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Policy convergence and policy diffusion by governmental and non-governmental institutions: an international comparison of eco-labeling systems

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Policy Convergence and Policy Diffusion by Governmental and Non-Governmental Institutions—An International Comparison of Eco-labeling Systems

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ABSTRACT

Policy Convergence and Policy Diffusion by Governmental and Non-governmental Institutions. An International Comparison of Eco-labeling Systems

The study deals with eco-labeling systems that have spread faster than other types of new policy instruments. The paper focuses on the diffusion of two different types of eco-labels: (1) general eco-labeling systems such as the German "Blue Angel" *(Blauer Engel)*, and (2) the Forest Stewardship Council (FSC) certification program. We start with three different explanations for policy convergence: international regimes, regional integration, and global policy diffusion. Policy diffusion is gaining in importance due to the diffusion processes triggered by the emergence of international, intergovernmental, and transnational transfer institutions. It is assumed that governmental or quasi-governmental transfer institutions (general eco-labels) and non-governmental transfer institutions (FSC label) have similar functions and effects. Our main thesis is that labels can diffuse globally, be decided on, and even implemented at the national level without significant state influence. Furthermore, three success factors for the national performance of eco-labeling schemes are analyzed: (1) the characteristics of policy innovations (costs of labeling etc.); (2) the economic, societal, and political-institutional capacities for action; (3) the co-existence and competition between different eco-labeling systems which can result in converging standards. On this basis some conclusions regarding the overall performance of transnational network organizations, such as the FSC, are drawn.

ZUSAMMENFASSUNG

Politikkonvergenz und -diffusion durch Regierungs- und Nichtregierungs-organisationen. Ein internationaler Vergleich von Umweltzeichen

Mit dem Vergleich zweier unterschiedlicher Systeme von Umweltzeichen, stellt diese Studie ein Politikinstrument ins Zentrum, das eine sehr viel schnellere Verbreitung gefunden hat als andere Politikinnovationen. Verglichen wird die Diffusion zweier unterschiedlicher Typen von Umweltzeichensystemen: (1) allgemeinen Umweltzeichensystemen wie dem deutschen „Blauen Engel“ und (2) dem Zertifizierungsprogramm des Forest Stewardship Council (FSC). Zu Beginn werden drei unterschiedliche Erklärungen für Politikkonvergenz dargestellt: Konvergenz durch internationale Regime, regionale Integration und über globale Politikdiffusion. Letztere gewinnt an Bedeutung aufgrund der Diffusionsprozesse, die durch die Entstehung internationaler, intergouvernementaler und transnationaler Transferinstitutionen ausgelöst werden. Es steht zu vermuten, dass staatliche oder halbstaatliche Transferinstitutionen (allgemeine Umweltzeichen) und nichtstaatliche Transferinstitutionen (FSC-Zertifikat) ähnliche Funktionen und Effekte haben. Wir gehen von der Annahme aus, dass Umweltzeichen auch ohne signifikanten staatlichen Einfluss beschlossen werden können, weltweite Verbreitung finden und sogar auf nationaler Ebene implementiert werden können. Darüber hinaus werden drei Erfolgsfaktoren für die nationale Performanz von Umweltzeichen identifiziert und analysiert: (1) die Merkmale von Politikinnovationen (Zertifizierungskosten etc.), (2) die ökonomischen, gesellschaftlichen und politisch-institutionellen Handlungskapazitäten, (3) die Koexistenz von und der Wettbewerb zwischen verschiedenen Systemen von Umweltzeichen, die zu konvergierenden Standards führen können. Auf dieser Basis werden einige Schlussfolgerungen hinsichtlich der allgemeinen Performanz transnationaler Netzwerkorganizationen, wie dem FSC, gezogen.

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ABBREVIATIONS

AMA	Acuerdo Mexico-Alemania (Mexican-German Agreement)
APHI	Indonesian Association of Forest Concession Holders
ASEAN	Association of Southeast Asian Nations
BUWAL	Bundesamt für Umwelt, Wald und Landschaft
CCMSS	Consejo Civil Mexicano para la Silvicultura Sostenible (Mexican Civil Council for Sustainable Silviculture)
CSA	Canadian Standards Association
EUEB	European Union Eco-labelling Board
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Council
GEN	Global Ecolabelling Network
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IFF	Intergovernmental Forum on Forests
ILO	International Labor Organization of the United Nations
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
LEI	Lembaga Ekolabel Indonesia
MERCOSUR	Mercado Común del Sur
MPI	Indonesian Forestry Community
NAFTA	North American Free Trade Agreement
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PEFC	Pan European Forest Certification
PPF	Plan Piloto Forestal
P&C	Principles and Criteria
Red MOCAF	Red Mexicana de Organizaciones Campesinas Forestales (Mexican Network of Campesino Forestry Organizations, UNORCA
SFI	Sustainable Forestry Initiative
SSNC	Swedish Society of Nature Conservation
UNCED	United Nations Conference on Environment and Development
UNOFOC	Unión Nacional de Organizaciones en Foresteria Comunal (National Union of Community Forestry Organizations)

ABBREVIATIONS

UNORCA	Unión Nacional de Organizaciones Regionales Campesinas Autónomas
U.S. EPA	U.S. Environmental Protection Agency
WWF	World Wildlife Fund

1 Introduction

Eco-labeling and certification programs enjoy a very high profile in many countries. This environmental policy innovation can now be found not only in OECD countries but also in developing countries. Although eco-labels should be seen as a complement to—rather than a substitute for—traditional regulatory instruments (Harrison 1999: 110), it can be assumed that these new environmental policy instruments will play a more important role in environmental policy in the near future.[1] Furthermore, recent studies have shown that eco-labels spread faster than other "second generation" policy instruments, such as environmental policy plans, sustainable development strategies, and eco taxes (Kern, Jörgens, and Jänicke 2001).

The global convergence of environmental policy can be observed and explained as a result and combination of (1) international regimes, (2) regional integration, and (3) global policy diffusion. The emergence and development of international, intergovernmental, and transnational institutions are essential for global governance. If such institutions are established, the diffusion patterns change fundamentally.

Our paper focuses on the diffusion of two different types of labels associated with different diffusion models: (1) general eco-labeling systems like the German "Blue Angel" *(Blauer Engel)*, and (2) the certification program of the Forest Stewardship Council (FSC). In terms of their introduction phases, i.e. the adoption of the policy innovation, the differences between the two systems appear to be minor. The implementation phases, however, differ considerably, because in the case of the general eco-labels dozens of product groups must be selected and defined before specific products can be certified. Apart from that difference both systems show strong similarities as they were established at about the same time and have diffused worldwide since then. Furthermore, the comparison of the global diffusion of eco-labeling systems is very restricted because only a few comparable cases exist.

We will examine the significance of different transfer institutions for policy diffusion. Our choice of cases is based on the general assumption that "governance by diffusion" can be supported by two types of transfer institutions: (1) governmental or quasi-governmental, and (2) non-governmental organiza-

[1] Cf. also the similar argumentation by Potter and Hinnells (1994: 317), who state that product labeling "needs to be integrated with other environmental policy instruments, and to be part of a coherent policy-making structure."

tions.[2] In the first case, the diffusion of policy innovations is based primarily on intergovernmental and international relations between government agencies and public certification bodies, whereas the diffusion of the FSC label is promoted by non-governmental organizations. Our main thesis is that labels can diffuse globally and that they can be decided on and even implemented at the national level without significant state influence.

While the global diffusion of policy innovations is strongly influenced by global transfer institutions, national policy change and national performance is primarily determined by national factors. The following factors appear to play a particularly important role: (1) the characteristics of a policy innovation; (2) the national capacities for action; and (3) the existence of and relationship between different standards on the national level.

The paper starts with an outline of our conceptual approach concentrating on a discussion of the relationship between policy convergence, policy diffusion, and national performance (section 2). Section 3 provides an overview of the global diffusion of eco-labels. Subsequently, FSC labels are discussed (section 4). Both of these sections include general comments on global diffusion patterns, the different types of transfer institutions, national variations, and several case studies. For each labeling system we selected an innovator, an early adopter, and a late adopter. This is rounded off with a case study on a developing country. Finally, we systematically compare the two labeling schemes (section 5) and draw some conclusions (section 6).

2 Policy Convergence, Policy Diffusion, and National Performance

If national policy innovations developed completely independently, policy convergence could only be expected under similar structural framework conditions. Given that even in OECD countries significant variations exist with respect to economic, societal, and political framework conditions, policy convergence cannot be adequately explained by these factors. Thus, in addition to national factors, international influences need to be considered when explaining the convergence of policy approaches.[3] It can be assumed here that the

[2] Non-governmental policy transfer is a rather neglected subject in diffusion research; cf. Stone (2000), who concentrates on the role of think tanks in promoting the spread of policy ideas about privatization.

[3] Cf. the early considerations of Collier and Messick (1975), who posed the question as to whether the introduction of social policy (social security) can be better explained by national factors or policy diffusion ("Prerequisites versus Diffusion").

increasing similarity of regulatory patterns was mainly triggered by international factors.

2.1 Policy Convergence by International Regimes, Regional Integration, and Global Policy Diffusion

Global convergence of environmental policy can have multiple causes. Three factors are, however, particularly crucial to this process: (1) international regimes, (2) regional integration, and (3) global policy diffusion (Kern 2001).

International negotiations and international treaties are assuming an ever-increasing significance in the area of cross-border and global environmental issues. The depletion of the ozone layer, greenhouse gas emissions and similar problems that cannot be solved through isolated action of individual countries lead to the emergence and dynamic development of *international regimes*.[4] The number of international treaties and agreements established in the area of environmental protection between the end of World War II and the 1980s increased exponentially but has since been on the decline (Frank 1997: 411; Meyer *et al*. 1997: 636 f.). International regimes are norms and institutions used to regulate a specific environmental problem.[5] They are based on the horizontal self-coordination of nation states, and decision-making processes are formalized. The main actors in such international negotiations are the states themselves. They not only enter the relevant international agreements, but they must also implement them at the national level. NGOs occasionally have direct access to regime-specific decision-making processes but usually they are restricted to influencing the state actors.[6]

Regional integration may have reached a particularly advanced level in Europe, but it is by no means confined to this region.[7] Regional integration involves different forms of cooperation between nation states, ranging from

[4] On the most important international regimes, cf. Gehring and Oberthür (1997); Young (1997); Biermann (1998); and Held et al. (1999, pp. 391 ff.); on the effectiveness of international environmental regimes, cf. Young (1999).

[5] Cf. the classical definition by Stephen Krasner (1983: 2): "Regimes can be defined as sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations."

[6] Due to the professionalization of the environmental movement, the new communication media, and the increased openness of international negotiation processes, it can be expected that the position of transnational actors will be strengthened even further in the future (Gehring and Oberthür 1997: 11, 221).

[7] Cf. developments in other world regions, e.g. North and South America (NAFTA, MERCOSUR) and Asia (ASEAN); cf. Link (1998: 82 ff.); Coleman and Underhill (1998); Schirm (1999).

relatively non-binding cooperation with neighboring states to the creation of supra-national institutions, such as the European Union.

Viewed from an exclusive perspective of the OECD world, European integration is, admittedly, of outstanding importance. The majority of OECD states are also members of the European Union and non-EU members take direction from the former's decisions. Furthermore, under the terms for the eastern expansion of the EU, candidate countries must adapt for the most part their legislation to existing EU standards. Consequently, the policy convergence of OECD countries is indebted chiefly to Europeanization. EU decisions must be implemented by all member states as otherwise they face sanctions. This means that, where necessary, hierarchical forms of governance are used.

One result of regional integration is the harmonization of the EU members' national environmental policy. At the same time, a solution to cross-border environmental problems is sought through the increased institutionalization of cooperation at the regional level. Here, too, nation states and highly formalized decision-making processes predominate. Contrary to international regimes however, the institutionalized participation of NGOs and subnational actors is far more strongly established.

The growing similarity or convergence of policy and regulatory patterns is ultimately triggered by the *global diffusion of policy innovations*.[8] It can be assumed that national policy approaches are not developed in isolation but rather exercise a reciprocal influence. Such effects are relatively common since learning from other countries has always been an important element of policy development and can be observed in many policy fields.[9] In any case, complex communicative relationships exist among many countries, which also influences state activities. In particular, when countries are under pressure to resolve problems sooner rather than later, it is always an option to adopt policies that have been successfully tested elsewhere. The central determinants of policy diffusion include, in particular, the dynamism of the international system. International and intergovernmental organizations and also transnational NGO

[8] The terms policy diffusion and policy transfer are used largely synonymously here. While policy diffusion refers to the spreading of policy innovations in the international system (macro-perspective), policy transfer focuses on policy change and the introduction of policy innovations in certain countries (micro-perspective).

[9] Policy diffusion is in no way a new phenomenon. As early as 100 years ago, it led to the adoption of institutional innovations, e.g. in the introduction of direct democracy in the individual American states on the basis of regulations adopted from Switzerland. The first studies of the phenomenon were also undertaken at the beginning of the last century (Tarde 1903/1992); cf. also Rogers (1995) and the overview provided by Stone (2001).

networks can act as transfer institutions. Policy diffusion can, therefore, be supported by both governmental and non-governmental actors (e.g. NGOs, subnational actors).

Western industrial countries generally adopt policy innovations only on a voluntary basis. However, when looking beyond this specific context, it turns out that policy transfer is sometimes forced, i.e. hierarchical elements may play an important role. The World Bank, for example, has made payments to African countries conditional to the introduction of national environmental plans and sustainability strategies (Schemmel 1998). Similar mechanisms can also be found in the case of the eastern expansion of the European Union, as membership is conditional to compliance with numerous EU regulations (Tews 2000). The democratic legitimization of "policy recommendations" from international or transnational institutions (forcibly) adopted by nation states is bound to be problematic as this restricts the decision-making competencies of national political institutions. When the adoption of policy innovations is forced, implementation deficits become very likely.

Although the increasing similarity of policy patterns can frequently be traced back to the emergence of international regimes or increasing regional integration, global policy diffusion has become more important for converging policy patterns. The three types of policy convergence described above are closely related. Policy diffusion facilitates the emergence and modification of international regimes (Meinke 1999). Furthermore, it can be assumed that diffusion processes play an important role in the ratification of such agreements.[10] Diffusion processes are also crucial for regional integration as horizontal policy diffusion between countries can lead to vertical policy diffusion between the national and supra-national policy levels.

In addition, actors from civil society often play a central role in policy diffusion while state institutions tend to take center stage in international regimes or regional integration. Thus, policy diffusion can lead to policy convergence, even without the direct influence of state actors. The increasing similarity of policy patterns is, therefore, also a consequence of the transnationalization of policy.[11] While state actors no longer play a central role here, non-governmental

[10] Cf. Senti (1999: 331), who comes to the conclusion that the ratification behavior of the nation states in the case of ILO agreements (international regimes) is indicative of a regional diffusion process.

[11] On transnational organizations and transnational policy, cf. Kaiser (1970), Huntington (1973) and also Keohane and Nye (1973); for more recent discussions, cf. for example Risse-Kappen (1995); on the significance of transnational institutions in environmental policy, cf. Holdgate (1995).

actors, in particular transnational and subnational actors, are gaining in importance.

2.2 The Institutionalization of Global Policy Diffusion

International, intergovernmental, and transnational organizations facilitate policy diffusion. It can be assumed that the extent to which policy transfer is institutionalized and the relationships between national actors are formalized—having increased clearly over time—determine the extent of policy convergence.

If the relationships between countries are merely bilateral, diverging development paths tend to form. Direct policy transfer between nation states mostly is limited to the forerunners and takes a relatively long period. Such processes are characteristic of the initial phase of social policy. It is possible to establish here that the (European) countries took directions from each other. A generally recognized policy model, however, did not exist and policy transfer was mostly based on a transfer between individual countries. It is hardly surprising that this created strongly diverging policy patterns that still differ significantly to the present day.[12]

If intergovernmental or transnational networks, through which the exchange of information and experience can be guaranteed, emerge at a relatively early phase of policy development, the convergence of policy patterns is furthered and policy diffusion accelerated.[13] Policy convergence is strongest, if there is an international, intergovernmental or transnational institution actively supporting the policy diffusion from the outset. In this case, and in dependence on additional factors, policy innovations can diffuse with high speed. An example of "rapid diffusion" is the institutionalization of environmental policy in the early 1970s. The development was triggered by the United Nations Conference on Environment and Development held in Stockholm in 1972. Within a very short period, numerous national environmental authorities or ministries were set up in industrialized countries (Kern, Jörgens, and Jänicke 2001: 13).

