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REPORT OF THE SCIENTIFIC AND TECHNICAL ADVISORY PANEL WORKSHOP ON GREEN CERTIFIERS

MEXICO CITY, MEXICO
OCTOBER 13-14, 1999

(Prepared by the Scientific and Technical Advisory Panel)

Report of The STAP Workshop on Green Certifiers

**Mexico City, Mexico
13-14 October, 1999**

*Prepared by
The Scientific and Technical Advisory Panel (STAP)
Of the Global Environment Facility (GEF)*

**STAP Secretariat
United Nations Environment Programme**

PREFACE

It is a pleasure to present the final report of the *Brainstorming on Green Certification System*. The Brainstorming Session was held from October 13-14, 1999 in Mexico City, Mexico. The meeting was convened by the Scientific and Technical Advisory Panel (STAP) of the Global Environment Facility (GEF) in collaboration with the National University of Mexico (UNAM).

The brainstorming session is part of STAP's ongoing efforts to broaden the focus of biodiversity related programmes from conservation to sustainability. It is within this context that STAP is recommending to the GEF to place more emphasis on "green markets" and mechanisms to promote it as an emerging issue. The brainstorming session should therefore be considered as a first step in this process.

The report was prepared by Prof. José Sarukhán aided by Ms. Indira Lopez-Bassols of the National Commission on the Knowledge and Use of Biodiversity (CONABIO) with inputs from the STAP Secretariat.

Prof. Madhav Gadgil
STAP Chairman

EXECUTIVE SUMMARY

This report is the product of the STAP Brainstorming Session on Green Certifiers convened in Mexico City, Mexico, from October 13-14, 1999, in collaboration with the National University of Mexico (UNAM). The goal was to:

The aims and objectives of the brainstorming session were summarised as follows:

- (i) To foster a wider debate within the context of the GEF, that would encourage targeted research and policy initiatives to consider the use of green certifiers as an effective application to facilitate more sustainable utilization of biodiversity resources through more effective wildlife trade control and enforcement.
- (ii) To explore how green certifiers could be used to encourage local communities to more effectively participate in the preservation of biodiversity resources.
- (iii) To sensitise the GEF to the application and potential benefits to be derived from a green certification system.

The brainstorming session targeted three major groups, namely, the scientific/academic community; the regulatory sector and producers. The discussions focused on different types of green certifiers and their applicability to biodiversity conservation, as well as the challenges faced by both the regulatory sector and producers.

Generally, the idea of a "green certifier system" is considered as an important and indispensable way to deal with the reality of a constantly increasing trade of components of biological diversity and the need to preserve the ecosystems in which these species live. However, it was noted that there is no one universal method, instead a diversified range of techniques will need to be devised.

Not only was a green certifier system identified as a way to reward kinds of sustainable practices by identifying where biodiversity products come from but also in helping to better defining property rights on components of biodiversity, creating a valuable market worthy of preservation and development. In addition, such a market could translate into an important source of legitimate revenue for indigenous communities, which would become the authenticated producers, encouraging them to participate in the preservation of the natural areas that make this valuable wildlife possible.

To facilitate the effective involvement and participation of local communities in the implementation of a GCS, including effective enforcement and benefit-sharing schemes, considerations should be given to:

- (i) The establishment of a Fund with GEF support. This provides new opportunities for supporting projects on the sustainable use of biodiversity, based on the participation of local communities;
- (ii) Consider examples of successful experiences and extract lessons that can be adapted to other places and countries;

- (iii) Fulfil the needs for capacity building considering especially the management and reproduction of the species involved, identification and management of markets and building upon local expertise.

