note]

Because the [lack of] liquidity of the assets is found to be a constraint, a limited liability company called Sicirec was formed in Costa Rica. Sicirec exchanges the contract for small coupons. It is alleged that many would use this option.

Income taxes

It is clear that these shares that are not listed at the stock exchange fall under the regulations of the Decree on the Supervision of Investment Institutions (WTB). If the returns on the sales of standing timber are paid out as dividends to Sicirec shareholders, it is most likely that they will be subject to income taxes.

In this case too, the terrain is owned by the Costa Rican limited liability company CABSA who rents out the terrain for around 20 years to investors and who plants and maintains the teak trees for them. [...]

Because of the various fiscal insecurities - and this is particularly true for Sicirec investors - because of the lack of liquidity inherent to this type of asset and because of the fact that neither Natura Bergum nor Bosque Teca Verde SA has committed itself

to give an account every six months, these teak investments are not to be recommended (Beleggers Belangen, February 19, 1993, p 25).

The limited liability company Sicirec, based in Costa Rica, was most likely founded to forestall investors concerns about the lack of liquidity of the Teakwood investment program that is offered by Flor y Fauna (Sicirec, undated document). The following text from a Sicirec newsletter sheds some light on this subject.

Excerpts (the reader is referred to original source for the complete text; italics are as in the original text):

Sicirec S.A.

Newsletter

General Manager: E.A. Wester. [Wife of Ben Huizinga; author's note]

Resident Agent: LuisDiego Acuña Delcore Esq.. [Acted as Flor y Fauna representative;

President to Board of Directors: Drs. Popko van der Molen.

Daily management of Sicirec is by the General Manager and the Resident Agent.

The controller and the members of the Board of Directors are all Sicirec shareholders.

[note: according to Sicirec's statutes, holders of preference shares have the right of veto regarding changes of these statues, including e.g., decisions on the emission of additional preference shares.]

For the service to the shareholders in The Netherlands, management is supported by an independent financial and administrative service bureau.

The financial advice and service bureau in question, Van der Molen's Financial Services, is owned by Dr. H.H. van der Molen, the brother of your President, Drs. Popko P. van der Molen.

The use of Sicirec to Teakwood-investors

Because of the many questions we recently received, we wish to reiterate and outline the most salient advantages to investors of Teakwood.

- 1) First of all is the advantage that *together* we can better serve the interests of investors and exert *more influence* on the ongoing affairs at Flor y Fauna. At this moment, between 200 and 250 lots [these lots correspond with 1/2 ha; author's note] have been placed with Sicirec and their numbers are still growing. Therewith, the investment in the timber project of Flor y Fauna has become the single most important activity of Sicirec in Costa Rica.
- 2) Second, a considerable *body of expertise* in various fields has been *concentrated*. Amongst the Sicirec shareholders we find foresters, people with experience in tropical agriculture, financial and fiscal experts, management advisors, lawyers, people active in the timber processing industry, timber traders, etc. Together we can take better founded decisions than if we would stand alone.
- 3) Sicirec has been set-up as a flexible organization. The *shareholders meeting* has a strong say in possible meetings on the affairs and organizational structure. In addition, there is an extra say through special voting powers regarding the self-

owned teak project. The shareholders meeting is therefore not the lame duck we so often encounter with shares that are traded at the stock-exchange.

- 4) As it would appear now, it is highly likely that it is more profitable to invest in Costa Rican teak with Sicirec than as an independent investor (higher net return).
- 5) Another important advantage for Sicirec shareholders is the *high liquidity* of their assets. Each lot is divided in 50 Sicirec shares and certificates, each of these can be individually traded through Sicirec. This can be a great advantage, especially once the value of the assets has greatly increased. [author's note: this trade has allegedly been stopped by an intervention by Central Bank of The Netherlands in 1993]
- 6) The *contracts* between Flor y Fauna and Sicirec, when compared to the original contracts between Flor y Fauna and the investors, have been *further elaborated and defined*, which leads to more grip and clarity for the investors. In addition, a number of extra clauses were introduced. We list a few of these here:
 - In case of a forced or non-forced sale of the Flor y Fauna land, Sicirec has the first right of purchase.
 - The teak trees will be fully owned by Sicirec.
 - With regards to the services provided by Flor y Fauna, a number of additional forestry details were arranged:
 - Where this is required filling up, re-planting of stock (up to two years after *planting*), cutting back shoots, pruning and keeping stems straight; combating and possible prevention of pests and diseases, erosion prevention, etc.
 - Flor y Fauna commits itself to further take care of obtaining a price that is considered as reasonable in the light of (then) going prices for teak trees in Costa Rica.
 - Yield calculations will be based on a total of 200 trees per cut per lot [author's note: this figure refers to ? ha plots]. This means that no provision is made for loss of trees and that, rather, the point of departure is that the required number of extra trees to compensate for the tree loss can presumably be found on the lots themselves or on the odd-corners [Dutch: *'overhoekjes'*].
 - In addition, the base for calculating the sales revenues will be the price for teak stems as 'roadside delivered' instead of 'standing timber'. This results in an advantage, a higher price, for the investor and for Flor y Fauna this arrangement has the advantage that it prevents discussions on who holds the formal rights to harvest the stems at the plantation.
 - An explicit provision is arranged to the effect that, in case Flor y Fauna would at that time be involved with further processing of the timber, a higher price can be agreed at a later point in time for the harvested timber, this would allow further processing in order to reap the advantages of the resulting, additional, added value. For Flor y Fauna this arrangement would have the advantage of postponement of the payments for timber that has not yet been sold [...] (Sicirec S.A., undated document).

The Teakwood investment program thus demonstrably suffered from public criticism, from perceived uncertainties regarding the investment and from concerns about the limited liquidity of the investor’s assets. These concerns were, however, to be blown away when Flor y Fauna joined forces with WWF in early 1993. From that time on, sales boomed.

WWF and OHRA involvement

The WWF joined the Flor y Fauna Teakwood investment program in 1993. For its support, WWF receives 5% of the proceeds derived from sales of standing timber of the cuts 2 through 4, plus a premium of 700 Dutch Guilders per investment contract signed. One investment contract corresponds to an area of 1/8 ha. The *minimum* revenue for WWF, following Flor y Fauna’s projections, is about 27 million US Dollars, and a maximum of 73 million US Dollars (Centeno, December 1993). WWF reportedly even expects these revenues to exceed 85 million US Dollars “...if the project is successful as expected”, according to, e.g., Jos de Wit (*ex Centeno*, December 1993). These revenues for WWF are based on the investments pertaining to what is known as Teakwood VI, a plantation area of 750 ha. Later WWF also supported Teakwood VII and VIII, which correspond to an additional plantation area of 820 ha with proportional expectancies for WWF revenues.

Shortly after the announcement of the WWF support for Flor y Fauna in early 1993, the OHRA Insurance and Banking Group joins the WWF/Flor y Fauna Teakwood initiative. In the sales brochure, Flor y Fauna explains to potential investors that their returns are based on the proceeds from the sale of logs as standing timber, save for the first thinning and a 15% cut for the combined Teakwood contract partners (Flor y Fauna, March 1993). It was also announced that the program includes a money back guarantee if the plantations were to fail, against a near to 0% annual interest plus a guarantee in the case of a premature death of the investor. The entire investment package was called the ‘*Teakwood Rendementpolis*’ and was sold by OHRA as a ‘unit linked’ life-insurance policy.

In the words of the Rainforest Alliance:

It may be helpful to the reader to have an overview of OHRA's Teakwood insurance policy. The return to the investor comprises an endowment insurance to pay back life insurance premiums, plus the investment returns from the Flor y Fauna teak. Thus, the financial returns to the Teakwood policy holder is a blend of speculative returns on teak in Costa Rica and safe returns on low-risk bonds and related instruments in the Netherlands. The term of the insurance policy is 20 years, after which time the policy reaches maturity. In the first year, the policyholder makes a one-time payment to cover the costs of teak establishment and project administration, as well as the first of 20 annual payments for the life insurance premium. This is followed by 19 annual life insurance premium payments.

The Teakwood policy is designed to refund the policyholder's insurance premium payments, plus a small margin, at the expiration of the policy (i.e., the “money-back guarantee”). At a minimum, the purchaser will always recover his/her investment funds

' based in Mexico, for natural forest management in February 1996 (FSC, February 21, 1996). In 1998, the FSC extended its accreditation of the Rainforest Alliance Smart Wood program to include plantation forestry (FSC, January 28, 1998; Smart Wood, February 1998). It is noted that under the FSC accreditation scheme, the FSC collects its fees from the accredited body (i.e., the Rainforest Alliance) and the accredited body collects its fees from the forest operation that it certifies (i.e., Flor y Fauna S.A.).

Teakwood was introduced to the general public as an all-powerful package that supposedly combines high rates of return, environmentally beneficial operations and an excellent advertising and sales infrastructure through the participation of OHRA and WWF. OHRA's member of the Board R. Hinse described this as follows: "*The linkage of the project with OHRA and WWF provides the authority and reliability that other, comparable projects miss*" (NRC, January 6, 1994). The 1993 Teakwood brochure informs us that: "*WWF has ascertained that, in ecological and financial terms, the Flor y Fauna plantations set a worldwide example*" (Flor y Fauna, March 1993, p 15). The Teakwood investment program is heralded nationwide in full page advertisements in national newspapers, advertorial articles and publications in the WWF magazine 'Panda'. The projections for the Teakwood plantations are advertised as being scientifically sound and, in addition, are

based on local experience (Flor y Fauna, March 1993, p 9). The program is further heralded as “modern development work” by OHRA and Flor y Fauna (OHRA, Spring 1996) and as a means to enhance forest conservation in Costa Rica through the expenditure of Teakwood proceeds by WWF (letter from WWF Director S. Woldhek; *ex Flor y Fauna*, March 1993).

In ‘Panda’, an in-house magazine which WWF circulates to more than 700,000 WWF supporters in The Netherlands, WWF announces to its contributors that no agro-chemicals are used on the plantations save for a small dose of fertilizer at the initial stage of plantation establishment (Panda, May/June 1993). Through OHRA’s in-house magazine, WWF announces that independent research by Professor Centeno from Venezuela, “*who is recognized worldwide as an authority in the field of silviculture*”, has confirmed the Teakwood projections (OHRA, Summer 1993, p 23). Falsification of the statements on agrochemicals and approval by Dr. Centeno would follow only later.

Waakzaamheid van het individu tegenover anonieme machten of tegen ongeoorloofde staatsinmenging, kan een onmogelijke opgave lijken. Toch heb ik er vertrouwen in, omdat zo vaak is gebleken dat een kleine groep kan inspelen op een overal aanwezige nood en mits volharding kan slagen in haar opzet. Wie strijdt voor rechtvaardigheid, moet zelf wel geloofwaardig zijn. Het heteronome karakter van een samenleving begint bij de relaties tussen de individuele leden. Wie zich hiervoor wil inzetten, moet eerst zelf rechtvaardig zijn in een huwelijksrelatie, tegenover zijn kinderen, collega’s en alle mensen die hij ontmoet.

De kracht van het individu kan onvoorstelbaar groot zijn. Wat vooralsnog ontbreekt is de bewustwording ervan. Alle maatschappelijke ontwikkelingen zijn het resultaat van bij individuele mensen gerijpte ideeën (Acker, van, 1990, p 83).

According to the 1993 Teakwood brochure and corresponding advertisements, investors can expect annual rates of return of 15 to 25%. Through the brochure, investors are informed that these figures are realistic, arrived at on the basis of a conservative calculation and are based on publications and research in the region. The calculations are based on market prices for standing timber in Costa Rica in the year 1990 and on anticipated annual price rises. The prices referred to are going prices and correspond to commercial volumes of standing timber. The brochure presents a straightforward calculation of the expected rates of return to investors on the basis of the following simplified equation: ‘price times

According to the information provided in the 1993 Teakwood brochure, *additional* proceeds may potentially be derived from timber processing and these extra proceeds could lead to *additional* revenues for the investors *over and above* the projected rates of return to investors on the basis of sales of standing timber. Departing from an annual price rise for teak of 8%, the brochure informs that these *additional* proceeds from timber processing may result in an *additional* return to the investors of up to 25%. If the semi-finished

products are to be processed into finished products, then the investors can make *yet another* additional return of up to 25% (Flor y Fauna, March 1993, p 9). The text in the brochure specifically marks all potential proceeds derived from timber processing *as source of additional rates of return on top of* the advertised rates of return that are projected to the investors. The Teakwood brochure is explicit and entirely unambiguous in claiming that the projected rates of return to investors of 15-25% are *solely* based on the proceeds derived from the sales of standing (unprocessed) timber [note: the italics in this paragraph are by the present author].

Processing of timber is a business and it can indeed be profitable. The reader is reminded about Dilley’s 1996 (see section ‘Risk’ in the chapter ‘The Flor y Fauna plantations’ of this study) evaluation of the purchase offer for the assets of a Costa Rican teak plantation and processing plant called Bosque Puerto Carrillo S.A. and Industrial Bosque Puerto Carrillo S.A. which were facing bankruptcy at time:

Upside potential is possible due to the ability of the corporation to convert as much of the product that is Teak into the highest valued products possible at the lowest cost. The market price for these products may also increase at a rate that exceeds inflation due to an increasing demand and decreasing supply scenario. Those that argue that Teak prices may increase dramatically should consider that as the price increases the market will shrink and buyers will look to substitute products. There is no rationale that has been presented that would support a price increase scenario that would be in excess of 3-4% above inflation (Dilley, 1996).

In 1993, WWF commissioned Professor Centeno of Venezuela to execute a study on the economic aspects of the Flor y Fauna plantations. WWF’s responsible staff member, A. van Kreveld, sums up the preliminary findings of Professor Centeno in the summer issue of *Vast en Zeker*, OHRA’s in-house magazine. There, Van Kreveld is quoted to say:

And also financially it is interesting. WWF consulted with an expert: Professor Centeno from Venezuela, who is recognized worldwide as an authority in the field of silviculture. His conclusion: the returns portrayed by Flor y Fauna are realistic (OHRA, Summer 1993, p 23).

As was proved later, this reflection by the responsible staff member at WWF was not mirrored in the findings by Professor Centeno.

The results of the WWF commissioned study by Professor Centeno were laid down in December 1993, in a final report called: *Economic analysis of Flor y Fauna’s teak plantations in Costa Rica* (Centeno, December 1993). This report remained confidential until late 1995, when television reporters in The Netherlands got hold of a copy of the document. The report was highly critical of the investment program and the projected rates of return. The report signaled clear warnings to WWF and included phrases such as: “*The silvicultural behavior implied by these yield curves is an anomaly for teak*” and “*They exceed by a factor of four [4] what are considered high yields for teak on good soils*” and

“It would be convenient to clarify if making exaggerated claims such as those referred to in this report is considered a violation of laws in the Netherlands” and “This may be considered fraud” and “WWF’s integrity and prestige would be affected if it does not warn those most likely to lose if such projections are in fact exaggerated” and the report states among the conclusions that: “WWF seems involved in a commercial operation with questionable technical, financial and ethical dimensions”.

Professor Centeno reached these critical conclusions although the Teakwood contract partners did not provide him with the following materials in spite of his specific requests for such information to the Teakwood contract partners [note: this list is compiled from texts in Centeno, 1993, and Rainforest Alliance, August 16, 1996]:

- the projected and actual costs of Flor y Fauna’s operations;
- the cost of the land on which the plantations are established;
- a forest plantation management plan;
- an environmental impact report or assessment;
- the type and amounts of fertilizers used;
- an explanation or supportive evidence of the unusual behavior expected by Flor y Fauna both in the magnitude of the yields and in the effects of each thinning, or evidence to support such projections;
- an explanation or supportive evidence for the price trends used by Flor y Fauna;
- a copy of the agreements between Flor y Fauna, OHRA and WWF;
- the price at which investment contracts were sold to OHRA by Flor y Fauna;
- a sample copy of the investment contract that are sold to the general public, particularly including details on the nature of OHRA’s ‘money back’ guarantee to investors;
- the nature of the contractual arrangements between Flor y Fauna and OHRA on the sale of logs against imputed log values (which has remained a classified document) instead of the sale of standing timber to the highest bidder, as portrayed to investors in the brochures and investment contracts.

Was the justification for Flor y Fauna’s calculation of potential yields disclosed to Centeno in 1993? In his study for WWF, Centeno wrote (see Fig. 2):

The unusual behavior expected by FLOR Y FAUNA, both in magnitude of the yields, and in the effects of each thinning, could not be clarified by the company. Evidence to *support* such projections could not be obtained, although specifically requested [see Appendix 2]. The expected yields are unjustifiable, reverting in equally unjustifiable

expectations on the financial returns to be obtained (Centeno, December 22, 1993, p 14; emphasis as in the original report).

Only in 1996 does the Rainforest Alliance disclose that:

Flor y Fauna's Dutch language version of the March 1993 brochure for teakwood VI (prepared by its financial representative in the Netherlands) referenced diameter growth scenarios from 1.5 to 2.2 cm. [...] This range amounts to an arithmetic approximation of potential biomass production in 20 years (Smart Wood, August 16, 1996).

**Fig. 2: Best growth records for teak vs claims in dutch market
(source: *ex* Centeno, July 16, 1996)**

Centeno, however, departed from yield projections *as portrayed to potential investors*. According to Centeno's report of 1993, the potential yield for the Flor y Fauna plantations was projected on the basis of log volume, which corresponds to 'wood' volume. This is in accordance with the materials that were provided to him by the Teakwood contract partners for the execution of his WWF commissioned study and conform to the information given to investors (Flor y Fauna, March 1993). These projections refer to 'wood' volumes only. However, according to information that the Rainforest Alliance only disclosed as late as 1996, the true basis of the Flor y Fauna calculations of 1993 was based on 'biomass' and this term includes the production of non-woody substances such as, e.g., bark (Smart

Wood, August 16, 1996). OHRA submitted this Rainforest Alliance report as evidence in court hearings in substantiation of the projected yields (OHRA, November 14, 1996 and OHRA, March 12, 1997) of, e.g., the 1993 sales brochure for the Teakwood investment program (Flor y Fauna, March 1993).

In addition, Centeno notes:

Since the company's financial forecasts are based on the sale of logs, so are the stipulated returns to investors. It is not clear if the changes in costs and returns derived from the decision to establish processing facilities are properly reflected in the contracts with investors, or if the decision was made before part or all of the contracts were signed (Centeno, December 1993).

By November 1996, Centeno writes:

THE INCREDIBLE SHRINKING TREES

The Rainforest Alliance has finally realized that the exaggerated yields it had been defending, in accord with Flor y Fauna and its associates, could no longer be maintained. The evidence was overwhelming that they were simply speculations, to which the RA had become an accomplice.

Flor y Fauna's monitoring report No. 13, dated June 8, 1996, unveils dramatically lower yield projections for its plantations. According to this internal report, projections for tree growth dropped to half of their original projections. Yield is now estimated to fall between 259 and 416 m³ of commercial timber per hectare in 20 years. These figures were verified by the Rainforest Alliance, and endorsed in its own public statement of August 16, 1996.

Flor y Fauna and The Rainforest Alliance have thus finally recognized that the yield of commercial timber that can be expected from such a plantation, assuming very good management and site conditions, should remain within 12 to 20 M³ per hectare per year. These are the same figures I have been sustaining from the beginning of this debate [Refs. 1,2,3,4,6].

But the acknowledgement of this unavoidable basic fact is hard to swallow, particularly after Flor y Fauna, OHRA and the Rainforest Alliance have repeatedly and publicly argued that these figures were incorrect and riddled with mistakes. It's like accepting that their trees suddenly shrunk to half their original size.

Nevertheless, I would have expected the Rainforest Alliance to assume its responsibility with integrity, recognizing the error in which it has incurred, standing tall in defense of the principles of reliability, credibility and transparency, to which it has made public vows. Unfortunately this has not been the case. It has embraced a course of action which can only lead to the crumbling of its own credibility, dragging with it the credibility of the FSC itself.

The RA now pretends to clumsily cover-up the fictitious figures it has been defending for years, printed in black and white in hundreds of thousands of brochures, and presented in three courts of law, with the argument that they did not really refer to commercial teak in the form of logs. The RA ventures to convince us now that such figures actually referred to total biomass, but they had simply forgotten to say so.

Does the Rainforest Alliance actually deem possible that it will get away with this allegation, when the evidence against it is so overwhelming? Anyone with the most basic knowledge of forestry knows that, in a commercial plantation project of a highly

valuable timber such as teak, biomass is not the base upon which financial returns are calculated. How does the Rainforest Alliance pretend anyone to believe that Flor y Fauna, OHRA and WWF planned to use funds, supplied by the general public in The Netherlands, to produce biomass, which they would then pledge to sell for over 2000 dollars the cubic meter?

The Rainforest Alliance is well aware that the figures that have been used in the past by Flor y Fauna, OHRA, WWF-NL and the RA itself, all referred to commercial timber in the form of logs. There has never been a mention of biomass. It is the production of commercial teak logs that forms the base of the whole project. This can be corroborated by any observer with a minimum of objectivity and professional ethics (Centeno, November 4, 1996).

The WWF commissioned report by Centeno of 1993 is also critical about Flor y Fauna’s projections for prices of standing timber. First, Flor y Fauna departs from a base price for teak of 450 US Dollars per m³ for 1990 teak as standing timber. Second, Flor y Fauna calculations are based on an assumption of a uniform price for teak logs, irrespective of the age or girth of the trees. This is highly unusual, as the utility of products derived from, e.g., the first and second thinnings is substantially lower than that of timber derived from mature logs. These factors are in line with observations in Centeno’s report.

The estimates used in this report assume an optimistic development of prices throughout the life of the plantation, taking into consideration that quality tends to increase as the plantation ages (Centeno, December 1993, p 15; see Fig. 3).

If the Flor y Fauna yield projections are higher than anything ever recorded for teak plantations on good soils as is claimed by OHRA and WWF (OHRA, March 4, 1996, and OHRA, June 28, 1996, section 22, p 26), then the cultivation of teak with the aim of attaining such projections can only be considered as an experiment. Were Teakwood projections higher than anything ever recorded in scientific literature? According to OHRA they are. In a written statement it presented to a court OHRA writes:

These prognoses are higher than what has been published in scientific literature (OHRA June 28, 1996, section 22, p 26).

However, the Teakwood investors were not informed of the experimental nature of the plantation management or the hypothetical nature of the associated growth and yield projections. Quite to the contrary, the 1993 brochure speaks of yield projections that are based on “research” (Flor y Fauna, March 1993, p 9) and that this is supported by “scientific supervision” (OHRA, April 9, 1996). The yield projections for the Flor y Fauna plantation are invariably portrayed as well founded, whether to investors (e.g., Flor y Fauna, March 1993), in courts (e.g., OHRA, December 7, 1993 and OHRA, June 28, 1996), or to the press (e.g., OHRA, July 31, 1996).

**Fig. 3: Projected price variation for teak logs of different ages
(source: *ex Centeno*, July 16, 1996).**

The Teakwood contract partners do not base themselves on quotations of scientific sources in order to establish the rationale for the projected timber yields. OHRA and WWF clearly indicate that such documents do not exist (e.g., OHRA and WWF, March 4, 1996; WWF, March 20, 1996). The Teakwood contract partners choose to offer an alternative explanation to substantiate the remarkable projections for teak yields at the Flor y Fauna plantations. The Teakwood contract partners claim that the Flor y Fauna plantation is an “*intensively managed*” teak plantation. On the few occasions that Teakwood contract partners disclose indications of what this ‘intensive management’ entails (e.g., Flor y Fauna, December 7, 1993, and see LNV, January 1994), the ‘intensive management’ they habitually refer to is revealed to consist of a number of age-old and well-described practices of forest management such as cleaning, pruning and fertilizing. In the course of the present study no indications were encountered of patents or of the application of revolutionary innovations in teak cultivation, nor were they found to have ever been claimed by the Teakwood partners.

From the outset, various articles were published by the press in The Netherlands and Costa Rica that were critical of the WWF/Flor y Fauna Teakwood investment program. Such articles and ‘letters to the editor’ were countered by published reactions, emanating from the OHRA, Flor y Fauna and WWF management. The first serious opposition encountered

by the Teakwood *cum* WWF investment program arrives in December 1993, when a former advisor to Flor y Fauna challenges the projections of timber yield and financial returns in a court of law. This time round, the Teakwood contract partners countered the challenge with more serious measures.

A high-profile delegation is sent off to Costa Rica to visit the plantations. The delegation consists of Board members of OHRA, WWF and Flor y Fauna, a television production crew from the IKON broadcasting cooperation of The Netherlands, the Director of the Rainforest Alliance Smart Wood Program and his assistant, a Dutch bailiff who is contracted by Teakwood and a tropical forestry expert from the Dutch Ministry of Agriculture in whose expenses were covered by Flor y Fauna according to a later declaration by the Minister. In Costa Rica, the delegation is joined by a staff member of the Ministry of International Cooperation in The Netherlands, DGIS, in his function as coordinator of the tropical forestry action plan.

The delegation is witness to tree measurements taken by the civil servant of the Ministry of Agriculture of The Netherlands and of the recording of these measurements by the bailiff upon the request of OHRA and Flor y Fauna (Groot, December 1993). Together they record the diameter at breast height from 40 trees and measure the height from an undisclosed number of trees out of the total of over 2,000,000 trees planted. The bailiff reports that the 40 trees selected for measurements were of below average girth and height. Flor y Fauna’s legal representative describes the latter as follows in his memorandum of pleading to a court hearing:

The measurements were taken from both thinner and thicker trees, to which bailiff Groot observes that the thicker trees were in the majority. With this, bailiff Groot wishes to make it clear that it is not entirely correct to take the mean of all of his measurements, but that in order to determine a more accurate mean this value should be increased (Flor y Fauna, December 7, 1993).

No motivation is given for the selection of this highly peculiar sample. Such sampling technique does not conform to any of the usual dendrometric methods. Groot’s report contains no data on the height measurements and it does not contain a motivation for this omission. Groot’s report and the Flor y Fauna yield tables derived from them contain no considerations about the statistical significance the measurements that were taken, nor of the accuracy of either the measurements or the resulting yield tables. Groot’s report and the Flor y Fauna yield tables based on the report do not contain any motivation for this omission (Oldeman, February 17, 1996).

Keogh observes on the gathering of data for teak that:

Where analysis is carried out, it must be possible to demonstrate ALL steps in arriving at final conclusions in order to have confidence in the results (Keogh, February 1993; capitals in original document).

Such confidence hence can be attached neither to the results produced by the bailiff and the civil servant, nor to the latter’s Ministerial report, nor to the yield tables based upon these measurements that the Teakwood contract partners presented in court in December 1993 (cf. Oldeman, February 17, 1996).

The delegation arrives back in The Netherlands just in time for the Teakwood contract partners to present the results in court. Before the judge, the Teakwood contract partners present yield tables that are based on the measurements. The bailiff presents three samples of stem disks in court, which Flor y Fauna and OHRA claim to have been taken from ‘average’ trees. The presentation is supplemented by a declaration of support by the civil servant from the Ministry of Agriculture in The Netherlands. When these data are finally presented in early 1996 to a serious forester who is University Professor of Silviculture and Forest Ecology, the latter declares the data to be of no relevance whatsoever for yield forecasting and considers the sample stem disks presented by the bailiff to be no more than mere souvenirs. Flor y Fauna’s lawyer, who declared before court that the yield tables are indications of yields that can be expected and demonstrate that the Teakwood yield expectations are modest, later denies that the very same yield projections he presented in court would have had anything to do with indications of timber yield (Schoonhoven, April 2, 1996). However, the court proceedings unambiguously demonstrate that the judge in question has taken them to be just that. It is indeed upon the basis of this flawed evidence that, in 1993, the court ruled in favor of Teakwood (Arrondissementsrechtbank te Leeuwarden, December 24, 1993). An apparent peace returned for a period of approximately two years.

In November 1995, reporters from the most reputed news commentary programme in The Netherlands called NOVA come in possession of the 1993 WWF report on the economic analysis of Teakwood by Professor Centeno. In a lengthy feature of 20 minutes, NOVA broadcasted an analysis of the investment program. OHRA refrained from commenting in spite repeated requests by the journalists and only at the last moment did the WWF Director allow an interview, which was added to the TV program as a spoken footnote. The NOVA programme exposed the main flaws in the Teakwood investment program as they had been identified in the WWF report by Professor Centeno and the feature also included an interview with a spokesperson of the Central Bank of The Netherlands (Dutch: *De Nederlandse Bank*), i.e., the independent State Bank, who warned public in The Netherlands against all such investment schemes.

NRC Header: DNB tries to get a handle on special investment funds.

The Dutch Central Bank, DNB, tries to get a handle on special investment funds. Next to established funds that invest in shares or the foreign exchange market, special funds offer investors the opportunity to invest in kind, such as teakwood, diamonds and ostrich eggs.

Most of these special funds are not under the supervision of the Dutch Central Bank, because the initiators of these funds exploit a maze in the law. Because of this, the Dutch Central Bank has started a court case against the teak investment fund Bosque Teca Verde, in order to test these matters.

Bosque Teca Verde does not fall under the supervision by the Dutch Central Bank at this moment. According to the Decree on the Supervision of Investment Institutions, WTB, the Dutch Central Bank can only supervise funds that offer a so-called ‘collective investment’. However, Bosque Teca Verde and the other programs for investments in kind employ individualized contracts.

“This is a trick; a kind of bypass, which is exploited for the sole purpose of keeping us at bay”, according to a spokesman for the Dutch Central Bank, who speaks of “an obvious maze in the law”.

Source: ‘NRC’ and ‘de Telegraaf’ on September 23, 1996; and ‘Het Financieele Dagblad’ on September 24, 1996; excerpts [the author refers the readers to the original source for a full account].

This news hit like a bomb shell. The Teakwood sales were rumored to plummet as a result. A few months later, the Dutch language ‘Financial Daily’ newspaper (*Het Financieele Dagblad*) reported that OHRA and WWF, in the presence of the Costa Rican Minister for the Environment Castro, attempted to cry up the Teakwood image in a press conference. The largest newspaper in The Netherlands ‘*de Telegraaf*’ reported that OHRA’s lawyers left and right threatened with legal action those who voice a critical note on the Teakwood program. In the case of one of those interviewed in the NOVA feature, this led to legal action in a case of reputed libel. However, the judge in The Hague clearly and concisely rejected this allegation and condemned Flor y Fauna to pay the costs of the proceeding. In a comment on the case to ‘*de Telegraaf*’, a WWF spokesperson declared to see nothing wrong with the Teakwood program.

In the apparent panic and perhaps confusion that followed these events, the Teakwood contract partners issued strongly worded public accusations against Professor Centeno. As a result, Professor Centeno issued a press release in The Netherlands in January 1996. He requested an opportunity to defend his integrity before the Minister of International Cooperation Drs. J. Pronk. The Minister never replied to Professor Centeno, not even after the case of the request had been raised to him by the Greens (Dutch: ‘*Groen Links*’) in the Parliament of The Netherlands (Tweede Kamer, 1996b, section 9).

In the course of these events, Treemail contacted Professor Centeno and informed him of the public allegations made by the Teakwood contract partners in The Netherlands. Treemail then informed Professor Centeno of Internet conferences through which he could effectively communicate with members of the forestry and environmental professions. For the present scientific analysis, this input of information is to be considered as an input that drove the process analyzed in the experiment. With this information in hand, Professor Centeno seized the opportunity to defend himself publicly against the allegations made by

the Teakwood contract partners, an opportunity denied to him by Minister of International Cooperation of The Netherlands (Tweede Kamer, 1996b, section 9). Without translation of these allegations, Professor Centeno would have been cut off from information circulated to the press in The Netherlands by the Teakwood partners and without this information Professor Centeno would have remained isolated and unable to reach the international community. With the information, the Internet could become a unique international publishing medium for Prof. Centeno to a worldwide forum of professionals, and this was at negligible cost.

The events proved that the Teakwood partners were not safe to state almost anything in the Dutch language media without having to worry whether or not Professor Centeno would have access to their statements. A number of journalists in The Netherlands was quick to subscribe to newsgroups in which Professor Centeno circulated his publications on Teakwood and they reported their findings in the newspapers. In addition, Treemail circulated translations of various statements by the Teakwood contract partners directly to the international forest research community over the Internet. In the present scientific analysis this is to be considered as a series of follow-up driving inputs.