[12] Policy diffusion was a focus in comparative social policy research in the 1970s; cf. in particular Collier and Messick (1975) as well as the study by Heclo (1974). This issue appears to have gained in significance recently; cf. for example, Senti (1998: 532); Borchert (1998: 149); Heinze, Schmid, and Strünck (1999: 169).

[13] This is particularly true in the case of relatively uncontroversial policy innovations.

Policy diffusion is supported, on the one hand, by intergovernmental and international organizations like UN,[14] World Bank, and OECD. Today, these organizations work on issues (e.g. environmental standards) previously regulated by the nation states alone (Benner und Reinicke 1999: 28). On the other hand, numerous transnational networks have emerged in recent years. Beyond the cooperation between nation states, various types of networks and organizations are relevant for the promotion of policy diffusion and policy convergence, e.g.:

- professional associations as well as expert networks, such as the International Network of Green Planners (INGP);[15]
- transnational NGOs, in particular internationally active environmental associations (e.g. Greenpeace and the WWF), as well as networks of national associations, such as the European Environmental Bureau (EEB) or the Coalition Clean Baltic (CCB);[16]
- transnational networks of cities and regions, in particular city networks like the International Council for Local Environmental Initiatives (ICLEI), the European Cities & Towns Campaign or the Union of the Baltic Cities (UBC).

The emergence of such transnational networks and organizations is promoted by the internationalization and Europeanization of policy development simply for the fact that taking an influence on decisions at the European or international levels necessitates an organizational basis of interest representation (representation function). Moreover, the exchange of information and experience (information function) and global policy transfer (transfer function) are gaining in significance with the increasing globalization.

Today, a functional transformation is taking place in governmental and non-governmental organizations, because many of the above-mentioned organizations, for example the OECD, see one of their main tasks in the exchange of information and experience as well as the transfer of knowledge and policy. Meanwhile, many such organizations explicitly adopt the aims of facilitating an

[14] On the role of the UN in the formation of international networks and their management, cf. Reinicke and Deng (2000).

[15] Cf. in this context, for example, Haas (1992), who developed the concept of "epistemic communities".

[16] On the significance of transnational NGOs cf., for example, Keck and Sikkink (1998, 1999); Boli and Thomas (1997, 1999); della Porta, Kriesi, and Rucht (1999); Smith, Chatfield, and Pagnucco (1997); Frank (1997); Princen and Finger (1994).

exchange of ideas between countries and improving the preconditions for the transfer of best practice. It can be assumed that the institutionalization of policy transfer can be supported by both governmental and non-governmental institutions.

Global transfer institutions promote global policy diffusion and influence national policy processes (Devetak and Higgott 1999: 492). The dynamism of the international system, in particular the emergence of international, intergovernmental, and transnational institutions, favors the convergence of policy patterns. Thanks to the formation of global institutions, the framework conditions for an exchange of experience and for global policy diffusion have improved significantly. Today, the diffusion of environmental policy innovations is far more institutionalized than it was in the 1970s. Policy convergence can be expected in particular when the selection of best practice is systematized and not only the forerunners but also the stragglers become integrated into the transfer network.

2.3 National Policy Change and National Performance

Whether and when a policy change occurs in a country and how this policy innovation is implemented depends first and foremost on national factors. This applies again to both governmental and non-governmental institutions, as the implementation of new types of policy approaches can be supported by different institutional arrangements. The adoption of policy innovations can be hindered or at least delayed by administrative traditions or existing policy patterns. A policy change becomes possible when a "policy window" opens, e.g. after the election of a new government or through an important change in the problem situation to be addressed.[17]

Several factors are decisive for the success of an eco-labeling system: (1) the characteristics of the new system; (2) the capacities for action; (3) the co-existence and competition between several standards within the same national boundaries. The actual design of a new policy is the first concern. Programs involving high costs or time-consuming procedures may have negative effects on the interest of industry in having their products certified. This is especially relevant for small companies that cannot afford high certification fees. In the case of general eco-labeling systems it can be assumed that the requirements of a full life-cycle analysis may impede the diffusion of labels. In the case of the FSC the structure of landownership may have consequences as

[17] Cf. in particular Kingdon (1995) and also Baumgartner and Jones (1993).

small landowners may have problems with time-consuming and expensive procedures.

Secondly, the extent of the (sustainable) modernization of the economy, state, and society is crucial to the long-term success of an eco-label system. This affects the economic capacities for action, i.e. there must be companies that are prepared to participate on a voluntary basis. Market structure and change also play an important role in this context. If products are exported, the demands of importing countries are decisive. In other words, the sustainable modernization of the economy can be forced by the demand structure of export markets. Furthermore, societal capacities for action also have a role to play. Eco-labels presumably will achieve far better performance, if consumers are sensitive to environmental issues and demand environment-friendly products. Especially in these societies, civil society actors, who are generally accepted by the public, support the introduction of such environmental policy instruments. Finally, political-institutional capacities for action must also be considered. Is the national capacity for action sufficient to transfer a new policy approach from a specific national context and emulate and implement it in another country? Such questions are of particular importance for developing and newly industrialized countries as well as for the transformation countries of eastern Europe. Whether eco-labeling systems actually succeed must also depend on the choice of procedures, the formalization of decision-making and, in particular, the actor constellations and the participation of stakeholders.

Thirdly, a tension can emerge between existing national policy approaches and "imported" international policy models. Such problems are more likely to be encountered in industrialized countries, i.e. if national standards and internationally developed standards, or standards adopted from other countries co-exist or compete with each other. Different standards can continue to co-exist without any change, but under certain circumstances they can also start to converge into one single standard.

Based on these general considerations on policy convergence, policy diffusion and national performance, two different eco-label systems are compared in the following sections. In doing so, we ask how policy convergence can be explained, what role the institutionalization of policy diffusion by governmental or non-governmental institutions plays, and how the national performance of the introduced eco-labeling systems can be explained.

3 The Global Diffusion of General Eco-labeling Systems

3.1 The Characteristics of General Eco-labeling Systems

Eco-labels belong to the "second generation" of environmental policy that supplemented and partially substituted the previously established environmental policy instruments. These older approaches were developed in the 1970s when the regulation of environmental media (air, water, etc.) was introduced. Eco-labels, by contrast, aim directly at changing the behavior of consumers ("sustainable consumption") by enabling them to assess the impact of a product throughout its entire life-cycle. "Environmental labeling programs can provide consumers with an immediately available, objective, and accurate evaluation of a product's environmental impact. They also provide an incentive to manufacturers to meet the standards . . ." (Sitarz 1998: 40).

The introduction and implementation of eco-labels, which are usually adopted on a voluntary basis,[18] involves a two-stage process: in an initial phase, product categories are selected and certification criteria for these categories are determined. This is followed by a second phase, in which companies apply for licenses and/or certification of specific products. Although these procedures vary significantly from country to country, all relevant stakeholders (industry, environmental and consumer protection organizations, trade unions, etc.) are allowed to participate in most labeling schemes.[19] In many countries, product categories, licenses for specific companies, and certified products[20] have grown rapidly in number over the last few years.

3.2 Diffusion Patterns

The first national eco-label was introduced in Germany in 1978. It remained the world's only eco-label until a similar scheme was developed in Canada ten years later. In 1989, the Nordic Council of Ministers (Ministers for Consumer Affairs) decided to create the first multinational eco-labeling system which became known as the "Swan Label". Rapid diffusion of this policy innovation took place between 1989 and 1992. Eco-labels were introduced in almost all

[18] Concerning the classification of eco-labeling, cf. U.S. EPA (1998: 10), and Landmann (1998: 24 ff.).

[19] Stakeholders can be involved at several stages in the labeling process: program formulation, product group selection, and criteria development. Most programs allow interested stakeholders to submit proposals for product groups. However, product group selection is usually carried out by the programs' governing bodies, which typically consist of a limited number of stakeholders only. Many programs allow stakeholder involvement during the selection of product award criteria (U.S. EPA 1998: 38); cf. also Häßler, Mahlmann, and Schoenheit (1998: 18).

[20] Cf. table A-1 and fig. A-1 to A-8.

OECD countries[21] and even in some newly industrialized and developing countries. The introduction of a European eco-label in 1992 ("European Flower") was crucial to this dynamic development (see fig. 1, table A-1 and table A-3).

Regional cooperation and coordination are the main phenomena behind this rapid diffusion. On the one hand, the introduction of the "Swan Label" in the Nordic countries in 1989 represented a very important first step towards coordination and harmonization, as several Nordic Countries had begun to introduce eco-labels of their own. On the other hand, the rapid development resulted from the introduction of the European labeling scheme in 1992. The two years in which the Nordic "Swan label" (1989) and the "European Flower" (1992) were introduced can be considered as "critical years" for this policy innovation because the diffusion process was accelerated significantly by the introduction of these two labels at the beginning of the diffusion process (see fig. 1). Both events can be interpreted as a form of vertical diffusion in a multi-level-system (European Union, Nordic Council) which was fostered by the need to harmonize emerging national standards (Kern, Jörgens, and Jänicke 2001).[22]

[21] An exception is the U.S. where no labeling program like the German "Blue Angel" or the "Nordic Swan" exists. In a recent report, the U.S. EPA (EPA 1998: 7) stated: ". . . the model of a single centralized labeling program does not fit the U.S. experience, nor is it warranted, given the number of long-standing programs in existence and lack of a (federal) mandate to consolidate such activities." The USA and Switzerland are the only OECD countries where a general eco-label system administered by a governmental or a quasi-governmental agency has never been established.

[22] Vertical diffusion can be also observed in other multi-level-systems, e.g. in federalist systems such as the U.S. or Switzerland; cf. for example Gray (1994: 231); Kern (1998, 2000: 186 ff.).

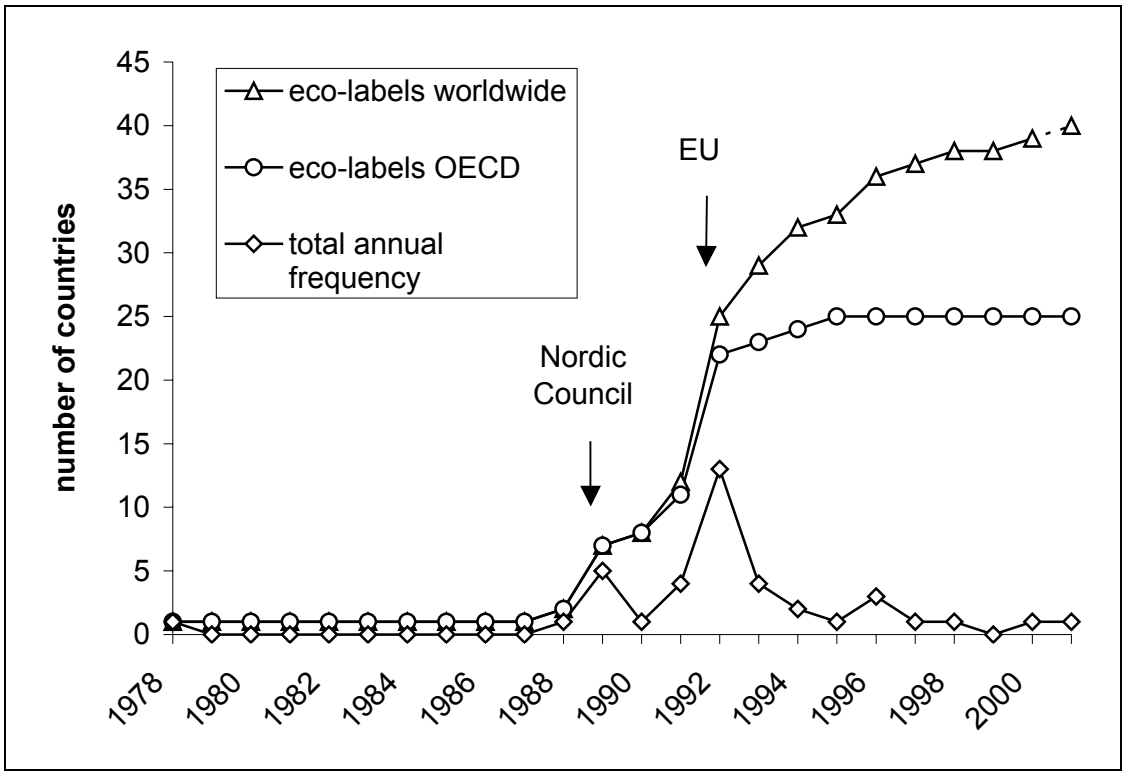

Figure 1: Diffusion of general eco-labels

In the first phase almost only OECD countries were interested in the new approach and adopted eco-labeling systems. After 1990, several newly industrialized countries, especially in Asia (Singapore, Korea, Taiwan, etc.) also decided to introduce this policy innovation. A third group of countries, the transformation countries in eastern Europe (Czech Republic, Hungary, Poland, etc.), started to develop their own general eco-labeling systems at about the same time. In addition to this, there are a few developing countries (India, Zimbabwe) where general eco-labeling systems have been established (see table A-3).

Today, eco-label systems are actively developed in Columbia, Mexico, Indonesia and Sri Lanka. Furthermore, the Global Ecolabelling Network (GEN) has received inquiries and/or preliminary requests for assistance in setting up additional eco-labeling systems in South America and the Caribbean Islands (Argentina, Chile, Jamaica, Cuba), Asia (Laos, Nepal, Vietnam), the successor states of the former Soviet Union (Russia, Georgia), in Arab countries (Tunisia, Jordan), and in Africa (Malawi).[23]

[23] Information provided by GEN, June 2001.

3.3 International, Intergovernmental, and Transnational Transfer Institutions

It may be emphasized that during the most relevant period of the diffusion process between 1989 and 1992 the activities and initiatives of international, intergovernmental, and transnational organizations, such as the Global Eco-labelling Network (GEN), the International Organization for Standardization (ISO) or the OECD, were not decisive for policy convergence. Bilateral relations between countries and regional integration (Nordic Council, European Union) were far more important. Furthermore, the introduction of a European eco-label in 1992 gave rise to rapid diffusion. More than half of the EU member states, which were obliged to implement a labeling system for the first time, were directly affected by this new program and parallel systems were established in the other member states, which had already adopted labeling schemes of their own.

Coordination efforts by international and intergovernmental organizations, in particular the initiatives of GEN,[24] ISO, and the OECD (OECD 1991, 1997) could only be observed in recent years. The international harmonization of eco-labels is the most commonly stated goal of such initiatives. The rapid diffusion of eco-labels can be explained, at least in part, by economic globalization and the need to harmonize divergent national standards arising from the increasing exchange of goods.

The discussion concerning general guidelines started when national eco-labels became an important policy instrument in a growing number of countries. However, this debate centered on general issues and was mainly restricted to questions concerning the impact of eco-labeling on international trade.[25] The OECD, who had initiated this debate, finally decided on general guidelines in response to continuously increasing pressure to harmonize national eco-labels. These guidelines included the suggestions that labeling programs should respect the life-cycle of a product and that the criteria should be agreed upon on the basis of the opinions of different stakeholders (OECD 1997).

Moreover, within the framework of the ISO 14000 guidelines—which include standards for environmental management systems, environmental

[24] Cf. http://www.gen.gr.jp/index.html (August 25, 2001).