GLOSSARY OF ABBREVIATIONS

AFLP	Amplified Fragment Length Polymorphism
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CONABIO	National Commission for the Knowledge and Use of Biodiversity
DNA	Desoxyribo Nucleic Acid
GCS	Green Certification System
GEF	Global Environment Facility
GIBF	Global Information Biodiversity Facility
ISO	International Standard Organization
OECD	Organization for Economic Cooperation and Development
PIT	Passive Integrated Transponder
STAP	Scientific and Technical Advisory Panel
UNAM	National University of Mexico
UNDP	United Nations Development Programme

SECTION 1: INTRODUCTION AND BACKGROUND

1.1 Background

STAP, in its report¹ to the GEF Council in 1998, identified sustainable use and the concept of benefit sharing including the consideration of green markets as an emerging area which STAP should address in GEF II. Within the broader context of sustainable use, STAP identified the issue of 'green certifiers'² as an area which should be given more emphasis in the GEF context. This area was identified taking into consideration that one of the most important causes of biodiversity loss is the illegal trade of wildlife that involves a wide variety of species, both as living specimens and as products (including mammals and birds, reptiles, amphibians and fish, invertebrates and plants).

Two problems in biodiversity conservation are, how to maintain biodiversity and its associated processes through the sustainable *in situ* use of the species which constitute natural ecosystems, as well as ensuring that those species which are the object of commercialization are not depleted. Closely related is the issue of how to control the illegal traffic of endangered species. The rationale of a "green certification system" (GCS)³ stems from the need to find a solution to both of the foregoing problems. A green certifier system could operate as a way to reward kinds of sustainable practices by identifying where products come from. If such a system could be implemented, most likely international wildlife trade control and monitoring systems could be significantly improved.

A green certifier system can assist in helping to better defining property rights on components of biodiversity, creating a valuable market worthy of preservation and development. In addition, this market could translate into an important source of legitimate revenue for indigenous communities, which would become the authenticated producers, encouraging them to participate in the preservation of the natural areas that make this valuable wildlife possible. Ranching practices, for example, could enable countries to promote attractive economic activities, while conserving ecosystems where economically interesting species live.

The Brainstorming Session on Green Certifiers was convened by STAP in collaboration with the National University of Mexico (UNAM) in Mexico City from October 13-14, 1999 at the Instituto de Ecología, University of Mexico, Mexico.

1.2 Aims and Objectives

The aims and objectives of the brainstorming session were summarised as follows:

- (i) To foster a wider debate within the context of the GEF, that would encourage targeted research and policy initiatives to consider the use of green certifiers as an effective

¹ UNEP: Priority Issues which STAP Should Address in GEF II, September, 1998.

² This includes molecular markers, isotope tracing, genetic fingerprinting, certificates of origin, and microchips for example.

³ Refers to the use of different available technologies and certifiers at regional, national and international levels to identify the origin of species, to help control the illegal traffic of endangered wildlife and to guarantee that the trade of specimens of non-endangered species represents no threat to their natural populations.

application to facilitate more sustainable utilization of biodiversity resources through more effective wildlife trade control and enforcement;

- (ii) To explore how green certifiers could be used to encourage local communities to more effectively participate in the preservation of biodiversity resources;
- (iii) To sensitise the GEF of the application and potential benefits to be derived from a green certification system.

1.3 Participation

Three major groups were targeted, namely, (i) the “Scientific-Academic” sector composing of scientists/researchers that have developed different molecular and electronic certifying methodologies. Emphasis was given to the analysis of different practices and experiences from several parts of the world, as a useful starting point to assess the implementation of this world-wide GCS; (ii) the “Regulatory” sector represented by international wildlife trade specialists, in particular CITES officials and officers responsible in countries of the implementation of the CITES agreements; and (iii) The “Producer” sector comprising of private groups with experience in the reproduction and trade of species of economic interest because of their experience regarding sustainable techniques of management, reproduction and certification/tagging of wildlife.

Participants who attended the brainstorming session included several members from the STAP, scientists/researchers from all over the world, CITES representatives, local farmers/producers and representatives from international agencies (see Annex II for the list of participants).

1.4 Official Opening and Structure of the Meeting

The meeting was officially opened by the Chairman of STAP Ad-hoc Working Group on Biodiversity, Prof. José Sarukhán. Dr. Ricardo Sanchez, Regional Director for UNEP Regional Office for Latin America and the Caribbean welcomed the participants to Mexico City and reiterated UNEP's support for STAP and the important and unique contribution it is making to the GEF.