In 1995, Teakwood sales reached their peak. Just prior to NOVA’s televised broadcast of November 25, 1995, Bloomberg Financial Advisors reported that:

To present teakwood investments in a more flexible form to a wider audience, OHRA and Flor y Fauna plan to launch an investment fund for teakwood by next spring, according to Jan van Rossum and Joop van Veen, two consultants who help OHRA and Flor y Fauna decide their teakwood strategy.

The Funds will target both private and institutional investors, they said.

“Such a fund will help us expand in the teak business and also geographically, into countries like Brazil,” said Van Veen.

The fund will include some of Flor y Fauna’s teakwood trees at the plantation in Costa Rica that haven’t been sold to investors yet. It also will include new plantations in Brazil and may include plantations in Colombia, Ecuador and Africa later.

Van Rossum said one Dutch institutional investor, whom they didn’t want to name, already has committed 50 million Guilders.

[...] At OHRA, chairman Huesmann said the company is considering selling teakwood investments in the U.K. and Germany, once land for the new trees becomes available in Brazil.

“If I can get large areas of land, then this will happen,” he said, adding that all four members of OHRA’s management board have invested some of their own money in teakwood (Bloomberg, November 10, 1995).

In Teakwood’s final days, OHRA depicted the investment program as “modern development aid” (OHRA, Spring 1996 and Huesmann, October 19, 1996) and claimed that it has had this view endorsed by Prime Minister Figueres and the Minister for the Environment Castro in Costa Rica (Huesmann, October 19, 1996).

On March 4, 1996, OHRA announced it would no longer sell the Teakwood investment policies. The newspaper *de Telegraaf* wrote:

Yesterday OHRA also announced that it would no longer sell teak policies. In total, 13,000 policies were sold. According to the President of the board, this decision was not due to the negative publicity over the last couple of weeks (*de Telegraaf*, March 5, 1996).

The Chairman of the Board of OHRA is quoted as follows:

Three years ago it, at the start, it was already decided that there were no possibilities to expand the plantation. The surrounding area has been sold. In addition, there is only a limited market for this kind of insurance policy (*de Telegraaf*, March 5, 1996).

This view is not congruent with the view by Flor y Fauna representative J. van Rossum in 1996:

NOVA really meant that the genie was out of the bottle. [...] A colorful parade of newspapers and magazines subsequently printed the misery once again. [...] Moreover, all this media-*shit* was published over the Internet weekly. NOVA, the newspapers and the Internet: that was thrice wrong for us (*Money*, April 1996, p 76; italics in original article);

or the views on upcoming expansion of the venture that were expressed by Teakwood contract partners in the Bloomberg Financial Advisors’ report (Bloomberg, November 10, 1995; and quoted above).

OHRA continued to publish advertisements for the Teakwood investment scheme after its announcement of March 4, 1996. On July 31, 1996, OHRA announced once again that it would terminate its Teakwood program. The Central Press Agency of The Netherlands, ANP, to be followed the next day by a number of leading newspapers which included ‘*NRC Handelsblad*’, ‘*De Volkskrant*’, ‘*de Telegraaf*’ and ‘*Het Financieele Dagblad*’, unanimously reported that OHRA had sold a total of 14,000 policies and that OHRA had ceased selling the product. Again, OHRA continued to advertise the Teakwood program after making this public announcement. Finally, by the end of 1996, no more advertisements were found by the author.

FSC and Rainforest Alliance scrutinize the Flor y Fauna certificate

Introduction

In 1995, the author introduced certification of forests and labeling of forest products to European Parliamentarians as follows:

The issue of certification to a large extent stems from the perceived need for sustainable forest management. The current interest in sustainable forest management stems from broad-felt concern over depletion of the forest resource and is part of a growing need for global resource management. Sustainable forest management is a term that finds its origin in Germany where the term has been in use for several centuries (Hans Carl von Carlowitz, *Sylvicultura Oeconomica*, 1713). The term has since been redefined many times over, and so has the emphasis on what should be managed in a sustainable manner. Production, stock, production factors, economic output and many others items have at one time been perceived as the key factor to define sustainability of forest management.

Certification of forest resource management and of its products have become increasingly political issues as can be witnessed from international pressure on tropical timber producing countries to improve standards of forest management and from increasing concern about a dwindling tropical forest reserve. As a result, tropical timber producing countries have successfully argued that worldwide timber certification should be preferred over tropical timber certification. This, in turn, has led to exploration of the viability of certification as a means to improved quality of forest management in non-tropical regions (Romeijn, December 1995).

The certification of forest products and management was not an issue in the World Bank’s comprehensive publication *Managing the world’s forests* of 1992 (World Bank, 1992) or in the SHELL/WWF’s state of the art review on tree plantations of 1993. Forest certification is not mentioned in these elaborate works. But by 1997, the World Bank and WWF established a global alliance for forest conservation and sustainable use, which included the aim to “bring an additional 200 million hectares of the world’s forests under independent certification by the year 2005” (WWF and World Bank, June 25, 1997; WWF, June 1998). According to an article in *The Economist*, this precisely is FSC’s aim too (*Economist*, August 1998, p 64). If only by the joint World Bank and WWF initiative, forest certification has become one of today’s major issues in international forestry.

The issues of ‘credibility’ and ‘transparency’ are important in third party certification. One of the SGS Directors of the Qualifor forest certification program addressed the audience at the International Conference on Certification and Labeling of products from sustainable managed forests as follows:

The mechanics of Certification and Labeling are concerned with achieving marketplace confidence. Not only confidence for consumers of wood and paper products but also other interested parties who may have other and additional priorities. These can include employees; financial institutions and investors; and local and national government authorities.

For this reason the implementation of Certification and Labeling programmes should have as a key goal ‘to guarantee marketplace confidence’. In achieving such confidence, ‘credibility’ through ‘transparency’ of the Certification and Labeling system are paramount (Upton, 1996).

It is noted that the certificate that is analyzed in the present study is restricted as it covers the FSC accredited certification of the forest management only. The Rainforest Alliance has also certified Flora y Fauna for the highly complex ‘chain of command’ (Smart Wood, February 1998). “With a chain of command approach the quality of the entire process is certified; the entire process from forest management and forest protection to consumer product is covered” (Romeijn, December 1994), which offers the end-user a guarantee that the product is actually sourced from a certified forest operation. The present study covers a simple case: a certificate that is issued on the management of the best known tropical timber species, without touching upon the complex subject of verification of the chain of command of forest products.

On this subject, Romeijn noted that:

There is also a dangerous side to the introduction of shaky or ill-founded certification of forest management or forest products. To illustrate this point, albeit at the danger of oversimplification of this complex subject matter, consider the following risks:

- the surcharges on timber related products are used to finance corruption that surrounds the issue of certificates;
- trade and exploitation continue on a business-as-usual basis;
- the Dutch Government is contented that it has conveyed a clear ‘green message’ to its citizens, so they have the ‘feeling’ that something has indeed been achieved.

Unfortunately, these risks are not illusory. In the tropics, few countries are sufficiently well organized to merely collect their stumpage-fees; this is a simple form of tax levied as a fixed sum per transported log. Moreover, throughout the tropics there are only marginal examples that can truly boast sustainable management (Poore, 1989). But above all, within and outside of the tropics there is insufficient human capacity - in quality *and* in quantity - to carry out sustainable forestry (Gregersen *et al.*, 1990; IUCN, 1992; Romeijn, 1993). Given these conditions, the increase of corruption would not be hypothetical, whether in the producing countries at the issue of certificates, or at the EU customs services, or on a global scale with forged bills of lading. Who can effectively determine the species and check the sustainability aspects of, for example, timber sourced from Cameroon, which was supplied with a certificate and a new bill of lading in Liberia, had entered the EU at the port of Genoa and then transported to The Netherlands? Nobody (Romeijn, April 18, 1996).

It is further noted that:

When viewed from a professional point of view, the entire OHRA/WWF-NL/Flor y Fauna discussion can be seen to center around two main questions that pertain to mid-level management: at what rate do teak trees grow, and were the yield projections presented to the public in a misleading fashion? The fact that this is the root cause of so much discussion in The Netherlands remains incomprehensible to many outsiders, all the more so in view of the numerous ways that were employed in order to dodge and obscure answering these two basic questions in an honest and straightforward way. Because of this, The Netherlands is rapidly disqualifying itself internationally in its self-proclaimed role as *'guiding country'* in the far more complex subject-matter of *'global resource management'* (Romeijn, April 18, 1996).

Smart Wood encountered the following improvements in Flor y Fauna's monitoring system during its 1997 verification visit:

“FyF had made some changes in their monitoring system so that it better reflected the production potential of the plantation and was capable of more accurately measuring plantation response to management practices.

“For instance, there was a wider distribution of permanent plots, edge effect had been eliminated and taken into consideration in establishing new plots, and the staff utilized a methodology assuring a random selection of permanent plots. These two factors were critical advances in determining the most appropriate silvicultural prescriptions for their stands” (Smart Wood, February 1998).

By implication this means that prior to the 1997 Smart Wood verification visit, the Flor y Fauna's monitoring system:

- did not eliminate or take into consideration edge effects.
- did not use a methodology to ascertain random selection of permanent plots.

After a careful study of the bailiff's report and the materials presented in court by Flor y Fauna in 1993 in substantiation of their projections, Oldeman found that the yield table is *“primarily the product of the bailiff's and the managers' fantasy* (1996). In addition, Oldeman wrote:

THE ERRORS THAT HAVE BEEN MADE ARE AT THE LEVEL OF SECONDARY FORESTRY TRAINING WHERE, AS A RULE, SUCH ERRORS ARE CONSIDERED UNACCEPTABLE (Oldeman, February 17, 1996; emphasis as in the original document).

In an open letter to the Rainforest Alliance Smart Wood Director, Oldeman wrote:

My wife and I indeed heard the lawyer of the teak planting consortium talk of certification by the famous Forest Stewardship Council (or words to that effect). I have wondered why this lawyer made such a statement, particularly because it had been brought to my attention a day or so earlier what FSC was and did exactly, i.e. that this Council does not certify or label forests, plantations or wood itself. This discrepancy is the cause that I remember the statement being made. [...]

I do hope, Dr. Donovan, that your Alliance may adhere strictly to truth without even one opportunistic thought, and so be stronger than all silences, contortions, half truths and perhaps deceit that has been woven as a tight smothering blanket around these plantation ventures. However, I recently read *Playing God in Yellowstone*. I hope you read it too (Oldeman, March 15, 1996) [author's note: Oldeman refers to: Chase, 1987].

Finally it is noted that the Rainforest Alliance reported that:

Based on interviews, field work, and research data collected in Costa Rica, we did not find that Flor y Fauna's projections on growth and yields were inaccurate. (Smart Wood, January 28, 1996).

The false claim

Under the FSC accreditations scheme, the transparency and credibility of forest certification are safeguarded by the complaints procedures of FSC accredited certification organizations and, ultimately, by the possibilities for appeal with the FSC. The FSC is not, according to information provided to the author (and verified per telephone in 1997 with the ‘*Raad voor de Accreditatie*’ in The Netherlands), a member of the international body of accreditation institutions, where concerned parties may appeal decisions from member institutions.

In handling the Flor y Fauna case, the Rainforest Alliance and the FSC made a division of labor. The Rainforest Alliance would “cover criticisms concerning growth, yield and price estimates made by Flor y Fauna, and the financial yield and return on investment estimates made by OHRA” [...] “following due process for handling complaints, although no formal complaint has been lodged” (FSC public statement of June 25, 1996).

The Rainforest Alliance certified the Flor y Fauna plantation management on April 1, 1995 (Smart Wood, February 1998). A false claim to a certificate for forest management issued by the FSC for the Flor y Fauna plantations dates back from at least September 1995, according to OHRA (OHRA, September 21, 1995). This claim is made prior to the establishment of the FSC as a legal entity as an ‘ ’ before Mexican law on October 25, 1995 (FSC, February 23, 1996). It is prior to the formal acceptance of the text of FSC’s Principle and Criterium # 10, which is the Principle that specifically deals with forest plantations. It is also prior to the accreditation of the first certification organizations by the FSC on February 21, 1996 (FSC, February 21, 1996). It is certainly prior to the FSC’s accreditation of the Rainforest Alliance as a certification body for plantation forestry in January of 1998 (FSC, January 28, 1998; Smart Wood, February 1998).

Organizations tend to systematically distort information in self-serving ways. Such distortions do not depend ... [on] deliberate falsifications by individuals. Instead, people who are competent, hard-working and honest can sustain systematic distortions by merely carrying out their organizational roles. Unchecked by outside influences or the undeniable realities of catastrophic failures, organizations can sustain self-serving distortions. The potential for catastrophic consequences is significant (Bella, 1987).

In January 1996, the FSC Director T. Synnott informed Treemail in a fax message that:

It is unfortunate that OHRA referred to the plantations as being FSC certified. The expression FSC certified is inaccurate and premature. The possibility of a certified

enterprise making misleading public claims is in first instance, a matter for the certifier. Therefore Rainforest Alliance is pursuing the matter, in close communication with the FSC (FSC, January 29, 1996).

However, later that year, it appeared that the FSC - and not the Rainforest Alliance - investigated the false claim. The Teakwood partners had published their false claim in well over 2 million advertisements, according to their own count (OHRA, February 1, 1996). By June 25, 1996, the FSC published the results of its investigation in a public statement (FSC, June 25, 1996). At the time this issue was subject of a complaints procedure, in true and due legal form, before a court in The Netherlands.

The Rainforest Alliance publicly proclaimed (Smart Wood, January 28, February 22 and March 11, 1996) to have the matter under research. The Smart Wood Director claimed he had never seen such advertisements. The Rainforest Alliance even asked for documented evidence (Smart Wood, January 28 and February 22, 1996).

To be precise, the Rainforest Alliance states:

We request that any individual contact us if they have specified DOCUMENTED situations where misleading information is being presented on either Smart Wood, the FSC or Smart Wood certification on Flor y Fauna. Please contact us immediately. To be fair to all concerned, verbal statements are not sufficient; we need documented evidence. [...] [note: emphasis by Smart Wood]

Smart Wood is conducting a thorough review of all public information on Flor y Fauna provided by the company itself, or agents selling investments in Flor y Fauna. [...] So far, the language used in public brochures seen or reviewed by Smart Wood states either that:

- a) Flor y Fauna was certified by the Rainforest Alliance,
- b) Flor y Fauna was certified based on the FSC Principles and Criteria, or,
- c) Flor y Fauna was certified by the Rainforest Alliance based on the FSC Principles and Criteria.

All these statements are correct and have been discussed previously with Smart Wood or the FSC. Though we are still searching for documentation of inconsistencies and inaccuracies in public documents, court documents, etc. by Flor y Fauna or its agents, these are the only documented statements we have been able to encounter so far. [...] However, at the time, it is our impression that Flor y Fauna and/or its agents selling investments in Flor y Fauna S.A. (e.g. OHRA insurance company) are quite clear that they were certified by the Rainforest Alliance and not by the FSC, and that they have not attempted to mislead the public in this regard (Smart Wood, February 22, 1996).

The Rainforest Alliance writes all this at a time when the Rainforest Alliance Smart Wood Director had already received a fax copy of precisely such an advertisement that contained the false claim (Treemail, February 2, 1996), as part of the ‘input’ into the experiment. The Rainforest Alliance Director had even sent a notification of its receipt (Smart Wood, February 5, 1996; letter to Treemail). Prior to the public statement from the Rainforest Alliance, the FSC Board had already decided to ask the FSC Secretariat, on February 6,

1996, to request correction from OHRA and WWF-NL for the incorrect claim to an FSC certificate for Flor y Fauna plantations. The Rainforest Alliance writes all this at a time when OHRA had already conducted a count of the false advertisements, which were millions (OHRA, February 2, 1996). When OHRA submits this Rainforest Alliance document as exhibit # 31 at a court hearing (OHRA, March 26, 1996), it leaves out the pages from the letter that contain the text quoted above.

WWF, too, claimed to have studied the advertising materials and also denied, in similar wording as the Rainforest Alliance, that such advertisements were ever made (WWF, January 31, 1996; a letter from WWF Director of Conservation Braakhekke to Prof. Centeno). It is noted that the WWF Director of Conservation W. Braakhekke sent copies of this letter to H.R.H. Prince Bernhard, the Ministers of Agriculture and of International Cooperation in The Netherlands, the FSC, the Rainforest Alliance and the WWF President E.H.T.M. Nijpels. It is noted that OHRA submitted this WWF letter in court as exhibit # 5 on March 26, 1996, and thus made it public. The claim to a certificate from the FSC for the Flor y Fauna plantations was repeated by a WWF spokesperson in, e.g., ‘*de Brabander*’ and ‘*de Gelderlander*’ newspapers as late as February 9, 1996. It is noted that when WWF, OHRA and the Rainforest Alliance made their false public statements about their supposed research of the advertising materials, the issue of the false claim to a certificate issued by the FSC had already been filed in a court case on January 10, 1996, by Mr. L.H.Th. van Weezendonk.

As a result of its own investigation into the false claims, the FSC concludes that “*the mistakes made by WWF-Netherlands and OHRA were unintentional*”, and that the FSC is therefore “*satisfied*” (FSC public statement of June 25, 1996). Had the FSC, by reaching this conclusion, hoped to achieve simultaneous acquittal for OHRA and WWF in the court case and for the false nature of the public statements on this issue that were circulated by the Rainforest Alliance?

According to OHRA, “The advertisements were circulated in the period of August till November 1995” (OHRA, June 28, p 31). About these advertisements, the FSC press release states as the basis of its conclusion: “OHRA [...] soon discovered the error, but because of production times the same statements appeared once more” (FSC, June 25, 1996). In the view of the FSC, this discovery and the correction by OHRA must, at the very latest, have occurred in November 1995; prior to the circulation of the last OHRA advertisement that contained the false claim.

The FSC’s reading is, however, not compatible with a document OHRA later presents in court. According to OHRA, their discovery and correction took place in January 1996, and thus not in or prior to November 1995. In its written statement to court, OHRA declares:

The mistake was discovered by OHRA itself and corrected in January 1996, before Van Weezendonk filed his ‘certification complaint’ (OHRA, June 28, 1996, p 31; emphasis by OHRA).

The credibility of the FSC conclusion is therefore erosive. Yet, according to the Rainforest Alliance, “both Smart Wood and FSC are satisfied that the mistakes were unintentional” (Smart Wood, August 16, 1996). The responsibility for this conclusion remains with the FSC and the Rainforest Alliance. Whether or not the FSC and the Rainforest Alliance should reconsider their position is not speculated upon. It is established only that they did not do so. Nor is the motivation of OHRA to present a different “*variation of truth*” to the FSC than to the Court speculated upon. It is, however, noted that the Rainforest Alliance claims to have studied all the court documents in the preparation of its own document of August 16, 1996. In the light of the above, it is also noted that the research by the Rainforest Alliance, Van Rossum Van Veen and WWF of January and February of 1996 that was not capable of detecting even one single advertisement that contained the false claim and the uniform wording of their research result become all the more peculiar.

The FSC Secretariat directly copied its public statement of June 25, 1996, to the Teakwood contract partners who were clearly favored in the court dispute as a result. The FSC made its public statement public only later, on July 17, 1996. As demonstrated in the ‘Agenda of events’ (entry of June 25, 1996, and the author’s notes) this was not the first occurrence of public statements by the FSC with noteworthy circulation patterns that clearly and one-sidedly favored the Teakwood contract partners in the legal disputes that were ongoing in The Netherlands (proof of earlier cases can be found in the agenda entry for March 11, 1996, and its references; and the circulation of FSC, February 6, 1996).

The obscure complaints procedure

On February 21, 1996, the FSC accredited the Smart Wood certification programme of the Rainforest Alliance for natural forest management. This accreditation by the FSC includes an endorsement of the Rainforest Alliance complaints procedure. The Rainforest Alliance has only one single complaints procedure that serves both for handling complaints on certificates for natural forest management systems and for complaints on certificates issued for forest plantation management. The handling of the alleged - *yet non-existing* - ‘complaint’ as done by the Rainforest Alliance has been called ‘acceptable’ by the FSC Director (letters from the FSC Director to this effect are available at the author’s office; e.g., FSC of September 20, 1996 a and b). This includes the acceptance by the FSC of the Rainforest Alliance as a body with the authority to judge in a neutral manner, in spite of the false nature of public statements on the case that are outlined in the previous section of the present study. Even if the handling of this ‘complaint’ refers to plantation forestry only, a

dangerous precedent was set for the handling of future complaints in all FSC endorsed forest operations.

It is noted that the FSC Director has put it beyond doubt that the Rainforest Alliance has conducted this complaints procedure in accordance with the FSC approved guidelines and due process for handling a complaint. In his words, e.g.:

The FSC and all certification bodies have developed systems for responding to complaints and appeals. The recent criticisms of FyF are now being studied. Rainforest Alliance is now carrying out its own investigations, following guidelines approved by the FSC. These investigations will follow due process, and the results will be made public. [...] We appeal to all those involved to submit information to the Certification Body. The process will operate better if interested parties direct their accusations first to the certifier in question, before judgement is passed in public (FSC, January 30, 1996; also see FSC, June 25, 1996).

The January 30, 1996, letter from the FSC Director, containing “*statements ... designed for your support and use*”, was directed to WWF officers Van Kreveld and Braakhekke. No copy of this document was ever sent to Centeno, Van Weezendonk or Treemail, nor was any FSC or Rainforest Alliance document with an appeal to provide input to a complaints procedure ever received by Centeno, Van Weezendonk or Treemail. The author of the present study only became aware of this particular FSC document when studying the various court procedures of the Teakwood case, where it was found to have been used by OHRA in its defense (OHRA, June 28, 1996; Exhibit # 13).

In a letter to OHRA’s legal representative Mr. L. Oosting, WWF Director S. Woldhek wrote that the FSC and the Rainforest Alliance have repeatedly pointed out to Professor Centeno that he: “*rides roughshod over the rules that pertain to filing a complaint*” (WWF, March 20, 1996, p 3; Dutch: “*de regels voor het deponeren van een klacht met voeten treedt*”). OHRA’s legal representative Mr. L. Oosting of Ekelmans den Hollander submitted this information as exhibit # 30 to a court (OHRA, March 26, 1996). This line of reasoning by OHRA and WWF puzzles the present author. How can someone who has not filed a complaint ‘ride roughshod’ over the rules of a complaints procedure? However, deliberations on the possible motivation, justification and responsibility of OHRA and the WWF to submit this line of reasoning as exhibit to a court remain outside of the scope of this study. For a fuller understanding of the tone in which OHRA and WWF presented the materials in court, the author refers the reader to the original text. It is noted that the Rainforest Alliance Director R.Z. Donovan is “*in almost daily contact with the FSC Secretariat*” over the Teakwood case (Smart Wood, February 22, 1996).

The eventual Rainforest Alliance handling of the non-existing ‘complaint’ is critically *in close communication with the FSC*” (FSC, January 29, 1996), the Rainforest Alliance one-sidedly appointed a number of parties to be the plaintiffs,

established a complaints procedure and construed a case where no complaint had ever been filed (Smart Wood, August 16, 1996) [note: Even today, the Rainforest Alliance continues to use the legal term “plaintiffs” (Smart Wood, February 1998) when referring to these parties]. The author of the present study understands that the certifying agent (i.e., Rainforest Alliance) was reimbursed for the costs of this particular complaints procedure by the certified forest operation (i.e., Flor y Fauna), but he has no written proof of this.

About its own document, the Rainforest Alliance writes the following:

Smart Wood has chosen to conduct a formal public analysis to address the complaint, even though the plaintiffs chose to forego due process procedures for raising complaints about certifications. This document is Smart Wood's formal response to the concerns raised by the plaintiffs (Smart Wood, August 16, 1996).

This Smart Wood document does not specify the complaint it ‘formally analyzes’. The outcome of the procedure, however, is made clear. The first sentence of the conclusion of the Rainforest Alliance’s ‘formal response’ reads:

Rainforest Alliance has concluded that Flor y Fauna continues to merit certification by the Smart Wood program as a ‘well-managed’ plantation, despite the current controversy (Smart Wood, August 16, 1996).

At an earlier stage, the FSC already “*scrutinized*” the case (e.g., FSC, January 30, 1996) and it had long drawn a similar conclusion. In a letter to Treemail, the FSC Director wrote:

We believe that the Flor y Fauna evaluation and report was thorough and competent. [...] We scrutinized all reports, including the Flor y Fauna report. Our conclusions were that the current and completed evaluations had indeed followed the approved systems, and that the certified forest presented no obvious problems not already identified by the certifiers (FSC, December 21, 1995).

The Rainforest Alliance document of August 16, 1996, is stated to be the outcome of its formal complaints procedure and the document thus is called a ‘ruling’ (for definitions of the terminology see the chapter ‘Glossary of terms’). The Rainforest Alliance distributed its ‘ruling’ over the Internet, e.g., over the ELAN mailing list, even before mailing a copy to all ‘plaintiffs’ (correspondence on file with the author).

The Rainforest Alliance had never notified those it called ‘plaintiffs’ that its ‘complaints procedure’ was initiated. The Rainforest Alliance had not requested any information or evidence from those it labeled as ‘plaintiffs’ (Smart Wood, August 16, 1996, and April 1998). In the course of the ‘complaints procedure’, the Rainforest Alliance accepted and weighed confidential materials from one of the alleged parties (those it had called ‘defendants’) in its ‘ruling’ *without issuing a disclosure instruction to the other parties (the alleged ‘plaintiffs’, who had never filed a complaint)*. The Rainforest Alliance has denied all access to these ‘confidential’ materials to the alleged ‘plaintiffs’ (correspondence on file with the author). At a minimum, these documents are:

- The Original assessment report on Flor y Fauna, 1993,
- The Assessment report on Flor y Fauna which led to the granting of the certificate in 1995,
- The yearly assessment reports on Flor y Fauna existing to date,
- The report by the Centro Cientifico Tropical, February 1996,
- The report by the ‘independent consultant’ who allegedly analyzed the financial aspects of the plantations, 1996,
- The contract between OHRA and Flor y Fauna of 1993,
- The Flor y Fauna internal monitoring report No. 13 of 1996.

The Rainforest Alliance is specific about whom it appointed as plaintiffs. They are Prof. Centeno, L.H.Th. van Weezendonk and P. Romeijn. However, the Rainforest Alliance document remains obscure about whom it has appointed as defendants. It appears that the Rainforest Alliance saw and appointed the FSC and even itself as one of the ‘defendants’. In the Rainforest Alliance report the vague list of appointed defendants is presented as follows:

The complaints are against the main ‘Defendants’ who are the Dutch insurance company OHRA and the Flor y Fauna plantation. Criticisms have also been leveled at Worldwide Fund for Nature (WWF) in the Netherlands which receives conservation donations from the project, the Smart Wood Program of Rainforest Alliance in the United States which certified Flor y Fauna, and the Forest Stewardship Council (FSC) in Mexico which accredits certifiers, among others (Smart Wood, August 16, 1996).

The Rainforest Alliance had thus first appointed parties as ‘plaintiffs’ without even informing them and second heard none of them. It appoints ‘main’ defendants and thereby implies the existence of ‘lesser’ defendants, without providing a list of whom these lesser or the ‘other’ defendants are. The Rainforest Alliance decided that it was not necessary to ask those who it had unilaterally nominated as ‘plaintiffs’ to submit materials in support of a complaint that the alleged ‘plaintiffs’ never filed or, at the very least, the Rainforest Alliance did not bother to do so (written statements to this effect by the Smart Wood Director are on file at the author’s office). The Rainforest Alliance singlehandedly selected materials and it ruled upon its own on the basis of an undisclosed selection of publications and correspondence from these ‘plaintiffs’ (Smart Wood, August 16, 1996; Smart Wood, February, 1998).

At the same time, the Rainforest Alliance accepted materials as evidence from parties that it had nominated as ‘defendants’ without allowing access to these materials to the party it had nominated as ‘plaintiffs’. Finally, the Rainforest Alliance refused to disclose where it had

circulated its ‘ruling’ of the complaint. Thereby the Rainforest Alliance denied those it had labeled as ‘plaintiffs’ the right and the opportunity to respond to the recipients of the Rainforest Alliance document. This too, was acceptable to the FSC (correspondence on file with the author).

In conclusion, the Rainforest Alliance conduct and handling in its complaints procedure ignores and omits the fundamental right to a fair trial, which is a generally accepted principle of law and justice, as is expressed in, e.g., the Universal Declaration on Human Rights of the United Nations (Verenigde Naties, 1948, article 10). Has the Rainforest Alliance corrupted Justice and is the Rainforest Alliance guilty of unlawful conduct in the handling of this complaints procedure? If so, this would constitute a clear violation of the FSC Principle # 1. Answering these legal questions lies outside the scope of this study.

The FSC Secretariat and Board Members were notified about the nature of this conduct of the Rainforest Alliance. The FSC has informed those who were appointed as ‘plaintiffs’ by the Rainforest Alliance that it found the handling of the complaints procedure by the Rainforest Alliance “acceptable” and that there was no provision within the FSC system for the plaintiffs to appeal against the outcome of the ‘ruling’ of the Rainforest Alliance complaints procedure (correspondence and voice mail recording from the FSC Director in the present author’s file). In this respect, it is important to note that the FSC has even accepted the possibility of corruption of justice and mockery of accepted principles of law and justice by the Rainforest Alliance *within an FSC approved complaints procedure*. It is also noted that, according to the FSC Director (in a fax message from the FSC to Treemail, copies on file with the author, and confirmed in a press release on FSC’s position on the Flor y Fauna certification: FSC, October 3, 1996), there is no provision to restore the situation within the FSC procedures [as, e.g., provided for in the *exceptio* or *in integrum restitutio* in case of *fraus creditorium* under Roman law (Kaser and Wubbe, 1971, p 60)].

Moreover, the FSC has endorsed the conduct of Rainforest Alliance in handling of the non-existing complaint after the fact (correspondence from the FSC Director in the author’s file). In an Internet publication that was copied to the FSC and Rainforest Alliance, Centeno wrote:

What is even more astonishing is that the FSC Secretariat has informed one of the alleged ‘plaintiffs’ [Paul Romeijn] that it finds these positions of the RA acceptable. The FSC Secretariat indicates that it finds it appropriate for the RA to deny the alleged “plaintiffs” access to the documents upon which it pretends to substantiate its allegations. It has also informed that it finds it appropriate for the RA to conceal the list of recipients of its message, thereby denying the “plaintiffs” the right to present their case to those recipients. It is also denying those same recipients their right to hear both sides of the argument.

It is those recipients, FSC members or not, the public at large, to whom the FSC has made commitments of transparency, impartiality, accountability and objectivity. They

are the ultimate judges. Their rights should be acknowledged. One of their fundamental rights is the right to be informed (Centeno, November 4, 1996).

The FSC has had ample time to reconsider or publicly redress its position following the publication of the Rainforest Alliance pronouncement of August 1996 and following the termination of Internet circulars by Treemail in June of 1996, i.e., following the end of studied inputs into the Internet system. The FSC has not used this time to reconsider its position, quite the contrary.

By January 1998, following a full year without publicity on the teak investments in The Netherlands, the FSC expanded its accreditation of the Rainforest Alliance to include plantation forestry. With this decision taken at the 12th Board Meeting, the FSC clearly substantiates, finalizes and perpetuates its original and ongoing endorsement of the Rainforest Alliance certificate for Flor y Fauna and the Rainforest Alliance handling of the Flor y Fauna case, including the handling of a non-existing complaint within an FSC accredited complaints procedure (FSC, January 1998).

Results

In this section of the study, the analysis of the previous chapters and the annexed files is presented. As is explained in the section ‘Material and Methods’ of the present study “the principal sources of information that were selected for the purpose of conducting this study are *public presentations issued by the Teakwood contract partners* and *public presentations by organizations and individuals that have in some form commented on the case, including the Rainforest Alliance and the FSC*”. In part, these presentations are in the form of legally and/or contractually binding documents, as is the case with sales brochures, advertisements, contracts with investors, insurance policies, complaints procedures, court procedures and court hearings. Other source materials include the pronouncements that were made in articles, advertorials, Internet circulars, press releases, TV interviews, public letters or in (partially disclosed) studies that were commissioned by the Teakwood contract partners or others. The validity of the statements is checked in terms of credibility, transparency and accountability.