[25] On the impact of eco-labeling on international trade, cf. also Landmann (1998: 65-81).

auditing, life-cycle analysis, and eco-labeling (Salzman 1997: 17)—ISO[26] decided in its working program that all aspects of eco-labeling should be standardized for the ISO 14020 series.[27] These efforts had very similar effects as only general standards were set for national eco-labels. Their most important element was an agreement on a clear definition of type I eco-labels.[28]

Having considered all of the international initiatives, it is possible to say that the Global Ecolabelling Network (GEN), founded by national and multinational eco-label licensing organizations in 1994, represents the most serious initiative for harmonizing national eco-labeling systems and transferring knowledge to interested countries. This can be explained by the fact that this network consists of representatives of the national eco-labeling boards, irrespective of whether the board in question is institutionalized within the environmental ministry, the environmental agency, or the national standardization organization. GEN provides an excellent basis for an exchange of information and experience regarding eco-labeling throughout the world. As many eco-labeling practitioners have joined GEN, this international transfer institution has already launched cooperation programs aiming at the harmonization of different national labels. GEN also provides a current inventory of its members' existing standards and facilitates the sharing of research findings.[29] It is, however, still far from harmonizing the criteria for different product groups. National standards, which play an important role on national markets, can be very persistent and difficult to change.[30]

3.4 Policy Convergence, National Variations, and Performance

Eco-labels have been adopted in almost all OECD countries. Nevertheless, significant national variations still exist: Differences arise with respect to the

[26] The membership of ISO comprises the standard-setting organizations of 117 countries. These organizations include government institutions, private industry associations, and also combinations of public and private organizations (Clapp 1998: 301). On the relationship between the ISO standards, especially the 14000 series, and eco-labels, cf. also Salzman (1997).

[27] The following standards are relevant to eco-labeling: 14020, general principles for environmental labels and declarations; 14021, 14022, and 14023, principles for self-declared environmental claims; and 14024, third-party eco-labels (Salzman 1997: 17).

[28] Type I eco-labels apply to seal-of-approval programs. Such programs are voluntary in nature and focus on a positive attribute of products. In addition, they are usually based on life-cycle considerations; on the classification of environmental labeling programs, cf. U.S. EPA (1998: 10 f.).

[29] GEN's mission is "to improve, promote, and develop the eco-labeling of products and services. GEN fosters information exchange among its members, dissemination of information to the public, and longer-term harmonization of eco-labeling programs, as appropriate. In addition, GEN represents the interests of eco-labeling in various international forums, and provides information and technical assistance to developing programs." (http://www.gen.gr.jp/whats.html; August 26, 2000).

[30] On the prospects for the harmonization of eco-labeling schemes, cf. Landmann (1998: 229).

institutionalization of the certification; methodological approaches vary; and inconsistencies are very common. While in some countries environmental and consumer protection agencies are in charge, in other countries standardization institutions or even private institutions serve this function.[31] Austria imitated and emulated the German model, e.g. some of the criteria developed in Germany were adopted without modification.[32] But the German model played only a minor role in Canada, the second country to adopt an eco-labeling system.[33] The French eco-label scheme also differs significantly from its German counterpart, as in France the national standardization organization is in charge of certification.

The significant variations between the established national eco-label systems can be explained by the fact that the policy transfer was only institutionalized at the global level after several competing national models had been launched. These schemes served as a starting point for different national development paths. However, today there is widespread commitment to the standardization of methodologies and harmonization of programs. There also is a marked tendency towards the convergence of programs or at least program elements.

Empirical evidence shows that most countries operating eco-labeling programs frequently cooperate with each other. Canada's Environmental Choice program is one example for such cooperation. It has exchanged information with both the Taiwan program and the U.S. Green Seal program, and product criteria for certain product categories developed in Taiwan or the US have been integrated into the Canadian program (U.S. EPA 1998: 37; 59 ff., A-10 f.). Another example is the introduction of an eco-labeling system in Hong Kong. Although the system was established only recently, i.e. in late 2000, within just 6 months 40 product categories have been defined. This could be accomplished, because the criteria for the Hong Kong Green Label scheme have been devel-

[31] For example, a private eco-label, the *"Green Seal",* was introduced in the U.S. in 1989; cf. Wynne (1994); Herrup (1999).

[32] Regarding the development of the Austrian label, cf. Spitalsky (1994) and also http://www.ubavie.gv.at/publikationen/diverse/UZ_brosch/zu.htm (April 5, 1999).

[33] One of the characteristics of the Canadian eco-label is the publication of the criteria catalogues prior to final decisions (Landmann 1998: 105).

oped primarily through benchmarking with 10 eco-label systems operated in other countries.[34]

Concerning the national performance of existing systems four groups of countries can be distinguished (see table A-1):[35]

- The group of forerunners consists of four labeling schemes with similar development patterns, all of them introduced more than ten years ago. This distinguished group consists of the labeling systems launched in Germany, Canada, the Nordic countries and Japan. These four comprehensive systems show a far better performance than other labels regarding the number of product categories, licensed companies and certified products.
- A second group of stable but less comprehensive labeling systems introduced after 1990 includes mainly OECD countries such as Austria, France or the Netherlands, as well as some newly industrialized countries in Asia, e.g. Korea or Taiwan.
- In 1993 the transformation countries in eastern Europe started to launch their own systems. The results of these initiatives are mixed. The number of product categories is as limited as the number of products. It can be assumed that the development of the systems is seen primarily as a step towards EU membership.[36]
- Finally, it is evident that general eco-labeling systems are not very well suited to meet the necessities of environmental policy in developing

[34] As point of reference served the schemes of the USA, the Nordic Council, the European Union, Germany, New Zealand, Canada, Singapore, Japan, Taiwan and China (communication with the Hong Kong Green Council; June 28, 2001).

[35] International comparisons are restricted, because the definition of product groups, certified products or the contents of a license may differ fundamentally. Therefore, table A-1 comprises data for all three variables: licensed companies, licenses held by companies, and certified products. The same company may hold several licenses that may include different products.

[36] In Poland, where only 8 products have been certified, it is planned to implement the EU legislation and run only the EU eco-labeling system. In Lithuania, the EU documents were translated and adopted as labeling criteria by the Ministry of Environment. Although the situation seems to be much better in Hungary or the Czech Republic, it is very unlikely that comprehensive systems, such as the German or Japanese schemes, will thrive in eastern Europe within the near future; communication with the Polish Ministry of Environment (July 27, 2001) and the Lithuanian Ministry of Environment (July 25, 2001).

countries. The Indian system launched in 1991 has become a failure because as yet no certified product is offered on the Indian market.[37]

In the following section, we will analyze the structural conditions as well as the political processes crucial for the success or failure of selected eco-labeling systems.

3.5 Case Studies

Four case studies involving innovation (Germany) and adoption (Nordic Council, EU) will be presented that substantially shaped the diffusion pattern. In addition, we discuss the case of India, the first developing country to introduce a general eco-labeling system.

Germany

The German "Blue Angel",[38] launched in 1978 by the Federal Minister of the Interior and the Environment Ministers of the German states *(Länder)*, was the world's first eco-label. Although it took another ten years for other eco-labels to be introduced, the "Blue Angel" played an important role as a model for many other programs throughout the world. This early innovation can be explained, firstly, by the high level of awareness among German consumers with respect to the environmental characteristics of a product. Secondly, this environmental policy innovation was the result of campaigns by consumer organizations for more regulative instruments to prevent negative impacts of specific products on health and the environment (Landmann 1998: 52).

The program is jointly administered by three organizations: the Environmental Label Jury *(Jury Umweltzeichen)*, the German Institute for Quality Assurance and Labeling *(RAL, Deutsches Institut für Gütesicherung und Kennzeichnung)*, and the Federal Environmental Protection Agency *(Umweltbundesamt)*. The Federal Environmental Protection Agency develops the criteria, taking into account the results of consultation with selected stakeholders. The Environmental Label Jury decides on the criteria for the different product groups. The jury consists of representatives from (1) industry and commerce; (2) environmental and consumer organizations; (3) trade unions;

[37] The tendency for eco-labeling schemes to fail in developing countries is further evidenced by the fact that Zimbabwe's eco-labeling system is in a critical state due to serious funding problems (communication with GEN, June 12, 2001).

[38] Cf. http://www.blauer-engel.de (August 26, 2001).

(4) churches; and (5) the media.[39] The German Institute for Quality Assurance and Labeling (RAL) is responsible for the contracts with the producers.

The implementation of the program can be considered a success because the product categories and certified products grew steadily in number. During the first ten years, 51 product categories were selected and more than 2,600 products were certified. Today, the label has been issued to more than 4,000 products in 81 product categories (table A-1; fig. A-1 and A-2). Given that the German eco-label was very well received by consumers, the German position with respect to the introduction of the European label was quite clear. From the outset, the Germans demanded co-existence of both the European and German labels on the German market (see detailed information in the case study on the European Union). Major revisions of the German program are not planned in the near future because the success of the label is based on its acceptance by manufacturers and consumers alike (U.S. EPA 1998: B-47, B-48). Unlike the European label, the "Blue Angel" is very well known in Germany: 80 percent of West Germans and 56 percent of East Germans are familiar with it (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit 1996; Häßler, Mahlmann, and Schönheit 1998: 18).

The Nordic Council

In 1989, the Nordic Council of Ministers introduced the Nordic "Swan Label", another voluntary certification program.[40] The adoption of this labeling program can be seen as an early attempt to harmonize the existing eco-labels in the Nordic countries (OECD 1997: 19; U.S. EPA 1996: B-23). As was the case with many other eco-label schemes, the German eco-label, which had been very well established in Germany by the late 1980s, served as a model for the "Swan label" (Landmann 1998: 97).

The Nordic Eco-labeling Board[41] consists of two representatives from the standard-setting body in each of the group's countries (Harrison 1999: 125). It deals with existing criteria and decides on the selection of new product groups.[42] Criteria are proposed by technical advisory bodies comprising representatives from environmental organizations, the public, and private

[39] The *„Jury Umweltzeichen"*, an independent council, consists of 13 members. They are appointed for three years by the environmental ministry.

[40] Cf. http://www.svanen.nu/Eng/ecolabel.htm (August 25, 2001).

[41] The Nordic Eco-labeling Board acts under the authority of the Nordic Council of Ministers.

[42] In addition to the eco-label criteria relating to the life cycle of the product, the "Swan Label" scheme comprises requirements for operation, quality, safety, product information, etc.

actors. In addition, national eco-labeling boards exist in all countries. They can propose new categories to the Nordic Eco-labeling Board and they verify compliance with the criteria, grant licenses, provide information, and market the Swan Label. Members of environmental, industrial, employee, and consumer organizations are represented on the national boards. The national eco-labeling boards are legally independent; their members are appointed by the individual national governments. The national secretariats are also responsible for the implementation of the "EU Flower" in the member states. Like the German label, the "Swan Label" has performed very well. Today, 53 product categories exist and around 1,000 licenses have been issued (table A-1; fig. A-5 and A-6). This label is well-known in the Nordic countries. In an opinion poll conducted in the summer of 1998, 91 percent of randomly selected people in Sweden answered correctly or partly correctly when asked about the meaning of a "Swan Label" on a product (Norway: 83 percent; Finland: 72 percent; Denmark 48 percent).

European Union

The Council of Ministers of the European Community introduced the European eco-label ("European Flower") in 1992.[43] This label is part of the EU strategy for sustainable production and consumption (Fifth Environmental Action Program), which aims at the introduction of new environmental policy instruments, and especially voluntary and economic market-based approaches (Erskine and Collins 1996: 40). The EU eco-label is run by the European Commission and administered within the member states by "Competent Bodies". Stakeholder input is provided by the "Consultation Forum" which involves five stakeholder groups: (1) industry; (2) commerce; (3) consumer organizations; (4) environmental organizations; and (5) trade unions.

The development of the EU eco-label was influenced by all member states, especially by countries already having established an own national labeling system. The German success in the promotion of its "Blue Angel" was acknowledged and numerous procedures within the European scheme are similar to the German counterparts. However, Germany also had to accept some compromises, such as the minor role of the Forum.[44] In contrast to the German

[43] Concerning the European eco-label, cf. Driessen (1999); Harrison (1999); Karl and Orwat (1999); Nadai (1999); Erskine and Collins (1996); cf. http://www.europa.eu.int/comm/environment/eco-label/index.htm (August 28, 2001).

[44] The Forum was established because Germany could convince the other member states to follow a multi-party stakeholder approach. However, Germany favored a more powerful role for the Forum but

position, several other countries (e.g. France) preferred a scheme that would take into account all of the environmental problems caused by the product as well as those arising from the production process (full life-cycle-assessment). They opposed the pragmatic German approach and opted for a more complex scheme.

The EU program was modified recently. The original proposal for the revision intended to stem the proliferation of national eco-label programs and to establish complementarity between the EU label and the national labels. Problems had emerged because more than half of the member states[45] have adopted and operated their own labeling systems as well as the EU label. It was assumed that parallel labeling schemes would result in internal market distortion, consumer confusion, and the limitation of the market value of the EU label. The revisions were actually introduced because it emerged that it was not very likely that the European label would substitute national labels in the long run. At one point it was even proposed that national programs should be phased out within the next five years—at least for the product categories covered by the EU program (U.S. EPA 1998: B-31; B-32). However, the final regulation reads as follows: "While existing as well as new eco-label schemes in the member states may continue to exist, provision should be made to ensure coordination between the Community eco-label and other eco-label schemes in the Community, in order to promote the common objectives of sustainable consumption" (Regulation No. 1980/2000 of the European Parliament and the Council, L 237/2; September 21, 2000).

As the implementation of the EU label program had shown that the development of the criteria is a complex process necessitating the involvement of the Commission in highly specialized technical routine work, a European Union Eco-label Board (EUEB) was established. Aside from coordinating the "Competent Bodies", this organization develops and updates the eco-label criteria, the corresponding assessment, and the verification requirements. The EUEB is supposed to act when instructed by the Commission, and it is the Commission's job to ensure that the EUEB's tasks are executed in accordance with the mandates and the regulations. Consequently, the proposal corresponded to the

was not successful. The Forum only attained a consultative role and is not directly involved in the decision-making process.

[45] In addition to the "European Flower", national programs exist in Austria *("Umweltzeichen-Bäume")*, Catalonia *("Medi Ambient"),* Denmark ("Swan Label"), Finland ("Swan Label"), France *("NF-Environnement")*, Germany *("Blauer Engel")*, the Netherlands *("Stichting Milieukeur")*, Spain *("AENOR-Medio Ambiente")*, and Sweden ("Swan Label", "TCO Development", and *"Bra Miljöval"*); cf. also Karl and Orwat (1999: 212).

"new approach" for European technical standardization, and the role of the EUEB is similar to that of the European Standardization Committee (CEN).[46]

Unlike the other two labels discussed above, the development of the European eco-label has not proved a success story so far (Herrup 1999: 147). Countries that already had an established national eco-labeling system when the "European Flower" was introduced in 1992 are not willing to modify their own systems or even phase out their own labels.[47] Since more than half of the member states opted for own labeling schemes prior or parallel to the EU decision, a path-dependent development has been triggered. This resulted in the co-existence and competition of different eco-labels within national boundaries.[48] These dynamics restrict the harmonization of standards within the European Union considerably. This could be one reason why, as yet, only 17 product categories exist and only about 350 products have been certified (table A-1, fig. A-7 and A-8). While the German, Nordic, and Japanese systems showed dynamic diffusion patterns within the first 10 years (see fig. A-1 to A-6), the EU label has had a slow starting phase (see fig. A-7 and A-8). The "European Flower" is not very well known in most member states while national labels, such as the German "Blue Angel", are widely accepted by manufacturers and consumers alike. Moreover, in some countries the European criteria are considered inappropriate.[49]

India

The Indian Parliament launched a voluntary eco-labeling program (Ecomark) in 1991. External influence was crucial for its development although the policy transfer was primarily based on direct contact between countries. The Indian eco-label can be seen as a synthesis of different approaches, because aside from the Canadians German and British experts were also involved in the development of the label (Landmann 1998: 98 f.). The German experts from the Federal Environmental Agency and the Canadian experts from Terra Choice, the

[46] The EU Eco-label Board is composed of the "Competent Bodies" and a "Consultation Forum" that should provide for a balanced participation of all relevant interested parties (Regulation No. 1980/2000 of the European Parliament and of the Council, L 237/2; September 21, 2000); for further information, cf. http://www.europa.eu.int/comm/environment/ecolabel/index.htm (August 26, 2001).

[47] The difficulties involved in determining the equivalence of the criteria and the problems related to the mutual recognition of eco-labels are discussed by Jacobsson and Jönsson (1998).

[48] In Spain (AENOR-*Medio Ambiente* for Spain and *Medi Ambient* for Catalonia) and in Sweden (Swan Label, Bra Miljöval, TCO Development), several programs are operated in addition to the "EU Flower".

[49] It can be assumed that consensus on EU eco-labels may often be found only at the lowest common denominator, i.e. EU standards may be lower than national standards (Karl and Orwat 1999: 217); on the German position, cf. Häßler, Mahlmann, and Schoenheit (1998: 20).