Scientific presentations were made on a range of topics including the use of divisible isotopic and chemical labels to control the world ivory trade and green certifiers for more effective wildlife trade control and enforcement.

In addition, panel discussion/sessions were conducted which focused on the concerns and issues facing the producer sector as well as those of the regulatory agencies. The presentations and panel discussion sessions were followed by the work group discussion which focused in specific issues such as the scientific/technical difficulties related to the marking/tagging system, as well as economic incentives for creating a GCS market; involvement and participation of local communities in the implementation of a GCS, including enforcement and benefit-sharing schemes; and regulatory and institutional issues to be taken into consideration for the implementation of a GCS.

Prior to the convening of the brainstorming session an internet web page was launched at <http://www.conabio.gob.mx/informacion/index.html> to provide information on this initiative and to obtain further information and input on the subject.

SECTION 2: SCIENTIFIC AND TECHNICAL ANALYSIS: AN OVERVIEW

2.1 Introduction

Underlying the consideration of the issue of green certifiers were a number of fundamental issues, namely, how can one determine where a product comes from (in geographical or phylogenetic terms)? How can one differentiate for example between a product that has been extracted directly from wildlife and one that comes from adequate kinds of sustainable practices?

A review of the literature indicates that several studies for example in South Africa have looked at the use of isotopic analysis with elephant ivory. This technique has become a potential tool for the control of illegal trading of ivory in Africa.⁴ The use of isotopic techniques such as “tagging” of individual high value items and artefacts (ivory and rhino horn, etc.) versus “sourcing” or “tracing” of bulk or numerous items (seed, plants etc.) to a certain area has also been studied.⁵

In Mexico, extensive research has been carried with plants using biotechnology and genetic engineering. Several relevant experiments have used molecular markers (including DNA, RAPs, AFLPs and micro-satellites) to identify fungus such as *Colletotrichum Lindemuthianum*, *bean*, *corn* and *chile*⁶. Other studies are looking at reporter genes that are being used with micro-organisms, and the possibility of using them with plants is being examined. In Canada, a technique using radar tags was developed by Jens Roland. It has been used more for tracking individual sin and wild. However, it is a technique that has applicability in the context of the discussion on green certifiers.

The following is a brief summary of some of the main issues highlighted in the presentations.

2.2 The development and use of green certifiers for biodiversity

A number of different types of green certifiers and their applicability to biodiversity conservation were considered.

(i) Divisible isotopic and chemical labels

The use of divisible isotopic and chemical labels to control the world ivory trade, underlining the fact that a tag needs to be appropriate to the product, cheap, unforgeable, easy to use and allowing any forensic investigation to be easily accomplished. The advantages and disadvantages of the use of an isotopic/chemical tag, that allows accurate identification of even small pieces of artefacts was presented.

⁴ See Van Der Merwe, N.J. et al: Source-area determination of elephant ivory by isotopic analysis: *Nature*, 346, 744 – 746 (1990).

⁵ See Kruger F.J., Legitimizing the ivory trade using isotopic techniques: tagging vs tracing. *S. African Journal Wildlife Research* 26/4, 131-132 (1996).

Kruger F.J. Scientific tracing of wild animal products. August 1998. To be published Roland, McKinnon, Backhouse and Taylor, 1996. Even small radar tags on insects. *Nature*, 381:120. May 9, 1996.

⁶ See González M., R. Rodríguez, et al. Characterization of Mexican isolates of *Colletotrichum lindemuthianum* by using differential cultivars and molecular markers. *Ecology and population biology*, v88, no4, 1998.

(ii) Amplified Fragment Length Polymorphism DNA Markers

An overview of the role of molecular markers in biological identification with a focus on AFLP (Amplified Fragment Length Polymorphism) DNA markers was presented. To illustrate its usefulness, examples in fungal diseases and recognition of hybrids in fruits were highlighted. Key aspects of AFLP protocol were also addressed as well as the advantages of AFLP patterns that are impossible to fake which, if properly implemented, could be a very effective system. Since it is a fingerprinting protocol, it would be capable of distinguishing easily between individuals. The difficulties lie in the fact that a data bank needs to be developed for each particular case, and the challenge would be to develop highly efficient statistical tools to test the hypotheses using AFLP data.