The definition of the terminology is described in the section ‘Glossary of terms’. An annotated chronological file of the Flor y Fauna case is recorded in the document ‘Agenda of events’ (Treemail, July 18, 1996a). Another document, ‘Growth and yield’ (Treemail, July 18, 1996b), contains an annotated file of the various statements by the Teakwood contract partners on matters pertaining to projections, calculations and measurements of teak growth at the Flor y Fauna plantations. Updated versions of these documents are available at < <http://www.treemail.nl> > and they are included in the CD-ROM. A third annex, ‘Internet publications’, is incorporated in the CD-ROM. This contains a complete, un-annotated and original listing of the Internet circulars on the subject of Teakwood in chronological order and expands on the selection of circulars that are currently available on the Treemail home page. The combination of the previous chapters and the above listed documents represent the core of the data and information upon which this section ‘Results’ is based.

In the course of the study, from January to July 1996, the author published Treemail circulars to professionals worldwide over the Internet (see Table 2). These contain annotated public statements from the Teakwood contract partners and other public comments on the Flor y Fauna case. All the Treemail circulars have been included in the CD-ROM. The first two Treemail circulars were mere flags that signaled at things to come and the author left ample time for the Teakwood contract partners and the officials at the Ministries to consider their position *viz a viz* these circulars. Yet, neither the Teakwood contract partners nor the officials at the Dutch Ministries responded to these first two circulars. It is noted that the author of the present study has exercised restraint in issuing

Table 2. Chronological overview of Internet circulars and events

| | |
|-------------------|--|
| 1989 | Flor y Fauna S.A. established in Costa Rica |
| March 1993 | OHRA and WWF have joined Teakwood |
| December, 1993 | Teakwood advertisements unsuccessfully challenged in court, Ministerial mission to Costa Rica, Bailiff Groot's report, Flor y Fauna present yield tables in court |
| December 22, 1993 | Confidential WWF commissioned 'Centeno' report |
| April 1, 1995 | Rainforest Alliance certifies the Flor y Fauna management |
| August 1995 | WWF publishes 'Naar een houtbare wereld'; the text claims that an FSC certificate exists for the Flor y Fauna plantation; that 5 million ha is under FSC accredited management; and that: 'Timber from FSC-certified sources is available on the Dutch market' |
| October 25, 1995 | FSC established as a legal entity in Mexico |
| November 23, 1995 | NOVA broadcast |
| December 6, 1995 | Van Weezendonk files case at the Advertising Standards Committee |
| December 18, 1995 | FSC and WWF report that 4 million ha of forest has been brought under FSC accreditation to Members of the European Parliament. Certification: the Chain of Command from Forest to Final Product - Treemail presentation; later also published as Treemail circular |
| December 21, 1995 | FSC declares the Rainforest Alliance report "thorough and competent" |
| December 28, 1995 | Court of Law hears (and later dismisses) case of reputed libel (Flor y Fauna against Van Weezendonk's pronouncements in NOVA) |
| January 4, 1996 | An incomplete version of WWF's 'Centeno' report is circulated anonymously over the Internet |
| January 10, 1996 | Van Weezendonk adds the false claim to an FSC certificate to the case at the Advertising Standards Committee |
| January 19, 1996 | First Internet publication on Teakwood, by Ir. P. Hulsebosch |
| January 19, 1996 | First Treemail circular; commenting on the order to remain silent on the Flor y Fauna case that is rumored to have been issued to Ir. J. Bauer |
| January 25, 1996 | Centeno's letter to Minister Pronk |
| January 27, 1996 | Setting the record straight - Centeno circular |

Table 2. Chronological overview of Internet circulars and events

| | |
|-------------------|---|
| January 28, 1996 | Rainforest Alliance has seen no 'documented evidence' of false certification claim; Two days later Treemail sends a copy to the FSC and informs Rainforest Alliance |
| January 28, 1996 | Centeno press release circulates in The Netherlands |
| January 30, 1996 | Treemail sends a copy of advertisement per fax to the FSC containing the incorrect FSC certification claim. A copy of the accompanying letter was also sent per e-mail to the Rainforest Alliance Smart Wood Director R. Donovan. In this accompanying letter Treemail informs the Rainforest Alliance Smart Wood Director that he can always refer to the Treemail office or alternatively to the FSC Secretariat if he would still require additional proof of the existence of claims in advertisements to a certificate that would have been issued by the FSC to the Flor y Fauna plantations. |
| January 30, 1996 | FSC Director writes: "The following statements are designed for your support ..." in a letter to WWF's officers Van Kreveld and Braakhekke. The FSC Director declares: "I understand the difficulties you are facing, and I am sharing some of them" (Exhibit # 13 in OHRA, June 28, 1996) |
| January 31, 1996 | WWF declares that its research found not a single copy of false claim to an FSC certificate |
| January 31, 1996 | OHRA threatens Stichting BOS with legal action |
| February 2, 1996 | OHRA's internal memo counts over 2 M copies of false claim |
| February 5, 1996 | Rainforest Alliance sends confirmation of receipt to Treemail for a copy of 'the false claim' |
| February 6, 1996 | FSC Board asks for correction of false claim 'in the respective brochures and other places' where the claim was made, which is never done |
| February 6, 1996 | Teak controversy flares up in The Netherlands - Centeno circular |
| February 7, 1996 | OHRA threatens Centeno with legal action and calls all his criticism 'totally unfounded' |
| February 9, 1996 | WWF publicly declares the Teakwood plantations to have a certificate that is 'issued by the FSC in Mexico' |
| February 12, 1996 | Treemail circulars 'Teak controversy in The Netherlands', on WWF's declaration of February 9 and a translation of the work by bailiff Groot |
| February 13, 1996 | Treemail circular on OHRA's threat of February 7, 1996, and Centeno's public response: "I am prepared to meet OHRA in court" |

Table 2. Chronological overview of Internet circulars and events

| | |
|-------------------|---|
| February 13, 1996 | Treemail circular with further information on bailiff Groot |
| February 15, 1996 | Treemail circular on article in 'Elsevier' magazine and FSC Executive Director Tim Synnott's communication to Treemail that arrangements with Friends of the Earth NL (Vereniging Milieudefensie) have been made for "a problem solving meeting with any of those involved in this mess, including OHRA and WWF and the press", which the FSC Director earlier requested Treemail to help arrange for his upcoming visit to The Netherlands; a meeting which never was |
| February 18, 1996 | Teak sting? - Centeno circular |
| February 18, 1996 | Treemail circular with translation of excerpt from Pro. Oldeman's notes on measuring procedure "Huizinga & Groot" |
| February 19, 1996 | Treemail circular, includes quote from FSC Manual for Evaluation and Accreditation of Certification Bodies, page 116 (Proof: Jan.1996), which reads that reports on forest management enterprise certification must: "explain the assessment methodology used by the certification body, or any modifications of its standard methodology (sampling, scoring, decision-making, checklists of indicators, standards, etc), the main aspects of the forest management system under review, the results of the assessments and inspections, and how the results were analysed or interpreted to reach the decision, recommendations and conditions." |
| February 21, 1996 | FSC accredits the first certification organizations and launches FSC timber label, none for plantation forestry |
| February 22, 1996 | Rainforest Alliance declares, publicly, that they need documented evidence of a false claim and that 'verbal statements are not sufficient' (see February 5, 1996, where confirmation of receipt of precisely such documented evidence is confirmed by the Rainforest Alliance) |
| February 23, 1996 | Treemail circular; including quote from WWF's publication 'Naar een Houtbare Wereld, How The Netherlands Timber Market prepares itself for FSC Timber' (WWF, August 1996; ISBN 90-74595-07-3) with new FSC logo on cover; "Recently, Netherlands first producer of tropical hardwood has been FSC certified for its good management of the teakwood plantation Flor y Fauna (3500 ha)." |
| February 23, 1996 | Teak stings in The Netherlands - Centeno circular |
| February 24, 1996 | Blasting the FSC in The Netherlands - Centeno circular |

Table 2. Chronological overview of Internet circulars and events

| | |
|-------------------|---|
| February 29, 1996 | Treemail circular; OHRA's announcement of press conference which includes: "Both President Figueres and Minister Castro will partake in a round table discussion with title Reforestation Investments in Costa Rica" and "On Wednesday 21 February 1996 a delegation of Costa Rican government representatives, amongst them Minister R. Castro of Environment and Energy, have visited the Flor y Fauna plantations at Altamira (Costa Rica). Also present were representatives of OHRA bank and insurance group and the WWF-NL." |
| March 3, 1996 | Treemail circular; includes quotes from the Tico Times newspaper article entitled 'President gives blessing to tree farm' where Jose Maria Figueres, President of Costa Rica states: "We have to remember that in Holland the growth period is four to five months in a year, which makes growth rates in Holland less than in Costa Rica." |
| March 4, 1996 | OHRA and WWF press conference, presentation of 'CCT executive summary report'; volume projections change |
| March 4, 1996 | Treemail circular; includes: 'During all this time OHRA brochures have maintained same bandwidth of diameter growth projections as only parameter on yield. Therefor, height of trees appears to be falling without change to diameters. Meanwhile, world records for teak growth still have to be broken to obtain the reduced yield projections by OHRA. Such a forestry operation could therefor be considered experimental. However, no investor was ever informed of this.' |
| March 11, 1996 | FSC 'Public statement': "The FSC itself does not certify forests, but it endorses certification bodies and their certificates. [...] Four certification bodies have now been accredited by the FSC, for the certification of natural forests only. None have yet been accredited for certification of plantations. No certificates for plantations have yet been endorsed by the FSC. Accreditation contracts may be extended to cover plantation certification during the next few months. [...] Any claims that plantations have been in any way "FSC-certified" are doubly incorrect." |
| March 11, 1996 | Rainforest Alliance Internet circular 'Smart Wood Statement on Flor y Fauna'; where the Rainforest Alliance announces that it is still 'working to verify Flor y Fauna's advertising claims' |
| March 12, 1996 | World record on teak yields: truth or trickery? - Centeno circular |
| March 14, 1996 | Wageningen University Weekly, WUB, reports that: "WWF-NL headquarters [...] prohibited its Wageningen branch to organize a public debate following the NOVA broadcast" |

Table 2. Chronological overview of Internet circulars and events

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| March 15, 1996 | Treemail circular; non-confidential letter received from Professor R.A.A. Oldeman who addresses Dr. Richard Donovan |
| March 20, 1996 | Treemail circular; translation of the Dutch language Financial Daily of March 5, 1996, caption: OHRA attempts to cry up Teakwood image |
| March 26, 1996 | OHRA defense in case of Advertising Standards Committee |
| April 1, 1996 | FSC public release 'update on the Flor y Fauna case': "the Secretariat has sent letters to both OHRA and WWF-NL to explain our policy, and to request that they correct any mis-statements in their respective brochures and other places where the original mis-statements circulated." [Author's note: Such correction was never seen for the OHRA advertisements] |
| April 2, 1996 | Flor y Fauna's legal representative declares that the yield tables he presented in court as indications of yield have no relation to yield |
| April 9, 1996 | OHRA 'letter to investors'; base price and volume projections change |
| April 9, 1996 | Flor y Fauna representative states that the CCT report 'will be published soon' |
| April 11, 1996 | <p>Treemail circular; 'Following statements circulate: OHRA president of board (ANP January 28, 1996) states that Professor Centeno has not visited the Flor y Fauna plantations; Founder of Flor y Fauna plantations presents to Code of Ethics Committee (late March 1996) a declaration that Professor Centeno has visited his plantations and that he has advised not to weed by hand but rather use herbicides because this is much cheaper and instructing personnel to its use ... the use of herbicides was, however, strictly forbidden at the plantation by the director according to same declaration; Smartwood programme director states (The Tico Times of March 8, 1996) that in late 1993 he had found that Paraquat had been extensively used on the Flor y Fauna plantation, and as a result of his recommendations Paraquat was banned and personnel was instructed in the proper use of chemicals.</p> <p>Perhaps the readership of this forum will agree with Flor y Fauna director that: "He [Professor Centeno] does not know anything about teak plantations" (The Tico Times, September 9, 1994).'</p> |
| April 16, 1996 | Treemail circular; quotes on pests, disease and chemicals at Flor y Fauna |
| April 18, 1996 | Symposium at the University of Twenthe. Certification as a tool to enhanced forest management - Treemail lecture and later circular |

Table 2. Chronological overview of Internet circulars and events

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| May 1, 1996 | Ministry of International Cooperation publishes 'OHRA does not mislead investors' in its official magazine |
| May 5, 1996 | WWF press release: 'No trickery and that's the truth' |
| May 7, 1996 | <p>Treemail circular: For years now, OHRA's HQ entrance hall is adorned with a sculpture made from teak wood. A sign proudly informs all visitors that the sculpture was built from their plantation's teakwood.</p> <p>NOVA journalists have informed Treemail that this very same wood had to be purchased on the regular timber market as the Flor y Fauna sapwood was unsuited; and that the wood is actually not even sourced from Costa Rica.</p> <p>Meanwhile WWF-NL has made public their January 30, 1996 letter, copied to eg Minister Pronk of DGIS, where it is stated that WWF-NL research of OHRA publications has not led to a single case detected of untrue claim of FSC certification for the Flor y Fauna plantations. With over 1.5 M examples (according to OHRA estimate that is) printed and distributed, and not even counting WWF-NLs claims to same? Gentlemen, please wake up.</p> <p>Suffice here to quote the title of the latest WWF-NL Brave New Press-release:</p> <p>"NO TRICKERY....AND THAT'S THE TRUTH."</p> |
| May 9, 1996 | Advertising Standards Committee rules 4 out of 5 teak investment programs to have issued 'misleading' advertisements, save OHRA. It does not rule on the false claim to an FSC certificate - case is appealed |

Table 2. Chronological overview of Internet circulars and events

May 9, 1996

Flor y Fauna Internet circular 'Successful TEAK Plantation', where the company claims to distribute an English translation of an article in Money 'shortly', but it never does. Text:

To all the so called "teak experts", and mr P. Romeijn in particular.

Let it be noted that OHRA has just received notice from the ethics committee, and regrettably for Mr. P. Romeijn, and his good friend Mr. T. van Weezendonk, the verdict was in favour of OHRA. It is also a fact that Mr. Centeno, a "teak plantation expert", and a friend of the above mentioned two has claimed to be on our plantation for 5 days. In fact he was there for approx. 5 hours, at which time the OHRA plantation had just been planted, and therefore all he has seen were seedlings. I admire his ability to write a very hefty report based on two hours of observation. Truly the work of an expert

We advise Mr. P. Romeijn, who seems to be the comedian on this list, to read an article in "MONEY" magazine, in which his good buddy Mr. T. van Weezendonk is exposed.

English translation will follow shortly on this list.

For some time now we have read various articles on this list that have nothing to do with forestry, only because the people sending them would not recognise a teak tree if it hit them. We advise Mr. P. Romeijn to go back in the speaker business, since all he wants to do is make a lot of noise.

The NOVA information on the sculpture at OHRA HQ, (yes really, Mr. Romeijn is criticising this), is just as accurate as the rest of their journalistic high on the Teak subject. Please, do come with information on teak trees, and stop misusing this list for small talk.

All serious reactions are welcome, and will be treated serious if they concern forest remarks/comments.

Jan Huizinga Flor y Fauna

Table 2. Chronological overview of Internet circulars and events

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| May 10, 1996 | WWF circulates 'Statement' via e-mail, including an alleged conclusion from the Advertising Standards Committee that "OHRA has not made false claims regarding the FSC certification" (see May 9, 1996) |
| May 10, 1996 | <p>Treemail circular; in response to Flor y Fauna on May 9, 1996:</p> <p>Dear Mr. Huizinga</p> <p>Re your message to this list of 04:51 PM 5/9/96 -0700:</p> <p>The responsibility for qualifications "teak experts, friends, comedian, good buddy, NOVA's journalistic high, etc." is entirely yours.</p> <p>You may be in a good position to inform the readership of this list of the following:</p> <ol style="list-style-type: none">1. The ruling, in full, of the Code of Ethics Committee on Advertising of May 9, 1996, in the case of OHRA; and to indicate where and why this deviates from the rulings in the 4 other complaints brought before the Committee.2. The substantiation, in full, to Flor y Fauna SA's 1993 and 1995 presentations to Dutch Courts of Law of its forestry projection to the production 1,813 m3 of marketable teak per ha in 20 years.3. The explanation, in full, of OHRA and WWF-NL's reaction to the (early) February 1996 decision by FSC's Board of Directors to ask for rectification of their incorrect claim to FSC certification for the Flor y Fauna SA plantations, in all media where this was announced. <p>Given the letters received by Professor Centeno in reaction to earlier messages, we can likely trust the readership to be most interested in your response.</p> <p>Yours sincerely, Paul Romeijn Treemail</p> |

Table 2. Chronological overview of Internet circulars and events

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| May 15, 1996 | <p>Treemail circular (no response was ever received);</p> <p>Mr. Jan Huizinga (FYFSA) announced the English edition of an article in “MONEY”. Via NOVA journalists, Treemail was informed that its author does not exist. Mr. Jan Huizinga (FYFSA) could perhaps disclose its true author(s)?</p> |
| May 20, 1996 | Treemail circular; Open letter to FSC Director of the Board (no response) |
| June 4, 1996 | NOVA feature on Teakwood is nominated for Financial Press Award |
| June 4, 1996 | <p>Treemail circular;</p> <p>Dear Mr. Huizinga,</p> <p>From the WWF-NL’s Dutch language summary (no full report was ever provided, promises notwithstanding) of the CCT report on Flor y Fauna plantations I understand the following:</p> <ol style="list-style-type: none"> 1. The plantations are located in a “Wet Atmospheric Association”. Dry periods cannot be relied upon to occur, even for years on end. 2. Literature on teak demonstrates a dry period is favorable to its timber quality. 3. To reach low-end of projected rates of return, world records on teak yield are required. 4. Soil depletion is a concern, certification notwithstanding. <p>To the best of my knowledge, no information was ever given to potential investors on points 1-4.</p> <p>To the best of my knowledge, points 1-4 constitute the core of my statements in the NOVA broadcast.</p> <p>Yours sincerely, Paul Romeijn</p> |
| June 6, 1996 | Treemail circular: ‘Certification as a tool to enhanced forest management’ |
| June 8, 1996 | Flor y Fauna Internal Monitoring Report # 13, based on January 1996 measurements projects 259 to 416 m ³ accumulative wood production |
| June 17, 1996 | Treemail circular; information on SCOFF |
| June 24, 1996 | The elusive credibility of certification claims - Centeno circular |
| June 25, 1996 | FSC public statement ‘FSC/OHRA/WWF-Netherlands’ |

Table 2. Chronological overview of Internet circulars and events

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| June 28, 1996 | OHRA Memorandum for the Advertising Standards Committee (appealed) and presents the 'Money' article as Exhibit # 2; fails to mention of Flor y Fauna Monitoring report # 13 of June 8, 1996 |
| July 16, 1996 | Traders of illusions - Centeno circular |
| July 3, 1996 | Romeijn requests information according to 'FSC requirements' form Flor y Fauna, with copies to FSC etc. - Treemail circular (request is repeated several times, no response was ever received) |
| July 18, 1996 | Treemail circulars; 'Agenda of main events' and 'Growth and yield' form the last circulars with information on the Teakwood case from Treemail |
| July 29, 1996 | Standards Advertising Committee declares OHRA advertisements to 'paint too rosy a picture' and to be 'misleading' |
| July 31, 1996 | OHRA press release calls ruling by Standards Advertising Committee 'unbalanced' (Dutch: ' <i>ongenuanceerd</i> ') and states "Our projections are extremely well substantiated" |
| August 3, 1996 | Justice served - Centeno circular |
| August 16, 1996 | Rainforest Alliance publishes its ruling of a complaints procedure in the case where there was no complaint - Internet circular |
| August 22, 1996 | Treemail circular; Flor y Fauna growth and yield. Informs members of FUNET forestry list about where to obtain a copy of the Rainforest Alliance report of August 16, 1996, as this company did not circulate its report to recipients of this listserver |
| August 29, 1996 | Rainforest Alliance and Flor y Fauna - Centeno circular |
| September 1, 1996 | Keogh's Teak growth rates: a rule of thumb - Treemail circular |
| September 14, 1996 | Camacho letter 'Dear people'; Internet circular |

Table 2. Chronological overview of Internet circulars and events

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| September 30, 1996 | <p>Flor y Fauna circular ‘Flor y Fauna signing off’”;</p> <p>to forest list users,</p> <p>Flor y Fauna is leaving this list. all messages intended for Flor y Fauna will have to be send directly to: florfaun@pi.net we do not want to be bothered with this gossip list anylonger. success to all forresters.</p> <p>Jan Huizinga Flor y Fauna</p> |
| September 1996 | <p>Last Teakwood advertisement known to Treemail is published in WWF’s in house magazine ‘Panda’</p> |
| October 9, 1996 | <p>Second NOVA broadcast on Teakwood ; announces a new case against Teakwood will be filed at the Advertising Standards Committee</p> |
| October 10, 1996 | <p>WWF-NL declares, in a letter to its ‘relational network’ with date ‘November 1996’, that it and WWF-INT see no ground to revise the support for the Teakwood program</p> |
| October 10, 1996 | <p>OHRA press release: ‘For both the organizations [note: OHRA and Rainforest Alliance] there is no reason whatsoever to assume that the forecasts as they are used by OHRA are incorrect’</p> |
| November 4, 1996 | <p>Forest certification as a tool for green washing - Centeno circular</p> |
| November 14, 1996 | <p>OHRA submits written defense at Advertising Standards Committee and includes ‘Laarman’ conclusions in substantiation of projected rates of return it claimed in promotional materials and submits Smart Wood ruling, which includes a statement that the original projections are based on biomass production - rather than wood</p> |
| March 12, 1997 | <p>OHRA submits written defense at Advertising Standards Committee in hearing in appeal of the above case. This case is put to rest by the Van Weezendonk heirs</p> |
| March 13, 1997 | <p>Ex-member of Flor y Fauna scientific advisory board, Dr. Poels, publishes an article ‘Ethics and third party funding’ in LT-Journaal, without mentioning why he became or remained a member of this board</p> |
| January 28, 1998 | <p>FSC accredits the Rainforest Alliance certificate for the Flor y Fauna plantations</p> |

his circulars and public statements on the Flor y Fauna case. The author did not bring up the subject of the false claim to a certificate issued by the FSC in his interview with NOVA. The author contacted the appropriate body, the FSC, after the televised broadcast. The FSC Director thanked the author for this: “Thank you very much for keeping us informed, and for working at damage-control” (FSC, January 8, 1996). The matter was raised in public only after Prof. Oldeman and the author had heard this false claim repeated in court by a Flor y Fauna lawyer. The issue of the false claim was brought up in Treemail circulars only after the FSC and the Rainforest Alliance had received a copy of an advertisement containing the false claim and only after both the Rainforest Alliance and the WWF publicly declared to have researched this matter and denied ever to have seen such a document and only after WWF repeated the false claim in a statement to Dutch newspaper reporters. The author has not publicly commented at all about the Rainforest Alliance ruling of August 16, 1996, and the acceptance of this ruling by the FSC, and the accreditation of the Smart Wood certificate by the FSC in January 1998. By then, the Internet experiment had already come to a close.

With the publication of the Rainforest Alliance ruling over the Internet, the interested readers had accumulated a file that demonstrated that the Teakwood contract partners had based themselves on the production of biomass, rather than on wood production as per the sales brochures. They had accumulated a file that demonstrated that the Teakwood contract partners base the projected rates of return on the sale of processed logs, rather than standing timber as per the sales brochures and that, as a consequence, the Teakwood contract partners burden the investors with the additional financial risk of timber processing in order to attain the projected returns. The readers had accumulated a file that demonstrated that the projections were not based on scientific documents, even if this is a condition to the certification of plantations by the Rainforest Alliance. In short, they had access to documented evidence to assess for themselves the key findings that are reported in the present study. At that point in time, Treemail ceased the publication of its Internet circulars. As noted, the Treemail circulars contained information that was derived from public statements from the Teakwood contract partners and associated organizations. Therefore, the author is of the opinion that the Teakwood contract partners could at all times anticipate the effect that the Treemail circulars might bring about and that the Teakwood contract partners were fully aware of the information available to the author and, as a consequence, they had the means to assess the potential impact that their public statements would have when these were, once more, forwarded to professionals worldwide in an upcoming Treemail circular.

On the basis of the materials that were studied, it is *not* possible to indicate that the Internet played a *decisive* role in the decision to terminate the Teakwood investment

program. Indications are, however, that it has contributed to this decision from the Teakwood partners. From the information that was researched it is clear that the Teakwood contract partners, the FSC and the Rainforest Alliance - on their own accord - all took action upon the Internet circulars and that these organizations have all made reference to these circulars in the documents that they have prepared on the subject. The present study demonstrates that these documents provided additional information that was decisive for the analysis and demonstration of the eroded credibility of the original pronouncements on the Teakwood investment program and the assumptions upon which it was based. It is demonstrated that effective mechanisms for the detection of this erosion, or for the extraction of accountability, were not present within the FSC accredited certification system itself in the case of the Teakwood investment program.

It is established that, according to the articles of its association (Kamer van Koophandel Utrecht, 1998), the WWF Netherlands chapter acts as the legal representative of WWF International. The support of WWF International chapter for the Teakwood programme has been termed “unconditional” (WWF, October 4, 1996) in a WWF document that OHRA has submitted to a court (OHRA, November 14, 1996). In a sales brochure WWF claims that its “research” (Dutch: ‘onderzoek’) had ascertained that: “*the Flor y Fauna plantations set a worldwide example in ecological- and financial- terms*” (Flor y Fauna, March 1993, p 15). It is noted that the words ‘teak’, ‘Teakwood’ and ‘Flor y Fauna’ are not mentioned at all in the jubilee issue of WWF’s in-house magazine Panda of 1997. In this issue the WWF Chapter in The Netherlands celebrates its 35th birthday and highlights its main achievements (WWF, September 1997).

It is established that WWF and OHRA formed a partnership with Flor y Fauna S.A. of Costa Rica at a time when there was no management plan in place. According to the comprehensive Shell/WWF Tree Plantation Review:

A management plan is an essential document in plantation forestry (Evans and Hibberd, 1993, p 3 and p 29; Study No. 9 in SHELL/WWF, 1993).

At least two sources agree that there was no management plan for the Flor y Fauna teak plantation when WWF initiated its support for the Teakwood investment program in early 1993. The ‘Centeno’ report, commissioned by WWF, asserts that: “*None of the sources of information could provide a management plan for FLOR Y FAUNA’s operations in Costa Rica, nor the corresponding environmental impact assessment*” (Centeno, December 1993, p 6; bold typeface in original report). The English language Costa Rican newspaper The Tico Times reports: “*In addition, The Rainforest Alliance Smart Wood Director Richard Donovan also stated that in late 1993 he found that Paraquat, a highly toxic herbicide, had been used extensively on the Flor y Fauna plantation, that the plantation personnel*

was now instructed in the proper use of chemicals and that the plantation did not even have a management plan” (The Tico Times, March 8, 1996).

In retrospect, the Rainforest Alliance confirms the lack of a management plan. *“The first comprehensive management plan was produced in September 1994, though elements of this management plan existed earlier”*, which reflected the *“establishment phase only”* (Smart Wood, February 1998). From this text it remains unclear even if, and if so which, of these ‘elements’ of a management plan existed at the time when WWF initiated its involvement and gave its seal of approval to the Flor y Fauna plantations and investment program. Smart Wood writes that these ‘elements’ of a management plan contained:

[...] no description of conservation area management measures and protection of naturally forested areas; no system for data collection on growth and yield; no design for future road infrastructure, harvesting systems or wood processing; and no formal system had been designed to adjust the management plans or annual operations based on the performance of the plantation. Furthermore, initial thinning prescriptions were extremely light leading to increased canopy competition and reduction in productivity (Smart Wood, February 1998).

At the time of WWF’s initial involvement in 1993, the same Smart Wood report asserts about the Flor y Fauna operation that:

[...] no system was intact to measure the oldest stands’ performance (e.g., 4 year old stands in Teakwood I) to determine when appropriate silvicultural treatments should be applied (i.e., in particular, thinnings and prunings) or to provide solid empirical information to plantation managers, investors or other interested parties (Smart Wood, February 1998).

A map is an important element of the forest plantation management plan. This is made abundantly clear in the Shell/WWF Tree Plantation Review (e.g., Evans and Hibberd, 1993; Study No. 9 in SHELL/WWF, 1993), in the ITTO Criteria for the measurement of sustainable forest management (see below) and in the Principles and Criteria for forest management of the FSC (see below). However, it has surfaced that, as late as 1997, Flor y Fauna had not even prepared so much as an overall map of its forest operations. This is disclosed only in 1998 by the Rainforest Alliance in an account of its 1997 audit of the plantations. The lack of an overall map for Flor y Fauna’s forest operations is implied in the text of the Rainforest Alliance account. This account states the following about a Corrective Action Request, or CAR, that Smart Wood issued regarding the Flor y Fauna operation:

FyF must produce an overall map of all FyF operations, showing all of the current forest management and conservation areas (Smart Wood, February 1998).

CARs, or corrective action requests, that Smart wood identified during the 1997 Rainforest Alliance audit:

- Since FyF continues to handle (apply, store and dispose) some toxic chemicals (though minor amounts), FyF must demonstrate that more internal training of key staff has taken place on the use of chemicals, or that key staff have attended external courses on the handling, storage and disposal of chemicals.
- FyF must produce an overall map of all FyF operations, showing all of the current forest management and conservation areas, and a written, updated description of FyF's medium and long-term plans in terms of biological resource management, including any plans for biological assessments, expansion of buffer areas, or establishment of new or expanded corridors. It is particularly important that this map delineate wetlands ('humedales').
- In the annual FyF certification report to SmartWood, FyF should provide SmartWood with a complete up-to-date description of the types of other biological conservation or environmental education activities implemented by FyF, or implemented by other organizations with funds deriving from FyF investments. This will assist SmartWood in public reporting on FyF contributions to conservation.
- At the same time, FyF should provide information (in text and map form) on areas planted, total acreage in plantation or other land use categories (e.g. 'humedales', plantations, natives species, natural forest, factory, etc.), and other forestry activities in the annual certification report to SmartWood.
- SmartWood will continue to review plantation establishment and road location and construction issues, in particular ensuring that ample buffer zones are preserved around all wetlands ('humedales').
- FyF must establish clearer written guidelines for buffer zones for wetlands and rivers, with metric measurements.
- FyF must adopt a minimum buffer of 5 meters on each side of all perennial streams and wetlands. No clearing of vegetation by machete ('chapear') must occur within this buffer. Once a clearer guideline is written up by FyF, all field employees (and contractors if any) must receive orientation or training in relation to maintenance and protection of these buffer zones.
- Since it appears that FyF employees are not consistently wearing sufficient safety equipment during thinning and timber harvesting activities, FyF should explore developing either a stronger safety enforcement program or a positive incentive program that can achieve higher levels of compliance (Smart Wood, February 1998).

A forest management plan should, according to the ITTO Criteria for the measurement of sustainable forest management, address at least the following topics:

- Areas to be excluded from planting and production management, including steep topography, fragile soils, protective beds along watercourses, areas for the preservation of amenity and areas for nature, species and genotype conservation.
- The layout of the road, fire protection and extraction network.
- Procedures for site preparation; planting; tending; prevention of erosion, compaction and other forms of site degradation; silvicultural treatments; and controlled burning.
- Fire protection and fire management.

- Biological pest management and protection against pests, diseases and climatic calamities.
- Market development and utilization plan.
- Provision of all kinds of forest benefits to the local communities and recognition of customary rights (ITTO, 1992).

According to FSC Principle # 7 (Management plan):

A management plan - appropriate to the scale and intensity of the operations - shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated. (FSC, February 1996).

According to the FSC’s Principles and Criteria:

7.1 The management plan and supporting documents shall provide:

1. Management objectives
2. Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands
3. Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories
4. Rationale for rate of annual harvest and species selection
5. Provisions for monitoring of forest growth and dynamics
6. Environmental safeguards based on environmental assessments
7. Plans for the identification and protection of rare, threatened and endangered species
8. Maps describing the forest resource base including protected areas, planned management activities and land ownership
9. Description and justification of harvesting techniques and equipment to be used

7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

7.3 Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

7.4 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1 (FSC, February 1996).

The Rainforest Alliance claims that the Smart Wood program issues its certificates in full accordance with the ITTO and FSC guidelines quoted above (Rainforest Alliance, 1993).