Canadian certification body, were financed by bilateral technical cooperation projects. It is evident that certain elements of both the German and the Canadian eco-labels were also integrated into the Indian eco-label. The process for the development of criteria is similar to the German process as a technical expert group is responsible for criteria setting. The element adopted from the Canadian eco-label concerns the publication of the criteria and their availability to all of the relevant parties prior to the final decision. It is obvious that the experiences of the experts from industrialized countries had a decisive influence on the development and introduction of the Indian eco-label. Nevertheless, one new element was invented and integrated into the Indian eco-label scheme: In India every applicant's production site must be inspected.[50]

The Indian program is managed by the Ministry of the Environment and Forestry. An inter-ministerial Steering Committee within the ministry is in charge of the selection of the product categories and the promotion of the labeling. The specific products to be awarded with eco-labels are determined by a Technical Committee in the Central Pollution Control Board. Although sixteen product categories had been selected, only one product was finally certified. And even that single product was never sold on the market. Manufacturers obviously hesitated to apply for the label. The general lack of interest on the part of both manufacturers and consumers can be explained, at least partly, by the failure to involve stakeholder groups in the certification process (U.S. EPA 1998: B-59 ff.).

3.6 Summary and Perspectives

In summarizing the case studies, the following aspects should be emphasized: The German "Blue Angel" served as model throughout the world and influenced not only the labels discussed here (Nordic Swan, European Flower, Indian Ecomark) but also many new labeling schemes introduced in recent years (Landmann 1998). Moreover, the rapid diffusion of this environmental policy innovation is, at least partly, driven by efforts to harmonize existing standards. While regional integration among the Nordic countries (Nordic Council) was very successful, the European Union eco-label still fails to arouse the interest of manufacturers and consumers. Apart from OECD member states, several newly industrialized countries in Asia, such as Korea or Taiwan, launched systems of their own that have developed rapidly within the last years.

[50] For a detailed analysis of policy learning in relation to the Indian eco-labeling scheme, cf. Landmann (1998: 201 f.).

International, intergovernmental or transnational transfer organizations played only a minor role in the initial phase of the diffusion process. Contrary to the early phase of this policy approach, most labeling boards have developed transnational relations and cooperate with each other. Moreover, the harmonization efforts of organizations, such as GEN and ISO, assumed a more important role in the 1990s. In the future, these quasi-governmental organizations and transnational expert networks (of eco-labeling practitioners) may facilitate the further diffusion of this environmental policy innovation. They are also important for countries with eco-label programs already in place, because they support coordination among the members and the harmonization of existing standards.

The performance of different eco-labeling systems is characterized by marked differences. There are only a few "success stories" to report about, namely the systems developed in Germany, Canada, the Nordic countries and Japan. Today, stable systems can be found in almost all OECD countries and in several newly industrialized Asian countries, e.g. Taiwan. The systems launched in eastern Europe in the early 1990s had a slow start and in some countries they have never been implemented properly. Furthermore, the Indian Ecomark label, the only eco-label adopted by a developing country in the early phase of the global diffusion of this policy innovation, has never been fully implemented.

Stakeholder involvement seems to be crucial for the success of a labeling system. In Germany or the Nordic countries, representatives of industry, commerce, environmental and consumer organizations, and trade unions participate in different phases of the certification process.[51] But the degree of stakeholder involvement varies considerably between labeling schemes: In Germany, stakeholder involvement is assured throughout the entire criteria development process, i.e. until the final decision on the criteria is made. The Nordic countries, by contrast, provide for stakeholder participation only for the development of criteria. In the EU program, stakeholders play only a consultative role. They are asked for comments, but the final decisions concerning eco-label criteria are made by the Commission. This means that although the "Blue Angel" served as a model throughout the world, the approaches differ consid-

[51] The Australian case shows that stakeholder involvement, in particular the inclusion of industry and commerce, is a precondition for the success of a labeling system. "Environmental Choice", launched in 1991, failed because it was strongly opposed by industry (communication with Enviromark Environmental Campaign, June 2001).

erably. The degree of stakeholder involvement in the German scheme is unique (only the Austrian label also guarantees stakeholder participation in the final decision). The diverging participation schemes clearly demonstrate that certain elements may not be transferred at all or at least only in a strongly modified way.

Finally, several EU member states have more than one eco-label system. When the European Union decided to introduce its labeling scheme, several prominent member states had already opted for own systems. While Germany operates the "Blue Angel" since 1978, France introduced its label only one year before the European labeling scheme was launched in 1992. The Netherlands followed in the same year and Spain only one year later. This means that in the early 1990s several national systems were developed within the European Union aside from the European system (cf. table A-3). Today, in more than half of the member states the EU label co-exists and competes with other schemes. Therefore, the future of the EU label must be viewed rather skeptically.

4 The Global Diffusion of the Forest Stewardship Council (FSC)

4.1 The Characteristics of the FSC Label

Similar to general eco-labels, FSC labels are issued on a voluntary basis.[52] In this instance, however, non-governmental institutions (mainly environmental NGOs) serve as transfer institutions (IDARio 2000: 9). The underlying objective of the FSC criteria is sustainable forest management. Hence, the FSC criteria include ecological, social, economic, and managerial aspects. But the certificate as such is limited to the production of timber and does not include wood processing (Stoffel 2000: 61).

The Forest Stewardship Council (FSC) is an independent, non-profit organization. The members of this international non-governmental association include organizations as well as individuals. The FSC was founded in Toronto in 1993 by a diverse group of representatives from environmental and conservation groups, the timber industry, the forestry profession, indigenous peoples' organizations, community forestry groups, and forest product certification organizations from 25 countries. It now has its headquarters in Oaxaca, Mexico.

Economic interest groups, environmental organizations, and human rights organizations are represented equally through their voting power (three chambers) on the FSC's Board of Directors. This structure, implemented at both

[52] In contrast to compulsory regulations on product identification *(Kennzeichnungsvorschriften)*.

international and national levels, is intended to ensure a balance of social, economic, and environmental interests in decision-making. Furthermore, within each of these three chambers, voting power is divided equally between developed ("northern") and developing ("southern") member countries (Elliott 1999: 38).

The FSC has developed ten principles and criteria (P&C) for forest management based on ecological, social, and long-term economical aspects (FAO 1999: 10). In addition to the imperative first principle (respecting national legislation), companies applying for the FSC certificate must also comply with other requirements.

FSC Principles & Criteria

1. Compliance with laws and FSC principles (national laws and international treaties and agreements shall be respected, compliance with all FSC principles and criteria)
2. Tenure and use rights and responsibilities (clear definition of use rights to the land and forest resources)
3. Indigenous peoples' rights (legal and customary rights shall be respected)
4. Community relations and workers' rights (enhancement of the long-term social and economic well-being of forest workers and local communities)
5. Benefits from the forest (encouragement of the efficient use of the forest's multiple products and services)
6. Environmental impact (conservation of biological diversity, water and soil resources, and fragile ecosystems and landscapes)
7. Management plan (shall be written, implemented, and kept up to date)
8. Monitoring and assessment (assessment of the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts)
9. Maintenance of high conservation value forests (enhancement of the attributes of such forests, precautionary approach)
10. Plantations (should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests)

The P&C serve as the basis for establishing more detailed standards at national and local levels which, for their part, can take into account local ecological, social, and economic particularities.[53] Even if such national standards do not exist, a certification organization may adapt the international principles to a specific national context and certify on that basis (Stoffel 2000: 64).

The FSC also works as an accrediting institution for organizations wishing to perform FSC forest certifications. The programs[54] are examined by the FSC with respect to their conformity with the ten P&C and, following accreditation by the FSC, they can be applied worldwide. Up to now, ten certification organizations throughout the world have been accredited by the FSC.[55]

4.2 Diffusion Patterns

Mexico was the first country to certify some 86,000 hectares of forest in 1991 and it did so with SmartWood.[56] The USA and Costa Rica followed in 1992 and 1993, respectively. In Europe, the Netherlands (first forest certification in 1995) assumed the role of frontrunner, followed by Sweden and Poland in 1996 and the UK and Italy in 1997. The turning point was reached in 1995. After a slow starting phase, the number of countries with certified forests as well as the certified areas increased rapidly. Today certified forests can be found in more than forty countries (fig. 2 and 3, table A-2, table A-4).

Remarkably, developing countries played an important role in this process from the outset, and, in the year 2000, less than half of the countries with FSC-certified areas were OECD members (cf. fig. 2). This may be due to the fact that the main reason behind the establishment of the FSC was the internationally perceived threat of a deforestation of tropical forests that are located mostly in developing countries.

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[53] Since national standards must be in compliance with national legislation (P&C no. 1), a change in national legislation, e.g. towards higher standards taking into account sustainability criteria, may lead to the modification of national standards.

[54] Formally, the FSC does not accredit the certification organization itself but only their certification programs (Stoffel 2000: 58).

[55] Silva Forest Foundation (Canada), Luso Consult (Germany), South African Bureau for Standards (SABS), Institut für Marktökologie (IMO, Switzerland), SKAL (Netherlands), BM Trada Certification (UK), SGS Forestry QUALIFOR Programme (UK), Soil Association Woodmark Scheme (UK), Rainforest Alliance Smartwood Program (USA), Scientific Certification Systems (SCS, USA).

[56] In 1996, the SmartWood certification program was accredited by the FSC and previously certified areas were allocated the right to label these forests as FSC-certified areas. SmartWood is a program of the Rainforest Alliance, an international non-profit environmental NGO based in New York City. Although the program initially focused on tropical forests, today SmartWood works in all forest types worldwide, however with a particular focus on Latin America; for further information see http://www.smartwood.org (August 26, 2001).

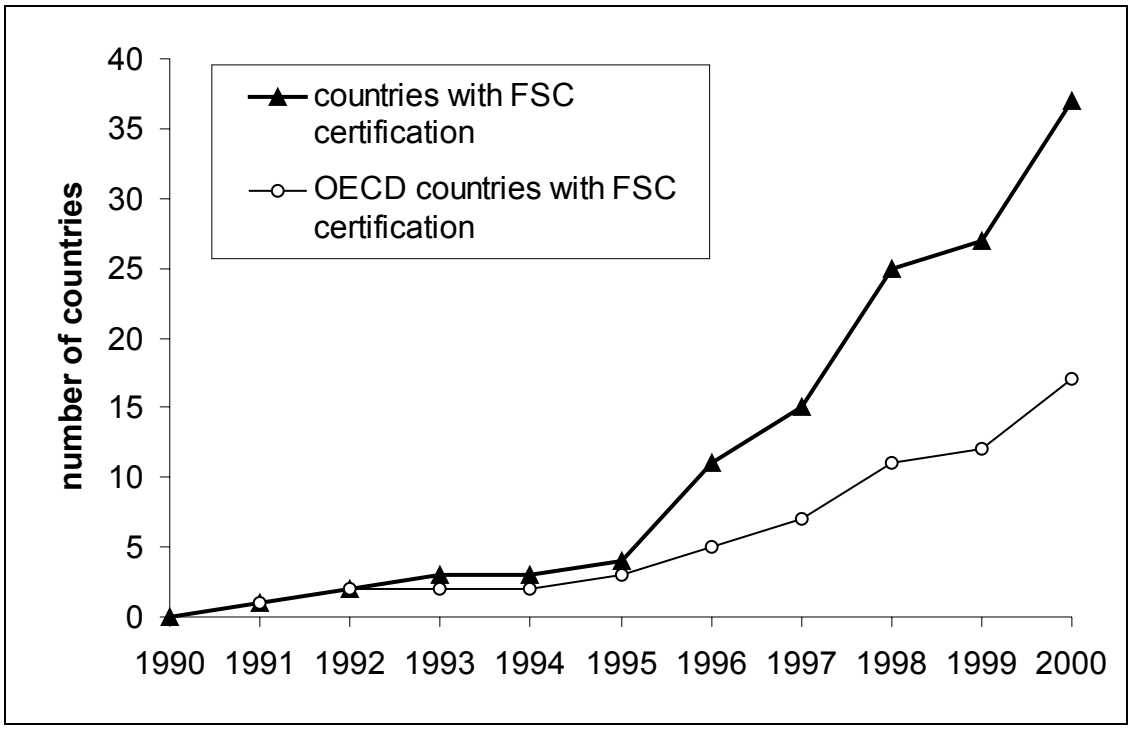

Figure 2: Diffusion of the FSC label

(data source: FSC International 2001)

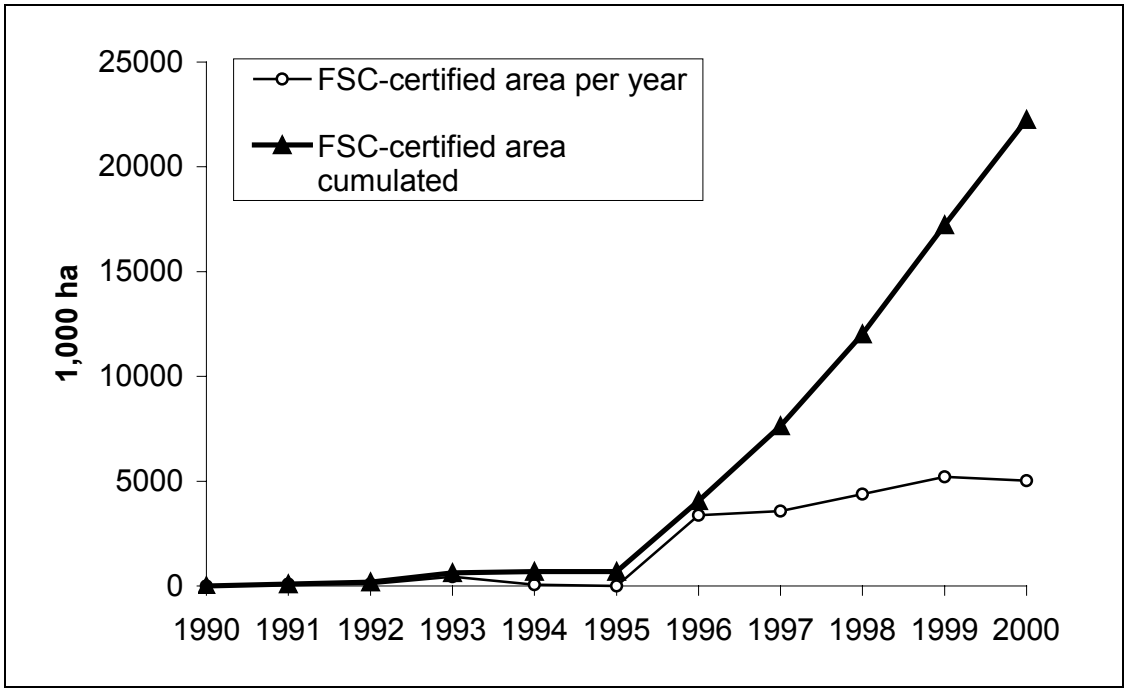

Figure 3: FSC-certified forests worldwide

(data source: FSC International 2001)

4.3 International, Intergovernmental, and Transnational Transfer Institutions

When the "forest crisis" became an issue discussed at a global level in the early 1980s,[57] the initial intergovernmental initiatives involving, for example, the establishment of the International Tropical Timber Organization (ITTO)[58] in 1986, did not succeed. The threat to tropical forests led to boycotting campaigns under the guidance of environmental organizations. By examining the causes of this threat, some of these organizations (e.g. WWF International) came to the conclusion that sustainable solutions to the problem lay solely in the cooperation with the affected countries and local people, and that their needs often played an important role in the deforestation process (Dürrenmatt 1999: 2). Hence, instead of propagating boycotts new exploitation patterns for tropical forests were developed taking into account the ecological conditions and needs of the local people.

In 1989, several NGOs[59] with the support of the UK government made a proposal to ITTO to carry out a study on the possibility of introducing a label for timber indicating whether it comes from sustainable managed forests. The fact that ITTO did not react to this proposal encouraged the NGOs to develop a separate labeling strategy independent of governments and intergovernmental organizations.[60] This strategy received even more impetus when the international community failed to agree on a Global Forest Convention at the UN Conference on Environment and Development in Rio de Janeiro in 1992,[61] which was promoted by the G7 countries and the UN's Food and Agriculture Organization (FAO).[62]

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[57] This crisis involved the deforestation of tropical forests, the loss of old-growth forests in temperate and boreal zones, threats to forest biodiversity and ecological functions, and land rights of indigenous people.