It was highlighted that in India one of the major breakthroughs in the field of biotechnology has been the development of DNA fingerprinting technique which allows identification of an individual (human/animal/plant) in the world population. It also allows identification of species for example, confiscated skin samples/bone samples can be used to establish the source of their origin. Many such cases have been solved in India by using this technique. It, therefore, can be used for preventing illegal poaching and sale of the products of endangered species in international market. Polymerase Chain Reaction (PCR) based techniques to amplify Variable Number of Tandem Repeats (VNTR), Short Tandem Repeats (STRs) and Mitochondrial D-loop sequencing are the suitable techniques for this purpose. An overview was presented of the types of disciplines used by the Forensic Lab in the United States to identify species: morphological, chemical and protein identifications (relationship of haemoglobin to mass spectral data), mtDNA identifications, and phylogenetic analyses.

The techniques of mass spectrometry utilising C,H,O,N and C3 and C4 photosynthetic pathways, applied in the study of elephant populations and tracing their origins were presented. The technique allows for the identification of changes in the diet of specimens, like for example feeding wild specimens of parrots with maize or other grains once they have been unlawfully captured from forests and kept in captivity before their sale. Similarly there was discussion on the convenient use of stable isotopes for land animals or rare earth taggants for aquatic animals. And even the well-known technique of human fingerprinting for the certification of origin of the materials and/or legal documents covering the traded species.

In addition, an overview of a wide array of electronic devices used for tagging mostly animal specimens were presented. Depending on the targeted animal, many of the markers are only a little larger than a rice grain and can be implanted in various ways, depending on the specimens.

The general conclusion which emerged from the presentations and discussion on green certifiers for biodiversity conservation is that there is no universal method for tagging. As a consequence, a sort of diversified range of techniques needs to be devised. Given that the technologies are available, it is necessary to define what are the subjects that need to be tagged and to look at the certification process on a case by case base. It is necessary to have a good idea of the "mechanics of trade", i.e. the source of species or materials, routes of trade, ways of illegal movement of products, etc. in order to be effective in selecting and/or designing certification techniques.

In addition, it was concluded that for certification systems to be effective, they should be simple and easy to apply by those producing the objects of trade and by the international efforts to control the trade of species and their products. Although all methods present different advantages depending on what one is tagging, there is no foolproof mechanism. Tagging makes sense in the international trade of endangered species, which are normally highly priced, perhaps, at this point, not necessarily in other species of more local trade interest or of very low market price. These will have to be locally regulated as long as they do not become highly demanded.

2.3 Experiences from several international wildlife trade representatives

The representative of CITES gave an overview of CITES and its structure, and some ideas regarding this certification system based “Permits and Certificates” and “the marking of specimens”⁷ of the Convention. It was indicated that CITES had applied microchips but had encountered a few problems, mentioning that CITES’ second most common fraud was the concept of “bred in captivity”. The *ranching systems* was presented, which involves the rearing, in a controlled environment, of species taken from the wild, as a good compromise between commercially interesting activities, continued care of preservation of natural systems and help in maintaining natural populations. This system also increases the chances of community level operations and benefit sharing which goes to the community, not to a private breeder.

The sensitive nature of enforcement was recognised by the meeting. In this context, emphasis focused on the types of institutions needed to be built locally, particularly in developing countries, for a certification system to operate adequately. The idea of setting up regional verifying centres, using CITES as a controlling mechanism, was proposed. Effective certification should also consider how to put them in place while taking into account the several constraints existing in developing countries.