The reader is referred to the 1993 Shell/WWF tree plantation review, especially the volumes 10, 11 and the volume ‘Guidelines’ (Anon., Guidelines, Shell/WWF Tree Plantation Review, 1993), for a broader description of the functions of a management plan

in forest plantation planning and operations. It is noted that the Teakwood investment program’s early promotional materials already include the following claim:

The WWF shall promote that the management of the Teakwood plantation will be in as close accordance to the FSC guidelines as possible. For this, guidelines for responsible production and exploitation as developed by organizations including the WWF are used (Flor y Fauna, March 1993, p 6).

It is noted that, according to the Shell/WWF ‘Guidelines’:

[...] the plantation should be designed and a *Management Plan* formulated (Anon., Guidelines, Shell/WWF Tree Plantation Review, 1993, p 12; emphasis as in the original text).

Later advertisements claim directly that the plantation is managed according to the FSC principles and criteria, even prior to the accreditation of the first certification organization by the FSC (FSC, February 21, 1996; Agenda of events, this study). It is noted that the Rain Forest Alliance Smart Wood program publicly declared that there was no management plan until September 1994 (Smart Wood, February 1998).

Centeno argues that the certification of the Flor y Fauna plantation may be in violation of FSC principle 7:

It has never been suggested that the Rainforest Alliance, or any other certification program, should guarantee specific financial returns from forest management operations anywhere. That is obviously not the intent of certification, and has not been proposed or implied by anyone, as far as I am aware.

It is true, though, that the Rainforest Alliance’s Smartwood Program, like other certification programs, is expected to operate according to the Principles and Criteria approved by the Forest Stewardship Council. The FSC statutes indicate that a balanced consideration of social, environmental, and economic issues forms the core of FSC’s activities. In addition to that, FSC Principle 7 explicitly indicates:

The long term objective of management, and the means to achieve them, shall be clearly stated.

The fundamental objective of the Flor y Fauna teak plantations is the achievement of a certain financial return, based on specified projections on yields and prices. Expected returns form a particularly important objective in this case, due to the sale of policies to the general public, based on advertisement and promotional material, which explicitly highlight the high revenues to be expected. The same general public, as a matter of fact, from which we expect trust and credibility in the certification process in general, and in the FSC in particular.

In compliance with FSC Principles, then, the means to achieve this fundamental objective should have been properly and thoroughly assessed during the certification process. This should apply, at the very least, to the question of yields.

The certification of Flor y Fauna by the Rainforest Alliance is obviously a formal endorsement of the company’s projections on yields, prices and rates of return. This is a logical and legitimate interpretation by the public. Specially if no reservations were made to this effect when the certificate was issued. [...]

Nonetheless, the Rainforest Alliance argues that their main concerns during the certification process were that:

- The operation was silviculturally sound.
- Environmental benefits were maximized.
- A positive impact on local communities and F&F employees.

This is possible, while still violating FSC Principle 7.

Despite what it is argued to be an emphasis on silvicultural, environmental and social issues in the Rainforest Alliance certification program, the scope of the economic analysis included in this assessment has been presented to the public as rather thorough. In a brochure published by WWF-NL and IUCN [*BOS INFO*, October 1995] the director of the Rainforest Alliance is quoted as follows, with relation to Flor & Fauna:

“Richard Donovan emphasized that certification processes encompass more than ecological criteria. He qualified the project as an impressive combination of social responsibility and economic viability.”

On July 29, 1996, the Court of Appeals of the Advertising Standards Committee of The Netherlands, brought a final settlement to two of the points of controversy in the teak scandal raging there: the false claim to an FSC certificate, and the misleading nature of advertisements on rates of return, both used to lure the general public into investing in Flor y Fauna's plantations.

In a press release of July 31, 1996, following the ruling mentioned above, which clearly refers to rates of return, OHRA insists:

“Our projections and assumptions are extremely well substantiated. This was proven by recent independent research by the Tropical Science Center and the Rainforest Alliance...”

Since none of these statements have been objected by the RA, it seems legitimate to conclude that the Rainforest Alliance directly supports, or in the worst case allows its name to be used to provide support, to the allegations of its client on rates of return. By default, so does the FSC, as the accreditation body involved (Centeno, November 4, 1996).

It is here verified that the Flor y Fauna management does not comply with the FSC stipulation 7.4 (FSC, January 1996a) of information disclosure by forest managers. Even upon repeated and public requests by Treemail, the company failed to provide any form of management plan or any other information that, according to the FSC, any and every forest manager is obliged to provide upon request if he claims to be working to FSC standards (FSC, January 1996a). It is further noted that Centeno and Treemail informed the FSC Secretariat and Board members of Flor y Fauna's unwillingness to forward such information (Centeno, August 29, 1996; Agenda of events, this study).

The WWF commissioned Centeno report is validated were it is stated that the yield projections of the Flor y Fauna teak plantations represent an anomaly for teak. The Teakwood contract partners' claim to a basis in science and local experience for these projections is falsified. The scientific basis and local experience for the yield projections as presented to potential investors in the Teakwood information brochures and advertise-

ments were not encountered. The nonexistence of scientific records of yields that could corroborate the Flor y Fauna yield projections was indeed acknowledged - *a posteriori* - by WWF, OHRA, Rainforest Alliance, CCT and Flor y Fauna (e.g., WWF, March 20, 1996, p 3; OHRA submitted this document in evidence as exhibit # 30 to a court on March 26, 1996).

FSC should aim to be seen as a neutral body. It should derive its legitimacy from multi-stakeholder support as well as a scientifically based approach to accreditation and certification. [...] It should be seen to derive its legitimacy from a science (including social science) based approach towards accreditation and certification (FSC's strategic plan: Coopers & Lybrand, *in* FSC, April 1998).

As was noted earlier in this study, a key finding was encountered in a memorandum of pleading that was presented in court, where OHRA's legal representative Mr. B. Oosting of Ekelmans den Hollander stated the following about Teakwood projections:

These prognoses are higher than what has been published in scientific literature (OHRA June 28, 1996, section 22, p 26).

It is established that the conditions for certification of forest plantation management as posed by the Rainforest Alliance Smart Wood program for the Flor y Fauna plantations refer to the requirement that yield projections for plantations should be based on science and local experience:

Growth and yield projections in planning and/or marketing documents are reasonable and based on a combination of scientific literature and documented or practical local experience (Smart Wood, November 1993).

It has been established that these did not exist at the time of the initial certification in 1995, according to the Teakwood contract partners and according to sources that the Rainforest Alliance has described as accurate. It is noted that the Rainforest Alliance has argued that the yield projections for the OHRA Teakwood program (Teakwood VI-VIII) have been lowered while this was denied by OHRA. It is verified that the Rainforest Alliance has certified the plantation management of Teakwood I-V. It is verified that the Teakwood I-V plantations were claimed to have a projected yield of *ca* 1,000 m³ of cumulative yield over 20 years at the time of their certification. Here too, it has been established that - according to the Teakwood partners and to sources the Rainforest Alliance acknowledged to be accurate - at the time of the certification, no basis existed either in science or in local experience for such yield projections.

It is verified that a Ministerial report contains the following text: “*Conclusion on the calculations of the rates of return and prognoses*” ... “OHRA and FYFSA have been conservative (Dutch: ‘*voorzichtig*’, i.e., *prudent*) in their calculations ...” (LNV, January 1996, p 11; bold typeface in report, as header of a sub-chapter). This conclusion, drawn by its author, the civil servant A.J.M. Wouters, on the basis of his visit to the Flor y Fauna

plantations in 1993, is made irrelevant by the above because it lacks all scientific basis and/or empirical proof.

Forestry research is easily politicized because it is readily utilized by public and private land management organizations and environmental interest groups (Lee, 1990).

It has been found that in answer to questions raised in Parliament on November 27, 1995, on the Ministerial report ‘Wouters’, the Ministers of Agriculture and Finance respond that: *On our part, there exists no doubt concerning the correctness of the conclusions of the mission of the Ministry of Agriculture*” (Tweede Kamer, 1996a, section 5). Treemail has requested the Minister of Agriculture to check whether or not provision of additional information to Parliament was called for, given the falsification of the Ministerial report’s *conclusion* that on the subject of return to investors and other forecasts “OHRA and FYFSA have been conservative (Dutch: ‘*voorzichtig*’) in their calculations ...” and because the Ministerial response might provide an undesirable semblance of credibility to yield projections by Flor y Fauna and other teak investment companies. The Minister has responded that he was not willing to do so. The present author emphasizes that the Minister’s letter was not confidential, because it was sent to the press prior to its receipt by Treemail (letters on file in the author’s archive).

It is established that the Ministry of International Cooperation of The Netherlands, DGIS, has published an article entitled “OHRA does not mislead the investors” in its official information magazine ‘Internationale Samenwerking’. It is established that the Ministry published this document at a time when this issue was at the core of a legal dispute before the Advertising Standards Committee. It is verified that, as a final outcome of this dispute, the Committee has ruled that OHRA’s advertisements for the Teakwood investment program were “misleading” and that they “painted too rosy a picture”.

WWF’s ‘Centeno’ report includes the following statements in the section conclusions and recommendations:

Should such projections fail, as seems highly probable, it will be the return to investors which would suffer most severely. This poses technical, possibly legal, and even moral implications, from which the WWF should be shielded. [...] WWF seems involved in a commercial operation with questionable technical, financial and ethical dimensions. There is enough evidence to justify a revision of its 'endorsement' of Flor y Fauna's activities in Costa Rica, and a revision of the nature and extent of the contracts between OHRA and individual investors in the Netherlands (Centeno, December 22, 1993; italics typeface in original report).

It is established that the Teakwood contract partners, including WWF, have not followed this recommendation. As has been previously stated in the present study, the WWF chapter in The Netherlands has publicly announced that the support from the WWF International chapter for the Teakwood programme is “unconditional” (WWF, October 4, 1996, letter to

NOVA; Dutch: ‘onvoorwaardelijk’; the same word is used by OHRA when it described this WWF document, as exhibit # 5, in its written memorandum of pleading in a court case on November 14, 1996).

The reader is reminded that the WWF’s ‘Centeno’ report of 1993 asserted: “*WWF’s integrity and prestige would be affected if it does not warn those most likely to lose if such projections are in fact exaggerated. As will be shown later, those most likely to lose are the investors involved*” (Centeno, December 22, 1993, p 15; bold typeface in original text). This view is echoed in the words from WWF Director S. Woldhek in his pronouncement in a televised broadcast: “*Let’s face it, if the investors were to lose then WWF would lose as well, and so would nature*” (NOVA, November 23, 1995). It is established that the Teakwood contract partners, including WWF, have not informed investors of exaggerated yield projections for the Flor y Fauna plantations or of the lack of scientific basis for such projections.

It is established that WWF has publicly claimed that Professor Centeno would have found that the Flor y Fauna projections for yield and proceeds from timber sales are sound. This claim was made by WWF in 1993, prior to the publication of the draft version of the Centeno report. It has been established that neither the draft version, nor the final version of the Centeno report and later publications and public statements by Professor Centeno provide any evidence to corroborate this public claim by WWF. The Centeno report itself remains confidential till this day, its contents being known through the media. The text is partially available on the World Wide Web (Centeno, December 22, 1993).

It is established that the Teakwood contract partners referred to wood and wood prices in the information provided to potential investors. It is established that the Teakwood contract partners presented their justification of original rates of return that were projected to investors on the basis of the expected proceeds from the sale of wood - i.e., excluding bark - in a court of law in December 1993. It is established that OHRA has submitted this interpretation of the contract with Teakwood investors to a court of law of 1993 and in court hearings in 1996, when they elaborated the projected yields of the Flor y Fauna plantations.

OHRA submitted the Rainforest Alliance document of August 16, 1996, in evidence to a court in The Netherlands in 1996. It is established that the definition of the projected biomass employed by OHRA includes other produce such as bark in addition to wood. It is established that the prices cited by the Teakwood partners in substantiation of the economic return to investors refer to wood only and do not include produce such as bark.

It is established that the Rainforest Alliance understands that the portrayal of potential returns to investors was in fact based on calculations of biomass, rather than on the ‘wood’

volumes portrayed in the 1993 Teakwood brochure. To be precise, the Rainforest Alliance asserts in August 16, 1996 that:

Flor y Fauna's Dutch language version of the March 1993 brochure for teakwood VI (prepared by its financial representative in The Netherlands) referenced diameter growth scenarios from 1.5 to 2.2 cm.[...] This range amounts to an arithmetic approximation of potential biomass production in 20 years (Smart Wood, August 16, 1996).

It is thereby established that the Rainforest Alliance states that Teakwood promotional materials refer to projections of biomass production, rather than to the material wood that is mentioned in the brochures. It is thus established that the Rainforest Alliance, WWF and OHRA presented data on the production of biomass, rather than of wood, to corroborate the projected yield and returns of the Flor y Fauna plantations. It is established that the FSC Director and the FSC Board Members have been informed on this matter by the Rainforest Alliance (e.g., Centeno, August 29, 1996).

With respect to the above, the reader is - once more - reminded of the following words from the Rainforest Alliance Smart Wood program Director:

There is a long history in Costa Rica (and elsewhere) of some plantation operations or companies making exorbitant claims regarding timber or financial yields, environmental benefits, and other social or economic benefits. Based on our assessment, Flor y Fauna is not that type of company (Smart Wood, December 21, 1995).

It is noted that this statement of the Rainforest Alliance was declared to be “*entirely correct and responsible*” by the FSC Director (FSC, January 8, 1996).

It is established that OHRA, WWF, Flor y Fauna and Van Rossum Van Veen Consultants have publicly presented the Rainforest Alliance report of August 1996 in order to corroborate the Teakwood projections of potential return to investors. It is thereby established that these organizations are aware of the fact that their calculation of potential returns to investors is based on projections of biomass production, rather than on the production of ‘wood’ as it is portrayed in the 1993 Teakwood brochure.

It is established that OHRA has claimed to substantiate Flor y Fauna's yield projections in court *without* disclosing a hidden internal monitoring report of mid-1996, which was based on measurements taken early in 1996. It is established that with this internal report, the yield projections for the Flor y Fauna plantations had been lowered to the order of magnitude that Professor Centeno considers as the maximum acceptable level for such teak plantations in his 1993 report to WWF.

Next to volume, price is the second most important variable in asserting the potential rates of return to investors in Teakwood. It has been established that Flor y Fauna projects a uniform price level as point of departure for calculations of the rates of return for all

Teakwood projects I-VIII, irrespective of age of the trees at the moment of felling. It has been found to be undisputed in literature on teak that, for a given volume, timber prices tend to increase with age. It is noted that this increase in value is, in part, due to the range of potential further use of the timber of different age classes. It is noted that, in part, the range of potential uses determines the range of added values that can be attained with timber processing. It is established that the use of uniform prices per age class of trees harvested, as employed by Flor y Fauna for all Teakwood projections of rates of return is highly unusual and that it is not commensurate with professional standards accepted in forest operations. In his publication ‘Traders of illusions’, Centeno notes that:

The products derived from each thinning have in fact their own price structures. They are also meant for different markets and end-uses. These differences are so marked that they could best be considered as different products (Centeno, July 16, 1996).

On the subject of the level of timber price projections, the Centeno report asserts: “*Here again we find unusually high expectations by Flor y Fauna.*” It is noted that all price assumptions are allegedly based on the price of *standing timber* (e.g., Flor y Fauna, March 1993, p 11; Dutch: ‘*op stam*’). This is further corroborated by evidence submitted before a court by OHRA: a fax message from WWF Arnold van Kreveld to Julio Cesar Centeno with copies to Chris Elliott, Wade Adeleke, Joop van Veen and Jan van Rossum, with date October 17, 1993. The message contains the following statement: “*All of FYF's financial prognoses are based on prices for logs within Costa Rica*” (WWF, October 17, 1993).

It is established the comments by Centeno refer to an assumed 1990 base price for teak as standing timber of 450 US \$. It is established that Teakwood contract partners use this same assumption in brochures that inform potential investors (Flor y Fauna, March 1993, p 11). It is established that, in April 1996, OHRA deviated from the original price assumptions when it informs its investors that: “*The 1990 base-price of 565 US \$ that Flor y Fauna used for teak as standing timber is OHRA's point of departure for calculating its prognoses*” (OHRA, April 9, 1996).

It is noted that the Ministry of Natural Resources in Costa Rica quotes a price for teak of 98.15 US \$ (18,942 Colones per m³ at 193 Colones per US \$) as standing timber in December of 1995 and a price of 418.90 US \$ (80,850 Colones per m³ at 193 Colones per US \$) for teak as sawn timber (Minerem, December 26, 1995). It is noted that Dilley, in 1996, registers a value of 450 US \$ per m³ *F.O.B.* in Costa Rica for a mixed batch of sawn teak that includes timber older than 20 years (Dilley, 1996). It is also noted that Béhagel gives 500 to 2,000 US \$ as price for teak derived from natural forests in Asia and 80 to 150 US \$ as price for simple products derived from thinnings in Ivory Coast (Béhagel, December 1997, p 7).

It is noted that, at the time of the circulation of OHRA’s information bulletin to investors in April 1996, the yield prognoses employed by OHRA had been reduced proportionally to the retrospective increase of the assumed 1990 base price for teak. It is confirmed that OHRA presented a copy of its April 1996 communication to investors to a court in The Netherlands. It remains unknown to the author how, in retrospect, a base price that has been quoted by the Teakwood partners as being based on actual prices made in the market in one and the same year 1990, and said to have been supplied by the Costa Rican Camera Forestal, can change from 450 to 565 US \$.

It has been found that, according to materials presented to potential investors (e.g., Flor y Fauna, March 1993 and OHRA, April 9, 1996) and at various court hearings by the Teakwood contract partners (e.g., Flor y Fauna, December 7, 1993; OHRA, December 7, 1993; OHRA, March 26, 1996 and OHRA, May 9, 1996), the prices projected for Teakwood were based on the sale of wood as ‘standing timber’. In its substantiation of the rates of return to investors before a court, OHRA pleaded as follows in 1996, and in similar wordings at earlier occasions and in court as late as July 18, 1996:

The positive effect of processing timber into semi- and finished- products has *not* been allowed for in the calculations on the rates of return (OHRA, March 26, 1996; emphasis by OHRA).

It is established that the Teakwood contract partners portrayed returns that could be derived from timber processing only as a potential source of *additional* proceeds in these cases. It is established that this potential source of return to investors would be *additional* to the returns that were advertised to investors (Flor y Fauna, March 1993, p 9).

It is also established that OHRA and Flor y Fauna justified the same level of returns that were advertised and projected to investors on the basis of timber values which *include* additional proceeds derived from timber processing, before a court later in 1996. The Rainforest Alliance and the FSC were informed of this justification. The WWF has publicly employed the same justification of the projected timber prices. It is noted that this justification of the advertised rates of return by the Teakwood contract partners thus include potential sources of revenues that are *not* covered in the investment contract policies.

It has been established that the Rainforest Alliance and - in court - the Teakwood contract partners justify these price projections on the basis of *imputed log values*, which are set internally from a price that is calculated on the basis of finished or semi-finished products, in accordance with a *contract between OHRA and Flor y Fauna of 1993*. It is established that the nature of this contract has been declared to be confidential by the Teakwood contract partners. It is established that the precise nature of this 1993 contract between OHRA and Flor y Fauna and the method of calculation of the ‘imputed log values’

contained in the contract have not been communicated to investors. It is so proven that the sale of timber to Flor y Fauna *exclusively* and against ‘imputed log values’ is incongruent with sale of the standing timber as stipulated in the contract between OHRA and the Teakwood investors.

Of this 1993 contract between OHRA and Flor y Fauna little is known. The document is and remains classified, according to the Rainforest Alliance. Centeno departed from the correct assumption, which is based on the information he received from the Teakwood contract partners in 1993, that the investors returns are primarily based on the sale of logs as standing timber to the highest bidder on an open market. All that is publicly known of the obscure contract between Flor y Fauna and OHRA was reported in the following three paragraphs of the Rainforest Alliance document of August 16, 1996:

In his economic analysis, Dr. Centeno assumed that Flor y Fauna expected to sell roundwood. He compared Flor y Fauna’s price data to existing raw log sales on the open market domestically and internationally. This comparison is inappropriate [*author’s note: is it really?*]. Flor y Fauna’s intent is to develop value-added products, eventually producing higher-end value-added products such as furniture. This gives a higher internal rate of price for Flor y Fauna’s plantation wood than reference to log prices in the open market. In the Smart Wood independent economic analysis, the consultant explained that one needs to take into consideration the broad array of specialty items and product mix that Flor y Fauna is capable of producing over time in order to understand the potential value per cubic meter that they hope to achieve.

The arrangement between OHRA and Flor y Fauna values teak logs at Flor y Fauna’s processing facilities by a method that subtracts direct production costs from the revenue of Flor y Fauna’s processed products (i.e., imputed log value). Flor y Fauna and OHRA price teak not as standing timber, but as logs delivered to Flor y Fauna’s processing facility. The internal price of teak is calculated by subtracting the processing costs from the weighted average selling price of Flor y Fauna’s processed product. The difference between selling price and processing costs gives a residual value, and is the imputed value (or internal price) of the teak logs. The internal price reflects the derived demand for teak logs.

Dr. Centeno’s analysis did not reflect this arrangement between Flor y Fauna and OHRA. This confusion is understandable as the translated 1993 brochure indicates that forecasts are based on prices of unprocessed teak while also referencing that processing increases prices of end-products which benefits the investors. The contracts between OHRA and Flor y Fauna are clearer. Article 2.1c of the 1993 contract between OHRA and Flor y Fauna specifically references the arrangement for Flor y Fauna to pay OHRA imputed log values (i.e., gross revenues from product sales, less the costs of processing) (Rainforest Alliance, August 16, 1996).

In this context, it is noted that “*no design for future road infrastructure, harvesting systems or wood processing*” was in place at the time of the first Rainforest Alliance inspection of the Flor y Fauna plantation in 1993 (Rainforest Alliance, February, 1998). For a non-exhaustive list of problems in timber processing that were encountered by CMC, one

of the marketers of Flor y Fauna products, the reader is referred to CMC, September 12, 1996 (copy in CD-ROM).

It is established that the investment brochures of Flor y Fauna I-V, i.e., prior to the WWF and OHRA involvement, also refer to returns to investors based on the sale of *standing timber*. It is verified that in September 1995, Flor y Fauna informs its investors to Teakwood I-V that: “*After all, the contract deals with the proceeds from the trees, not of semi-finished or finished products*”. It has been found that Flor y Fauna has sought a change of contract with these investors in order to include returns derived from timber processing (Flor y Fauna, September 13, 1995). It has been found that Flor y Fauna reported that it has attained this change of contract with a number of its investors, but not with all of them (Flor y Fauna, March 16, 1996). No evidence was encountered that OHRA sought or attained a similar change of contract with its investors.

It has been established that Flor y Fauna sought a change of contract with its initial investors of Teakwood I-V to obtain their approval for a change of the projected thinning schedule (Flor y Fauna, September 13, 1995). It has been established that Flor y Fauna reports that it has sought and received a similar approval from OHRA (Flor y Fauna, September 13, 1995). No evidence was encountered that OHRA sought or attained an analogous change of contract with its investors of Teakwood V-VIII.

It is noted that in substantiation of the projected rates of return, OHRA made the following announcement to its investors in April of 1996: “Very recently, Flor y Fauna has informed all its initial investors that they will receive the first returns conform expectations in early 1997”. It is established that this announcement falsifies a public statement on the same subject, made in January 1996 by OHRA’s Chairman of the Board. He informed the Central Press Agency of The Netherlands, ANP, that: “*The yield of the first plots that Flor y Fauna started eight years ago is exactly conform the expectations. Investors that have joined have meanwhile received their first share of the profits*” (ANP, January 28, 1996).

It is verified that the Rainforest Alliance report of August 1996 indicates that the Teakwood contract partners used different calculations *internally*, whereas they were publicly defending the original yield forecasts that were advertised to potential investors.

The 1993 brochure estimates by Flor y Fauna were not repeated by OHRA when it produced its own promotional materials in early 1994. These did not reference any volume figures. Instead OHRA and Flor y Fauna refined total yield figures internally (Smart Wood, August, 1996).

It is established that OHRA advertised with annual rates of return of to investors of 15 to 25% as late as April 1994 (ANWB Kampioen, April 1995, p 58). This is identical to the rates of return that were advertised since March 1993 (Flor y Fauna, March 1993). The

‘internally refined total yield figures’ thus were not reflected in the rates of return that were

It is established that the site selection for the Flor y Fauna teak plantations has been poor. The scientific literature for the species was found to be in strong agreement on the fact that teak has a marked preference for well-drained soils. It is established that Flor y Fauna describes that a number of sectors in the Teakwood VI plantation have a clay layer at a depth of 40 cm (Flor y Fauna Teakwood info, September 1995). This causes a condition which - in Flor y Fauna’s terms - constitutes a “*moderate drainage*” (Flor y Fauna, Teakwood info, September 1995). It is noted that Flor y Fauna informed its investors that: “*58 km of canals and ditches were cut and 54 km of river has been deepened. In addition, many kilometers of drains were cut using shovels*” (Flor y Fauna, Teakwood info, September 1995). It is noted that such work can likely be avoided by proper site selection and “*If expensive drainage seems necessary, then other species should be recommended*” (Keogh, 1987).

Further evidence of poor site selection was encountered in a Flor y Fauna report to investors where the company asserts that: “*End of last year we reported to you that as a result of windthrow and flooding in the summer of 1994 a certain type of natural thinning had occurred of 5%*” (Flor y Fauna, September 13, 1995). It is observed that this Flor y Fauna report falsifies part of the following statement by WWF representative Arnold van Kreveld in OHRA’s in-house magazine:

Hurricanes are rare in Costa Rica and they are totally absent in the area where the plantation is located: in the center of the country, in the province of Alajuela. In the hilly area, floods can be ruled out for all practical purposes (OHRA, Summer 1993).

It is observed that the same Flor y Fauna report falsifies the information of the Teakwood brochure of 1993 where it is stated that:

In addition, floods do not occur in the region (Flor y Fauna, March 1993, p 13).

It is observed that the same Flor y Fauna report falsifies the information that the company provided to investors in 1992:

Because the entire plantation is situated on hilly terrain, the chance of floods is ruled out (Flor y Fauna, April 1989, p 24).

Further indications that incorrect information was provided to investors about the Flor y Fauna plantation with respect to the risks of wind and flooding come from other sources. The Costa Rican Newspaper la Nación reports tornado damage in the Province of Alajuela in 1997 (Nación, October 28, 1997) and the Rainforest Alliance reports the occurrence of damage by strong winds in the adjacent teak plantations of Forestales International (Smart Wood, April 1998). Bailiff Groot, in the official record of his visit to the Flor y Fauna

plantations in 1993, actually reports to have seen the work progress of propping up 40,000 trees that had been blown down (Groot, December 1993).

It is observed that the Ministerial report ‘Wouters’ describes the state of knowledge concerning soil conditions at the plantations as follows: “*it is not known what nutrient deficiencies are present in the soil or what deficiencies may turn up in the future.*” The author of the report was found to assert that: “soil research is recommended”. It is noted that this report was made following a visit to the plantation in late 1993. It is noted that OHRA’s legal representatives Ekelmans den Hollander presents and praises this Ministerial report in a written statement to court in 1996 as follows:

OHRA bases itself on a report of Ir. Wouters, following an *extensive* mission on behalf on the Ministry of Agriculture [emphasis by OHRA].

In May 1995, Flor y Fauna initiated a three-month soil mapping programme (source: Teakwood info, September 1995). It is noted that soil research is a practice commonly deemed indispensable before or during prospecting and species selection in plantation forestry and that prospecting and species selection are activities that are executed *prior to planting*. It is also noted that soils research is common practice in establishing a fertilizing regime and is done *prior to the application of fertilizers*. In fact, the SHELL/WWF tree plantation review states that: “*Efficient plantation forestry can only be built on this knowledge base*” (Evans and Hibberd, 1993; Study No. 9 in SHELL/WWF, 1993, p 20).

It has been deduced from various sources that the provenance of the material used to generate the planting stock at the Flor y Fauna plantation was below the silvicultural optimum. This is corroborated by evidence reported by Smart Wood:

FyF will explore means to improve both genetic diversity and seedling quality for teak and other timber species being planted (Smart Wood, February 1998).

It is verified that the Rainforest Alliance conditions for its original certification of 1995 include:

FYFSA will explore the means to improve both genetic diversity and seedling quality for teak and other timber species being planted (Smart Wood, January 28, 1996).

In addition, it has been verified that the civil servant from the Ministry of Agriculture of The Netherlands and later Chairman of the Flor y Fauna scientific advisory board, A.J.M. Wouters, reports early inflorescence and non-uniformity of the teak shoots in his Ministerial report of 1994, which he personally observed during his visit to the plantations in late 1993. Circumstantial evidence to the lack of knowledge on the part of Flor y Fauna with regard to the seed quality of their teak trees is provided by the company’s lawyer who, in his presentation to a court of law in 1993, presented scenarios with various form factors (for the definition of ‘form factor’ see Brünig and Mayer, 1980) for the planting stock. In this presentation, the lawyer argues that the best trees will be selected during thinning. It is

noted that the SHELL/WWF Tree Plantation Review contains the following text on thinning practices:

Where trees are of known genetic quality (clonal material, for example), “mechanical” thinning systems - the removal of regular patterns of trees often in lines, can be an economic way to reduce stem numbers without reducing crop quality. At the other extreme, where there is a great genetic variability, it will be necessary to select and retain better trees aiming to remove those with undesirable characteristics (Evans and Hibberd, 1993; Study No. 9 in SHELL/WWF, 1993, p 58).

It is established that the Rainforest Alliance conditions for certification of the Flor y Fauna plantation management of 1993 include:

FYFSA will organize a training course for staff, employees and short-term workers on the use, storage and disposal of chemicals. FYFSA will also continue to emphasize careful use of all chemicals, particularly in the case of Counter for nematode problems. FYFSA should also continue to research the most effective fertilization treatments for all plantations and seek ways of minimizing fertilizer and other chemical runoff into aquatic systems (Smart Wood, January 28, 1996).

It has been verified - and quoted in the present study - that Tico Times reported:

In addition, The Rainforest Alliance Smart Wood Director Richard Donovan also stated that in late 1993 he found that Paraquat, a highly toxic herbicide, had been used extensively on the Flor y Fauna plantation, that the plantation personnel was now instructed in the proper use of chemicals and that the plantation did not even have a management plan (The Tico Times, March 8, 1996).

It is noted that the section Summary on chemical inputs of Study 9 in the Shell/WWF tree plantation review contains the following text:

Most plantations will never see any greater input of chemicals than spot applications of a low toxicity herbicide which is neutralized on contact with the ground. Operators will be fully protected and streams, ponds and other special areas will not be tainted by the operation. This will be the normal situation since forestry as a land use does not require large-scale chemical inputs (Evans and Hibberd, 1993, p 27; Study No. 9 in SHELL/WWF, 1993).

It has been verified that WWF’s Allard Stapel published an article in the May 1993 issue of the WWF magazine ‘Panda’ where he writes that Flor y Fauna plantations were sustainably managed and that no chemicals are applied at the Flor y Fauna plantations. It has been established that the Flor y Fauna Director makes a similar statement in a ‘*letter to no one*’, that OHRA submitted in evidence at a court hearing (Flor y Fauna, September 23, 1993). It has been verified that the Smart Wood public summary report states that, in 1997, Smart Wood found that:

FyF continues to handle (apply, store and dispose) some toxic chemicals (Smart Wood, February 1998).

The public statement by WWF on the non-use of agro-chemicals at the Flor y Fauna plantation in 1993 is thus falsified.

It is noted the Teakwood investment program’s promotional materials include a claim that:

The WWF shall promote that the management of the Teakwood plantation will be in as close accordance to the FSC guidelines as possible (Flor y Fauna, March 1993, p 6).

Later advertisements claim directly that plantation is managed according to the FSC principles and criteria (e.g., OHRA advertisement in ‘*Vrij Nederland*’ No. 3-95), or even that the plantation management has been certified by the FSC. It is noted that “extensive use” of agrochemicals, including Paraquat, and the use of Counter that were reported by the Smart Wood program Director may be in violation of the FSC Principles and Criteria.

According to the FSC Criteria:

6.6 Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks (FSC, February 1996).