[58] The ITTO is an international commodity organization bringing together countries that produce and consume tropical timber. The organization deve

lops policies related to all aspects of the world tropical timber economy. The ITTO has 57 members (July 2001), including the European Union; and its headquarters is located in Yokohama (Japan); for further information see http://www.itto.or.jp (August 26, 2001).

[59] Mainly WWF International, Friends of the Earth, and Greenpeace (Kiekens 1999).

[60] This process was supported by some certification organizations and a few private corporations, such as the British home-improvement chain B&Q (Kiekens 1999).

[61] On the failure of the Global Forest Convention, cf. Hönerbach (1996).

[62] Since then, governments have engaged in a variety of activities and initiatives such as the Intergovernmental Forum on Forests (IFF) (Humphreys 2001) or the Montreal process, through which criteria, indicators, and reporting procedures for monitoring forest management at national level have been developed. However, to date, governments have stayed out of the development of forest certification and product labeling (Kiekens 1999).

Therefore, the development of the FSC label can be interpreted as a reaction on the failure of certain NGO initiatives at the international level. The FSC was founded by representatives of approximately 150 groups originating from a wide variety of different areas (environmental protection, forest and timber economy, indigenous people) and because of this it was set up on the basis of existing international structures and relationships. When the WWF subsequently launched its worldwide Forest Campaign, FSC certification became one of its key issues. Although a large number of non-governmental and economic organizations were involved at the beginning, the FSC became increasingly identified with the WWF in the public perception. This is certainly also due to the fact that WWF initiatives can rely on the support of a professional and internationally well structured organization, including local and regional groups, which became very important for the diffusion of the FSC label. The lack of involvement of governmental institutions is characteristic of this process.

4.4 Policy Convergence, National Variations, and Performance

Today, national FSC standards are based on the ten P&C but developed by national organizations. These national FSC standards are defined by taking regionally specific ecological, social, and economic conditions into account and in accordance with all relevant national groups concerned with forests and wood. Thus, different actor groups are involved in all of the countries practicing FSC certification. Two types of countries can be distinguished: (1) countries with national FSC groups and national FSC standards developed in accordance with the FSC guidelines;[63] and (2) countries where FSC certifications are carried out but national standards (e.g. Italy and France) have not (yet) been set.

In several countries, the FSC is supported by what are known as "buyer groups" established by national WWF groups.[64] These buyer groups actually are the "direct" target groups of the FSC and provide a platform for companies offering FSC-certified products (Leuba 1998: 8).[65] If no national standards are set, certificates are awarded by certification organizations with direct reference to FSC International's ten P&C. The framework for national applications is

[63] National FSC standards have been endorsed by Belgium, Bolivia, Canada, Germany, Sweden, and the United Kingdom. In 20 to 25 countries, the national criteria are on the way to being endorsed. (Communication from Noelia Crux, FSC International; June 14, 2001).

[64] In 1999, there were 15 "buyer groups" around the world, especially in Europe and in North America.

[65] In this sense, the final consumers of such products could be seen as "indirect" target groups.

decided on in cooperation with representatives from forest and timber interest groups.

National standards show considerable variation with respect to requirements relating to forest management (Stoffel 2000: 61). Since all companies receive the same certificate regardless of the specific national standards applicable in their countries, this can lead to distortions on the international market. Countries with relatively progressive forest and national environmental policy standards might demand above-average performance and, thus, exercise a negative impact on the introduction of forest certification.

As only forest management units (e.g. forest companies or forest owners) may apply for an FSC certificate, owners of large forests have advantages. It has been shown that large forest enterprises can get certification at considerably lower costs than small companies. Differences among countries (e.g. increase in certified companies or prevailing labeling systems when two or more systems are in place) can, therefore, be influenced by the specific forest ownership structure in these countries.

National forestry interest groups in Europe set up the Pan European Forest Certification (PEFC) scheme in 1998/1999 as a direct response to the FSC scheme. The PEFC is based on the criteria and indicators developed under the Pan European Process[66] (Ministerial Conferences in Helsinki and Lisbon) which are not binding. Most national certification initiatives under the PEFC are expected to take a regional approach as a way of addressing the issue of extensive fragmentation of forest ownership prevailing in Europe (Kiekens 1999). It should be noted here that the total area certified by the PEFC in Europe in June 2001 was 36 million hectares, with Finland accounting for 22 million and Norway for 8 million hectares[67] of this total. Comparisons show that the PEFC criteria are more lenient and include fewer explicit social and ecological performance criteria. The PEFC builds on the national certification

[66] The Statement of Forest Principles, ratified in the context of Agenda 21 at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, calls for the sustainable use of forests. It represents the starting point for subsequent continental initiatives for the definition of criteria and indicators for sustainable forest management. In Europe, this took place in the context of three conferences of ministers (Strasbourg 1990, Helsinki 1993, Lisbon 1998). Thirty-seven countries agreed upon a definition of sustainable forest management and a system of criteria and indicators.

[67] All the Finnish forests and 95 percent of the Norwegian forests are PEFC-certified.

systems and offers an operable system for the mutual recognition of independent forest certification schemes in Europe.[68]

The FSC and PEFC clearly compete with each other but at the same time they seem to adopt comparative advantages (e.g. development of "group certification" processes for the FSC, an instrument that had been previously invented by PEFC and emerged as an important advantage in small structured forest ownership).[69] Hence, it is possible to observe a tendency towards convergence and integration of (competing) approaches here.[70]

4.5 Case Studies

Mexico

In 1991, two years before the FSC was founded in Toronto, 86,000 hectares of forests were certified in Mexico by SmartWood. Initiated in 1989, SmartWood was the first forest management certification program of its kind operating on a worldwide basis. Four years after this first certification in Mexico, SmartWood applied for accreditation as an FSC certifying body which was approved by 1996. Since the SmartWood certification criteria fulfilled FSC demands, forests certified by SmartWood prior to the establishment of the FSC were now also regarded as FSC-certified areas.[71]

The Mexican Civil Council for Sustainable Silviculture (CCMSS)[72] that cooperates with SmartWood was one of the initiators of certification in Mexico (Markopoulos 1999: 13). The CCMSS had experience with certification issues. The first communities *(ejidos)* were certified on the basis of the Mexico-Germany Agreement (AMA). In this context, the national government and the

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[68] For further information on the PEFC certification scheme and new initiatives on the mutual recognition of different forest certification schemes, cf. http://www.pefc.de and http://www.sfcw.org/mutualrecognition (August 28, 2001). In Germany a systematic comparison between the FSC and PEFC was carried out recently in a joint effort of both organizations; cf. http://www.fsc-deutschland.de/id3unter (August 28, 2001). In May 2001, FERN, a non-governmental forest protection organization presented a comparative study on FSC, PEFC, the US Sustainable Forestry Initiative (SFI) and the certification scheme of the Canadian Standards Association (CSA); cf. http://www.fern.org/Library/Reports (August 28, 2001).

[69] To deal with this problem, the FSC has developed guidelines regarding "group certification" of small landholdings according to which several small enterprises may jointly apply for FSC certification thereby lowering the costs for each of them.

[70] The international discussion on mutual recognition has intensified recently. In February 2001, the German *Gesellschaft für Technische Zusammenarbeit* (GTZ), together with ITTO and FAO, organized a conference in Rome on „Building Confidence among Forest Certification Schemes".

[71] Information from Eleonore Schmidt, Luso-Consult, Hamburg (FSC-accredited certification body), November 2000.

[72] CCMSS is a national network of NGOs launched in 1994 to promote and foster sustainable forest management and certification (Markopoulos 1999: 13).

German *Gesellschaft für Technische Zusammenarbeit* (GTZ)[73] jointly set up the *Plan Piloto Forestal* (PPF) in the early 1980s, an ambitious scheme aimed to hand over the responsibility for forest management to the local communities. Several factors played an important role throughout the establishment of national forest certification structures: the promotional work carried out by the CCMSS, the demand for certified wood from international buyers[74] (Maynard and Robinson: 24), "soft pressure" from donors of development programs affecting forestry and the timber sector (e.g. MacArthur Foundation), support from the Mexican government, and, significantly also, the active promotion of certification by the National Union of Community Forestry Organizations (UNOFOC) and the Mexican Network of Campesino Forestry Organizations (Red MOCAF).

After the first certification in 1991, no further certificates were issued in Mexico until the accreditation of SmartWood in 1996. Since then, however, the number of certificates has grown steadily. Due to the local problem structure, in the Mexican certification process more weight was given to the social aspects of forest management than to ecological ones (Maynard and Robinson: 6). After its inception in 1996, Mexico's national FSC certification initiative (of which CCMSS is a key member) formed an interim national working group and began a national consultation process to define national and regional certification standards based on the FSC's global P&C (Markopoulos 1999: 13).[75] In August 2001, more than 400,000 hectares had been certified in Mexico which equals about 0.9 percent of the total forest area (see fig. A-9).

Sweden

The 1980s were marked by considerable controversies between NGOs and the forest industry in Sweden (concerning, for example, clear cutting, chlorine bleaching, use of exotic species). Initially domestic in nature, by the late 1980s, the debate gradually became more international as Swedish NGOs collaborated with their counterparts in export markets (particularly in the UK and Germany) to put pressure on the Swedish forest industry (Elliott 1999: 352; Elliott and Schlaepfer 2001: 643 f.).[76] In 1992, together with private forest owners, the

[73] The GTZ was responsible for program coordination through the AMA.

[74] In contrast to international buyers, the National Chamber of Pulp and Paper Industries had adopted a "wait-and-see" policy towards certification (Markopoulos 1999: 14).

[75] A national certification standard was developed but has not been accepted by FSC International.

[76] Biodiversity conservation and, in particular, forest conservation became very important issues in the context of the Biodiversity Convention in 1992. This provided a favorable environment for policy

church, and trade union representatives, the Swedish Forest Industries Association launched a "declaration of intent" regarding environmentally sensitive forest practices.[77]

In 1994, WWF Sweden, in order to move ahead with the development forest certification standards, established a small advisory "reference group" consisting of individuals from NGOs, forest owners associations, forest companies, and forestry boards that had expressed support for the FSC (Elliott 1999: 381). By the end of 1994, the Swedish Society for Nature Conservation (SSNC) joined this process and biodiversity issues were highlighted in the development of the standard. The "Preliminary Criteria for Environmental Certification of Swedish Forestry" were presented in 1995.[78]

At the same time, based on an initiative of the forest industry and owners in Sweden, Finland, and Norway, the Swedish Forest Industries Association launched a counterproposal, the "Nordic Forest Certification Project". However, this project failed, because, among other reasons, it was boycotted by the Swedish NGOs who also convinced their counterparts in Norway and Finland to do the same.

In 1995, the WWF and SSNC founded a "preliminary" Swedish FSC working group. Membership was made conditional on a written declaration of support for the Forest Stewardship Council Principles and Criteria (P&C). Since neither forest owners nor industry agreed on these requirements, the group was made up of environmental NGOs (WWF, SSNC, Friends of the Earth, and Greenpeace), the Church, and the Forestry Society *(Skogssällskapet)*. During the following weeks, other actors such as IKEA, Kinnarps (office furniture manufacturer), the Swedish Sami Association,[79] and labor union representatives joined the group.[80] In January 1996, under strong pressure from the very large

learning and the modification of forestry practices which proved to be one of the foundations for the development of forest certification in Sweden (Elliott 1999: 375).

[77] Subsequent to the program "A Richer Forest" launched in 1990 by the National Board of Forestry in view of training private forest owners to integrate environmental considerations in forest management, national forest policy was newly regulated in the Forest Act of 1994. Contrary to the previous regulation that was strongly production-oriented, this act established an equal balance between ecological and economical aspects.

[78] Prior to this step, WWF Sweden had a study carried out to evaluate the labeling experiences in organic farming (Elliott 1999: 376). Nevertheless, due to the lack of Swedish experience with labeling in this specific field, the process had to be slowed down somewhat in the starting phase.

[79] Conflicts between the Sami and private forest owners about reindeer grazing on private land are quite common in Northern Sweden (Elliott and Schlaepfer 2001: 646).

[80] In addition, a "stakeholder group" was established comprising organizations generally supporting the FSC. This group played an advisory role. By the end of the process it represented 90 organizations.

forest owners AssiDomän and Korsnäs, the forestry companies collectively decided to join the working group and, subsequently, also the forest owners were urged to participate.[81]

The working group, formally constituted in February 1996, was made up of six environmental, six economic (forest owners, forest industry and one retailer) and three social representatives (labor unions and Sami).[82] It had the task to develop an FSC-compatible standard for forest certification in Sweden. The working group's decisions were supposed to be consensual, nevertheless, the group's agenda was largely set by the NGOs (Elliott 1999: 385), and the forest owners withdrew from the working group in spring 1997. After some serious difficulties concerning the regulations on the planting of exotic trees, a compromise was reached under strong pressure from AssiDomän[83] because the company indicated that it would agree to the standards even if no other company did.

By the end of 1997, the Swedish standard was submitted for formal approval by the FSC and was approved in January 1998 as the first national FSC standard. It is similar to the preliminary standards proposed by the SSNC/WWF in 1995 (focus on biodiversity) and strongly reflects three types of specific actor interests relating to Swedish conditions: the Sami (secure winter grazing for reindeer herds), the labor unions (inclusion of subcontractors in the collective bargaining system on working conditions), and the private forest owners (exceptions and specific rules in the application of the standards for small owners) (Elliott 1999: 394 f.). These standards had been used for certification even before the national standard was formally accepted by the FSC.

Once the Swedish standard was finalized in late 1997, certification of forest company lands proceeded rapidly. By August 2001, over ten million hectares of forest had been certified representing approximately 42 percent of Sweden's

[81] Most of Sweden's forests are owned by about 345.000 private forest owners (50 percent) or forest companies (37 percent). Only the remaining 13 percent are public forests.

[82] The National Board of Forestry was not involved in the process because the FSC regulations do not allow government participation.

[83] AssiDomän, founded by privatization in 1993, regards ecological skills and image an important company strategy on national and, especially, international markets. In 1995, members of the WWF UK Wood Group (buyers) visited Sweden and observed the Swedish certification process several times (Elliott 1999: 381).

total forest area (see table A-2 and fig. A-10).[84] Thus, there is a continuing growth in the availability of certified wood in Sweden.

Switzerland

In response to the discussions in the late 1980s on "forest death" *(Waldsterben)* in domestic forests[85] and deforestation of tropical forests, the Swiss timber industry, in 1990, began to market certified "Swiss Wood" *(Ursprungserzeugnis "Schweizer Holz")*.[86] At the same time, political initiatives emerged aiming at the compulsory declaration of imported tropical timber and wood products. These initiatives were rejected by both the government and parliament who preferred voluntary eco-labeling to compulsory declaration.[87] In 1993, WWF Switzerland invited national environmental organizations, wood and forest industry associations, scientists, and representatives from development and consumer organizations to discuss certification as a means of establishing sustainable forest management. Despite the initiative of the federal government that acted as mediator, different positions regarding national standards for forest certification prevented the joint implementation of a voluntary certification system.

The "FSC core group" was established in 1995. It comprised the same actors who had been previously brought together by the WWF, i.e. actors from environmental organizations like the WWF or the Swiss Association for Nature Protection, producers' associations such as the Swiss Forestry Association (Waldwirtschaft Verband Schweiz), the timber industry, and science and research (ETH Zurich) (Leuba 1998: 6). In September 1998, the WWF presented the first FSC-certified and marketed Swiss product to the public (Dürrenmatt 1999: 5).[88] The WWF Wood Group, a "buyer group" that had been established by WWF Switzerland in 1997 and included representatives of Migros and other companies interested in selling certified wood products (at date approx. 20 members), played an important role in this development.

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[84] More than 80 percent of the certified land is owned by the forest industry. While forest companies prefer the FSC label, small landowners have concentrated their efforts on PEFC.

[85] Regarding the recent developments of the Swiss forests and the Swiss forest policy, cf. BUWAL (1993); BUWAL (1999); and BUWAL (2000).

[86] This label only refers to the origin of the resource timber and does not formulate demands regarding forest management or timber processing.

[87] At that time, Switzerland had already gained some experience with certification, mainly in the organic farming sector *("Knospe")*.