The discussion also focused on the problems being experienced in countries with respect to monitoring mechanisms as well as the role of local communities and the benefits which could be derived from their participation in certification systems. A number of relevant questions were raised in this regard, namely, How do you actually help countries organise? How can we actually ensure benefits to local communities? What are the implications for securing reasonable revenues for local communities? How do we provide means by which local communities can have incentives to preserve the areas? Are technologies and funds available for developing countries to put them in place?

2.4 What the producer sector has to say about using greencertifiers

The producer at the meeting presented an overview of the problems being encountered as producer. Generally, the producers supported the need for a certification system. Specific reference was made to the microchip which is being used by some producers. The high cost of the microchip was identified as a factor limiting its widespread use. However, the use of rings, tattoos, collars, staples etc, seem to be more common and extended.

⁷ See Chapters 11 and 12 of the Convention of International Trade in Endangered Species (CITES).

SECTION 3: IMPLEMENTING A GREEN CERTIFICATION SYSTEM: CHALLENGES AND IMPLICATIONS FOR LOCAL COMMUNITIES

3.1 Introduction

A number of challenges relating to the establishment of a green certification system(s) in developing countries were considered. Emphasis was placed particularly on the scientific and technical difficulties relating to marking/tagging; the involvement of local communities in the implementation and enforcement of such a system as well as benefit-sharing schemes and the regulatory and institutional issues to be taken into consideration in the implementation of GCS.

3.2 Scientific/Technical Difficulties

Green certification is likely to involve a wide range of available and developing techniques. Its use and application at this point is limited as far as laboratory techniques are concerned, but not because of technical difficulties. The main constraining factor is that of political will and coordination, which is required for the development and deployment of green certification techniques.

It is necessary to make a distinction between tagging and marking as opposed to monitoring or tracking. First, in the case of live animals, both domestic and wild (and sometimes live plants) the method of choice seems to be the use of microchips. In the case of animal products, the tagging systems can be varied, including DNA, chemical or isotopic tags, or actual physical tags.

Second, in implementing microchip tagging, the following issues would need to be addressed:

- (i) ISO approved chips should be used;
- (ii) A coherent international code system be developed, where CITES could play a role of working with ISIS;
- (iii) That CITES considers the standardisation of implantation sites, species by species, to make chip reading easier and to prevent chips from entering the human food chain.
- (iv) The establishment of a database to facilitate the implementation of the tagging of wildlife products.

Monitoring involves the verification that wildlife or wildlife products, when tagged, are actually what they purport to be. These may include the claims that tradeable wildlife results from captive breeding, ranching or places/situations that are "green certifiable". Monitoring systems include, among various techniques maternal DNA, isotopic or elemental chemical data and are chosen to fit a given situation. To implement such monitoring systems, databases are required. These databases need not be centralised as long as they are accessible on Internet. To aid in the development of databases (which include significant laboratory work), it was suggested that the Global Biodiversity Information Facility (GIBF) from the Organisation of Economic Co-operation and Development (OECD) be considered in the near future as a major role player. In addition, countries with proposals to CITES for downlisting, should be required to develop

appropriate databases, which would make falsification of the green certification procedure difficult

Economic incentives to foster trade opportunities or industries to consider entering this green certification system (GCS) were also discussed. Several successful examples were pointed out, ranging from the involvement of rural people in the preservation of monarch butterfly nesting sites in Mexico, to the conservation of black rhino in the northern desert of Namibia. Finally, it was argued that the deployment of green certification techniques could provide increased disincentives for illegal behaviour and provide better law enforcement. These techniques have been coupled directly with economic incentives, at least in the initial, developmental stages of a project, which make legal behaviour more profitable than the alternative. The Global Environment Facility (GEF) could play an important role in this direction.