It is established that herewith WWF has joined the ranks of those that WWF accuses of making false claims of environmental friendliness of their forest products. In 1996, the WWF Forest for Life Campaign Director and FSC Board Member Francis Sullivan addressed the audience at the Conference on Certification and Labeling of Products from Sustainably Managed Forests as follows in their key-note speech:

In many countries consumers are becoming more and more concerned to see and read about the world’s forest crisis. In response, timber importers, manufacturers and retailers have labeled their products to demonstrate their environmental friendliness. Claims such as “For every tree planted, at least three are replanted”, or “From managed forests” are now commonplace. But how credible are these claims? WWF has researched the validity of these claims and found that most are unsubstantiable or directly misleading (Sullivan, November 1996).

It is established that the Ministry of Agriculture of The Netherlands also claimed that no chemicals are used for weeding at the Flor y Fauna plantations.

Even if the application of chemical weed killers to combat undesired undergrowth is cheaper, all necessary weeding is done manually with a machete (=cutlass) (Platform, March 1994, p 20).

In that article, the Ministry of Agriculture of The Netherlands describes the results of a Ministerial mission to the Flor y Fauna plantations in Costa Rica. The assertion was published in the official magazine on the Ministry’s policy. This assertion is hereby considered to be falsified. The author notes that it remains unknown to him if any, and if yes which, general interest was served with the publication of this information by the Ministry of Agriculture of The Netherlands.

It has been demonstrated that the Teakwood contract partners present what they call an ‘executive summary’ of a report by the Centro Científico Tropical, CCT, at a time when the Teakwood contract partners claim that the entire report had not yet been finalized (J. van Rossum *in*: Het Financieele Dagblad, April 9, 1996 and OHRA, July 18, 1996, in a written court statement). This cast serious doubts on the integrity of the methodology employed by the CCT scientists as it is accepted practice to summarize a scientific report only *after* it has been finalized. It is noted that the presentation of the executive summary of the CCT report by the Teakwood contract partners follows the same pattern as WWF’s presentation of the results from the ivory trade review group ITRG report in May 1998. In both cases WWF staged the public presentation of the ‘results’ of an unfinished report as ‘scientific findings’. The case of the ITRG report is described in Bonner’s classical account of African wildlife ‘*At the hand of man*’ of 1993 (in the chapter ‘White man’s game’ starting p 114). However, it is noted that - in contrast to the ITRG report and in contrast with a public statement by Flor y Fauna’s spokesperson Van Rossum (Financieele Dagblad, April 9, 1996) - the CCT report remains confidential till the present day, so its very existence cannot be confirmed.

On the meeting of seventeen African nations on the issue of an ivory ban held in Gaborone in July 1989, Bonner (1993, p 146) observes:

“And while they [the Southern African Nations; author’s note] could never match the resources available to WWF, AWF and Leakey in Kenya, they could at least make their case to their colleagues.”

The present study demonstrates that, today, the Internet can help match such resources.

It is established that, in 1993, Flor y Fauna’s lawyer stated before a court of law in The Netherlands that:

It can be determined, already now, that the loss at the first cut will be as good as zero (a maximum of ten trees per hectare). The final cut of the thickest trees ought not to have one single tree lost.

Study of the ‘executive summary’ of the unfinished CCT report and Flor y Fauna’s Teakwood Info’ established that the CCT reports tree densities of 1,100 trees per ha. Comparison with the initial planting density of 1,600 trees per ha (40x40 trees at 2.5 m), shows that *ca* 30% of the teak trees were eliminated *well before the first thinning* was to be executed. It is established that the reasons for this elimination given by Flor y Fauna and the Rainforest Alliance in public statements include fire, flooding and diseases or pests. Therewith the Flor y Fauna lawyer’s pronouncement in court of 1993 is falsified.

It is established that WWF representative Van Kreveld pronounced the following in OHRA’s in house magazine in 1993, under a caption that reads “*Financially reliable*”:

WWF would *never* support the [Teakwood] project if there would be any chance of a financial failure (Dutch: *financieel debakel*). We have seriously studied the plans and concluded that the figures are correct (OHRA, summer 1993, p 22).

According to WWF Director Woldhek, there were only two “small investigations” done prior to the ‘Centeno report’ of late 1993 (WWF, March 20, 1996, p 2). This information from the WWF Director was presented as evidence in court by OHRA (OHRA, March 26, 1996, as exhibit # 30). If the information provided by the WWF Director is correct, then these two unidentified documents provide the sole basis for the above statement by WWF representative Van Kreveld. It is noted that the author encountered no evidence that the Teakwood contract partners have ever publicly presented the two ‘small investigations’ in support of their assumptions on timber yields and prices, upon which the rates of return of the investment program are calculated; not in any of the court cases, nor elsewhere.

It is established that WWF *a posteriori* denies responsibility for the projected rates of return and for the information provided to Teakwood investors. WWF Director Woldhek writes:

Centeno’s article unjustifiably conveys the impression that WWF is responsible for estimations of rates of return to investors and for the provision of information to policy holders (WWF, October 16, 1996).

On October 10, 1996, WWF sends out a press release which contains a similar statement:

The WWF is an organization for the protection of nature and it can therefore only comment on the subject of sustainability of production (WWF, October 10, 1996).

In a Dutch television program called NOVA, WWF Director Woldhek repeatedly calls upon viewers in The Netherlands to inquire at OHRA, rather than at WWF, if they want substantiation of the projected rates of return (NOVA, November 23, 1995). Furthermore, WWF Director Woldhek writes:

WWF is not a forester. Therefore it demands that Flor y Fauna collaborates with the (independent) Rainforest Alliance (WWF, October 16, 1996).

Does this imply that WWF delegates responsibility for claims regarding the sustainability of the forest operations at the Flor y Fauna plantations? In view of its earlier and legally binding pronouncements, however, WWF is not in a position to do so. This is perhaps best illustrated by the following quotation from the official sales brochure for Teakwood of 1993, which has the text “*in collaboration with WWF*” and the panda logo on the front cover:

WWF has ascertained that, in ecological and financial terms, the Flor y Fauna plantations set a worldwide example (Flor y Fauna, March 1993, p 15).

The Rainforest Alliance certified the Flor y Fauna plantations in 1995 as a well managed plantation only. It did not certify the Flor y Fauna plantation management according to its higher standard of a ‘sustainably managed’ forest operation. The 1997 verification mission

by Smart Wood did not change this. The Rainforest Alliance upheld the original 1995 verdict not to certify the Flor y Fauna plantation management as a ‘sustainably managed’ forest operation. Smart Wood informed that the:

[...] verification team recommended FyF be certified as a ‘*well-managed*’ plantation operation (Smart Wood, February 1998).

It is noted that - *by implication* - the WWF claims to ‘sustainable management’ of the Flor y Fauna plantations can hardly be based on the Smart Wood certificate.

It is noted that the circulation of publications to electronic conferences for professionals via the Internet provides for a public peer review process that is possibly unsurpassed by the current peer reviewing practice for scientific publications. In reaction to one of the incidental postings by Flor y Fauna, Nelson Wong expressed this as follows:

What Mr. Huizinga fails to comprehend is that there are lots of professionals on this list who are able to assess and evaluate the whole situation. They would have given Dr. Centeno hell if he was pulling a fast one on this list (posting to the FUNET conference on May 10, 1996).

It has been established that - save for an incidental reaction by Flor y Fauna and the ‘ruling’ of the Rainforest Alliance - Treemail has received not one single negative criticism regarding the accuracy of the information provided in its postings, either in public or private.

Conclusions

Green investment

Teakwood has enjoyed a vivid interest from Governmental organizations and the general public in The Netherlands, for its combination of moneymaking and environmental programs. Within The Netherlands, Teakwood has put the combination of ethical, green investment and plantation forestry on the map. The release of the Internet circulars and the closure of the Teakwood program ushered in a period of profound silence on the part of teak investment programs, Governmental bodies in The Netherlands and the public media.

Tropical forests and forestry are in dire need of investment (Romeijn, 1993). Those who are of the opinion that WWF has furthered the cause of ethical investment in tropical forestry with the Teakwood investment program are, once more, reminded of the following conclusion by Professor Oldeman:

In conclusion, I point out the substantial damage to the national and international reputation of Dutch forestry and nature conservation, to the credibility of the Dutch civil service as an instrument of policy-, certification-, and project- making, and to the investors who have been lured towards teak policies through the media; all of this brought about by the OHRA/Flora y Fauna teak affair. The most impacting long-term damage of all will hit the tropical forests. As a result, their preservation will be taken far less seriously (Oldeman, February 17, 1996).

International forestry

At the occasion of the United Nations General Assembly Session in New York on June 25, 1997, the World Bank and WWF announced the establishment of a global alliance for forest conservation and sustainable use. Both organizations in this alliance agree to: *"bring an additional 200 million hectares of the world's forests under independent certification by the year 2005"* (WWF and World Bank, June 25, 1997, and WWF, June 1998).

According to the WWF and the World Bank press release:

Independent certification verifies that forest management practices are environmentally, socially and economically sound and allows consumers to purchase products from well-managed forests (WWF and World Bank, June 25, 1997).

The World Bank and the WWF combined represent organizations that are generally considered to be the world's largest individual source of development finance for forests and forestry (WB) and the world's largest and most prestigious environmental organization (WWF), respectively. The establishment of this global alliance for the promotion of independent forest certification indicates the need for a scientifically sound review of forest

management certification and forest products labeling programs and, where appropriate, their accreditation systems.

According to FSC’s strategic plan, academic research interest in the subject of certification *high and increasing. This influential group is also taking the certification idea seriously. The consensus of the academic articles is that certification is an innovative idea which may have a significant effect on the forest product market*” (FSC, April 1998).

Whatever the academic research interest may be according to the FSC, no scientifically sound review of any of the FSC accredited certifications of forest management was found available.

The present study is the world’s first comprehensive and in-depth analysis of statements made about a certified forest management operation that is accredited by the FSC. The Smart Wood certificate for the management of the Flor y Fauna teak plantation in Costa Rica is openly approved by agencies that are instrumental to the introduction and promotion of independent forest management and forest products certification: WWF, FSC and the Rainforest Alliance. The present study demonstrates that to place one’s trust in unreferenced statements of the kind: *“The most respectable of all the groups that certify the ecological soundness of the management of forests is the Forest Stewardship Council, FSC”* (Economist, August 22, 1998, p 64), is simply not enough.

It is noted that this first scientific study of an FSC accredited certificate for Flor y Fauna’s forest plantation management, where the world’s best known tropical plantation species is cultivated, does not even touch upon two yet more complex sides of forest management certification: certification of natural forest management and the chain of custody verification.

The author considers the results of the present study as highly disturbing for the credibility of forest certification. The grave results provide a solid basis to broaden the author’s earlier advice to Parliamentarians of the European Union: *“The EU should play the role of a watchdog”* (Reuter, March 1996, p 8), to include other Governmental Agencies, that should become more than mere sponsors of forest certification endeavors. In the words of Oldeman: *“We foresters are not there to play games upon posteriority”* (Oldeman, public communication, 1978-1998).

The Rainforest Alliance ‘ruling’

Credibility and transparency (Viana *et al.*, 1996) are both terms the FSC names as the pillars upon which the program of accreditation and certification of forest products and forest management are founded (e.g., Cabarly *et al.*, 1995; Upton and Bass, 1995; Upton, 1996). Credibility and transparency, these terms are semantically empty terms in the face of

the opaque complaints procedure that was practiced by the Rainforest Alliance. The FSC Director endorses the Rainforest Alliance’s un-transparent complaints procedures in a case where there was no complaint. This endorsement includes FSC’s acceptance of the Rainforest Alliance as a judge in a case where the organization had earlier been a “false witness” (Matthew, 10:19, King James Version) in public statements on the case. This endorsement includes the Rainforest Alliance neither hearing nor notifying L.H.Th. van Weezendonk and P. Romeijn, whom the Rainforest Alliance named as “plaintiffs” in its complaints procedure. This endorsement includes the Rainforest Alliance’s subsequent action of taking the role of provider of the information for the self-appointed “plaintiffs” in a case where the Rainforest Alliance itself rules. This endorsement includes the non-disclosure to the “plaintiffs” of the existence, nature and execution of a procedure and the weighing of confidential materials in favor of one party *without issuing a disclosure instruction* by the Rainforest Alliance. This endorsement includes the denial of the right of the Rainforest Alliance appointed “plaintiffs” to explain these matters to those to whom the Rainforest Alliance had circulated its obscure, collusive and flawed ruling.

These events demonstrate a lack of consideration for and expertise of fundamental principles of justice including article 10 of the Universal Declaration of Human Rights (Verenigde Naties, 1948), on the part of the responsible personnel at both the Rainforest Alliance and the FSC, and this includes the FSC Board Members. With FSC’s decision to include plantation forestry into the accreditation of the Rainforest Alliance in 1998, the FSC Board finally confirmed - for posterity - the FSC Director’s premature endorsement of the Flor y Fauna certificate (FSC, January 28, 1996) and his written endorsement of the flawed nature and handling of the associated complaints procedure by the Rainforest Alliance in 1996.

The science and the art of certifying forest management

The forest management plan today is the basis of proper plantation management and it provides the starting point of forest management certification. According to the ITTO Criteria for the measurement of sustainable forest management:

Integrated planning at all levels reduces private and public economic and environmental costs. A management plan is therefore an essential component of the establishment and sustainable management of any planted forest, and must complement other relevant plans in related sectors (ITTO, 1992).

However, the results of this study established that no forest management plan was in place at the Flor y Fauna plantations when OHRA and WWF joined up in 1993.

The Teakwood contract partners habitually chose to clothe their pronouncements on the Teakwood investment program in scientific terms. From the outset, OHRA and WWF

presented their projections for Teakwood to investors as scientifically sound. The Rainforest Alliance Smart Wood guidelines for certification of plantation forest management, accredited by the FSC, specify that yield projections should have a base in science. However, no scientific evidence was encountered to justify yields that come even close to the projections that were used for promoting investments in the Flor y Fauna plantations. The Rainforest Alliance reported that, *internally*, different projections were used by the Teakwood contract partners. The Teakwood contract partners acknowledged that even these lower *internal* yield projections are much higher than anything ever recorded for teak (OHRA June 28, 1996, section 22, p 26). Prospective investors were not informed of the discrepancy between the internal figures and the projections portrayed in the texts of the Teakwood policies, brochures and advertisements.

The advertised yield projections for the Teakwood plantations hence were not based on scientific records even if this is proclaimed in the sales brochures. In fact, they are an order of magnitude higher. The management system needed to actually attain the projected yields is therefore experimental. The hypothetical nature of the Teakwood yield projections has never been communicated to (potential) investors. This fact alone may well provide courts in The Netherlands with a sound legal basis for declaring Teakwood investment policies dissolved. The probability of such a verdict within the legal system of The Netherlands lies outside the scope of the present study.

Texts derived from publications that stakeholders present as “*scientific*”, or their summaries, are no substitute for original publications and should by definition be unacceptable as evidence in court proceedings. In a number of court hearings such derivatives indeed were weighed in favor of one party even if no disclosure instruction was issued. In these cases, the complete text was declared to be “confidential” and thus not accessible to the other party. It seems safe to conclude that acceptance of such materials distorted Justice. This occurred in the court of Leeuwarden in 1993. A yield table, based on the Flor y Fauna bailiff’s reported findings and mensuration, was accepted in evidence by the court. In its memorandum of pleading, Flor y Fauna mimicked a professional yield table. The judges, in both this case and its appeal (Gerechtshof te Leeuwarden, 1995) did not detect that the yield tables have a scientific weight of zero. Even so, and contrary to the opinion of the author of the present work, the judge in the appeals case states:

The judgement of the president that one does not need to be an expert to perform measurements and to verify how the plantations are exploited is correct. (Gerechtshof te Leeuwarden, 1995, p 12).

The judges thus weighed the bailiff’s findings and the yield tables and ruled in favor of the Teakwood contract partners when they reached their verdicts. They did not weigh the findings and yield tables as a scientific weight of zero, but as a juridical weight higher than

zero. The balance of justice reminds one of Proverbs 11:1 (King James Version): “*A false balance is abomination to the LORD: but a just weight is his delight*”.

Flor y Fauna announces the yield tables in its written presentation to court as follows:

The figures and measurements of bailiff Groot are of no value without a correct interpretation. It is important here, to arrive at drawing up a basic scheme [*of expected timber yields*] for the nearby and further future [author’s note: for the full production period of 20 years]. As point of departure the measurements of the bailiff should be taken, from which point conservative calculation follows. The following points of departure are thus formulated on these data, on which the basic scheme is calculated. Already at this point it should be noted that these points of departure are explicitly supported by Mr. Wouters, who gave evidence in a written statement to this effect (EXHIBIT 5) (Flor y Fauna, December 7, 1993; note: [*italics*] by the present author).

However, the yield tables that Flor y Fauna presented to the district court of Leeuwarden on December 7, 1993 and to the court hearing in appeal on March 22, 1995, “lack any independent meaning”, according to a later declaration by the lawyer representing Flor y Fauna in these cases (Schoonhoven, April 2, 1996). This lawyer states:

I have noted that one or more of these schemes from my written memorandum of pleading have been copied by third parties at which, by occasion, third parties suggest that the calculations and results of these schemes would be indicative for what can be expected as timber yield for the Flor y Fauna plantations. As I have repeatedly indicated, such conception is incorrect (Schoonhoven, April 2, 1996).

Flor y Fauna’s legal representative further emphasizes the meaning of the words he presented in court as follows:

I trust herewith to have sufficiently taken the edge off any meaning with respect to content that could be attributed to the arithmetic-, basic-schemes, etcetera (Schoonhoven, April 2, 1996).

‘Zoiets is nog niet daargeweest,’ stelde hij vast. ‘Dit is ener natuurspelering of zwindelhandel.’ (Professor Prlwytzkofski, ex Toonder, 1973)

However, the verdicts of this case and its appeal demonstrate that the judges were the first ‘third parties’ to have indeed attributed meaning to these very yield tables. In the written motivations to their verdicts, the judges state that these tables had meaning with respect to the likelihood of attaining the yield projections at the Flor y Fauna plantations (ref: Verdict in case No. 238-93 of December 24, 1993, in chapter 5a. p 4 and in chapter 7b. p 6; and the hearing in appeal on March 22, 1995).

In 1996, the Teakwood contract partners submitted an executive summary of what they claim to be a scientific report, written by the Costa Rican organization CCT. According to Flor y Fauna, the full report was not yet finalized at the time of the hearing. This presented a clear example of the use of - scientifically - unfounded material by the Teakwood contract partners because, under normal scientific procedures, any summary whatsoever is

published only after establishing final scientific proof and reporting a whole study. Later that year, Flor y Fauna declared that the full CCT report was a classified document. The ‘executive summary’ of the CCT report was, however, recurrently accepted, weighed and judged to be evidence in favor of the Teakwood contract partners in several court hearings by the Advertising Standards Committee. American readers of this study should realize that ‘contempt of court’ is not a recognized felony in the legal system of The Netherlands.

In papers published by the Teakwood contract partners, science is advanced as an important tool for legitimizing the Teakwood investment program. Flor y Fauna was even supported by its own ‘scientific advisory board’ (see the section ‘Who was who in Teakwood’ of the present study). The Chairman of this board was the same civil servant who wrote the controversial Ministerial report on Flor y Fauna (LNV, 1994). The same Chairman also worked at the Ministry of Agriculture in a department (IKC-N) that is instrumental in advising the Government on its tropical forest policy. Two members of the Flor y Fauna scientific advisory board were closely related to the former Department of Forestry at the Wageningen Agricultural University: one served that Department as a staff member, the other is a retired staff member. At the time, yet another member served as an employee of the Oxford Forestry Institute.

The entire Flor y Fauna scientific advisory board remained mute when the Teakwood investment program had been challenged in a television broadcast by NOVA. After the NOVA broadcast over national television in The Netherlands, the board collapsed altogether. However, the civil servant and once chairman of the Flor y Fauna scientific advisory board, A.J.M. Wouters, submitted a declaration in support of the Teakwood contract partners in a court hearing at the Advertising Standards Committee without declaring his chairmanship of - and potential collusion with - the Flor y Fauna scientific advisory board before this court. Earlier, A.J.M. Wouters had submitted a similar statement in support of the Teakwood contract partners to a court of law in Leeuwarden. His controversial Ministerial report was written “for internal use only” (LNV, 1994, p 2). This stipulation did not stop the Teakwood contract partners from submitting the entire Ministerial report in several court cases, nor did it stop OHRA from citing A.J.M. Wouters and the Ministerial report in its annual report of 1993. The Ministry of Agriculture has never publicly protested against any of these inappropriate uses by the Teakwood contract partners of an internal Ministerial report. One of the Ministerial report’s principal conclusions is that OHRA and Flor y Fauna have been conservative (Dutch: ‘*conservatief*’) with their calculations on financial returns. As our results show, these calculations were based on yield expectations that exceed all growth data recorded for teak by an extremely wide margin. The author of the present study is not aware of a single public document that can explain if any, and if so which, general interest was served with the publication of the

Ministerial report or why the Minister of Agriculture so firmly stood by the conclusions of the report in his addresses to the Parliament in The Netherlands.

In March 1996, the Teakwood contract partners publicly presented results from the CCT report as a scientifically sound document. Again, the published text was without scientific proof, although it conveyed an impression that the company’s projections on growth and yield were substantiated by scientific research. By that time, the original court display of scientific measurement *cum* form figures and yield projections made by the Flor y Fauna bailiff M.C. Groot with assistance from the Dutch civil servant A.J.M. Wouters had lost plausibility (by Treemail’s Internet circulars and Oldeman, February 17, 1996; and see, e.g., OHRA, November 14, 1996, a written memorandum of pleading by Ekelmans den Hollander lawyers for OHRA where the reports by Groot and Wouters are no longer included; also see Schoonhoven, April 2, 1996). Thus, CCT was contracted to verify the Flor y Fauna yield projections. The Teakwood partners announced to the Dutch press and the public at large, in their disclosure of selected materials from the otherwise occult CCT report, that the CCT report findings indeed support the Flor y Fauna field data and projections. However, they did not specify *which* of the Flor y Fauna projections they refer to (OHRA and WWF, March 4, references a and b). Does the CCT report refer to wood production or to biomass production? Does the CCT report refer to the plantation yield projections that OHRA and Flor y Fauna presented to the potential investors or does the CCT report refer to undisclosed projections that were said to have been used *internally* by OHRA and Flor y Fauna (Smart Wood, August 16, 1996)? Given the confidential nature of the CCT report, it will remain forever uncertain to which yield projections the CCT report refers, or if indeed it exists at all.

In court hearings (OHRA, November 14, 1996; OHRA, March 12, 1997), OHRA disclosed that the Flor y Fauna yield data actually refer to some form of biomass production (OHRA’s definition of ‘biomass’ is given *in*, e.g., OHRA, November 14, 1996) and that they do *not* refer to the cubic meters of standing timber that were projected to investors. The original projections that the Teakwood partners presented to potential investors (e.g., *in* Flor y Fauna, March 1993) were based on yield in terms of ‘wood’ production, and not on ‘biomass’. For the definition of the term ‘yield’ see Bazett, 1993, *in* Shell/WWF Tree Plantation Review, Volume 3 Executive Summary, section Key Definitions on page 10 and see Keogh *et al.*, 1978, p ii. The definitions of the terms ‘yield’ and ‘wood’ in forestry are also given in the section ‘Glossary of terms’. Of course, production volumes of ‘wood’ are lower than production volumes of ‘biomass’ (ref. figure 2 *in* Centeno, December 1993, p 11). The CCT scientists, even if the published excerpts of their unseen report, if it exists, clearly indicate they were aware of the controversial nature of the subject matter of their work, did not correct the interpretation of their work by the Teakwood contract partners.

The FSC, the Rainforest Alliance and the Teakwood contract partners all referred to a study by Dr. J.G. Laarman on the economic aspects of the Teakwood investment program. Did Flor y Fauna commission Dr. J.G. Laarman to execute this study for the Rainforest Alliance in 1996 (as recorded *in*: Smart Wood, August 16, 1996)? Or did the Rainforest Alliance commission this report, as the WWF Director Woldhek indicated (Woldhek, October 16, 1996)? This remains unknown to the author; the document is classified.

The Rainforest Alliance and the Teakwood contract partners claim that the Laarman study substantiates OHRA projections of financial rates of return to investors. The Laarman report remains classified as confidential according to Flor y Fauna. Only excerpts were ever cited by Rainforest Alliance, OHRA and WWF. The Rainforest Alliance introduced the Laarman report as evidence for the Teakwood contract partners in its obscure ‘complaints procedure’ of the Flor y Fauna case. OHRA submitted the excerpts of Dr. J.G. Laarman’s findings in evidence at court hearings in order to lend credibility to the advertised projections of rates of return to investors. From the disclosed excerpts of the report, if it exists, it followed that Dr. J.G. Laarman includes the *additional* proceeds from timber processing in his calculation of the projected rates of return to investors. However, according to the sales brochures, the rates of return are based on the sale of logs as standing timber (e.g., Flor y Fauna, March 1993, p 9).

Dr. J.G. Laarman, the Rainforest Alliance and the FSC all refrained from comment on this issue when requested to do so by Treemail. Earlier, the Teakwood contract partners had argued - and OHRA even submitted such evidence in court - that the rates of return that were projected and presented to investors are based on the proceeds derived from the sales of standing timber *only*. The Rainforest Alliance was aware of these discrepancies because it lists both the sales brochures and the Laarman report as evidence in the record of its secretive ‘complaints procedure’. However, rather than on the sales brochures, the Rainforest Alliance based its opaque ‘ruling’ in this procedure on the Laarman report, when it justifies the projected rates of return that were shown to investors by the Teakwood contract partners (Smart Wood, August 16, 1996).

In the same document (Smart Wood, August 16, 1996), the Rainforest Alliance disclosed the existence of a contract between Flor y Fauna that includes an arrangement of an *exclusive* sale to Flor y Fauna of the wood at *imputed log values*, rather than the sale to the highest bidder. Treemail informed Dr. J.G. Laarman of the controversial nature of the Teakwood contract partners public presentations of his research findings and provided him with a selection of the Internet publications from Prof. Centeno and Treemail. However, Dr. J.G. Laarman did not act publicly to correct these interpretations of his work by the Teakwood contract partners. In fact, he did not respond at all. However, according to the FSC Director in a letter to Treemail of September 20, 1996, the Rainforest Alliance Smart

Wood Director had informed him that: “Dr. Laarman has had access to all relevant information without restriction”. Once again, Flor y Fauna declared their contract with OHRA on timber sales against imputed log values to be confidential. The Teakwood contract partners did not inform investors of the existence of this particular contract, that deviates from the stipulations on timber sales defined in the Teakwood policies that were sold to investors. Is the contract between Flor y Fauna and OHRA contradictory to OHRA’s obligations to its investors? The fact that Flor y Fauna seeks a change of contract with its investors in Teakwood I-V makes this plausible. Would OHRA’s non-disclosure of the existence of this contract with Flor y Fauna, the nature of this contract and the confidentiality of the contract provide the legal basis for having the Teakwood investment policies declared dissolved in the courts in The Netherlands? The answer to these questions lies outside the subject matter of the present study.

Caveat emptor. Let the buyer beware. With the materials provided with the Teakwood investment policy, the buyer could not be aware that projected teak yields were of an order of magnitude higher than what was ever published on the species.

Caveat emptor, the price projections provided to the investors in Teakwood were based on wood. However, the corresponding yield projections are admittedly based on volumes of biomass production rather than production of wood. This was not communicated to the potential investors; the sales brochures refer to ‘wood’ only and never to ‘biomass’.

Caveat emptor, the buyer of the Teakwood investment policies could only believe that his revenues depended on the sale of standing timber to the highest bidder. Nothing that the buyer could normally know points to the fact that the projected revenues are actually based on the stipulations of a secret contract between OHRA and Flor y Fauna of 1993 about imputed log values derived from the exclusive sale of the timber to the plantation owner Flor y Fauna, against prices which are fixed under the terms of this secret contract between the two organizations.

Caveat emptor, buyers of the Teakwood policies were made to believe that the Flor y Fauna plantations had received a certificate from the FSC. After the Teakwood contract partners were found out, the FSC Director sent a letter with statements in support to WWF on January 30, 1996, at a time that this was an issue of a legal dispute in The Netherlands. This leads to the question if all the other organizations that publicly and incorrectly flirt with an FSC ‘certificate’ or ‘label’, such as, e.g., Ecobel (Romeijn, September 4, 1996 and September 17, 1998; Ecobel, 1996; Telegraaf, September 17 and 24, 1998) and Tchibo (Raiffeisen Zeitung, July 30, 1998), also receive letters from the FSC Director with “statements ... designed for your support and use” (FSC, January 30, 1996). The author of the present study does not know the answer to this question, nor does he speculate.

By 1996, the Teakwood contract partners submitted in evidence an article from the magazine ‘Money’ (Money, April 1996) at a court hearing of the Advertising Standards Committee (OHRA, June 28, 1996). Flor y Fauna circulated copies of this article to its investors in Teakwood I-V and may therefore have made a copyright agreement with the publishers (Flor y Fauna, April 28, 1996). In addition, Flor y Fauna announced that it would circulate an English translation over the Internet (Flor y Fauna, May 9, 1996). Treemail followed-up this announcement with a (repeated) request to Flor y Fauna to disclose the author of the article. Flor y Fauna neither answered to this request, nor circulated the document over the Internet.

OHRA presented the ‘Money’ article to a court *without* referring to the exact nature of the events that led to its publication. In a letter of May 23, 1996, OHRA’s Vice-President Drs. H.W. Janssen sent a letter to Professor Centeno that carried an English translation of the article as an enclosure. The following is quoted from this letter:

PS: For your information and clarification, we enclose an article from a reputable Dutch financial magazine, which will give you insight in the motives of certain people involved in the regrettable teak-war (OHRA, May 23, 1996).

OHRA’s vice President Drs. H.W. Janssen copied this letter to Professor Centeno’s legal advisor Mr. B.E.J.M. Tomlow, WWF Director Drs. S. Woldhek and Flor y Fauna.

In the article, Directors of OHRA, WWF, Flor y Fauna and Van Rossum Van Veen were all interviewed and quoted. The article defames one of Teakwood’s principal critics, Mr. L.H.Th. van Weezendonk. It does not touch upon Mr. van Weezendonk’s reasons to be critical of the Teakwood investment program. In the article Mr. L.H.Th. van Weezendonk is quoted as if interviewed (Money, April 1996).

However, Mr. L.H.Th. van Weezendonk was never interviewed (Elsevier-Bonaventura, April 19, 1996). The putative author of the article, one ‘Richard Tazelaar’, did not exist according to research by NOVA journalists (R. de Lange and J. Oranje, personal communication). The publishing house of Money, Elsevier Bonaventura, added the name of the article’s author to the list of members of the Money editorial board in the particular issue of the magazine. The use of pseudonyms is a common practice in journalism in The Netherlands. However, presentations by *non-existing* journalists certainly has never been heard of. This is especially so if *non-existing* journalists are figured as *supposedly existing* members of the editorial board in a magazine that is published by the highly reputable Reed Elsevier conglomerate (Money, April 1996; and see Elsevier-Bonaventura, April 19, 1996, for Elsevier’s representation of these events before a court of law).

OHRA, Flor y Fauna, Van Rossum Van Veen and WWF Presidents and Directors were thus interviewed in an article that was written by a non-existing journalist. However, they did not voice any protest, whereas OHRA and Flor y Fauna both circulated copies of the

article. This opens avenues for speculations about the exact nature of the operation conducted by the Teakwood partners against one of its principal critics, Mr L.H. Th. van Weezendonk. The present author does not speculate.

Indeed, the author of the present study is ignorant as to who, if anyone, bought the pages required for publication of this text that served the Teakwood partners so well that they circulated it. The precise nature of how the article in Money did come about, by whom it was written and whether, and if so to what extent, the Teakwood contract partners were involved in the authoring of its contents lies outside the scope of this study.

According to public statements, advertisements and brochures by the Teakwood contract partners and according to the FSC and the Rainforest Alliance, the Teakwood plantations are managed in accordance to management principles and criteria that are approved by the FSC. However, the Flor y Fauna plantations management showed no evidence of complying with a number of the FSC Principles and Criteria. Stipulations of the FSC Criteria that are obviously not complied with include:

The rate of harvest of forest products shall not exceed levels which can be permanently sustained, [...] a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation.

Moreover, on much the same grounds it would appear that the timber, semi-finished and finished products derived from the Flor y Fauna plantations cannot even comply with The Netherlands Government's minimal requirements for sustainably managed forest (LNV, March 12, 1997). The certification of the Flor y Fauna plantation management hence is likely to be ruled out if measured against The Netherlands Government's minimal requirements.