[88] The Cuboro-game produced by the Solothurn borough *(Burgergemeinde)*.

However, in autumn 1997, fearing that economic interests would not be taken into account, the forest and timber industry associations launched the Q-label as an alternative to FSC certification (Stoffel 2000: 3). This label is based on the regulations of the International Organization for Standardization (ISO) that had already been accepted by industry.[89] Thus, two competing approaches to wood certification were established in Switzerland and the merging of these two standards appeared to pose serious problems. However, by the end of 1999, general requirements for forest management were defined for both labels under the auspices of the Swiss Federal Office for the Environment, Forests, and Landscape (Bundesamt für Umwelt, Wald und Landschaft, BUWAL); these are known as the Swiss National Standards for Forest Certification (BUWAL press release; February 16, 2000).

The FSC-certified forest areas in Switzerland have expanded rapidly since the first certification in 1998. By August 2001, about 60,000 hectares, representing around 5 percent of total Swiss forest areas, had been certified (see table A-2 and fig. A-11). FSC certificates are distributed by two certification bodies[90] (out of a total of ten) accredited by FSC International. They operate independently of the producers' associations and public administration. Today, FSC certification is primarily based on the "National Standards for Forest Certification" which, in accordance with the FSC guidelines, have been negotiated by nature conservation organizations, the forest and timber industry, and "development" organizations[91] but have not yet been approved by FSC International (WWF/Pro Natura 2000). Nevertheless, they have been applied on a voluntary basis. The standards proposed for Switzerland reflect the traditional Swiss political culture of consensus and, hence, aim at integrating diverging approaches of forest certification (FSC, Q-Label) while respecting the FSC guidelines.[92]

Indonesia

Concerns about deforestation and forest degradation in Indonesia were first raised by the country's NGOs and foreign scientists and observers. This led to campaigns for the boycotting of tropical timber initiated by international

[89] The Q-label is based on Swiss forest law and the ISO 14001 and ISO 9001 standards. It is the Swiss version of the PEFC label.

[90] SGS International Certification AG (Basle) und IMO Institut für Marktökologie (Sulgen).

[91] In Switzerland, the social aspects had been covered by union representatives.

[92] Cf. also BUWAL (2000a), which compares and promotes the parallel certification of the FSC and Q-label system.

environmental NGOs, starting with an action by Friends of the Earth in the UK in 1984 (Elliott 1999: 162). At a council meeting of the ITTO held in Bali in 1990, the "Target 2000" was adopted as a non-binding commitment by the ITTO country members with the objective of bringing all productive forest estates under sustainable management so that by the year 2000 the total exports of tropical timber products would come from sustainability-managed resources (Elliott 1999: 195). In the late 1980s and early 1990s, due to increasing pressure from export markets (mainly Europe and USA)[93] on both environmental and social grounds, the first steps were initiated towards the development of a forest certification program in Indonesia in 1992.[94]

Although the first forest certificates were issued in 1990 by SmartWood (Perhum Perhutani, a State forest in Java),[95] this step did not have any significant impact on the further development of certification. In 1992, the Indonesian Forestry Community (MPI), an influential umbrella organization of private sector associations, created a working group coordinated by the APHI (the Indonesian association of forest concession holders) to develop ITTO-based criteria and indicators for sustainable forest management. However, in 1993 the Minister of Forestry[96] installed another working group on certification (LEI working group), this time with NGO input.

After a process during which both groups (APHI and LEI) worked more or less independently of each other on the development their own systems of criteria and indicators, by 1997 an agreement on the criteria and indicators for assessing sustainable forest management was reached between this working group of LEI, the Ministry of Forestry, APHI, and the Indonesian national standards organization. In late 1997, the national standards organization approved the Indonesian forest certification proposed by (NGO-supported) LEI.[97] Finally, in February 1998 the Indonesian Eco-labeling Institute (Lem-

[93] In response to NGO pressure, for example, Austria introduced an obligatory timber labeling on tropical imports in 1992 (Elliott 1999: 195).

[94] Those teak forests in Java managed by the State Forestry Corporation Perum Perhutani, were certified by SmartWood as early as 1990.

[95] Five years later, this certificate expired and was not renewed (Elliott 1999:195).

[96] In Indonesia the state owns most of the forests and issues concessions to private companies.

[97] Compared to the APHI criteria, social and environmental issues are more important for the LEI criteria (Elliott 1999: 203).

baga Ekolabel Indonesia, LEI) was formally established as as an independent body for controlling certification (Elliott 1999: 162).[98]

Forest certification in Indonesia was, therefore, mainly driven by three actors: (1) the government because of its commitment to ITTO; (2) APHI for promoting the development of criteria and indicators for some time, and (3) NGOs for putting pressure on the process. The FSC did not play an important role in this phase. However, it was later integrated in the process as LEI started to cooperate with the FSC seeking FSC endorsement (Naka, Hammett, and Start 2000: 477). Consequently, the FSC has become increasingly involved in forest certification in Indonesia.

4.6 Summary and Perspectives

The FSC has emerged as a considerable force in the worldwide diffusion of forest certification. Without the FSC, forest certification would probably still be a concept tested in very few cases. Although the FSC labeling scheme was launched only ten years ago, today certified forests can be found in almost 50 countries. The WWF provided not only professional support but also an excellent organizational basis for the new initiative, as this international organization is also very well represented at the national level. It should be stressed that the FSC provided an important forum for policy discussions and the promotion of certification.

An essential factor facilitating the rapid diffusion of FSC lies in the flexibility of the certification system. The implementation of the certification scheme does not depend on national standards. In the absence of national standards, the certificate that is always issued by an accredited certification body can be directly based on the FSC P&C. This means that this form of certification is not restricted by national boundaries. Some of these certification organizations (e.g. SmartWood) played an important role in the starting phase of the FSC since they were actively involved in its establishment.[99] Once national FSC standards are defined, the system appears to be quite stable. Due to this flexible approach, standards can be adapted to changing conditions as long as an agreement can be reached with the actors involved.

[98] LEI worked with the financial support of the World Bank (among others). This was facilitated by the fact that the leader of LEI, Dr. Emil Salim, was the former Minister of Environment and a member of the Brundtland Commission (Elliott 1999: 200).

[99] SmartWood is of special interest since it has been responsible for the implementation of forest certification throughout the world (e.g. in Mexico and Indonesia).

From a global perspective, the certification results can be seen as a success. Performance measured in hectares of certified area per country varies considerably. The Netherlands, Sweden, Poland,[100] Ireland and the United Kingdom, for example, have certified more than 25 percent of their forest areas, while Costa Rica, Switzerland, and Croatia have certified between 5 and 15 percent of forests. In about the half of the sample, the certified forest area remains at a level below one percent (Mexico, Brazil, Sri Lanka, Italy, Canada, etc.) (see table A-2).[101]

Stakeholder involvement seems to be decisive for the success of FSC labeling. The FSC is organized in three chambers (chambers for economy, environment, and social issues), all of which are involved in important decisions at both the national and international level. This structure seems to represent an important factor accounting for the FSC's success. This remarkable characteristic also ensures the broad support of the certification system and the standards developed within its framework. Moreover, the establishment of "buyer groups" in several countries changed the actor constellations and put pressure on forest owners and wood producers and helped to prompt their participation in the certification process and, hence, accelerate the diffusion process (e.g. UK wood industry and Swedish producers).

A further important, though indirect impact of the FSC was the stimulation of other competing initiatives on certification (e.g. PEFC, ISO 14001). In many countries the establishment of the FSC system was accompanied by counterproposals of forest owner associations. Competing systems like PEFC tend to be not as inclusive as the FSC, do not comprise all relevant stakeholder groups, and are concentrated rather on economic issues while social issues, in particular, play only a minor role. Interdependent relations and mutual effects between the different competing systems proved to be very important (e.g. integration of "group certification" developed under PEFC in the FSC labeling system).

5 Factors for the Success of Global Policy Diffusion

5.1 Comparison of the Diffusion Patterns

Rapid diffusion can be observed in both the general eco-label and the FSC systems. The diffusion of FSC labels started five to six years after the diffusion

[100] There is evidence that Poland's good performance is due to market forces and consumer demand as Polish timber is exported to the UK.

[101] Almost 70 percent of the certified area is located in Europe (including Russia), and about 70 percent of certified forests can be found in only three countries: Sweden (42 percent), Poland (16 percent) and the USA (12 percent); cf. table A-2.

of general eco-labels had begun. However, this time lag diminished very rapidly. In recent years, FSC certification has gained momentum and spread faster than general eco-labeling. While for the FSC the diffusion pattern shows a steady development due to regional integration (Nordic Council, European Union), in 1989 and 1992 there was a particularly rapid increase in the number of countries adopting general eco-labels.

The diffusion patterns are rather similar although government agencies play only a marginal role in FSC labeling. The diffusion of FSC labels has been supported by numerous NGOs. The transfer process was primarily driven by a worldwide WWF campaign.[102] The rapid diffusion of FSC labeling is remarkable. Very few other cases in environmental policy show a similar diffusion pattern.[103] This development is all the more surprising when the characteristics of these policy innovations are taken into consideration. While general eco-labels are primarily product standards, FSC labels are production standards. It is usually assumed that product standards are adopted and diffuse faster than production standards.[104] Therefore, it could not be expected that FSC labels would diffuse as fast as, or even faster than, general eco-labels.

It could be argued that one important reason for the rapid diffusion of FSC labels is the fact that they are related to a single product category while eco-labels involve numerous product categories and affect far more stakeholder groups. Although this argument may explain differences regarding the national performance of eco-labeling systems, it cannot be assumed that the adoption of a system is delayed or restricted by these characteristics of the schemes. In the adoption phase the differences between the systems are minor as they develop at a later stage when product categories are selected and criteria are developed.

The regional diffusion pattern in Latin America is of special interest (table A-4). There is clear evidence that the fact that Mexico was the innovator and that numerous potential adopters are located in Latin America had an impact on the diffusion patterns. While Latin American countries are almost never mentioned as environmental policy innovators, they are very well represented among the group of FSC adopters.[105] The rapid diffusion of this

[102] On the role of environmental organizations for the global diffusion, cf. also Meinke (1999).

[103] Cf., for example, the diffusion of environmental ministries and environmental protection agencies (Kern, Jörgens, and Jänicke 2001).

[104] On the differences between product and production standards, cf. Scharpf (1998: 141).

[105] Today, twelve out of 47 countries with FSC-certified forests are located in Latin America and account for almost 12 percent of the certified area worldwide (August 2001).

environmental policy innovation is certainly supported by the fact that language barriers within Latin America are minor.[106]

The diffusion of FSC labels also shows significant differences when compared with the adoption of other environmental policy innovations by developing countries. Coercive mechanisms and forced diffusion are characteristic of the diffusion of environmental policy innovations in these countries. Environmental policy plans and sustainable development strategies, for example, were introduced in most OECD countries on a voluntary basis. In developing countries this policy innovation also spread very quickly, but in many countries (for example in Africa but also in eastern Europe) adoption was forced by international organizations, namely the World Bank (Schemmel 1998). There is no evidence that developing countries were forced in a similar way to adopt the FSC scheme. This seems to be related to the form of policy transfer as the diffusion of FSC labels is mainly supported by non-governmental transfer institutions.

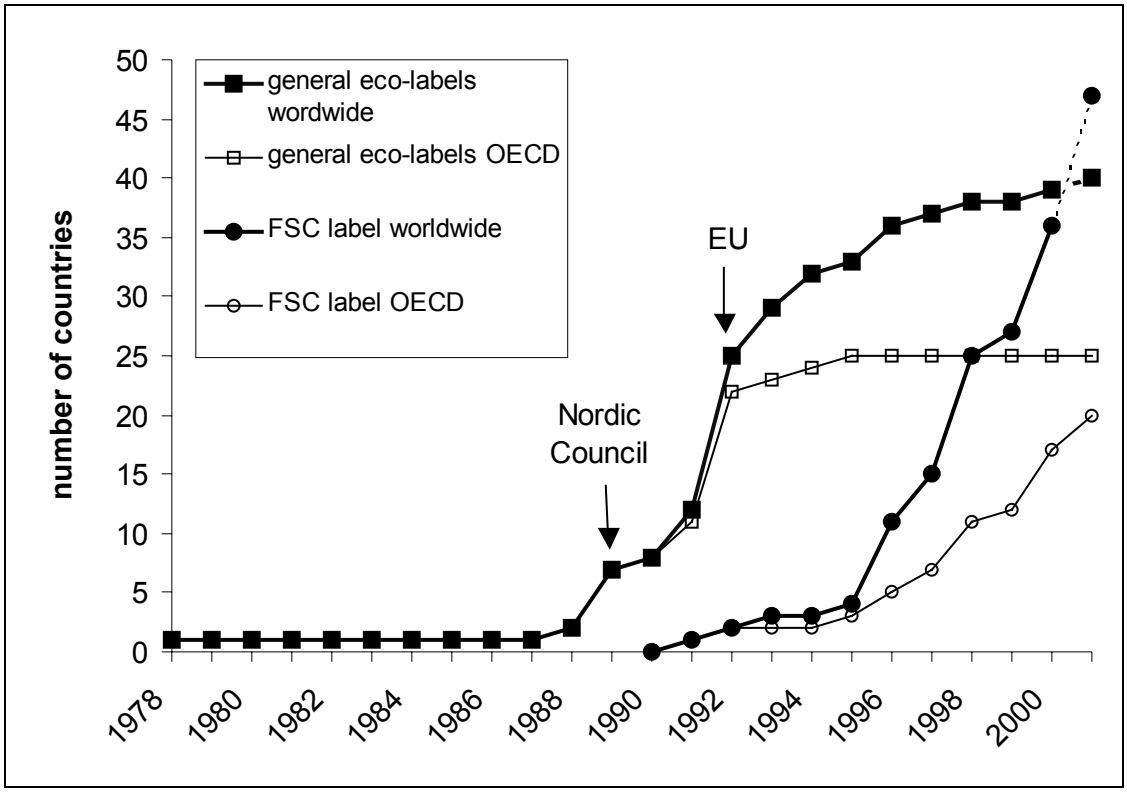

Figure 4: Diffusion of general eco-labels and the FSC label

[106] Policy transfer is often restricted by language barriers, especially when local actors are involved.

Unlike the diffusion of the general eco-labeling systems, the global diffusion of the FSC label was equally split between countries of the northern and southern hemispheres. While in the starting phase the diffusion of general eco-label programs was concentrated exclusively in OECD countries, no time lag for developing countries was observed in the case of the FSC (see fig. 4, table A-2 and A-4). From the beginning, FSC labels were adopted by many developing countries. As the scheme was originally designed for tropical forests, policy transfer to such countries certainly were to be expected. Developing countries were under far more pressure to introduce the certification of exported wood than a general eco-label for consumer products. The transfer of general eco-labels to developing countries seems to be much more problematic.

5.2 Types of Transfer Institutions and Models of Diffusion

The dynamics of the international system is crucial for the diffusion of eco-labels. Information and knowledge transfer is organized and further developed by international and intergovernmental organizations, transnational NGOs and transnational policy networks. The exchange of information and experience is not restricted to bilateral contacts between nationally based actors but is accelerated and improved by the new platforms that have been created within the last years.

In the case of general eco-labels governmental, intergovernmental, and quasi-governmental institutions, in particular the OECD, ISO, and GEN, were involved in the diffusion processes or served as transfer institutions. Intergovernmental and expert networks appear to predominate.[107] The GEN consists mainly of experts (eco-labeling practitioners), i.e. representatives of the national labeling boards. In the case of general eco-labeling, NGOs played a minor role as policy transfer institutions.[108]

In contrast to general eco-labeling, non-governmental transfer institutions were extremely important for the diffusion of FSC labeling. The starting point of this development was the NGO's failure to initiate an ITTO study of forest certification schemes. Moreover, many NGOs were dissatisfied with the unsuccessful proposal for a Global Forest Convention at the UNCED Conference in Rio 1992. Therefore, several NGOs started their own campaigns which finally led to the FSC certification program. The diffusion of the FSC was

[107] Cf. also the discussion on epistemic communities (Haas 1992).