3.3 Participation of Local Communities

In considering the involvement and participation of local communities in the implementation of a GCS, including enforcement and benefit-sharing schemes, the main obstacle identified is the lack of funding to develop local rural capacity of reproducing and legally trading components of ecosystems, whether in the context of CITES and/or through governmental initiatives. To overcome this constraint, the following recommendations were made:

- (i) The establishment of a Fund with GEF support. This provides new opportunities for supporting projects on the sustainable use of biodiversity, based on the participation of local communities;
- (ii) Consider examples of successful experiences and extract lessons that can be adapted to other places and countries;
- (iii) In the case of a new window of opportunity, establish the minimum support necessary to start the project successfully;
- (iv) Fulfil the needs for capacity building considering specially management and reproduction of the species involved, identification and management of markets and building upon local expertise;
- (v) The sustainable use initiative of CBD provides the grounds to link CITES with CBD, by including the sustainable use of wildlife, with CITES becoming the implementing agency to regulate international trade of endangered species listed in the appendices.

To ensure successful community engagement and benefit sharing communities would need to be an integral part of each initiative from the inception and throughout the various stages of project evolution. It should also be based on a solid understanding of local relevant conditions. In addition, local/traditional knowledge could provide innovative elements that could be included in new initiatives. Consideration should be given to the possibility of incorporating added value to raw materials, in order to increase economic benefits to communities or their members.

3.4 Regulatory and Institutional Issues

In addressing regulatory and institutional issues to be taken into consideration for the implementation of a GCS, the creation of regional green certification centres, according to regional needs and expertise was considered as the most appropriate means for achieving this objective. Such a centre could provide the following services *inter alia*:

- (i) Authentication of the source of caught wild birds or products;
- (ii) Authentication of the source of plant and animal species raised in captivity;
- (iii) Tagging of parts or products for international trade purposes; and
- (iv) Maintaining regional databases applicable to the determination of source.

Tagging makes sense in all legal wildlife or parts and products, regardless of endangered status. However this requires national legislation. The case of crocodiles bred in captivity in Colombia, illustrates a national tagging system that also is the recommended CITES international tagging system. The case of caught wild birds in Mexico shows that legislation requires tagged rings for the bird trade. The number located on the ring can be used as a unique qualifier for CITES export permits.

The option of ranching and nursery with limited captivity but mandatory replenishment, involves national legislation and a GCS. This could assist in authenticating the geographical source of the item. In addition, an accurate tagging system would assist local populations by redistributing profits of wildlife conservation to the community that is directly involved, and is presumably the steward of the ecosystem. Thus, when drafting regulations that deal with sustainable harvesting, local populations needs should be taken into account. Summing up, the adoption of green certifiers of different types could result in legal behaviour being more lucrative.

3.5 Conclusion

Generally, the idea of a GCS is considered as an important and indispensable way to deal with the reality of a constantly increasing trade of components of biological diversity and the need to preserve the ecosystems in which these species live.

Any certification system should be simple and easy to apply by international effort. Although regional verification centres under the control of CITES could be set up, it is necessary to look at the institutions that need to be built in locally, particularly in developing countries for a system like this to function. In other words, how do we provide means by which local communities can have incentives to participate in this system as real and efficient actors? Ranching systems could be one viable option to increase community participation while preserving natural systems. There seems to be important room for interaction between CBD, GEF and CITES to attain agreements, which will allow the achievement of the kind of production systems like ranching that seem convenient.

It was widely agreed that we should not see the issue of certification only from the point of view of how to contain or regulate an illegal trade or how to enforce laws for the regulation of trade of endangered species. The stimulation of sustainable use and local or international trade of a broader number of components of natural ecosystems by the active participation of society,

especially rural/indigenous communities is as important as the regulation and protection of CITES listed species.

It is necessary to identify incentives and/or reduce obstacles to allow communities to become real and efficient actors in this activity which is obviously very attractive economically, and which also should be linked to the active conservation of biodiversity by the protection on natural ecosystems.

However, it was perceived that an important stumbling block is political will in the different countries, as well as the co-ordination and commitment of the international community, to be able to develop and deploy effectively GCS.