The FSC has readily allowed, and continues to allow, WWF and the other Teakwood partners to use its name and logo in relation to Teakwood, including the use of the FSC logo and name for the promotion of Flor y Fauna's timber sales in FSC publications (FSC, March 1998, Flor y Fauna advertisement, p 3). According to the FSC manuals, such claims oblige the forest manager and the accreditation institution to make a list of specified materials available to any member of the general public. The Teakwood partners and the Rainforest Alliance have persisted in their non-disclosure of such specified materials. The FSC Secretariat and the FSC Board Members were duly informed, by, e.g., Treemail and Centeno (copies of correspondence in the author's file), of this deficiency and of the persistent nature of this deficiency on the part of the Teakwood contract partners and the Rainforest Alliance. They did not act upon this matter and did not prevent the continuation of this defiance of FSC regulations by the Rainforest Alliance, OHRA, Flor y Fauna and WWF. The FSC has endorsed the continuation of the use of the FSC name and logo by

these organizations which do not conform to FSC’s proper rules. This contradiction is one parameter of reliability of such an organization (guardian of the guardian).

The WWF involvement in the establishment and funding of the FSC, the WWF representation within the FSC Board of Directors, the WWF funding of the FSC business and marketing manager (FSC, February/March 1998, p 6), the WWF funding of the international FSC office, the WWF hosting and funding of national FSC offices and FSC events, the WWF publicity and advertising campaigns in support of market introduction of FSC certified timber, the WWF campaigns and lobby for political and financial support to the FSC, the WWF administrators’ role in the bestowal of the J. Paul Getty Conservation Award to the FSC on December 4, 1997 (FSC, February 1998; Romeijn, December 18, 1997), the WWF backing of the FSC in all professional fora, the WWF drafting of the FSC accreditation contracts for certifying agencies (against Swiss law), the WWF partnership in a national campaign against import of non-FSC certified tropical timber called ‘Heart for Wood’ in The Netherlands, the hosting of the FSC-Netherlands office within the ‘Heart for Wood’ campaign headquarter, the WWF and FSC concerted public statements to, e.g., Members of the European Parliament that 4 million ha of forest had received certificates under the FSC accreditation umbrella at a time when the FSC had not yet accredited one single certification body, the incorrect WWF public announcements that the Teakwood plantations were certified by the FSC, the WWF subsequent research of this issue that established it had not found one single instance of such occurrences even in the face of an official WWF publication and more than 2 million Teakwood advertisements that contained the incorrect claim, the peculiar and one-sided dissemination to the Teakwood contract partners of FSC announcements on Teakwood, the ‘declarations of support’ by the FSC Director to the WWF on the subject of Teakwood, the declaration by the FSC Director that the Rainforest Alliance certification procedure was sound and competent, the FSC Director’s statement to a member of the public that the FSC Board had partially approved of the Rainforest Alliance’s certification of Teakwood at a time when he was in no position to do so and the directorship of the Rainforest Alliance Smart Wood programme by an ex-WWF employee, all are parameters of the erosion of FSC’s self-proclaimed image of neutrality (FSC, September 20, 1996a) in a case where WWF acts as contract partner of the Teakwood timber producer and where WWF specifically markets Teakwood timber.

Internet and enhanced communication

The Internet was used extensively in the course of the present study. Without it, this study would not be and its results would never have been attained. On the enhancement of communication in international forestry, the author wrote the following paragraph in an article for the US *Journal of Forestry*:

Many consider information a key resource -on par with human, physical and financial resources. Information is the prime product of research, and research results help to produce change. [...] Agenda 21 of the United Nations Conference on Environment and Development (UNCED) states in chapter 35, paragraph 2, “that the sciences are increasingly being understood as an essential component in the search of feasible pathways towards sustainable development,” and “of crucial importance is the need for scientists in developing countries to participate fully in international scientific research programs dealing with global problems of environment and development so as to allow all countries to participate on an equal footing in negotiations on global environmental issues.” [...] Yet without proper access to scientific information, developing countries will continue to be hindered in assuming their legitimate role in economic development (Romeijn, March 1994, p 26).

In the Flor y Fauna case, the Internet provided a tool to help extract accountability from transnational organizations. As the present study is the first to analyze the historical process of a certified forest operation that is accredited by the FSC, we have not yet arrived at the phase of building of a scientific theory for extraction of accountability in forest management certification. The present study demonstrates that accountability of forest certification cannot be safeguarded by a study of the certification documents alone, as the information provided by the certifying and accreditation agencies was demonstrated to be either incomplete, false, inaccurate, colluded, or a combination of these.

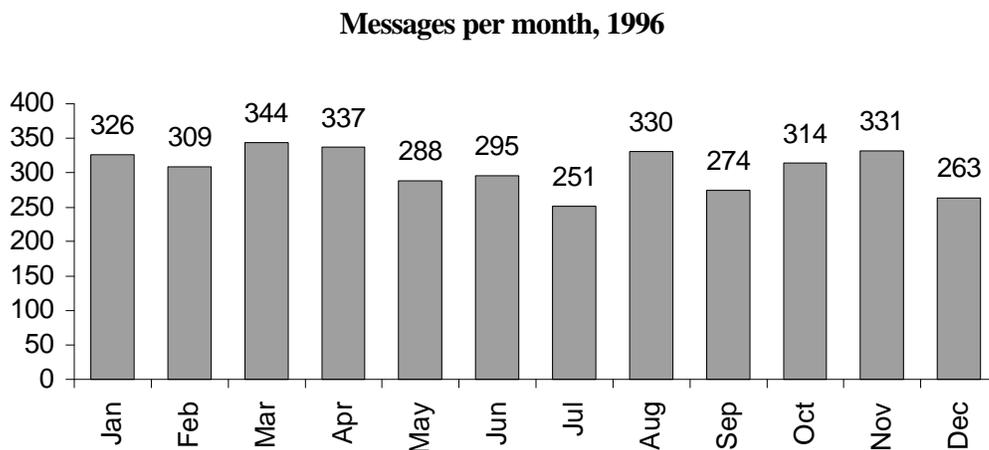


Fig. 4: Messages received per month by Prof. Centeno on Teakwood in 1996 (source: Centeno, unpublished).

With the proliferation of computer technology, the Internet and the World Wide Web, the “information infrastructure is developing at such a staggering pace that events may well overtake our natural inhibitions to information sharing” (Romeijn, December 18, 1995). It is precisely the information infrastructure that has allowed Professor Centeno, a forest scientist from Venezuela, to fully participate in the debate on the Flor y Fauna case. In

1996 alone, he received more than 3,000 messages on Teakwood and teak that were sent to him by concerned professionals from around the globe (see Fig. 4). Even as late as 1998, the number of times that the fairly complete subset of the main Internet circulars from Centeno and Romeijn called ‘The Teak Files’ was requested from Treemail’s home page (<<http://www.treemail.nl>>) remained steady at a level of *ca* 120 downloads per year.

The present study demonstrates that information infrastructure is profoundly affecting our perception on the mechanisms of accountability. In the Flor y Fauna case, e-mail provided the core of the communication technology for information exchange on the transparency, credibility and accountability of environmental and financial claims. It is anticipated that with miniaturized video cameras, enhanced remote detection techniques and further proliferation of information technology will only enhance the perceived need for fully accountable economic activities, even where these activities are located on the other side of the globe.

The present study demonstrates that the Internet is not only a communication tool. It can also be used as an instrument that allows experimental science to board social sciences. This instrument is not yet quantitative. Perhaps it will always be fuzzy but then, fuzzy logic is math too.

Towards a civil society

Mr Stephen M.J. Bass (Director of the Forestry and Land Use Programme at the International Institute for Environment and Development, IIED, United Kingdom) places the issue of forest certification in the context of working towards a civil society. In a chapter entitled “Calls for improved forest management and accountability” he addressed the audience at the International Conference on Certification and Labeling of products from sustainable managed forests on the principles of forest management certification as follows:

The public is increasingly aware of forest problems, notably: asset-stripping of natural forests and loss of security of forest goods and services, especially biodiversity. They frequently place the blame on forest producers, forest industries and the trade. There are growing demands for greater intervention in the work of forest producers. Yet there is also disillusion with regulations, enforcement mechanisms and public subsidy as effective interventions.

The Earth Summit, held in 1992, called for Sustainable Forest Management (SFM) by and for “civil society”. The Forest Principles and other Earth Summit agreements require local participation in deciding which of the many forest values are locally important. They also imply a renegotiation of roles between government, business and communities in delivering and sustaining these values; and require improved accountability of the different groups. The Earth Summit recognised the market as a way to deliver multiple forest goods and services, but considered the market should include environmental and social costs. [...]

Early responses to a growing crisis of public confidence in forestry resulted in producer/government labelling - such as “all timber exported from this country is from sustainably-managed forests”. Such “advertisement” claims/labels are no longer believed in environmentally-conscious markets, and some have been successfully challenged through advertising standards authorities. Many corporations and local authorities have, therefore, implemented their own timber and paper procurement policies, to increase their confidence in the source of forest products. In the last five years, independent certification of forest management has emerged, as a way for producers to assure the whole market, not just single buyers. Environmental NGOs are trying to stimulate demand for products from independently-certified forests. They have helped to form buyer associations, such as the 1995 Group in the UK, Club 1997 in Belgium, and Netherlands and USA initiatives (Bass; 1996).

These buyers groups promote the trade in FSC labeled timber exclusively and WWF is a key player in all the buyers groups mentioned by Mr. Bass. The buyers groups address the timber trade and the public at large. We remind the reader that WWF explains the issue to the public as follows:

You can put pressure on manufacturers to source products from well-managed forests by thinking before you buy. But how do you know whether environmentally-friendly claims are true?

The answer is, you don't unless the product bears the Forest Stewardship Council (FSC) Trademark. This confirms that the wood used to make the products comes from forests which have been independently inspected and certified as well-managed according to strict environmental, social and economic standards (WWF, June 16, 1998, <<http://www.wwf-uk.org/vols/forests.htm> >).

The results of this study are worrisome and they are a signal to the newly formed alliance on forest certification between the World Bank and WWF. The results prove that a number of the key players to safeguarding the integrity of forest management certification willingly proclaim their suspect “*variations of truth*”, be it to the general public, in courts, to Ministers, to members of the Royal Family in The Netherlands or to Members of the European Parliament. The results of this study demonstrate that key considerations of independence of forest management certification are waived under the FSC accreditation system in circumstances where WWF is a contract partner and financial beneficiary of the forest manager. It is noted that the FSC, in its Guidelines for Certification bodies, demands from the certification bodies that it accredits:

To maintain the credibility of forest certification, certification bodies must remain independent from outside influence, and shall insulate the decision process from those with vested interests in the outcome of the certification process (FSC home page, <<http://www.fscoax.org/frameneg.html>>, section ‘documents’, under ‘FSC statutes’, site visited September 17, 1998).

According to the World Resources Institute, WRI, the Forest Stewardship Council (FSC) “is by far the most significant non-governmental process to establish elements of an international framework to support sustainable forest management” (Sizer, December

1994). The FSC’s strategic plan asserts that the newly formed alliance between the World Bank and the FSC *provides a big opportunity for FSC, since its scheme is recognized by the World Bank*” and that it provides a cornerstone towards the development of what the international accountants Coopers & Lybrand term: “*A vision for FSC: a fast rate of growth in FSC-certified forests*” (FSC, April 1998).

The FSC strategy to attain a fast growth rate in forest areas that have been certified under its accreditation umbrella as expressed in the FSC strategic plan was described earlier by the author in the following terms:

In order to operate, FSC chooses to look big. In August 1995 - and this means even prior to the registration of the FSC as a legal entity (the FSC obtained its corporate personality in October 1995) - WWF initiated its campaign to inform professionals and the general public alike that the management of 5 million ha had been certified according to the FSC Principles and Criteria (WWF, August 1995). By December 1995, the area of certified forest operations under FSC accreditation had diminished to 4 million ha, according to the WWF (WWF, December 1995) and the FSC (FSC, December 1995) when addressing Members of the EU Parliament. However, it was only on February 1996 that the FSC accredited the first four certification bodies. According to the latest publicly reported count by the FSC, the total area under FSC accredited forest management is now 3.1 million ha (FSC, September 25, 1997 and also see, e.g., FSC, March 12, 1997). These figures may have sounded right in isolation. If, however, these figures are placed in chronological order, they convey a picture of disorder and clear disrespect for the audiences they are meant to reach (Romeijn, December 8, 1997).

It is not unthinkable that the FSC plans to continue its strong dependence on the international donor community well into the next century, a possibility that is not contested in the FSC strategic plan (FSC, April, 1998). In view of the established readiness (this study, section ‘results’) to lie to Government officials, including Ministers and judges, on the part of key-individuals to the promotion of the FSC accreditation and certification scheme, it seems justified to signal a word of caution to donor institutions. It is noted that the FSC currently depends on donor support for around 90% of its income and this information appears not to be contested by the FSC strategic plan (ref: FSC, April 1998, Table 11.5: Income Projected for 1998; where this figure appears as *excluding* possible donor support for national FSC initiatives) and that the donor support to the FSC includes significant contributions from Governmental donors including the Government of The Netherlands (FSC home page).

Nigel Sizer, who is a key contributor to the strategic thinking on forest certification at the World Resources Institute, WRI, explains the importance of the terms ‘independence’ and ‘accountability’ to third party certification of forest management and forest products as follows:

The FSC, composed of representatives from the scientific community, indigenous peoples, business, and NGOs, proposes to be an international institution for accrediting national and local certification systems. Principles and criteria established by FSC in early

1994 cover not only forest-management practices, but also the social and legal aspects of forest use, compliance with national laws and international agreements, legal land tenure, indigenous peoples' rights to the forest resources on their lands, the well-being of workers, and the social impact of forestry activities in the community. The FSC secretariat has released guidelines for certifiers and a description of the process that it will adopt to accredit them. Independence from interest groups and open, accountable process are among the prerequisites for accreditation (Sizer, 1995).

Certification and accreditation are based on credibility and transparency. Ultimately, credibility and transparency are terms that translate into accountability and liability. The Flor y Fauna case represents at the very least one hundred Million US Dollars and the interests of thousands of individual investors, not counting the other teak investment schemes that have appeared in its wake. In a press release, WWF described these as “*other companies*” that “*might want to try to grab a quick buck on the bandwagon of green teak investments*”, whereas “*OHRA has been very careful and responsible in its approach to the public*” (WWF, May 10, 1996; also see the notes to the entry in the ‘agenda of events’ with that date). This atmosphere of opacity and mistrust has not enhanced the public confidence in green and/or responsible investments in less privileged nations of the world.

The case of the Flor y Fauna plantations involves a complex pallet of jurisdictions and legal systems. These include international law and legal systems in The Netherlands (WWF, OHRA, SCOFF, Natura Bergum), Costa Rica (Flor y Fauna), Mexico (FSC), United States (Rainforest Alliance, Society of American Foresters), the State of New York (Rainforest Alliance), Switzerland (WWF and the FSC accreditation contracts) and possibly others. The division of accountability and liability amongst the different organizations and individuals involved in the Flor y Fauna case and the legal considerations involved in determining the associated responsibilities over their actions and non-actions is not the subject of this study.

Independence is a cornerstone to third party certification. The Flor y Fauna case raises grave concerns over the interpretations and perceptions of the term ‘independence’ on the part of key-players in the Flor y Fauna forest management certification and accreditation. In particular, this concern pertains to the elasticity of interpretations attached to the term with respect to the WWF involvement in the Flor y Fauna case, which includes - but is not restricted to - a role as timber producer, as sales agent for the plantation timber, as funder, founder and promotor of the FSC and as holder of Board Membership within the FSC. Independence indeed is deemed vital by the accrediting and certifying bodies alike, which makes this particular consideration one of fundamental - rather than transpired or passing - relevance to the international forestry profession.

The FSC strategic plan provides an analysis that could just as well be applied to the organization itself:

The strength of the opposition: on the basis that the strength of an idea can be judged by the strength of the opposition to it, then the vitriol targeted at the FSC by its often powerful detractors suggests certification is a strong concept. Opponents would not waste their time on FSC if they did not fear it (FSC, April 1998; emphasis in the original text).

If this line of argument would at any given time be employed to counter the contents of the present study, then it should be noted that the present study does not fall in the category of such opposition. In the present study the concept and the effectiveness of forest management- and forest products- certification are not examined. The present study, however, does contain an analysis of the truthfulness of public presentations by a number of the key-players and this examination contains a juxtaposition of their public pronouncements and their proclaimed principles and criteria of accreditation and certification. The analysis of the materials in this study establishes that the current system of FSC accreditation and related certification does not provide an effective safeguard to ascertain the application of the very FSC principles and criteria in a case where key-players exercise excessive elasticity in their molding and subsequent interpretation of the “*variations of truth*”.

Investors of the Teakwood program may have been attracted by the prospect of high rates of return. However, it was only when WWF and OHRA joined the program that a significant number of people signed up and invested their savings in Teakwood. In part, this may be due to the presumed respectability of these organizations. In part, it will be due to the willingness of the general public to invest in environmentally responsible projects too. Demonstration of this willingness on behalf of the general public is one of the lessons to be taken at heart from the Teakwood case.

Van Weezendonk’s legal advisor Mr. B.E.J.M. Tomlow once expressed:

What is worrisome, is that those who tell financial fairy tales *used* to operate in the financial periphery. It is new that two reputed institutions (WWF and OHRA) involve themselves with such practices. This puts unwary investors on the wrong track and explains the irrational run on these kind of teak policies (Tomlow, December 28, 1995, p 13; italics by the present author).

This provides yet another argument for the vigilant pursuit of accountability, and liability, in the quest for working towards a ‘civil society’. According to Dr. Oneka, “The potential use of computer-based systems will need to be seriously examined. The main advantage of the use of computers is that they help stream-line the information flow and help buffer against human and institutional instability” (Oneka, 1996, p 102). The present study confirms this advantage.

As is indicated by the present study, if properly employed, the Internet provides a novel instrument to enhance professional ethics worldwide, to extract accountability, even from organizations or individuals that may not naturally be so inclined, and to conduct a new kind of quantitative experimental social studies.

Recommendation

No further research on Teakwood is recommended.

Samenvatting

Titel: Het Groene Goud: over variaties op de waarheid in de plantage bosbouw

De “variaties op de waarheid in de plantage bosbouw” is een studie van de Teakwood belegging. Teakwood bood het Nederlandse publiek de mogelijkheid om direct te investeren in een teak plantage in Costa Rica. Het programma werd in 1989 opgezet en het kwam pas werkelijk op stoom in 1993, toen 's werelds grootste milieu organisatie WWF en verzekeringsmaatschappij OHRA besloten mee te doen. Duizenden investeerden en vele miljoenen Gulden werden overgemaakt en, alleen al in Nederland, werden een dozijn andere teak investeringsprojecten opgezet in het kielzog van Teakwood. Teakwood bood het ‘Groene Goud’ (OHRA, Summer 1993), het werd aangekondigd als ‘modern ontwikkelingswerk’ en het kreeg ruime aandacht in de media. Het sterke plan trok de aandacht van de Nederlandse regering (Romeijn, April 8, 1998). Vanaf November 1995 kreeg het Teakwood beleggings-programma met steeds sterkere tegenstand te maken. OHRA beëindigde de verkoop van het Teakwood beleggings-programma in de herfst van 1996.

De Teakwood belegging werd op de markt gebracht als een programma dat gebaseerd was op solide en voorzichtige veronderstellingen omtrent de te verwachten houtproductie en financiële opbrengst. De huidige studie bevat een beschrijving van de erosie van de geloofwaardigheid van de deze veronderstellingen door sleutel-verklaringen in de tijd te volgen. Deze verklaringen, of “variaties op de waarheid” zijn afkomstig van de Teakwood contract partners zelf en van organisaties en individuen die zij als gezaghebbend hebben aangemerkt, inclusief de Rainforest Alliance en de Forest Stewardship Council, FSC. De Rainforest Alliance is gevestigd in de Verenigde Staten en certificeerde het bosbeheer van de Flor y Fauna plantage als ‘*well managed*’ in 1995. De FSC accrediteert wereldwijd organisaties die bosbeheer certificeren en zij accrediteerde het Flor y Fauna certificaat van de Rainforest Alliance in januari 1998. Toch bleek het beheer van de Flor y Fauna plantages niet te voldoen aan een aantal van de door de FSC gestelde ‘Principes en Criteria’ voor verantwoord bosbeheer.

Het WWF verkondigt dat de FSC accreditatie het enige geloofwaardige initiatief is op het gebied van het certificeren van bosbeheer en verlenen van keurmerken voor bosproducten. Het WWF verkondigt bovendien dat het FSC keurmerk helpt om verwarring bij de consument te voorkomen. Bosproducten die afkomstig zijn van bossen die gecertificeerd zijn door FSC geaccrediteerde organisaties mogen het FSC keurmerk dragen, zo dus ook de producten die ooit van de Flor y Fauna plantages zouden kunnen komen. Volgens het

WWF is de consument verward door een wildgroei van dubieuze certificaten en keurmerk initiatieven:

Hoe weet je dat milieu-claims waar zijn?

Het antwoord is, dat je dit niet weet tenzij het product het Forest Stewardship Council (FSC) keurmerk draagt. Dat bevestigt dat het hout dat gebruikt is om het product te maken afkomstig is van bossen die onafhankelijk zijn geïnspecteerd en gecertificeerd als goed beheerd en voldoen aan strikte milieu, sociale en economische normen (WWF, 16 juni 1998).

De veronderstellingen aangaande de aan investeerders geprojecteerde rendementen van het Teakwood investeringsprogramma en sleutel-verklaringen over de certificering van het bosbeheer werden tot in de details onderzocht (Engels: *‘scrutinized’*) door een groot aantal organisaties en publieke instellingen. Daartoe behoren onder meer de FSC, de Rainforest Alliance en het WWF. In Nederland werden de veronderstellingen ook onderzocht door gerechtshoven, het Ministerie van Landbouw, de Reclame Code Commissie en de Consumentenbond. Er is een hele reeks van rechtvaardigingen afgegeven als verklaring voor de veronderstellingen die aan de basis staan van de geprojecteerde rendementen en het certificaat voor het bosbeheer. Deze rechtvaardigingen worden in deze studie geanalyseerd als “*variaties op de waarheid*” en zij worden vergeleken met de originele uitspraken waarop zij gebaseerd zijn.

Geloofwaardigheid, transparantie en verantwoording zijn even essentieel voor het certificeren van bosbeheer als voor het streven naar een *‘civil society’*. De “*variaties op de waarheid*” worden onderzocht aan de hand van deze sleutelbegrippen. De auteur van deze studie publiceerde een serie geannoteerde verklaringen van de Teakwood contract partners als Internet circulaires en verspreide deze circulaires onder deskundigen over de gehele wereld. Deze Internet circulaires bleken een toenemende druk op de Teakwood contract partners en de daarmee geassocieerde organisaties uit te oefenen, sterk analoog aan het rondzingen van een geluidsinstallatie. Dit rondzingen, of *‘feedback’*, bleek druk te genereren wanneer deze verklaringen niet consistent, niet transparant of niet verantwoord waren. Eén voorbeeld van het feedback proces is te vinden in een klachtenprocedure van de Rainforest Alliance, die zich geroepen voelde deze procedure te initiëren en uit te voeren zelfs al was er nooit een klacht ingediend. Het feedback proces, inclusief de klachtenprocedure van de Rainforest Alliance, wordt geanalyseerd. De kwaliteit van de Internet circulaires is bewaakt door de *‘peer pressure’* van de deskundige, wereldwijd verspreide, recipiënten.

Onafhankelijkheid wordt alom geaccepteerd als de hoeksteen van het certificeren door derden. Deze studie roept ernstige vragen op over de betekenis, interpretaties en percepties die onder de paraplu van de FSC accreditatie toegekend worden aan de term ‘onafhankelijk’. De elasticiteit van de interpretaties die aan deze term wordt toegekend

inzake de betrokkenheid van het WWF in de Flor y Fauna zaak wordt in deze studie beschreven. Het bleek dat de rol van het WWF inhield, maar zich niet beperkte tot, een rol als directe begunstigde van de houtopbrengsten, ondersteuner van de verkoop van het hout of houtproducten en investeringscontracten, begunstiger en oprichter van de FSC en houder van een positie van bestuurslid binnen de FSC. Het is gebleken dat de zowel de certificeringsinstellingen als de accrediteringsinstellingen en de Teakwood contract partners, en daarmee ook het WWF, allen verkondigen dat de onafhankelijkheid daadwerkelijk van vitaal belang is voor het welslagen van het certificeren van bosbeheer en het invoeren van keurmerken voor bosproducten. De bijzondere kwestie van ‘onafhankelijkheid’ maakt daarom de Flor y Fauna zaak tot een van fundamentele - en dus niet van schandaleuze, uitgelekte of voorbijgaande - betekenis voor de beroepswereld van de internationale bosbouwers.

Erosie van de geloofwaardigheid van de geprojecteerde rendementen en het certificaat voor het bosbeheer wordt in de loop van deze studie vastgesteld. Uiteraard kunnen slechts een aantal van de belangrijkste bevindingen in deze alinea’s worden gepresenteerd en worden bijkomstige gegevens weggelaten. Het is vastgesteld dat, in tegenspraak met eerdere verklaringen en in tegenspraak met de condities die door de Rainforest Alliance gesteld worden voor het verlenen van een certificaat voor bosbeheer op plantages, de OHRA in een rechtszaak verklaard heeft dat de projecties voor de houtproductie van de Flor y Fauna plantages hoger zijn dan alles wat hierover in de wetenschappelijke literatuur beschreven staat. Het is bewezen dat de rechtvaardiging van de geprojecteerde opbrengsten door de Teakwood contract partners en de Rainforest Alliance op basis van afgeleide prijzen voor hout op stam (Engels: *‘imputed log values’* in plaats van werkelijke prijzen voor hout op stam incongruent zijn met het contract zoals dat is opgesteld tussen de OHRA en de investeerders. Het is vastgesteld dat de Rainforest Alliance, het WWF en de OHRA gegevens presenteerden op basis van de productiehoeveelheden biomassa, in plaats van hout, om de geprojecteerde productievolumes en opbrengsten te staven. Ook deze voorstelling is niet congruent met de tekst van de verkoopbrochures, waar de berekeningen en opbrengstgegevens gebaseerd zijn op de productie en verkoop van hout; en daarmee dus niet van biomassa. Het is vastgesteld dat er redenen zijn om aan te nemen dat er een solide basis bestaat waarop, wellicht, de Teakwood investeringscontracten ontbonden kunnen worden in de Nederlandse rechtszalen. Het is vastgesteld dat, door het in tegenspraak met de waarheid te verklaren dat er geen landbouwchemicaliën gebruikt worden op de Flor y Fauna plantages, het WWF zich schaart onder die organisaties die het WWF zelf beschuldigt van het maken van ongefundeerde claims over de milieuvriendelijkheid van hun bosproducten.

Het is vastgesteld dat de advertenties voor Teakwood en een WWF publicatie een valse claim bevatten als zou de FSC een certificaat hebben afgegeven voor de Flor y Fauna

plantages. De oplage van de advertenties met deze tekst loopt in de miljoenen. De FSC geeft geen enkel certificaat af, de FSC accrediteert certificeringsinstellingen. In dit licht bezien kunnen de onderzoeken van de Rainforest Alliance en het WWF van januari en februari 1996, die geen van beide in staat bleken om ook maar één enkele advertentie met de gewaakte tekst te kunnen vinden, als uiterst eigenaardig betiteld worden. De OHRA bracht de resultaten van deze onderzoeken van de Rainforest Alliance en het WWF in het geding als bewijsmateriaal bij verschillende juridische procedures. Het is vastgesteld dat de geloofwaardigheid van de conclusie van de FSC, als zouden deze valse claims per ongeluk zijn gemaakt, aan erosie onderhevig is. Het is vastgesteld dat de FSC Directeur en de FSC Bestuursleden van deze zaken op de hoogte zijn.

Collages van zogenaamd wetenschappelijk, gedegen onderzoek zijn gepresenteerd in rechtszaken en, zonder enig bezwaar van de zijde van de Rainforest Alliance, geaccepteerd als bewijs in een door de FSC geaccrediteerde klachtenprocedure. Zulke collages zijn zelfs geaccepteerd terwijl de volledige rapporten vertrouwelijk bleven en ontoegankelijk bleven voor de tegenpartijen in deze disputen. De Rainforest Alliance voerde iets uit dat zij een klachtenprocedure noemt in een zaak waar er geen klacht ingediend was. Dit geschiedde zonder dat de Rainforest Alliance de partijen die zij aangemerkt had als klagers erover in te lichten dat zij de klachtenprocedure in gang gezet had. Zij deed dit eigenmachtig, zonder ook maar enige informatie in te winnen bij diegenen die zij als ‘klagers’ had aangemerkt. De Rainforest Alliance specificeerde noch de klacht, noch de volledige identiteit van de gedaagden. Het is aangetoond dat de resultante van deze obscure procedure, ofwel de uitspraak, op de hoofdpunten ernstige gebreken vertoont. De FSC, die “bijna dagelijks in contact” was met de Rainforest Alliance over de zaak Teakwood, verklaarde dat de behandeling door de Rainforest Alliance “acceptabel” was en introduceerde daarmee het element van geërodeerde geloofwaardigheid binnen de jurisprudentie van door de FSC geaccrediteerde klachtenprocedures.

Deze experimentele studie toont aan dat de informatie infrastructuur onze perceptie over geloofwaardigheid, transparantie en verantwoording verregaand beïnvloedt. In de Flor y Fauna zaak vormden Internet circulaire's in de vorm van platte, via e-mail verspreide, teksten het leeuwendeel van de gebruikte communicatietechnologie. Wereldwijd werden deskundigen geïnformeerd en zij konden hun eigen oordeel vormen over de verantwoording van de milieu en financiële claims in de Flor y Fauna zaak. Van verdere proliferatie van de informatietechnologie, geminiaturiseerde video camera's en verbeterde mogelijkheden van teledetectie kan verwacht worden dat zij de gevoelde noodzaak van economisch en ecologisch verantwoord handelen op basis van visuele bewijzen zal vergroten, zelfs wanneer deze activiteiten aan de andere kant van de wereld worden uitgevoerd.

Deze studie laat zien dat, en hoe, het Internet een nieuw instrument leverde voor het wereldwijd versteken van de beroepsethiek. Mits goed toegepast, kan het Internet bijdragen om verantwoording te extraheren bij organisaties en individuen die daar van nature wellicht niet to geneigd zijn. Deze studie bevestigt dat het Internet, met het gemak van de wereldwijde communicatie die het in zich bergt, een rol heeft te spelen bij het streven naar een ‘civil society’.

Résumé

Titre: L' Or Vert: des variations de vérité en plantation forestière

variations de vérité en plantation forestière” sont une étude sur le programme d’investissement *Teakwood*. Celui-ci offrait au public Néerlandais la chance d’investir directement dans une plantation de teck au Costa Rica. *Teakwood* a démarré en 1989 et gagna vraiment en poids lorsqu’en 1993 il obtint l’appuy de la plus large organisation de protection de la nature au monde, *WWF*, et d’une compagnie de banque et d’assurances

OHRA. Des milliers de gens investirent. Maints millions de florins furent transférés (1 Nfl ~ 3 FFr). Aux Pays-Bas seulement, une bonne douzaine de nouveaux programmes d’investissement en plantation de teck voguèrent dans le sillage de *Teakwood*, qui offra «de l’Or Vert» (*OHRA*, été 1993). Le programme était accueilli comme «activité moderne de développement» et ainsi suscita l’attention des média et l’implication du Gouvernement Néerlandais (Romeijn, avril 1996). A partir de Novembre 1995, le programme *Teakwood* rencontra une opposition croissante. *OHRA* cessa son programme d’investissement *Teakwood* en automne 1996.

Le programme d’investissement *Teakwood* fut introduit au marché comme ayant des assises solides de prévisions, prudentes, de production de bois et de retours financiers. Notre étude décrit l’érosion de la crédibilité de ces prévisions en suivant dans le temps des assertions-clefs. Celles-ci, «variations de vérité», viennent des partenaires en *Teakwood* eux-mêmes ou d’organisations et d’individus reconnus par ces partenaires comme des

Rainforest Alliance ou le *Forest Stewardship Council (FSC)*. La *Rainforest Alliance*, aux États Unis, certifia l’opération *Teakwood* comme «bien gérée» en 1995. *FSC* est basé au Mexique et s’occupe d’accréditer dans le monde entier des organisations de certification. Ce fut le *FSC* qui accrédita le certificat de la gestion des plantations *Flor y Fauna*, où poussent les arbres de *Teakwood*, issu par la *Rainforest Alliance* en Janvier 1998. Cependant, les plantations *Flor y Fauna* ne présentent aucun symptôme de s’être conformé, dans la pratique, à plusieurs *FSC Principles and Criteria*.