[108] Some NGOs active at the international level deal primarily with environment and trade problems. However, some national eco-labels are supported or even administered by environmental NGOs, such as the Swedish "Good Environmental Choice" program.

mainly supported by the activities of the WWF, because this environmental NGO served as a global transfer network. The organizational structure of the WWF was very well suited to these efforts, because it enables the implementation of initiatives on the international as well as the national level and facilitates a spreading of other countries' experience among potential adopters. Exchange of experience among actor groups in different countries was organized, "buyer groups" were set up, and the process of national standard setting was initiated. The diffusion of FSC labeling is supported by national standards that are based on the FSC guidelines (P&C) but allow considerable variation between countries. Thus, it can be assumed that the structure of the WWF supported the diffusion of labels better than that of the GEN or ISO who became involved in the process at a relatively late stage and were primarily concerned with harmonization issues.

The rapid diffusion of FSC labels is also due to the fact that the process comprises two different forms of certification: although certificates are only issued by FSC-accredited organizations, their decision can be based directly either on the FSC guidelines (P&C) or on national standards set by national boards comprising all relevant stakeholder groups. Although the process of national standard setting may take time, internationally accredited organizations can start issuing certificates long before the national standards are finally set and approved by FSC International. It can be concluded that the diffusion process is supported not only by a transnational NGO but also by transnationally operating certification organizations accredited by the FSC.

5.3 Factors for the Success of National Performance

In terms of national success, the performance of national or multinational labeling schemes can be measured on the basis of the certified forest area or the number of certified products (see table A-1 and A-2) and seems to be linked to several factors: (1) the characteristics of the policy innovation, (2) the national capacities for action, and (3) the co-existence of, or competition among, standards, which may lead to converging standards.

Characteristics of Policy Innovations

In terms of the characteristics of the policy innovation, it appears that the implementation of a program is impeded by the requirements of the certification process and the costs of certification. General eco-labeling systems in Germany and Japan (see fig. A-1 to A-4) certainly developed faster than the EU Flower because they did not require a full life-cycle analysis. Moreover, especially in

developing countries and in the transformation countries of eastern Europe, serious problems may occur not only because certification procedures can be quite complex and too difficult to manage but also because certification costs are too high.[109] In FSC labeling, the requirements may encourage certification by the owners of large forest areas while the costs for small areas are relatively high. Depending on the ownership structure in a certain country, this could promote or prevent the successful implementation of the scheme.

National Capacities for Action

The national capacities for action, determined by the degree of modernization of the economy, society and the state, are essential for the success of an eco-labeling system. The economic basis of a country and the sustainable modernization of the economy have to be taken into consideration. In countries like Germany, Japan, or Sweden more companies are willing to apply for a certificate than in countries like India or Zimbabwe. However, in timber-producing countries, such as Poland, incentives to apply for the FSC label are relatively high because these countries export their timber products to foreign countries where the demand for certified products is growing steadily. This means that the ecological modernization of an economy may be forced by market integration. Furthermore it is evident that the size of markets can restrict the implementation of an eco-label system. This has been the case in the Baltic States who had established labels of their own but met with great difficulties in implementing them (cf. table A-1).

Equally relevant for the acceptance of eco-labeling schemes is the modernization of a society. This is especially true of Sweden where public awareness of environmental problems seems to be extremely high and demand for certified products is growing. The success stories of FSC labeling in the UK, Sweden, and the Netherlands show that a high level of public awareness of environmental problems has positive impacts on the implementation of an eco-labeling scheme. Manufacturers' interest in applying for certificates is also growing as consumer demand for certified products increases. The high level of environmental awareness among Swedish consumers could also explain why it was possible that several general eco-labeling systems have managed to co-exist and thrive. In such countries civil society is highly developed, which further increases the pressure to establish eco-labeling systems.

[109] The relatively high costs may be one reason why implementation failed in some countries, e.g. in Lithuania (communication with Lithuanian Ministry for Environment; July 25, 2001).

Finally, political factors have to be taken into account. It is obvious that the political-institutional capacities for action influence the national performance of eco-labeling systems. They are decisive for the participation of stakeholder groups, the building of new coalitions and changing actor constellations. Despite some differences between the systems, the common denominator of our success stories seems to be the participation of all relevant stakeholder groups (industry and commerce, environmental and consumer protection organizations, trade unions, etc.). This is true not only for general eco-labels like the German Blue Angel or the Nordic Swan, but also for the FSC label. National standards guaranteeing the flexibility of the system are discussed, decided upon and updated by FSC working groups. Labeling systems can be only successful when the public accepts the programs, which depends on stakeholder involvement. However, the comparison of general eco-labels and the FSC label confirms our thesis that the active involvement of state actors does not seem to be necessary for the good performance of a labeling scheme. The case study on FSC shows clearly that the adoption and implementation of certification systems can be managed successfully by non-state actors. The only exception is Indonesia, where the introduction of the FSC label has been actively supported by a governmental agency. The conditions for the success of FSC can be improved when buyer groups are established because these groups can lead to new coalitions between different stakeholders and fundamental changes of the actor constellations.

Co-existence, Competition and Convergence of Standards

The emergence of converging or diverging schemes is essential for the performance of national eco-labeling systems. Sweden is an interesting case with respect to the co-existence of several general eco-label systems (Nordic Swan, European Flower, Good Environmental Choice, TCO Label). Co-existence of standards can be found in other EU member states as well: more than half of the countries operate an own national system beside the European labeling scheme.

Competition of standards can cause different forms of convergence. In Sweden, an important wood producer together with NGOs was able to impose the FSC standards while an alternative standard pushed by the forest industry failed, whereas in Switzerland the competing schemes of the forest industry and NGOs merged under the mediation of a Swiss agency (political culture of consensus). This means that competing standards can either be integrated into converging labeling schemes (Switzerland), and thereby strengthen the impact

of these new instruments, or new actor constellations can favor a certain label and foster the implementation of a single scheme within a country (Sweden).

These examples show that different labels can co-exist or compete with each other and that competition can lead to convergence. This may include the dominance of one standard while the alternative standard disappears or strong asymmetries arise between the standards. Competition, co-existence and convergence of labels can be explained by the sequence of events, e.g. the time of introduction, the development path and the main actor constellations. National systems that were well established prior to the introduction of the "European Flower" have hindered the convergence of general eco-labeling systems. The development of a well-accepted scheme like the German Blue Angel and the time span between the introduction of different schemes appear to be crucial to the success or failure of new eco-labeling systems.

Differences between national programs are essential in both cases. However, the tendency towards convergence of standards seems to be stronger in the FSC case due to the existence of general guidelines set prior to the first national initiatives. The international guidelines (P&C) are, therefore, essential for national standard-setting. In contrast to FSC labeling, the national variations of general eco-labels developed independently. National eco-label development paths vary considerably because harmonization initiatives by the European Union and other international organizations (OECD, ISO, GEN) were launched only after several major countries had already established their own standards. There were no general guidelines set by an international or intergovernmental organization but only national models, in particular the German "Blue Angel", that shaped the national, Nordic, and European discussion on the establishment of general eco-label systems.

FSC labeling and the development of the Nordic Swan as a multinational label show that international activities need to be initiated early in the process. International guidelines seem to be essential. They facilitate diffusion processes and, at the same time, limit the divergence of national standards, because national initiatives are committed to these international guidelines. Thus, the discussion on harmonization in FSC labeling is not as dominant as it is in general eco-labeling. National FSC standards must be based on FSC guidelines (P&C) and decisions on national standards made by national committees have to be accepted by FSC International.

6 Conclusions

What is the outcome of our comparison of different eco-labeling systems? Can policy convergence be explained by policy diffusion? Can diffusion processes supported by governmental and non-governmental institutions be considered as functional equivalents? And, finally, which factors determine the overall performance of transnational network organizations like the GEN or the FSC?

Policy convergence between eco-label systems cannot be related to international regimes as these do not exist in this policy area. However, it can be assumed that one reason underlying the development of the FSC label was the failure of an international regime, namely the Global Forest Convention *(Waldkonvention)* that had been discussed at the UN conference in Rio but was never actually established because no consensus could be reached. Regional integration was very important for the Nordic Swan and the European Flower. The Nordic Council of Ministers and the European Commission actively supported the spread of these labels. One important goal of regional coordination and cooperation was market integration. Bilateral lesson-drawing was essential, at least in the starting phase. Hierarchical elements played an important role in the introduction of the EU label as the scheme had to be implemented by the EU member states. In the case of the FSC, by contrast, policy convergence was caused primarily by policy diffusion. The establishment of the FSC, a transnational network organization, facilitated the exchange of information and experience among the different actor groups involved in the process. However, it has to be mentioned that FSC is based on a voluntary process and coercive mechanisms are not applied.

In both cases the institutionalization of policy transfer can be observed. It was supported by governmental institutions in the case of general eco-labels and by non-governmental institutions in the FSC case. While governmental or quasi-governmental organizations (OECD, ISO) and transnational expert networks (GEN) predominate in the case of general eco-labels, the diffusion of the FSC label has been supported primarily by non-governmental actors. The comparison shows that the WWF initiatives were crucial to the rapid and efficient diffusion of the innovative FSC approach.

On the one hand, there are similarities between intergovernmental and non-governmental transfer institutions. Such networks and organizations fulfill several functions, in particular the development of general guidelines and norms like the ISO norms or the FSC Principles & Criteria. Moreover, both types of

transfer institutions facilitate the exchange of information and experience between national initiatives, promote best practice, support global policy learning, etc. Both systems also share difficulties arising from the competition of standards and for new members (forest owners/companies willing to apply for certification of their forests/products). Alternative standards can be observed in both cases, general eco-labels (e.g. Blue Angel versus European Flower) and forest certification (e.g. FSC versus PEFC). It seems to be typical for eco-labeling systems, as an essential part of the new generation of environmental policy instruments operating on a voluntary bases, that several standards in the same field are developed and compete with each other.

On the other hand, there are remarkable differences between governmental and non-governmental transfer institutions. Transnational network organizations like the FSC have strong advantages because of their specific form of direct linking of transnational, national, and local policy-making:

The federalized and decentralized structure of the WWF, an internationally operating environmental NGO, provides an excellent basis for the spread of national initiatives. This multi-level-organization is present not only at the international but also at the national level (national FSC working groups, buyer groups) and even at the local level (FSC-accredited certifiers). The organizational culture of the FSC, strongly connected with the WWF, is supported by the NGO's policy regarding the recruitment of personnel. In contrast, GEN is a loosely coupled expert network that is not institutionalized at the national or local level and has only minor or no direct influence on national policy-making. The emergence of GEN can be interpreted as the development of transnational relations of national eco-labeling boards. While GEN is a form of self-organization of already existing national institutions ("transnationalization of national institutions"), the FSC, a multi-level network organization, was established first, and national FSC institutions emerged only after international guidelines were decided upon ("nationalization of a transnational institution"). It can be argued that the overall performance of transnational network organizations depends on whether they were developed by transnationalization of national institutions (bottom-up) or by nationalization of transnational institutions (top-down). The FSC case shows that nationalization of a transnational institution can be managed easily when the organizational structure of an already existing institution (WWF) can be used.

Successful linking of transnational and national policy-making requires an extremely flexible structure. Such organizations must be able to learn and adapt to changing environments very fast. National standards have to be based on the guidelines of FSC International, but, as national preconditions may vary considerably, national variations are possible. Since stakeholder involvement has to be guaranteed on the international as well as the national level, differences between national standards may occur. However, each national standard has to be consistent with FSC International's Principles & Criteria.

FSC International stimulates the establishment of national working groups, involving all relevant stakeholder groups, as well as national buyer groups. This means that a policy window at the national level may open by setting international standards stimulating national standard-setting. National FSC standards are set by civil society actors while state actors are absent. Buyer groups that exist in many countries may support national policy change because their emergence modifies actor constellations and, therefore, facilitates the acceptance of national FSC standards by forest owner associations.

FSC-accredited certifiers are globally operating institutions that work on the local level. Certification by these ten internationally accredited organizations can be based either directly on FSC International's guidelines or on national standards. Certification by FSC-accredited certifiers based on FSC International's standards can be regarded as a first step towards national institution building (national working groups, national standards, buyer groups). In other words, certification may foster the strengthening of civil society, the building of social capital and consensus-building strategies involving different stakeholders.[110] Moreover, the certifying institutions control compliance with international (or national) FSC standards and can even withdraw certificates when violations are observed.[111]

It can be concluded that governmental and non-governmental transfer institutions are functional equivalents. The FSC case proves that governmental involvement is not necessary for the diffusion of policy innovations and that even the implementation of eco-labeling systems can be delegated to civil society actors. The experience with the FSC label demonstrates that the same

[110] This seems to be the case in Poland where a FSC working group was created in June 2001 and a participation process has been started to set a national FSC standard (FSC Newsletter, Forest Stewardship Council, Arbeitsgruppe Deutschland, no. 2 (June 2001), p. 7.

[111] This happened recently in Ukraine. The certifying body, IMO, withdrew the certificate for the company ILMEST after controls revealed serious violations of the FSC guidelines (WWF Faktenservice Wald und Holzzertifizierung, no. 7 (August 2001), p. 3.

degree of legitimacy and performance can be achieved, if certification is mainly supported by non-governmental institutions. Finally, it is evident that the overall performance of transnational network organizations is determined by the institutionalization at different policy levels and the successful linking of transnational, national, and local decision-making.

References

Baumgartner, Frank R. and Bryan D. Jones 1993: Agendas and Instability in American Politics, Chicago (IL) und London: University of Chicago Press.

Benner, Thorsten and Wolfgang H. Reinicke 1999: Politik im globalen Netz, Internationale Politik 1999(8): 25-32.

Biermann, Frank 1998: Weltumweltpolitik zwischen Nord und Süd. Die neue Verhandlungsmacht der Entwicklungsländer, Baden-Baden: Nomos.

Boli, John and George M. Thomas 1997: World Culture in the World Polity: A Century of International Non-Governmental Organization, American Sociological Review 62: 171-190.

Boli, John and George M. Thomas (eds.) 1999: Constructing World Culture. International Non-Governmental Organizations since 1875, Stanford (CA): Stanford University Press.

Borchert, Jens 1998: Ausgetretene Pfade. Zur Statik und Dynamik wohlfahrtsstaatlicher Regime, in: Stephan Lessenich and Ilona Ostner (Hrsg.), Welten des Wohlfahrtskapitalismus. Der Sozialstaat in vergleichender Perspektive, Frankfurt a.M. und New York: Campus, pp. 137-176.

Bundesamt für Umwelt, Wald und Landschaft (BUWAL) 1993: Der Schweizer Wald: Ein Portrait. Umweltmaterialien 3, Bern: BUWAL.

Bundesamt für Umwelt, Wald und Landschaft (BUWAL) 1999: Wie nachhaltig ist die Schweizer Forstpolitik? Zusammenfassung. Schriftenreihe Umwelt Nr. 313, Bern: BUWAL.

Bundesamt für Umwelt, Wald und Landschaft (BUWAL) 2000: Die Schweiz beschliesst Standards für die Zertifizierung der Wälder, Umweltfakten 1/2000: 24-25.

Bundesamt für Umwelt, Wald und Landschaft (BUWAL) (Hrsg) 2000a: Waldzertifizierung. Parallelzertifizierung nach FSC- und Q-Label-System. Umweltmaterialien 129, Bern.

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Hrsg.) 1996: Umweltbewußtsein in Deutschland 1996, Ergebnisse einer repäsentativen Bevölkerungsumfrage, Berlin.

Clapp, Jennifer 1998: The Privatization of Global Environmental Governance: ISO 14000 and the Developing World, Global Governance 4: 295-316.

Coleman, William D. and Geoffrey R.D. Underhill 1998: Regionalism and Global Economic Integration. Europe, Asia and the Americas, London and New York: Routledge.

Collier, David and Richard E. Messick 1975: Prerequisites versus Diffusion: Testing Alternative Explanations of Social Security Adoption, American Political Science Review 69: 1299-1315.

della Porta, Donatella, Hanspeter Kriesi and Dieter Rucht (eds.) 1999: Social Movements in a Globalizing World, London and New York: MacMillan and St. Martin's Press.

Devetak, Richard and Richard Higgott 1999: Justice Unbound? Globalization, States and the Transformation of the Social Bond, International Affairs 75: 483-498.

Driessen Bart 1999: New Opportunities or Trade Barrier in Disguise? The EC Eco-Labelling Scheme, European Environmental Law Review 8: 5-15.