STAP Workshop on Green Certifiers
13-14 October, 1999
Mexico City, Mexico

Programme

Day 1: Wednesday, October 13, 1999

- 8:00 a.m. Transportation to the *Unidad de Seminarios "Ignacio Chávez"*,
National University from the Hotel
- 8:30 a.m. Registration
- 9:30-10:00 a.m. **Opening plenary**
Opening comments (by Ricardo Sánchez Sosa of UNEP-México)
Welcome (by Dr. Christine Padoch, Vice-Chair of STAP)
Introduction (by Dr. José Sarukhán, STAP member)
- 10:00- 10:30 **Presentation**
The use of divisible isotopic and chemical labels to control the
world ivory trade (by F. Johan Kruger, University of Witwatersrand)
- 10:30-11:00 a.m. **Discussion session**
- 11:00-11:30 a.m. Coffee break
- 11:30-12:30 p.m. **Panel session 1a: *The development and use of green certifiers for***
biodiversity

Dr. Octavio Martínez de la Vega (CINVESTAV), Dr. Nikolaas J van
der Merwe (Harvard University), and Dr. Edgar Espinoza (Forensic
Lab)
Chair: Peter Bridgewater (STAP-member)
- 12:30-13:00 p.m. **Discussion session**
- 13:00-14:00 p.m. **Panel session 1b: *The development and use of green certifiers for***
biodiversity

Dr. Lalji Singh (Centre for Cellular and Molecular Biology), Dr. Kevin
Owen (Electronic ID Inc.), and Dr. José Luis Solorzano (AVID,
México)
Chair: Peter Bridgewater (STAP-member)
- 14:00-14:30 p.m. **Discussion session**

- 14:30-15:30 p.m. Lunch
- 15:30-17:00 p.m. **Panel session 2: *What the producer sector has to say about the use of green certifiers***
- Dr. Jesús Estudillo (Granja la Siberia), José Juan Jiménez (INE), Arturo Yopez Estrada (INE), Quím. Benjamín García (Biología Silvestre Aplicada), and Lic. Jorge Arriaga Jordán (Finca Guadalupe).
Chair: Christine Padoch (STAP Vice-Chair)
- 17:00- 17:30 p.m. Coffee break
- 17:30-18:00 p.m. **Discussion session**
- 18:15 p.m. Transportation to the Hotel

Day 2: Thursday, October 14, 1999

- 8:30 a.m. Transportation to the *Unidad de Seminarios "Ignacio Chavez", UNAM*
- 9:00-9:30 a.m. **Presentation**
- CITES and the use of green certifiers for more effective wildlife trade control and enforcement* (by Dr. Jim Armstrong, CITES)
- 9:30-10:00 a.m. **Discussion session**
- 10:00-11:00 a.m. **Panel session 3: *Experiences from several international wildlife trade representatives***
- Prof. Reuben Olembo (Consultant), Luisa Corvetta (CITES), and Dr. Ricardo Reina Quiroga (Ministry of the Environment, Colombia)
Chair: Mark Griffith (STAP Secretary)
- 11:00-11:30 p.m. **Discussion session**
- 11:30-12:00 p.m. Coffee break
- 12:00-12:30 p.m. **Formation of discussion groups**
- Theme: *Defining general guidelines for the implementation of this green certifiers system*
- ◆ Discussion group I
 - (a) Scientific/technical difficulties related to the marking/tagging system, as well as economic incentives for creating a green certifiers market

- ◆ Discussion group II
 - (b) Involvement and participation of local communities in the implementation of a green certifiers system, including enforcement and benefit-sharing schemes
- ◆ Discussion group III
 - (c) Regulatory and institutional issues to be taken into consideration for the implementation of a green certifiers system

12:30-14:00 p.m .	Discussion group sessions
14:00-15:00 p.m .	Lunch
15:00-16:00 p.m .	Discussion group sessions
16:00-17:30 p.m .	Report of break outgroups I, II, and III followed by discussion Theme: <i>Follow up strategies to design a working document</i>
17:30-18:00 p.m .	Formulation of recommendations and conclusions
18:15 p.m .	Transportation to the Hotel
19:30 p.m .	Transportation to the dinner offered by STAP at <i>La Cava Restaurant</i>

**STAP Workshop on Green Certifiers
13-14 October, 1999
Mexico City, Mexico**

List of Participants

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