WWF proclame que la seule certification crédible de forêts et le seul étiquetage crédible de produits forestiers soient ceux accrédités par la *FSC*, de sorte que seul le tampon *FSC* puisse aider le consommateur à éviter la confusion. Des produits forestiers originant de forêts certifiées par des organisations accréditées par la *FSC* sont les seuls autorisés à afficher le tampon *FSC*. Ceci inclut donc les produits qui un jour sont censés provenir des plantations *Flor y Fauna*. Selon *WWF*, le consommateur se trouve confondu par une prolifération de certificats et d’initiatives d’étiquetage suspects:

) sont aussi essentiels en certification forestière que pour construire une «société civile». Les «variations de vérité» ont été étudiées expérimentalement dans la lumière de ces attributs. L'auteur a publié une série de déclarations annotées provenant de Teakwood, ou «variations de vérité», sous forme de *Treemail Internet Circulars* adressés aux forestiers professionnels dans le monde entier, entre Janvier et Juillet 1996. Ces circulaires s'avéraient exercer une pression croissante sur les partenaires liés par le contrat Teakwood et leurs organisations associées, montrant une analogie remarquable avec des circuits de rétroalimentation en reproduction acoustique. Cette rétroalimentation se prouvait capable d'engendrer de la pression en publiant sur Internet des déclarations et justifications additionnelles, à mesure qu'elles furent émises et qu'elles furent moins consistantes, moins transparentes et moins acquittables. Un exemple frappant est une procédure de réclamations que la Rainforest Alliance s'était vu dans la nécessité d'invoquer et exécuter en l'absence de toute réclamation. Le processus de rétroalimentation, y compris cette procédure de réclamations, a été analysé. La qualité des données fournies dans les circulaires sur Internet était garantie du fait du jugement par des pairs dans le monde entier, aucun desquels n'a critiqué cette qualité.

L'indépendance est censée être la clef de voûte de la certification par des tiers. Notre étude suscite des doutes sérieuses quant à la signification, l'interprétation et la perception du terme «indépendance» sous le parapluie FSC. Notre étude décrit l'élasticité d'interprétation de ce terme eu égard à l'implication du WWF dans l'affaire Flor y Fauna. Le rôle du WWF s'avérait comprendre, entre autres, celui de bénéficiaire direct de revenus du commerce de

bois, d'agent de vente du bois de ces plantations, de fondateur, bailleur de fonds et animateur du FSC et de membre du conseil d'administration du FSC. En effet, l'indépendance fut proclamée comme élément vital par les corps accréditants comme par les certificateurs, de fait par les partenaires eux-mêmes du contrat Teakwood y compris le WWF. C'est donc cette question d'indépendance qui donne à l'affaire Flor y Fauna son importance fondamentale pour la profession forestière dans le monde, loin de n'être qu'anecdotique, scandaleuse ou éphémère.

La certification de la gestion forestière et l'étiquetage de produits forestiers comptent parmi les sujets les plus chèrement débattus sur le terrain de la foresterie internationale. En 1998, la Banque Mondiale et WWF, une organisation qui se décrit elle-même comme ayant joué un rôle clef dans la fondation du FSC, ont formé une alliance globale pour la conservation et l'utilisation durable des forêts dans le monde. Ceci comporte l'objectif d'une certification indépendante de 200 millions d'hectares supplémentaires de forêt dans le monde vers l'année 2005. L'ampleur quantitative de l'objectif de cette initiative conjointe du WWF et de la Banque Mondiale sert de paramètre indiquant le poids de la matière étudiée dans ces pages.

Nous établirons dans la présente étude l'érosion de la crédibilité des projections de retours financiers au futur et des certificats de gestion forestière. Bien entendu, ces pages ne contiennent que les découvertes essentielles, sans faits accessoires. Il a été établi que, contrairement à ses propres déclarations antérieures et aux exigences de la Rainforest Alliance pour la certification de gestion forestière, OHRA a déclaré au tribunal de justice que les projections d'accroissement de bois de teck par Teakwood dépassaient tout chiffre mentionné dans la littérature. Il a été prouvé que la justification des projections de revenus futurs sur la base de «valeurs attribuées aux billes coupées» par les partenaires Teakwood et la Rainforest Alliance ne correspond pas du tout à la vente sur pied comme stipulé dans les contrats entre OHRA et les investisseurs de Teakwood. Il a été démontré que la Rainforest Alliance, WWF et OHRA ont présenté des données sur la production de biomasse plutôt que de bois, afin d'appuyer les projections de production et de retour financier des plantations Flor y Fauna. Ceci ne correspond pas non plus aux textes des brochures de vente, qui basent les calculs et les chiffres de production prévue sur l'accroissement de bois, non pas de biomasse. Il a été établi que tout se passe comme s'il existe une base légale solide pour que les tribunaux Néerlandais dissolvent les contrats d'investissement Teakwood. Il a été prouvé qu'en prétendant, contrairement à la vérité, qu'aucun produit agrochimique n'était employé dans les plantations Flor y Fauna, le WWF se joint à ceux que le WWF lui-même accuse de vendre des produits forestiers sous de faux prétextes de production écologiquement correcte.

Il a été établi que des annonces publiées par Teakwood et une brochure WWF prétendaient, contrairement à la vérité, que le FSC avait certifié les plantations Flor y Fauna. Les annonces étaient cependant distribuées par millions, tandis que le FSC ne fournit jamais de certificat parce qu’il ne fait qu’accréditer d’autres organisations qui, elles, sont certificatrices. Sous ce jour, les résultats affichés par la Rainforest Alliance et le WWF et provenant de leurs recherches en janvier et février 1996, disant qu’aucun des deux ne se trouva capable de mettre la main sur même un seul des annonces contenant la fausse déclaration font une impression curieuse. OHRA a présenté ces «résultats de recherches» devant un tribunal en tant que preuve judiciaire. La crédibilité de la conclusion de FSC que la fausse prétention d’être certifié était sans préméditation se trouve de ce fait érodée. Il a été prouvé que le Directeur et les membres du Conseil d’Administration du FSC furent

Des collages de recherches dites scientifiquement solides furent présentés devant les tribunaux et dans une procédure de réclamation approuvée par le FSC et, sans réclamation de la part de la Rainforest Alliance, furent acceptés comme preuves. Cette acceptation faisait abstraction du fait que les rapports scientifiques complets restent confidentiels et inaccessibles pour l’autre partie, ou les autres, dans la controverse. La Rainforest Alliance a conduit ce qu’elle appelle une procédure de réclamation dans une affaire dans laquelle aucune réclamation ne fût jamais présentée. Elle a mis en oeuvre cette procédure sans en avertir les «plaignants» qu’elle avait elle-même désignés. Elle fit cela de son propre chef et sans demander aucune information auprès de ceux qu’elle avait bombardés «plaignants». La Rainforest Alliance ne spécifia ni la nature de la plainte, ni l’identité complète des «prévenus». La Rainforest Alliance fit circuler les résultats de la soi-disante procédure de réclamation sur Internet avant même d’avoir envoyé des copies à ceux qu’elle avait désignés comme «plaignants». Le résultat final ou «arrêt» de cette procédure obscure de réclamation ainsi est constaté être critiquement malsaine dans la plupart de ses éléments-clés. Le FSC, «en contact presque journalier» avec la Rainforest Alliance à propos de l’affaire Teakwood, déclara «acceptable» cette manipulation d’une réclamation inexistente. Ainsi, il ancre fermement l’élément de crédibilité érodée dans la jurisprudence des procédures de réclamation accréditées par le FSC.

La présente étude démontre expérimentalement que l’infrastructure d’information affecte profondément notre perception de crédibilité, transparence et «acquittabilité». Dans l’affaire Flor y Fauna, des circulaires sur Internet en texte plat, distribués par mEl, constituaient l’arrête dorsale de la technologie d’information utilisée comme outil expérimental. Des professionnels dans le monde entier furent informés, leur permettant de former leur propre jugement quant à «l’acquittabilité» des prétentions environnementales et économiques proclamés dans l’affaire Flor y Fauna. Une prolifération ultérieure de la technologie d’information, des caméras vidéo miniaturisées et des techniques poussées de

télédéttection sont attendues afin de répondre aux exigences nettes et croissantes de comptes rendus, s'appuyant sur des preuves visuelles, en matière de «l'acquittabilité» d'activités environnementales et économiques, même si elles se trouvent sur l'autre face de

Cette étude montre l'Internet comme un nouvel instrument pour renforcer l'éthique professionnelle à l'échelle du globe, et elle explique comment utiliser cet outil. S'il est utilisé comme il faut, cet outil pourra aider à extraire «l'acquittabilité» d'organisations et de personnes qui ,peut-être, ne s'inclineraient pas de par leur nature propre à rendre des comptes. Le présent travail confirme donc que l'Internet, par la facilité de communication mondiale qu'il fournit, a son rôle à jouer dans l'évolution mondiale s'efforçant d'aller vers *civil society*).

RESUMEN

Título: El Oro Verde: sobre variaciones de la verdad en plantaciones forestales.

"Variaciones de la verdad" es un análisis del programa de inversiones en plantaciones de teca conocido con el nombre de Teakwood. Este programa le ha ofrecido al público holandés la oportunidad de invertir directamente en una plantación de Teca en Costa Rica con el nombre de "Flor y Fauna". Aunque se inició en 1989, tomó realmente impulso en 1993 cuando obtuvo el apoyo de la organización ambientalista más grande a nivel mundial, WWF, y el de una compañía holandesa de bancos y seguros llamada OHRA. Miles de personas han invertido, millones de florines han sido transferidos, y sólo en Holanda docenas de programas similares de inversión en plantaciones de teca se generaron como consecuencia de este proyecto.

Teakwood le ofrecía al inversionista "oro verde" (OHRA, 1993). Ha sido señalado como una actividad moderna de desarrollo. Generó extensa atención pública y la participación del gobierno holandés (Romeijn, 1996). Sin embargo, a partir de noviembre de 1995 se enfrenta a una creciente oposición, que eventualmente condujo a OHRA a terminar su programa de inversión en plantaciones de Teca (Teakwood) en otoño de 1996.

Teakwood se introdujo en el mercado como un programa basado en proyecciones sólidas y prudentes sobre la producción de madera y su rendimiento financiero. Este estudio describe la erosión de la credibilidad de estas proyecciones, haciéndole un seguimiento a través del tiempo. Dichas declaraciones, o "variaciones de la verdad", provienen de los mismos socios de Teakwood así como de organizaciones e individuos reconocidos por los socios, incluyendo Rainforest Alliance y el Consejo de Manejo Forestal (Forest Stewardship Council, FSC). Rainforest Alliance es una organización con sede en EUA, acreditada por el FSC para certificar operaciones forestales. Certificó las plantaciones de Flor y Fauna como «bien manejadas» en 1995. El FSC es una organización no gubernamental con sede en Méjico que acredita organizaciones de certificación a nivel mundial. En Enero de 1998 el FSC endosa el certificado que le entregara Rainforest Alliance a Flor y Fauna, aunque en el manejo de estas plantaciones se evidencian violaciones a varios de los principios de manejo forestal establecidos por el FSC.

El Fondo Mundial para la Naturaleza (WWF) ha establecido que la única acreditación creíble en el campo de la certificación forestal y el etiquetado de productos forestales es el FSC, y que los productos certificados por esta organización evitan la confusión de los consumidores. Solamente los productos que provienen de bosques certificados por

organizaciones acreditadas por el FSC pueden llevar su sello. Esto incluye los productos que eventualmente podrían provenir de las plantaciones de Flor y Fauna. Según WWF, el consumidor se ve confundido por la proliferación de iniciativas de certificación de carácter dudoso :

¿Cómo saber cuando declaraciones a favor del ambiente son reales o no? La respuesta es que no se sabe, a no ser que el producto lleve la marca registrada FSC. Esta confirma que la madera utilizada proviene de bosques que han sido independientemente inspeccionados y certificados como bien manejados, según estándares ambientales, sociales y económicos muy estrictos (WWF, 1998).

Las suposiciones sobre el rendimiento financiero a las inversiones en el programa Teakwood, y las declaraciones claves sobre su certificación, fueron examinadas por una amplia serie de organizaciones e individuos, incluyendo incluyen entre otras al FSC, Rainforest Alliance y WWF. También han sido examinados por tribunales, el Ministerio de Agricultura, el consejo de normas de publicidad y la organización para el consumidor, todas en Holanda. Una serie de justificaciones, sobre las que se basan las suposiciones para las proyecciones de las cifras de rendimiento y para el certificado de manejo forestal, son analizadas en este estudio como « variaciones de la verdad ».

Credibilidad, transparencia y responsabilidad son tan esenciales para la certificación forestal como lo son para la construcción civil. « Las variaciones de la verdad » son examinadas bajo estos tres enfoques. El autor ha publicado una serie de declaraciones comentadas sobre Teakwood, así como mensajes de Treemail dirigidas a profesionales del mundo entero a través de Internet entre enero y julio de 1996. Estas actividades produjeron una creciente presión sobre los socios de Teakwood y a sus organizaciones asociadas, mostrando una analogía resaltante con la retroalimentación en la reproducción acústica. Un ejemplo de este proceso de retroalimentación es el procedimiento que Rainforest Alliance se vio obligada a establecer para atender reclamaciones, aunque hasta ahora ninguna reclamación ha sido presentada.

La independencia es considerada como punto de partida para la certificación por terceros. Este estudio pone en duda el significado, la opinión, las interpretaciones y las percepciones del término « independencia » bajo el paraguas del FSC. El estudio describe la elasticidad de interpretaciones del término, en particular en cuanto a la participación de WWF en el caso Flor y Fauna. WWF figura en este proyecto, entre otras formas, como beneficiario directo de los beneficios económicos que se derivan de este proyecto, como agente de ventas de las plantaciones, como financiador, fundador y promotor de FSC, y como miembro de la junta directiva de FSC. Independencia debe ser proclamada como vital tanto por las personas acreditadoras como por las certificadoras y en efecto por los mismos socios contratantes de Teakwood, incluyendo WWF. El concepto de independencia le

confiere al caso Flor y Fauna mayor relevancia que sus variantes escandalosas, reveladoras o pasajeras.

La certificación de manejo forestal y el etiquetado de productos forestales son temas que se encuentran entre los temas actuales más debatidos en la agenda forestal internacional. En 1998, El Banco Mundial y WWF, organización que se describe a sí misma como jugando un papel clave en el establecimiento y funcionamiento del FSC, forman una alianza para la conservación y uso sostenible de bosques. Incluye como objetivo la certificación independiente de 200 millones de hectáreas de bosques para el año 2005.

Este análisis establece la erosión de credibilidad en las cifras de rendimiento y el certificado de manejo forestal. Se ha establecido que, contrariamente a declaraciones anteriores y a las condiciones para certificación de plantaciones por parte de Rainforest Alliance, OHRA declaró en un tribunal de justicia de Holanda que las proyecciones de Teakwood superan con creces las descritas en la literatura científica. Se demuestra que la justificación de los socios de Teakwood y Rainforest Alliance del ingreso que se derivaría de la venta de madera es inconsistente con la venta de madera en pie, tal y como está estipulado en el contrato entre OHRA y los inversores de Teakwood. Se establece que Rainforest Alliance, WWF y OHRA han presentado datos de la producción de biomasa en lugar de datos de producción de madera, con el fin de "corroborar" la producción y el rendimiento resultante de las plantaciones de Flor y Fauna. Pero tales aproximaciones divergen de lo establecido en los folletos promocionales y de ventas, que basan los cálculos y las cifras de producción en la venta de madera, no de biomasa. Se establece que hay motivos para asumir la existencia de una base legal sólida para que los tribunales holandeses dejen sin efecto los contratos de inversión Teakwood. Se ha afirmado, contrariamente a la verdad, que ningún producto agroquímico ha sido utilizado en las plantaciones Flor y Fauna. Se expone que WWF se encuentra involucrada en prácticas similares a las de organizaciones que WWF misma acusa de vender productos forestales bajo falsos pretextos de producción

También se ha establecido que anuncios publicados por Teakwood y un folleto publicitario de WWF pretendían, contrariamente a la verdad, hacer creer que FSC había certificado las plantaciones de Flor y Fauna. Estos anuncios fueron distribuidos por millones, aunque es bien sabido que FSC no certifica actividades forestales de carácter alguno, ya que su rol es sólo el de acreditar otras organizaciones certificadoras. Teniendo esto en cuenta, se destaca la peculiaridad de las investigaciones de Rainforest Alliance y WWF de enero y febrero de 1996, en donde ambas organizaciones fueron incapaces de detectar ni uno de los millones de anuncios que contuviesen estas falsas declaraciones. OHRA presentó los resultados de esta investigación ante un tribunal como prueba judicial. La credibilidad de la conclusión del FSC que la falsa pretensión de haber obtenido el certificado no era premeditada se

encuentra « desgastada ». Se demuestra que el Director y los miembros de la Junta Directiva del FSC se encontraban debidamente informados de todos estos hechos.

Colages de "investigaciones científicas sólidas" fueron presentados ante los tribunales, y en un procedimiento de reclamaciones aprobado por el FSC fueron aceptados como prueba referencias de terceros sobre informes de carácter confidencial, declarados inaccesibles para las otras partes del conflicto. Rainforest Alliance condujo un "procedimiento de reclamaciones" en un caso en el que nunca se presentó reclamación alguna. Puso en marcha dicho procedimiento sin notificarlo a los demandantes, demandantes a los que había nombrado y señalado como tales ella misma. Lo hizo bajo su propio consentimiento y sin pedir ninguna información a los que señalaba como «demandantes». Rainforest Alliance no especificó ni la naturaleza de la reclamación ni la identidad de los «defendidos». Hizo circular los resultados de dicho procedimiento de reclamación a través de Internet, antes de que se hubiesen enviado copias a todos los que ella había designado como «demandantes». El resultado de este oscuro procedimiento de reclamación fue constatado críticamente defectuoso en la mayoría de sus elementos claves. El FSC, que se encontraba en contacto casi diario con la Rainforest Alliance sobre el caso Teakwood, declaró «aceptable» el trato dado a una reclamación inexistente. Introdujo así firmemente el elemento de credibilidad erosionado en la jurisprudencia de los procedimientos de reclamaciones acreditadas por el FSC.

El presente estudio experimental demuestra que la infraestructura de información afecta profundamente nuestra percepción de credibilidad, transparencia y responsabilidad. En el caso Flor y Fauna, profesionales en el mundo entero fueron informados y se les ha permitido formarse su propia opinión en cuanto a la responsabilidad de las pretensiones ambientales y económicas proclamadas en el caso Flor y Fauna. Una proliferación ulterior de la tecnología de información, de las cámaras de video miniaturizadas y de las intensivas técnicas de teledetección remota son esperadas a fin de responder a la creciente necesidad de actividades económicas y ambientalmente responsables, apoyándose en pruebas visuales, incluso si se encuentran en el otro lado del globo.

Este estudio muestra que Internet es un nuevo instrumento para reforzar la ética profesional a escala mundial. Si es empleado adecuadamente puede ser de gran utilidad para ayudar a extraer responsabilidades de organizaciones y personas que pudieren no estar dispuestos a hacerlo por sus propia decisión. Este estudio confirma que Internet juega un papel importante en la evolución mundial de una «sociedad civilizada».

List of references

The references are listed according to the name and year system. The format of this list of references is unconventional. The nature of the sources is highly diverse and includes e.g., television- and radio- broadcasts, sales brochures, court proceedings and newspaper articles. The chosen format offers both a coherent layout and an unambiguous reference to the source.

The listing of the references is divided into three sections: ‘scientific references’, ‘additional references’ and ‘other sources (consulted)’. The listing under scientific references points to scientific publications. The listing in the section additional references points to materials from a multitude of sources that provide additional evidence for the case study. The section other sources (consulted) points to materials that are on file with the author, but which were not quoted. They provide the reader with a listing of additional materials.

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Appendix 1: Flor y Fauna presentation in court

[note: the reader is referred to the original document for the full text (Flor y Fauna, December 7, 1993)]

Before the Court of Leeuwarden, in session on December 7, 1993, OHRA and Flor y Fauna’s legal representatives presented memoranda of pleading. In these documents, to the best of Treemail’s knowledge, OHRA and Flor y Fauna have provided the most elaborate source of publicly available materials on their justification of growth and yield projections for the Flor y Fauna plantations. In this appendix, excerpts from the court memorandum are presented.

Flor y Fauna builds the presentation upon the findings of a bailiff who has measured a forty trees out of a total of over 2 M. Measurements provide hard data, Flor y Fauna argued in court. From the bailiff’s data, several forecasts are presented in yield tables. Flor y Fauna’s lawyer argues at length to show the court that Flor y Fauna considers the following tables to reflect very conservative representations of reality. The Flor y Fauna lawyer F.H.J. van Schoonhoven pleads as follows (Flor y Fauna, December 7, 1993; excerpts, a full copy of the original is provided in the CD-ROM):

“Theories can be good, stories can sound convincing, but is numbers that speak the purest language. Upon Huizinga and OHRA’s request, bailiff Groot left for Costa Rica on November 22, 1993, with the assignment to visit a number of plantations and to draw up a report. Bailiff Groot was accompanied on this occasion by one of the few tropical foresters from The Netherlands, Mr. A.J.M. Wouters (Ministry of Agriculture, Nature and Fisheries, department of Tropical Forestry), Mr. W. Kriek (International Coordinator of the Forestry Action Plan) and Mr. H. Voortman (WWF-NL).

“The measurements were taken from both thinner and thicker trees, to which bailiff Groot observes that the thicker trees were in the majority. With this, bailiff Groot wishes to make it clear that it is not entirely correct to take the mean of all of his measurements, but that in order to determine a more accurate mean this value should be increased.

“The figures and measurements of bailiff Groot are of no value without a correct interpretation. It is important here, to arrive at drawing up a basic scheme of expected timber yields for the nearby and further future. As point of departure

the measurements of the bailiff should be taken, from which point conservative calculus follows. The following points of departure are thus formulated on these data, on which the basic scheme is calculated. Already at this point it should be noted that these points of departure are explicitly supported by Mr. Wouters, who gave evidence in a written statement to this effect (EXHIBIT 5).

“After four years, the average Huizinga teak tree in Teakwood I has reached a diameter of over twelve centimeters (calculated by division of the diameters as measured by the bailiff by the number of trees measured). The young teak trees (Teakwood III and IV) are (comparatively) somewhat thicker. For the calculation of the basic scheme this is left out. When corrected for the thickness of the bark the net thickness after three years is put at 10.5 centimeters. Actually, this figure is too low as point of departure now that the better trees (i.e. the ones with the larger diameters) surpass the lesser ones (i.e. the ones with the smaller diameters). (See the official report near the bottom of the penultimate page: “...to which I can further remark, that the thicker trees were predominantly present”). The purer mean thickness will thus be more than the mean of the trees that were measured by bailiff Groot. For the purpose of drawing up the basic scheme this fact will be left out. On top of that, the thinnest trees will be removed at time of the first cut and especially the thicker trees will be left standing. Comparatively, this will result in an extra mean diameter increment, at every cut. This effect will also be left out of the equation.

Simplicio: So you have not made a hundred tests, or even one? And yet you so freely declare it to be certain?

Salviati: Without experiment, I am sure that the effect will happen as I tell you, because it must happen that way; and I might add that you yourself also know that it cannot happen otherwise, no matter how you may pretend not to know it ... But I am so handy at picking people's brains that I shall make you confess this in spite of yourself.

Dialogues concerning two new sciences. Translation H. Crew and A. de Salvio, New York, 1958; ex Feierabend, 1993, p 145.

“The mean height of all the measurements taken by bailiff Groot in Teakwood I, II and IV is 14.3 meters. For the basic scheme we will lower this to twelve meters.

“The current growth will continue (three centimeters per year for the coming four years is a minimum that can be expected). A mean diameter increment of 1.7 cm per year is absolutely too low. This low mean would deny all the added value of future maintenance, fertilization and management. For the basic scheme we will ‘forget’ this added effect and keep the increment at 1.7 centimeter per year.

“The height increment will be curtailed in favor of the diameter increment as a result of a change in the nourishment and fertilization (less P, more K). Even so, the trees will continue to grow at a gross rate of 2-2.5 m per year. As a result, Huizinga expects the trees to be (substantially) higher than 30 m after 20 years. For the basic scheme Huizinga uses a gross increment of 1.1 meters per year. Thus the usable height will increase with 66.6% of 1.1 meter = .77 meter, which is rounded off to the lower value of .75 meters per year.

“Huizinga starts all projects with 1,600 teak trees per hectare (the distance between trees is two and a half meters).

“Because of the strong initial growth, Huizinga expects that the first cut can be advanced (after year seven). If the current growth continues (and this is to be expected), then it might be that the first cut will take place in two years from now (that is, after year six). This will further increase the yield because the trees that are not cut will receive more space, light and nutrition. (N.B. each cut amounts to 25% of the standing trees).

“The average height of the Teakwood I trees is already 5 m over what is used as an assumption in the basic scheme.

“The increment of the usable height per tree with .75 meters per year is too conservative. A teak tree can, even during the last years (between age fourteen and twenty), hardly grow any slower than one and a half gross meters per year (=one meter usable height per year).

“The loss of a total number of trees of 240 per ha will prove to be far too high. At this point it can already be concluded that the loss at the first cut [author’s note: the word thinning would be more appropriate, but is never used] is practically zero (a maximum of 10 trees per ha). Huizinga already foresees now that the expected loss at the first cut will be practically zero. For the fourth cut, so Huizinga expects, the loss will also be small. These are the strongest, thickest and most healthy trees from the plantation, that will be cut last. In fact, it is to be expected that the final cut of the thickest trees should not even have any loss whatsoever. For the purpose of the basic scheme, conservative points of departure are taken. The sum total loss of 160 trees per hectare at the second and third cut can be considered as high. Initially, Huizinga assumed a loss of 200 trees for the second and third cut. This appears to be unrealistic, and is therefore reduced to two times 80, which is 160 trees. Finally, the sales value of all the trees that are lost is set at NLG 0.--. This is, it goes without saying, quite different

in practice. After all, it is evident that these trees will also be processed and sold. For the calculation of the basic scheme this is left out of the equation.

“For the calculation of the timber yields, the tree stem is thought to be a perfect cylinder. This is not correct, as the tree becomes thinner corresponding to its height. Because of this, a correction should be made in the calculation of the timber yields. With a ‘purely’ tapering cylinder the negative correction is minus 30%. Trees, however, are not perfectly tapered. The thickness of the tree does not decrease proportionally as the tree becomes higher. The volume is reasonably maintained. This notwithstanding, for the basic scheme the full correction of minus 30% is maintained. By the way, such correction can never be accurately measured as trees are not purely cylindrical of their own accord. Many thickenings and thinnings occur.

“*Timber is sold as standing timber.* Sawn beams could also be sold. This leads to higher prices.

“Calculation of timber yield.”

“For the mathematician:”

“ $R^2 \times 0.7$ usable length \times trees to be cut

for which:

B = $22/7$ (circa 3.14)

R = radius (half diameter) in meters

0.7 = cylinder-correction of -30%

length = usable height in meters

trees = trees to be cut”

“Basic scheme 1”

For reasons of economy of space, the full table is not presented here. The main results are:

Diameter at year 20 is 37.7 cm

Usable tree height at year 20 is 20 m

Total tree loss is 240 trees/ha

Total commercial yield is 1,057 m³/ha

The table is based on the following assumptions:

1. mean diameter increment is 1.7 cm/yr
2. usable height increment is .75 m/yr
3. trees lost: 40 - 80 - 80 - 40
4. cylinder correction: 25%

"Influence of length (usable height) on timber yield

"The influence of length (usable height) of the tree on the timber yield is one on one. This means that, e.g., halving the usable height leads to a halving of the timber yield. Doubling the usable height leads to a doubling of timber yield."

"Influence of thickness on timber yield

A decrease/increase of the diameter per cutting lead to a decrease/increase of the total yield of ca.:

date with:

| | |
|------|--------------------|
| 1 cm | 78 m ³ |
| 2 cm | 150 m ³ |
| 3 cm | 225 m ³ |
| 4 cm | 280 m ³ |

"From the above basic scheme it appears indisputably that OHRA and Huizinga with all their assumptions as mentioned in the brochures regarding the timber yield remain far below this basic scheme. The written declaration of Mr. Wouters (vide exhibit 5) affirms that all these points of departure are correct and that he can agree to the basic scheme which comes down to a timber yield of well over 1,000 m³ per hectare. A timber yield of 1,057 m³ per hectare, that is what Huizinga is going for, and he will attempt to do better still. It should be possible in a relatively easy manner. If we sum up the positive factors which have not been weighed in the basic scheme:

“Review of factors that have a positive influence on the basic scheme but which have not been included in the calculation of the basic scheme

“The initial thickness after four years of the average tree will be more than the arithmetical mean of the trees that were measured by bailiff Groot, now that there are, comparatively, more better (thicker) than poorer (thinner) trees.

“The initial thickness in the basic scheme is based on the mean thickness of the Teakwood I tree. The trees in the other Teakwood projects are, however, thicker in comparison. Because of this, the mean thickness will on average be higher than the currently assumed 10.5 centimeter.

“After each cut the average thickness increases, because the thinnest trees are cut.

“The increment in thickness will surely be three cm per year for the first years to come (in stead of the currently value put at 1.7 cm). For this purpose, it can be compared with the trees in Parrita that have an average increment of up to *three* centimeters over a period of eleven years.

“The mean usable height of the trees in Teakwood I is already 5 meters more than assumed in the basic scheme.

“The mean usable height of a tree is higher than the value put at 66.6%.

“The increment of the usable tree height with 0.75 meter per year is too conservative. A teak tree can, even during the last years (age fourteen to twenty) hardly grow less than one and a half meters gross per year (= one meter usable height, net, per year).

“The increment in thickness will be more than 1.7 centimeter as a result of the continuing nourishment, care and management.

“The earlier first cut that is to be expected (after year six or seven) will lead to earlier extra light and nourishment for the other trees.

“Loss of 240 trees per hectare will prove to be way too low. Already now, it can be determined that the loss at the first cut will be as good as zero (a maximum of ten trees per hectare). The final cut of the thickest trees ought not to have one single tree lost.

“The loss will give a higher return than NLG 0.--.

“The cylinder correction of minus 30% has been taken to wide. Twenty to twenty five is possibly more realistic.

“If four more positive variables are selected and introduced into the basic scheme, the following picture emerges:

“Basic scheme 2

| <i>Year</i> | <i>Diameter</i> (in cm) | <i>Loss</i> (trees/ha) | <i>Cut</i> (trees/ha) | <i>Yield</i> (m ³ /ha) |
|-------------|----------------------------|---------------------------|--------------------------|--------------------------------------|
| 4 | 10 | | | |
| 5 | 12.5 | | | |
| 6 | 14.5 | | | |
| 7 | 16.5 | | | |
| 8 | 18.5 | 10 | 390 | 94 |
| 9 | 20.5 | | | |
| 10 | 22.5 | | | |
| 11 | 24.5 | | | |
| 12 | 26.5 | 50 | 350 | 232 |
| 13 | 28.5 | | | |
| 14 | 30.5 | | | |
| 15 | 32.5 | | | |
| 16 | 34.5 | 50 | 350 | 491 |
| 17 | 36.5 | | | |
| 18 | 38.5 | | | |
| 19 | 40.5 | | | |
| 20 | 42.5 | 10 | 390 | 996 |
| TOTAL | | 120 | 1,480 | 1,813" |

“This table gives, in addition to the above, a ‘usable tree height of 24 m after 20

This table is based on 4 assumptions:

1. mean diameter increment is 2 cm/yr
2. usable height increment is 1 m/yr

3. trees lost: 10 - 50 - 50 - 10

4. cylinder correction: 25%

“Basic scheme II demonstrates that it is not fanciful to assume that OHRA and Huizinga’s wildest dreams will even be surpassed by a factor two.

“The written declaration from Mr. Wouters (see exhibit 5) confirms that all the points of departure are correct and that he can approve of the basic scheme which results in a commercial timber yield of well over 1,000 m³ per hectare. A timber yield of 1,057 m³ per hectare, that is what Huizinga is going for, and he will attempt to do better still. This should be easily attainable.”

Flor y Fauna’s legal representative F.H.J. van Schoonhoven then continues with the presentation of the basic scheme 3:

“In conclusion, more minimal [author’s note: yes, that is what is written because the author apparently already depicted the basic scheme I as the minimal projection of expected yields] assumptions than those used for the basic scheme are not justified by the findings of bailiff Groot. But still, in order to arrive at a scheme with even lower values, the initial diameter is lowered with half a centimeter to ten centimeters (instead of 10.5 centimeter) and the annual increment is lowered to one and a half centimeter (in stead of 1.7 centimeter). The following picture then emerges:

“Basic scheme 3”

[author’s note: To save space, the full table is not presented here. The main results are:]

Mean diameter increment of 1.5 cm/yr results 34 cm at year 20

Usable tree height at year 20 is 20 m

Total tree loss is 240 trees/ha

Total yield is 867 m³/ha (MAI=43.35 m³/ha)

“From basic scheme 3 it appears that an even further reduction of the already low points of departure lead to a yield per hectare that is within the margins as they were presented in the calculated examples by Huizinga and OHRA.”

[note: also see exhibit No. ‘960628 OHRA’s defence’ in the CD-ROM for a copy of Van Schoonhoven’s explanatory notes to the above document of April 2, 1996; which is referred to in the present study as: ‘Schoonhoven, April 2, 1996’]

Appendix 2: Glossary of terms

The general terminology used in this study is conform the ‘Waldbauliche Terminologie’, (Brünig and Mayer, 1980), unless specified otherwise.

Specific definitions of terms as defined below are taken from the on-line edition of Webster’s Revised Unabridged Dictionary (1913), unless specified otherwise.

accountability

The state of being accountable; liability to be called on to render an account; accountableness. “The awful idea of accountability.” --R. Hall.

bark

Function: noun

Etymology: Middle English, from Old Norse bark-, borkr; akin to Middle Dutch & Middle Low German borke bark

Date: 14th century

1 : the tough exterior covering of a woody root or stem; specifically : the tissues outside the cambium that include an inner layer especially of secondary phloem and an outer layer of periderm

2 : CINCHONA 2

- bark-less /'bär-kl&s/ adjective

certify

Pronunciation: 's&r-t&-"fl

Function: transitive verb

Inflected Form(s): -fied; -fy-ing

Etymology: Middle English certifier, from Middle French certifier, from Late Latin certificare,

from Latin certus certain -- more at CERTAIN

Date: 14th century

1 : to attest authoritatively: as a : CONFIRM b : to present in formal communication c : to attest as being true or as represented or as meeting a standard d : to attest officially to the insanity of

2 : to inform with certainty : ASSURE

3 : to guarantee (a personal check) as to signature and amount by so indicating on the face

4 : CERTIFICATE, LICENSE

- cer-ti-fi-able /-"fI-&-b&l/ adjective

- cer-ti-fi-ably /-ble/ adverb

- cer-ti-fi-er /-"fI(-&)r/ noun

synonyms CERTIFY, ATTEST, WITNESS, VOUCH mean to testify to the truth or genuineness of something. CERTIFY usually applies to a written statement, especially one carrying a signature or seal <certified that the candidate had met all requirements>.

ATTEST applies to oral or written testimony usually from experts or witnesses <attested to the authenticity of the document>. WITNESS applies to the subscribing of one's own name to a document as evidence of its genuineness <witnessed the signing of the will>. VOUCH applies to one who testifies as a competent authority or a reliable person <willing to vouch for her integrity>. synonym see in addition APPROVE

credible

[Oxford concise dictionary, seventh edition, 1983, Oxford, Clarendon press]

a. [Of person or statement) believable, worthy of belief; (of threat etc.) Convincing; hence or cogn. ~ibility n. (~**ibility gap**, seeming difference between official statements and the facts)

credibility

The quality of being credible; credibleness; as, the credibility of facts; the credibility of witnesses.

establish

Pronunciation: is- ta -blish

Function: transitive verb

Etymology: Middle English establissen, from Middle French establiss-, stem of establir, from Latin stabilire, from stabilis stable

Date: 14th century

1 : to institute (as a law) permanently by enactment or agreement

2 obsolete : SETTLE 7

3 a : to make firm or stable b : to introduce and cause to grow and multiply <establish grass on pasturelands>

4 a : to bring into existence : FOUND <established a republic> b : BRING ABOUT, EFFECT

<established friendly relations>

5 a : to put on a firm basis : SET UP <establish his son in business> b : to put into a favorable

position c : to gain full recognition or acceptance of <the role established her as a star>

6 : to make (a church) a national or state institution

7 : to put beyond doubt : PROVE <established my innocence>

- es-tab-lish-able /-sh&-b&l/ adjective

- es-tab-lish-er /-sh&r/ noun

false

False \False\, a. [Compar. Falser; superl. Falsest.] [L. falsus, p. p. of fallere to deceive; cf. OF.

faus, fals, F. faux, and AS. fals fraud. See Fail, Fall.] 1. Uttering falsehood; untruthful; given to deceit; dishonest; as, a false witness.

2. Not faithful or loyal, as to obligations, allegiance, vows, etc.; untrue; treacherous; perfidious; as, a false friend, lover, or subject; false to promises.

I to myself was false, ere thou to me. --Milton.

3. Not according with truth or reality; not true; fitted or likely to deceive or disappoint; as, a false statement.

4. Not genuine or real; assumed or designed to deceive; counterfeit; hypocritical; as, false tears; false modesty; false colors; false jewelry.

False face must hide what the false heart doth know. --Shak.

5. Not well founded; not firm or trustworthy; erroneous; as, a false claim; a false conclusion; a false construction in grammar.

Whose false foundation waves have swept away. --Spenser.

6. Not essential or permanent, as parts of a structure which are temporary or supplemental.

7. (Mus.) Not in tune.

lie

Lie \Lie\, n. [AS. lyge; akin to D. leugen, OHG. lugi, G. l[u]ge, lug, Icel. lygi, Dan. & Sw. l[o]gn, Goth. liugn. See Lie to utter a falsehood.] 1. A falsehood uttered or acted for the purpose of deception; an intentional violation of truth; an untruth spoken with the intention to deceive.

It is willful deceit that makes a lie. A man may act a lie, as by pointing his finger in a wrong direction when a traveler inquires of him his road. --Paley.

2. A fiction; a fable; an untruth. --Dryden.

3. Anything which misleads or disappoints.

Wishing this lie of life was o'er. --Trench.

To give the lie to. (a) To charge with falsehood; as, the man gave him the lie. (b) To reveal to be false; as, a man's actions may give the lie to his words.

White lie, a euphemism for such lies as one finds it convenient to tell, and excuses himself for telling.

Syn: Untruth; falsehood; fiction; deception.

Usage: lie, Untruth. A man may state what is untrue from ignorance or misconception; hence, to impute an untruth to one is not necessarily the same as charging him with a lie. Every lie is an untruth, but not every untruth is a lie. Cf. Falsity.

proof

Pronunciation: 'prüf

Function: noun

Etymology: Middle English, alteration of preove, from Old French preuve, from Late Latin proba, from Latin probare to prove -- more at PROVE

Date: 13th century

1 a : the cogency of evidence that compels acceptance by the mind of a truth or a fact b : the process or an instance of establishing the validity of a statement especially by derivation from other statements in accordance with principles of reasoning

2 obsolete : EXPERIENCE

3 : something that induces certainty or establishes validity

4 archaic : the quality or state of having been tested or tried; especially : unyielding hardness

5 : evidence operating to determine the finding or judgment of a tribunal

6 a plural proofs or proof : a copy (as of typeset text) made for examination or correction b : a test impression of an engraving, etching, or lithograph c : a coin that is struck from a highly-polished die on a polished planchet, is not intended for circulation, and sometimes differs in metallic content from coins of identical design struck for circulation d : a test photographic print made from a negative

7 : a test applied to articles or substances to determine whether they are of standard or satisfactory quality

8 a : the minimum alcoholic strength of proof spirit b : strength with reference to the standard for proof spirit; specifically : alcoholic strength indicated by a number that is twice the percent by volume of alcohol present <whiskey of 90 proof is 45% alcohol>

ruling

Rule \Rule\, v. t. [imp. & p. p. Ruled; p. pr. & vb. n. Ruling.] [Cf. OF. riuler, ruiler, L. regulare. See Rule, n., and cf. Regulate.]

1. To control the will and actions of; to exercise authority or dominion over; to govern; to manage. --Chaucer.

A bishop then must be blameless; . . . one that ruleth well his own house, having his children in subjection. --1 Tim. iii. 2, 4.

2. To control or direct by influence, counsel, or persuasion; to guide; -- used chiefly in the passive.

I think she will be ruled In all respects by me. --Shak.

3. To establish or settle by, or as by, a rule; to fix by universal or general consent, or by common practice.

That's are ruled case with the schoolmen. --Atterbury.

4. (Law) To require or command by rule; to give as a direction or order of court.
5. To mark with lines made with a pen, pencil, etc., guided by a rule or ruler; to print or mark with lines by means of a rule or other contrivance effecting a similar result; as, to rule a sheet of paper of a blank book.

scientific

Scientific \Sci`en*tif"ic\, a. [F. scientifique; L. scientia science + facere to make.] 1. Of or pertaining to science; used in science; as, scientific principles; scientific apparatus; scientific observations.

2. Agreeing with, or depending on, the rules or principles of science; as, a scientific classification; a scientific arrangement of fossils.

3. Having a knowledge of science, or of a science; evincing science or systematic knowledge; as, a scientific chemist; a scientific reasoner; a scientific argument.

Bossuet is as scientific in the structure of his sentences. --Lander.

Scientific method, the method employed in exact science and consisting of: (a) Careful and abundant observation and experiment. (b) generalization of the results into formulated 'Laws' and statements.

scoff

Pronunciation: 'skäf, 'skof

Function: noun

Etymology: Middle English scof, probably of Scandinavian origin; akin to obsolete Danish skof jest; akin to Old Frisian skof mockery

Date: 14th century

1 : an expression of scorn, derision, or contempt : GIBE

2 : an object of scorn, mockery, or derision

scoff

Date: 14th century

intransitive senses : to show contempt by derisive acts or language

transitive senses : to treat or address with derision : MOCK

- scoff-er noun

synonyms SCOFF, JEER, GIBE, FLEER, SNEER, FLOUT mean to show one’s contempt in derision or mockery. SCOFF stresses insolence, disrespect, or incredulity as motivating the derision <scuffed at their concerns>. JEER suggests a coarser more indiscriminating derision <the crowd jeered at the prisoners>. GIBE implies taunting either good-naturedly or in sarcastic derision <hooted and giped at the umpire>. FLEER suggests grinning or grimacing derisively <the saucy jackanapes fleered at my credulity>. SNEER stresses insulting by contemptuous facial expression, phrasing, or tone of voice <sneered at anything romantic>. FLOUT stresses contempt shown by refusal to heed <flouted the conventions of polite society>.

scoff

Function: verb

Etymology: alteration of dialect scaff to eat greedily

Date: 1846

transitive senses

1 : to eat greedily

2 : SEIZE -- often used with up

intransitive senses : to eat something greedily

stewardship

Pronunciation: ‘stü-&rd-"ship, ‘styü-; ‘st(y)u(-&)rd-

Function: noun

Date: 15th century

1 : the office, duties, and obligations of a steward

2 : the conducting, supervising, or managing of something; especially : the careful and responsible management of something entrusted to one’s care <stewardship of our natural resources>

teak

Teak \Teak\, n. [Malayalm tekku.] (Bot.) A tree of East Indies (*Tectona grandis*) which furnishes an extremely strong and durable timber highly valued for shipbuilding and other purposes; also, the timber of the tree. [Written also teek.]

African teak, a tree (*Oldfieldia Africana*) of Sierra Leone; also, its very heavy and durable wood; -- called also African oak.

timber

Timber \Tim"ber\, n. [AS. timbor, timber, wood, building; akin to OFries. timber, D. timmer a room, G. zimmer, OHG. zimbar timber, a dwelling, room, Icel. timbr timber, Sw. timmer, Dan. t["o]mmer, Goth. timrjan to build, timrja a builder, L. domus a house, Gr. ? house, ? to build, Skr. dama a house. [root]62. Cf. Dome, Domestic.] 1. That sort of wood which is proper for buildings or for tools, utensils, furniture, carriages, fences, ships, and the like; -- usually said of felled trees, but sometimes of those standing. Cf. Lumber, 3.

And ta'en my fiddle to the gate, . . . And fiddled in the timber! --Tennyson.

2. The body, stem, or trunk of a tree.

3. Fig.: Material for any structure.

Such dispositions are the very errors of human nature; and yet they are the fittest timber to make politics of. --Bacon.

4. A single piece or squared stick of wood intended for building, or already framed; collectively, the larger pieces or sticks of wood, forming the framework of a house, ship, or other structure, in distinction from the covering or boarding.

So they prepared timber ... to build the house. --1 Kings v. 18.

Many of the timbers were decayed. --W. Coxe.

transparent

[Oxford concise dictionary, seventh edition, 1983, Oxford, Clarendon press]

2. (Fig.) (Of disguise, pretext, etc.) Easily seen through, (of movie, quality, etc.) Easily seen through attempt at disguise; evident, obvious, (*transparent sincerity*); easily understood; free from affectation or disguise, frank.

transparency

\Trans*par"en*cy\, n.; pl. Transparencies. [Cf. F. transparence.]

1. The quality or condition of being transparent; transparence.

2. That which is transparent; especially, a picture painted on thin cloth or glass, or impressed on porcelain, or the like, to be viewed by natural or artificial light, which shines through it. --Fairholt.

true

True \True\, a. (Biol.) Genuine; real; not deviating from the essential characters of a class; as, a lizard is a true reptile; a whale is a true, but not a typical, mammal.

True \True\, a. [Compar. Truer; superl. Truest.] [OE. trewe, AS. tre[’o]we faithful, true, from tre[’o]w fidelity, faith, troth; akin to OFries. triuwe, adj., treuwa, n., OS. triuwi, adj., trewa, n., D. trouw, adj. & n., G. treu, adj., treue, n., OHG. gitriuwi, adj., triuwa, n., Icel. tryggr, adj., Dan. tro, adj. & n., Sw. trogen, adj., tro, n., Goth. triggws, adj., triggwa, n., trauan to trust, Opruss druwis faith. Cf. Trow, Trust, Truth.] 1. Conformable to fact; in accordance with the actual state of things; correct; not false, erroneous, inaccurate, or the like; as, a true relation or narration; a true history; a declaration is true when it states the facts.

2. Right to precision; conformable to a rule or pattern; exact; accurate; as, a true copy; a true likeness of the original.

Making his eye, foot, and hand keep true time. --Sir W. Scott.

3. Steady in adhering to friends, to promises, to a prince, or the like; unwavering; faithful; loyal; not false, fickle, or perfidious; as, a true friend; a wife true to her husband; an officer true to his charge.

Thy so true, So faithful, love unequalled. --Milton.

Dare to be true: nothing can need a lie. --Herbert.

4. Actual; not counterfeit, adulterated, or pretended; genuine; pure; real; as, true balsam; true love of country; a true Christian.

The true light which lighteth every man that cometh into the world. --John I. 9.

True ease in writing comes from art, not chance. --Pope.

Note: True is sometimes used elliptically for It is true.

Out of true, varying from correct mechanical form, alignment, adjustment, etc.; -- said of a wall that is not perpendicular, of a wheel whose circumference is not in the same plane, and the like.

[Colloq.]

A true bill (Law), a bill of indictment which is returned by the grand jury so indorsed, signifying that the charges to be true.

True \True\, adv. In accordance with truth; truly. --Shak.

verify

Pronunciation: 'ver-&-"fi

Function: transitive verb

Inflected Form(s): -fied; -fy-ing

Etymology: Middle English verifien, from Middle French verifier, from Medieval Latin verificare,

from Latin verus true

Date: 14th century

1 : to confirm or substantiate in law by oath

2 : to establish the truth, accuracy, or reality of

synonym see CONFIRM

- ver-I-fi-er /-"fi(-&)r/ noun

wood

Wood \Wood\, n. [OE. wode, wude, AS. wudu, wiodu; akin to OHG. witu, Icel. vi?r, Dan. & Sw. ved wood, and probably to Ir. & Gael. fiodh, W. gwydd trees, shrubs.]

1. A large and thick collection of trees; a forest or grove; -- frequently used in the plural.

Light thickens, and the crow Makes wing to the rooky wood. --Shak.

2. The substance of trees and the like; the hard fibrous substance which composes the body of a tree and its branches, and which is covered by the bark; timber. "To worship their own work in wood and stone for gods." --Milton.

3. (Bot.) The fibrous material which makes up the greater part of the stems and branches of trees and shrubby plants, and is found to a less extent in herbaceous stems. It consists of elongated tubular or needle-shaped cells of various kinds, usually interwoven with the shining bands called silver grain.

Note: Wood consists chiefly of the carbohydrates cellulose and lignin, which are isomeric with starch.

wood

Pronunciation: 'wud

Function: noun

Etymology: Middle English wode, from Old English wudu, wudu; akin to Old High German witu wood, Old Irish fid tree

Date: before 12th century

1 a : a dense growth of trees usually greater in extent than a grove and smaller than a forest -- often used in plural but sing. or plural in constr. b : WOODLAND

2 a : the hard fibrous substance consisting basically of xylem that makes up the greater part of the stems, branches, and roots of trees or shrubs beneath the bark and is found to a limited extent in herbaceous plants b : wood suitable or prepared for some use (as burning or building)

3 a : something made of wood b : a golf club having a thick wooden head; also : a golf club having a similar head made of metal - out of the woods : clear of danger or difficulty

wood

(Prosea, 1993, p 17)

‘Wood’ is the hard, compact and fibrous substance between pith and bark of trunk and branches of a tree. Wood consists technically of the aggregated xylem elements intersected with the rays in many plants. In these definitions, the wood of a tree may be used as timber.

yield

Yield \Yield\, n. Amount yielded; product; -- applied especially to products resulting from growth or cultivation. ``A goodly yield of fruit doth bring." --Bacon.

yield

“The definition of volume is: volume of the stem in cubic meters, without bark, between 0.3 meter above terrain level and up to a minimum diameter of 8.0 centimeter, without bark” (Keogh *et al.*, 1987, p ii).

yield

“The yield of a forest is conventionally defined as the annual yield of merchantable wood per hectare of forest land - normally expressed in cubic meters per hectare.” (source: Michael D. Bazett, 1993 (p 10). *In*: Shell and WWF; 1993. Shell/WWF tree plantation review, Study No. 3, Industrial Wood, Shell International Petroleum Company and World Wide Fund for Nature.

Appendix 3: Who was who in Teakwood

The Teakwood Contract Partners:

- WWF
- OHRA
- Flor y Fauna S.A.
- SCOFF
- Van Rossum van Veen Management Consultants

Van Rossum Van Veen Management Consultants

(Rainforest Alliance Liaison Officer and Flor y Fauna representatives in The Netherlands)

J. van Rossum (SCOFF)

J. van Veen

B. Vreugdenhil (till March 1996)

Flor y Fauna Scientific Advisory Board (1995)

President: A.J.M. Wouters (Ministry of Agriculture)

Members:

R. Poels (Wageningen Agricultural University)

J. Boerboom (ex-Wageningen Agricultural University)

A. Heineman (ex-Oxford Forestry Institute, Stichting Bos en Hout, Wageningen)

M. van Schaik

Foundation for the continuity of Flor y Fauna, SCOFF,

(Source: SCOFF, Stichting Continuïteit Flor y Fauna; March 31, 1993)

Board members (1994):

E. Huizinga (Flor y Fauna)

J. Huizinga (Flor y Fauna)

R. Kottmann (Member of WWF-Board, Director of Berenschot Management Consultants; President of SCOFF, upon WWF recommendation)

R. Hinse (OHRA Board of Managing Directors)

J. van Rossum (Van Rossum Van Veen Management Consultants, Rainforest Alliance Liaison Officer and Flor y Fauna representatives in The Netherlands), *in representation of* (Dutch: ‘*namens*’) *the private investors* (Source: Flor y Fauna Teakwood info of December 1993)

Teakwood Legal Advisors

L. Oosting, Stibbe, Simont, Monahan, Duhot

L. Oosting, Ekelmans den Hollander

F.H.J. van Schoonhoven, Van Schoonhoven in 't Veld

M.C. Groot, bailiff

Rood en Partners

Press agents for OHRA releases on the Flor y Fauna case

SICIREC (1992)

E.A. Wester (General Manager. Alajuela, Costa Rica, Wife of Ben Huizinga).

L.D. Acuña Delcore Esq. (Resident Agent; acted as Flor y Fauna representative).

P.P. van der Molen (President to Board of Directors, The Netherlands).

Van der Molen's Financial Services (Service to shareholders; owned by Dr. H.H. van der Molen, the brother of Sicirec President Drs. P.P. van der Molen).

WWF chapter in the Netherlands

(Kamer van Koophandel Utrecht, 1998; marketing Flor y Fauna Teakwood investment program and marketing of Flor y Fauna timber; Financial supporter of FSC, Member of ‘Heart for Wood’ which is led by FoE and FSC-NL office holder G. Boetekees.)

Board members:

E. Nijpels (President)

J. Reneman (Member)

M. Oosting (Secretary)

J. Manheim (Member)

H. Voortman (Treasurer)

S. Wolff (Member)

J. Wabeke (Member)

S. Woldhek (Director, limited powers)

Forest Stewardship Council A.C.

Asociación Civil before Mexican law (source: FSC WWW site < <http://www.fscoax.org> >, January 27, 1998, document # 5.1.1.; Accreditor of Rainforest Alliance certificate of Flora y Fauna plantations)

Board Members:

Mr. BRUCE CABARLY (Former Director), World Resource Institute (Current: Director, WWF Global Forest Program).

Ing. ALFONSO ARGUELLES, Unión Nacional de Organizaciones de Forestería Comunal, Quintana Roo, Mexico, Chair.

Mr. JAMES SULLIVAN, Toronto, Ontario M4V 1E6, Canada, Vice-Chair.

Mr. FRANCIS SULLIVAN, WWF-UK, Director WWF Forests for Life Campaign, Godalming, Surrey, U.K., Treasurer.

Mr. SAMUEL NGUIFFO, Enviro-Protect, Yaounde, Cameroun.

Ms KARIN LINDAHL, SSNC, Taiga Consulting, Mattisudden, Sweden.

Mr. JUSTIN WARD, Natural Resource Defense Council, Washington.

Mr. S. INDRO TIAHJONO, SKEPHI-Indonesia, Jakarta, Indonesia.

Mr. OLOF JOHANSSON, AssiDomän, Sweden.

Mr. SIAN TUAN MOK, Kuala Lumpur, Malaysia

FSC Head Quarters (Mexico):

Dr. TIMOTHY SYNNOTT Executive Director

Mr. CARLOS SUAREZ Business Manager

Mr. DINESH ARYAL Regional Coordinator for Asia and the Pacific

Ms. ELEONORE SCHMIDT Regional Coordinator for Europe and Africa

Mr. CRISTIAN VALLEJOS Regional Coordinator

FSC Netherlands:

Mrs. G. BOETEKEES, FSC-NL representative, FoE-NL (*Milieudefensie*),
Campaign leader for Heart for Wood (a joint initiative of WWF, NOVIB and FoE-
NL)

Rainforest Alliance (Certifier of Flor y Fauna plantation)

D. Katz (Director)

S. Rodriguez (Associate, Conservation Agriculture Program/ECO-O.K.)

Smart Wood Program:

Richard Z. Donovan (Director Smart Wood Program)

K. Bachelder (Central and South America Region)

K. Heaton

A. Weld (Certification Administrator)

A. Alvarez (Consultant; Fundación Ambio, the Smart Wood representative body in
Costa Rica)

G. Galloway (Consultant, ex-CATIE, ex-USAID)

J. Laarman (Consultant, NCSU)

R. Lujan (Consultant)

J. Tolisano (Consultant)

R. Butterfield (Consultant)

B. Briscoe (Consultant)

J. Campos (Consultant)

Wageningen Agricultural University (WAU)

Department of Forestry:

R. Poels (Teakwood Scientific Advisory Board; Contract researcher)

J. Boerboom (Ex-WAU; Teakwood Scientific Advisory Board)

Ministry of Agriculture (LNV)

(Co-funder with Flor y Fauna of Ministerial research into Flor y Fauna, 1995)

J.M. van Aartsen (Minister)

T. Joustra (Secretary General)

F. von der Assen (Senior advisor)

P. Schütz (Senior policy advisor)

D. de Groot (IKC-N, Forestry advisor)

A.J.M. Wouters (IKC-N, President of Flor y Fauna’s Scientific Advisory Board, author of ‘Wouters/LNV 28-12-93’, Ministerial Report on Flor y Fauna’s Teakwood Plantation Costa Rica and of statement to Court of December 3, 1993, on correctness of commercial yield expectations)

K. van Dijk (IKC-N, Forestry Advisor for Latin America)

Costa Rican Institute of Technology

P. Camacho (Flor y Fauna Consultant; Camacho drew up the ‘current’ yield projections for Flor y Fauna together with F. v.d. Brink, according to the Rainforest Alliance report of August 16, 1996)

Centro Científico Tropical

(CCT, Consultants to Rainforest Alliance)

H. Jiménez

J. Tosi

V. Watson

J. Echeverria

Appendix 4: Items Found on CD-ROM

Exhibits 1-78.

| | |
|--------|---------------------------------------|
| 990115 | Teakwood advertisements |
| 990114 | OHRA and WWF announce Teakwood |
| 990113 | Teakwood Brochure (14-18%) |
| 990112 | Teakwood Policy |
| 990111 | Teakwood investment sample |
| 990110 | Teak prices |
| 980918 | CMC letter to OHRA |
| 970113 | RCC ruling |
| 961120 | Teak price |
| 961114 | OHRA’s defence |
| 961113 | India, call for regulation |
| 961106 | WWF letter to relational network |
| 961030 | Treemail home page |
| 961012 | de Volkskrant |
| 960924 | Teakwood advertisements in ‘de Panda’ |
| 961011 | Keogh warns teak investors |
| 960923 | Het Financieele Dagblad |
| 960909 | Beleggers Belangen |
| 960901 | Het Financieele Dagblad |
| 960816 | Smart Wood ruling on Flor y Fauna |
| 960731 | OHRA press release |
| 960728 | RCC ruling |
| 960630 | Teakwood advertisement in ‘de Panda’ |

| | |
|---------|--|
| 960628 | OHRA’s defence |
| 960531 | NRC |
| 960509b | WUB |
| 960509a | RCC rulings |
| 960501 | ‘Internationale Samenwerking’ on OHRA |
| 960428 | Teakwood Info |
| 960409 | OHRA informs investors |
| 960331 | OHRA information bulletin |
| 960328 | WUB |
| 960326 | OHRA’s defence |
| 960304b | OHRA & WWF press release |
| 960304a | WWF Dutch summary of CCT report |
| 960217 | Oldeman notes |
| 960213 | de Telegraaf |
| 960209c | de Gelderlander |
| 960209b | Beleggers Belangen |
| 960209a | Het Financieele Dagblad etc. |
| 960205 | One World Online |
| 960129 | FSC letter |
| 960128 | ANP |
| 960128 | Centeno’s letter to Pronk |
| 960111 | OHRA’s defence, including Ministerial Report Wouters |
| 960108 | FSC letter to Rainforest Alliance |
| 951228 | OHRA & Flor y Fauna’s case of reputed libel |
| 951221 | FSC and Rainforest Alliance letters |
| 951130 | Het Verzekeringsblad |

| | |
|---------|------------------------------------|
| 951125 | FEM |
| 951126 | NOVA according to Van Schoonhoven |
| 950921 | OHRA letter to potential investors |
| 950913 | Flor y Fauna letter to investors |
| 940912 | Teakwood Info |
| 940501 | Teakwood Info |
| 940426 | NRC |
| 940101 | OHRA jaarverslag |
| 931207b | OHRA’s defence |
| 931207a | Flor y Faunua’s defence |
| 931202 | NRC |
| 930501 | de Panda |
| 930331b | Press release Centrum Hout/VVNH |
| 930331a | Scoff |
| 930322 | Teakwood Info |
| 930318 | Financieel Dagblad & NRC |
| 930301b | Utrechts Dagblad |
| 930301a | Teakwood VI Brochure |
| 910701 | Teca - CATIE |
| 910319 | IHAL |
| 900825 | Flor y Fauna letter to investors |
| 881101 | Money World |

Other items on the CD-ROM

- Internet Publications (Centeno & Romeijn)
- Certification as a tool to enhanced forest management, Dutch version
- NOVA: excerpts from TV broadcasts

- SEC Ruling
- BPC lumber stock

Appendix 5: About the author

Paul Cornelis Romeijn was born in 1955 in Kuala Belait, Brunei Darussalam. As a member of an internationally oriented family he grew up in three continents. He studied bio-physics at the University of Amsterdam for a period of 3 years and, in 1980, initiated an academic training at the Agricultural University of Wageningen. From this university he received B.Sc. and M.Sc. degrees in 1984 and 1988 respectively. The main orientations of this study were in tropical silviculture, forest management and cross-cultural psychology and the study included an apprenticeship at the CATIE research station in Costa Rica. He has since worked with the FAO on the coordination of agroforestry projects in the high Andean region and with the IUFRO headquarters in Vienna as a researcher of donor agencies' funding criteria for tropical research programs. After returning to The Netherlands, he founded Treemail; an international forest policy advisory company that works in close collaboration with the Privateers N.V. remote sensing specialists. The Ph.D. research on the “*variations of truth*” was initiated by Treemail in November of 1995 and, in part, builds upon the author's M.Sc. works on the deforestation of the Atlantic coast of Costa Rica, the history of plantation forestry in the tropics and a literature study on teak.

He has advised the Netherlands Remote Sensing Board (BCRS) on the coordination and execution of remote sensing research of tropical forests on numerous occasions. He successfully represented The Netherlands in the working group that drafted the European Space Agency's policy and the Ministerial resolution on developing countries' needs in telecommunication, earth observation and space research. He has provided direct or editorial contributions to studies by the EU's DG XI, the Greens in the European Parliament, ACIAR strategic planning for the CIFOR tropical forest research institute of the CGIAR and academic workshops in The Netherlands and abroad. Privateers N.V. and Treemail have been selected to work on data of the TRMM satellite of the Japanese Space Agency, NASDA, and the American Space Agency, NASA. The proposal was peer reviewed and depicted by the NASDA Science Director as being of ‘extremely high quality’

Paul Romeijn is permanent advisor to the Canopy Foundation, Stichting het Kronendak, the first honorary member of RAFE, treasurer of the EnviX Foundation and a member of ETRN, VIO, TFF, IAALD and IFF. He is the author of dozens of publications in the field of international forestry, as e.g., in the ‘US Journal of Forestry’. He is regularly consulted or interviewed by the press on the subjects of tropical forests and the environment, for televised, radio and written media, both within The Netherlands and abroad. He has worked on furthering the development of sound reproduction electronics and advises on the enhancement of recording acoustics and equipment. Paul Romeijn has

been nominated for inclusion in the upcoming editions of IBC’s ‘International Who is Who of Intellectuals’, the ABI’s ‘International Directory of Distinguished Leadership’ and Marquis’ ‘Who is Who in the World’. Treemail has been accepted as a member of the ERIC Clearinghouse on Information and Technology of the Syracuse University of New York, that promotes the GEM Profile as the meta-data standard for representing educational materials on the Internet.

Appendix 6: List of illustrations

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Green Gold is based on a study of the Teakwood investment program. It discusses how the management of the teak plantations in Costa Rica was certified under the auspices of the Forest Stewardship Council. According to the WWF, these plantations 'set a worldwide example'.

The conclusions explored in this book are key to understanding the topic of forest management certification and its day-to-day practice. The book offers an unprecedented insight into the basics and credibility of forest products labeling, and how the Internet helps to extract accountability from Trans National Corporations in the light of working towards a 'civil society'.

With this revealing work, the renowned international forest policy advisor Dr. Paul C. Romeijn allows the readers to answer some of the questions on everyone's mind:

Why are teak investments so disputed?

Is Teakwood a sound investment?

Is third party certification independent?

Why should these problems be addressed?

Dr. Paul C. Romeijn is presently Director of Treemail,
The Netherlands.