Dürrenmatt, Roger 1999: Waldzertifizierung und Holzlabelling in der Schweiz. Kreditarbeit Forstliche Ressourcenökonomie I, Februar 1999, ETH Zürich.

Elliot, Christopher 1999: Forest Certification: Analysis from a Policy Network Perspective. Thèse no. 1965, Lausanne: Ecole Polytechnique de Lausanne.

Elliott, Chris and Rodolphe Schlaepfer 2001: The Advocacy Coalition Framework: Application to the Policy Process for the Development of Forest Certification in Sweden, Journal of European Public Policy 8: 642-661.

Erskine, Camilla C. and Lyndhurst Collins 1996: Eco-Labelling in the EU: A Comparative Study of the Pulp and Paper Industry in the UK and Sweden, European Environment 6: 40-47.

Food and Agricultural Organization of the United Nations (FAO) 1999: Geneva Timber and Forest Discussion Papers. The Status of Forest Certification in the ECE Region, Geneva and New York: United Nations.

Food and Agricultural Organization of the United States (FAO) 1999: State of the World's Forests, Geneva and New York: United Nations.

Frank, David John 1997: Science, Nature, and the Globalization of the Environment, 1870-1999, Social Forces 76: 409-437.

Gehring, Thomas and Sebastian Oberthür (eds.) 1997: Internationale Umweltregime. Umweltschutz durch Verhandlungen und Verträge, Opladen: Leske + Budrich.

Gray, Virginia 1994: Competition, Emulation, and Policy Innovation, in: Lawrence C. Dodd and Calvin Jillson (eds.), New Perspectives on American Politics, Washington D.C.: CQ Press, pp. 230-248.

Haas, Peter M. 1992: Introduction: Epistemic Communities and International Policy Coordination, International Organization 46: 1-35.

Harrison, Kathryn 1999: Racing to the Top or the Bottom? Industry Resistance to Eco-labelling of Paper Products in Three Jurisdictions, Environmental Politics 8: 110-137.

Heclo, Hugh 1974: Modern Social Politics in Britain and Sweden: From Relief to Income Maintenance, New Haven: Yale University Press.

Heinze, Rolf G., Josef Schmid and Christoph Strünck 1999: Vom Wohlfahrtsstaat zum Wettbewerbsstaat. Arbeitsmarkt- und Sozialpolitik in den 90er Jahren, Opladen: Leske + Budrich.

Held, David, Anthony McGrew, David Goldblatt and Jonathan Perraton 1999: Global Transformations. Politics, Economy, and Culture, Stanford (CA): Stanford University Press.

Herrup, Andrew 1999: Eco-Labels: Benefits Uncertain, Impacts Unclear? European Environmental Law Review 8: 144-153.

Häßler, Rolf-D., Imke Mahlmann, and Ingo Schoenheit 1998: Erfolgskontrolle Umweltzeichen/Assessing the Success of the German Eco-Label, Berlin: Umweltbundesamt.

Hönerbach, Frank 1996: Verhandlung einer Waldkonvention. Ihr Ansatz und Scheitern, Berlin, Wissenschaftsentrum Berlin für Sozialforschung, Discussion Paper FS II 96-404, Berlin.

Holdgate, Martin W. 1995: Pathways to Sustainability. The Evolving Role of Transnational Institutions, Environment 37 (9): 16-20, 38-42.

Humphreys, David 2001: The Creation of the United Nations Forum on Forests, Environmental Politics 10: 160-165.

Huntington, Samuel P. 1973: Transnational Organizations in World Politics, World Politics 25: 335-368.

IDARio/Interdepartementaler Ausschuss Rio 2000: Anerkennung und Förderung von Labels. Umsetzung der Strategie des Bundesrates zur nachhaltigen Entwicklung (Massnahme 6). Bericht, Bern: IDARio.

Jacobsson, Nichoals and Karin Jönsson 1998: Feasibility Study of Equivalence of Eco-labelling Criteria, Lund: International Institute for Industrial Environmental Economics at Lund University.

Kaiser, Karl 1970: Transnationale Politik. Zu einer Theorie der multinationalen Politik, in: Politische Vierteljahresschrift, Sonderheft 1, pp. 80-109.

Karl, Helmut and Carsten Orwat 1999: Environmental Labeling in Europe: European and National Tasks, European Environment 9: 212-220.

Keck, Margret E. and Kathryn Sikkink 1998: Activists beyond Borders. Advocacy Networks in International Politics, Ithaca and London: Cornell University Press.

Keck, Margret E. and Kathryn Sikkink 1999: Transnational Advocacy Networks in International and Regional Politics, International Social Science Journal 159: 89-101.

Keohane, Robert O. and Joseph S. Nye 1973: Transnational Relations and World Politics, 3rd edition, Cambridge (MA): Harvard University Press.

Kern, Kristine 1998: Horizontale und vertikale Politikdiffusion in Mehrebenensystemen, Freie Universität Berlin, Forschungsstelle für Umweltpolitik, FFU-report 98-6, Berlin (http://www.fu-berlin.de/ffu/download/rep98-6.PDF).

Kern, Kristine 2000: Die Diffusion von Politikinnovationen. Umweltpolitische Innovationen im Mehrebenensystem der USA, Opladen: Leske + Budrich.

Kern, Kristine 2001: Konvergenz umweltpolitischer Regulierungsmuster durch Globalisierung? Ursachen und Gegentendenzen, in: Lars-Hendrik Röller and Christian Wey (eds.), Die Soziale Marktwirtschaft in der New Economy, WZB Jahrbuch 2001, Berlin: edition sigma (forthcoming).

Kern, Kristine, Helge Jörgens and Martin Jänicke 2001: The Diffusion of Environmental Policy Innovations. A Contribution to the Globalisation of Environmental Policy, Wissenschaftszentrum Berlin für Sozialforschung, Discussion Paper FS II 01-302, Berlin (http://skylla.wz-berlin.de/pdf/2001/ii01-302.pdf).

Kiekens, Jean-Pierre 1999: Forest Certification, Part I: Impacts on Forestry, Trade and Consumer Information, Engineered Wood Journal, Spring 2000 edition.

Kiekens, Jean-Pierre 2000: Forest Certification, Part II: Origins, Background and Recent Trends, Engineered Wood Journal, Fall 1999 edition.

Kingdon, John W.1995: Agendas, Alternatives, and Public Policies, 2nd edition, New York: Harper Collins.

Krasner, Stephen D. 1983: Structural Causes and Regime Consequences: Regimes as Intervening Variables, in: Stephen D. Krasner (ed.), International Regimes, Ithaca: Cornell University Press: pp. 1-21.

Landmann, Ute 1998: Nationale Umweltzeichen im Zuge der Globalisierung von Wirtschafts-, Umwelt- und Sozialpolitik. Analyse und Perspektiven von Umweltzeichenprogrammen mit ergänzender Untersuchung von ethischen Warenzeichen, Dissertation, Fachbereich Politische Wissenschaft der Freien Universität Berlin.

Leuba, Dominique 1998: Absatzchancen für zertifizierte Holzprodukte in der Schweiz. Rahmenbedingungen und Untersuchung ausgewählter Verwendungsbereiche. Diplomarbeit, Abteilung für Forstwissenschaften, ETH Zürich.

Link, Werner 1998: Die Neuordnung der Weltpolitik. Grundprobleme globaler Politik an der Schwelle zum 21. Jahrhundert, München: Beck.

Maynard, Bill and Dawn Robinson, undated: Ethical Trade and Sustainable Rural Livelihoods. The Case Study Quintatna Roo (draft), NRI.

Markopoulos, Matthew 1999: Community Forest Enterprise and Certification in Mexico. A Review of Experience with Special Reference to the Union of Zapotec and Chinatec Forestry Communities (UZACHI), Oxford Forestry Institute (UK).

Meinke, Britta 1999: Mehrebenenregulierung durch internationale Umweltregime. Die Entstehung und Weiterentwicklung der globalen und regionalen Umweltregime in den Problemfeldern „Einbringen von Abfällen auf See“ und „Grenzüberschreitende Verbringungen von gefährlichen Abfällen“, Dissertation, Fachbereich Politische Wissenschaft der Freien Universität Berlin.

Meyer, John W., David John Frank, Ann Hironka, Evan Schofer and Nancy Brandon Tuna 1997: The Structuring of a World Environmental Regime, 1870-1990, International Organization 51: 623-651.

Naka, Kozma, A.L. Hammett and William B. Stuart 2000: Forest Certification: Stakeholders, Constraints and Effects, Local Environment 5: 475-481.

Nadai, Alain 1999: Conditions for the Development of a Product Ecolabel, European Environment 9: 202-211.

Neitzel, Harald 2000: Umweltengeleien. Ökolabels – Orientierungshilfe oder Verwirrspiel, Politische Ökologie 63/64: 62.

Organisation for Economic Cooperation and Development 1991: Environmental Labelling in OECD Countries, Paris: OECD.

Organisation for Economic Cooperation and Development 1997: Eco-Labelling: Actual Effects of Selected Programmes, Paris: OECD.

Potter, Stephen and Mark Hinnells 1994: Analysis of the Development of Eco-labelling and Energy Labelling in the European Union, Technology Analysis and Strategic Management 6: 317-328.

Princen, Thomas and Matthias Finger 1994: Environmental NGOs in World Politics. Linking the Local and the Global, London and New York: Routledge.

Risse-Kappen, Thomas (ed.) 1995: Bringing Transnational Relations Back In. Non-State Actors, Domestic Structures and International Institutions, Cambridge (UK): Cambridge University Press.

Rogers, Everett M. 1995: Diffusion of Innovations, 4th edition, New York: Free Press.

Reinicke, Wolfgang H. and Francis Deng (under collaboration of Jan Martin Witte, Thorsten Benner, Beth Whitaker and John Gershman) 2000: Critical Choices. The United Nations, Networks, and the Future of Global Governance, Ottawa et al.: International Development Research Centre.

Salzman, James 1997: Informing the Green Consumer. The Debate Over the Use and Abuse of Environmental Labels, Journal of Industrial Ecology 1: 11-21.

Scharpf, Fritz 1998: Die Problemlösungsfähigkeit der Mehrebenenpolitik in Europa, in: Beate Kohler-Koch (Hrsg.), Regieren in entgrenzten Räumen, PVS-Sonderheft 29, S. 121-144.

Schemmel, Jan-Peter 1998: National Environmental Action Plans in Africa, Berlin: Freie Universität Berlin, Forschungsstelle für Umweltpolitik (FFU-report 98-8).

Schirm, Stefan A. 1999: Globale Märkte, nationale Politik und regionale Kooperation in Europa und in den Amerikas, Baden-Baden: Nomos.

Senti, Martin 1998: Der Einfluß internationaler Organisationen auf nationale Sozialausgaben: Das Beispiel der internationalen Arbeitsorganisation (ILO) 1960-1989, Politische Vierteljahresschrift 39: 527-557.

Senti, Martin 1999: Globalisierung oder Regionalisierung der internationalen Sozialpolitik? Die Ratifikation der ILO-Konventionen im Industrieländervergleich, in: Andreas Busch and Thomas Plümper (eds.), Nationaler Staat und internationale Wirtschaft. Anmerkungen zum Thema Globalisierung, Baden-Baden: Nomos, pp. 307-337.

Sitarz, Daniel (Ed.) 1998: Sustainable America. America's Environment, Economy and Society in the 21st Century, Carbondale (IL): Earthpress.

Smith, Jackie, Charles Chatfield, and Ron Pagnucco 1997: Transnational Social Movements and Global Politics. Solidarity Beyond the State, Syracuse (NY): Syracuse University Press.

Spitalsky, Hannes 1994: Eco-Labelling: Österreichisch-Europaweit, in: Cornelia Mittendorfer (ed.), Umweltzeichen und Öko-Audit. Was können die sanften Instrumente? Informationen zur Umweltpolitik 103, Wien: Bundeskammer für Arbeiter und Angestellte für Wien.

Stoffel, Damian 2000: Determinanten und Erfolgsbedingungen von Holz-Zertifizierungen und deren Berücksichtigung in den beiden Schweizer Lösungsansätzen, Diplomarbeit. Zürich: Departement für Forstwissenschaften ETH Zürich.

Stone, Diane 1999: Learning Lessons and Transferring Policy across Time, Space and Disciplines, Politics 19: 51-59.

Stone, Diane 2000: Non-Governmental Policy Transfer: The Strategies of Independence Policy Institutes, Governance 13: 45-70.

Stone, Diane 2001: Learning Lessons, Policy Transfer and the International Diffusion of Policy Ideas, Center for the Study of Globalisation and Regionalisation, Warwick.

Tarde, Gabriel 1903/1992: The Laws of Imitation; Gloucester (MA): Peter Smith.

Tews, Kerstin 2000: Hierarchical Imposition as Diffusion Mechanism. EU-Enlargement and Environment, Paper Prepared for the International Workshop on "Diffusion of Environmental Policy Innovations", Berlin.

U.S. Environmental Protection Agency 1998: Environmental Labeling. Issues, Policies and Practices Worldwide, Washington D.C.

WWF/Pro Natura Januar 2000: FSC-Zertifizierung in der Schweiz – Fragen und Antworten (Holzverarbeitende Betriebe) (http://www.wwfwoodgroup.ch, 21. November 2000).

Wynne, Roger D. 1994: The Emperor's New Eco-Logos? A Critical Review of the Scientific Certification Systems Environmental Report Card and the Green Seal Certification Mark Programs, Virginia Environmental Law Review 14: 51-149.

Young, Oran (ed.) 1997: Global Governance. Drawing Insights from the Environmental Experience, Cambridge (MA) and London: MIT Press.

Young, Oran (ed.) 1999: The Effectiveness of International Environmental Regimes. Causal Connections and Behavioral Mechanisms, Cambridge (MA) and London: MIT Press.

Internet Resources

Blue Angel ("Blauer Engel"): http://www.blauer-engel.de.

European Flower: http://www.europa.eu.int/comm/environment/ecolabel/index.htm.

Food and Agriculture Organization of the United Nations (FAO): http://www.fao.org/forestry/fo/country/index.

Forest Stewardship Council (FSC): http://www.fscoax.org.

Global Ecolabelling Network (GEN): http://www.gen.gr.jp/index.html.

International Tropical Timber Organization (ITTO): http://www.itto.or.jp.

Lembarga Ekolabel Indonesia (LEI): http://www.lei.or.id/eng.

Nordic Swan: http://www.svanen.nu/Eng/ecolabel.htm.

Pan European Forest Certification (PEFC): http://www.pefc.org.

SmartWood: http://www.smartwood.org.

ANNEX

ANNEX

Table A-1
Number of product groups, licensed companies, and certified products by country[1]

Year of Introduction	Country	Number of Product Groups	Number of Licensed Companies	Number of Certified Products (Number of Licenses)
1978	Germany	81	805	4,182
1988	Canada	127	181	about 3,000
1989	Nordic Council	53	—	between 2,500 and 3,000 (982 licenses)
1989	Japan	68	300	4,235
1990	New Zealand	20	8	109
1991	Austria	47	111	480
1991	India[2]	16	1	1
1991/2000	Australia[3]	0	0	0
1991	France	10	70	400
1992	EU	17	83	about 350
1992	Netherlands	36	148	227
1992	Korea	62	143	191
1992	Taiwan	67	—	926
1992	Singapore[4]	30	63	—
1993	Spain	12	—	436
1993	Croatia	39	—	15
1993	Hungary	33	27	177
1993	Brazil	*data not available*		
1993	Israel	8	—	70
1994	Czech Republic	28	—	230 (109 licenses)
1994	China	40	268	918
1994	Thailand	29	—	213
1995	Poland	9	—	8
1996	Lithuania	17	0	0
1996	Slovakia	16	9	29
1996	Malaysia	0	0	0
1997	Estonia	0	0	0
1998	Zimbabwe	(0)	(0)	(0)
2000	Hong Kong	40	0	0
2001	Philippines	(0)	(0)	(0)

Data source: Information provided by national agencies, by national eco-labeling boards and by GEN (2001), GENews; data basis 2001 (for Germany and Japan 2000)

[1] Labeling systems of private organizations are not included; e.g. Good Environmental Choice Program (Sweden); Green Seal (US).

[2] The only product certified in India has never been available on the market.

[3] Australia launched "Environmental Choice" in 1991, which was not very successful. Therefore, in November 2000 the "Environmark" Program was introduced.

[4] The Singapore Green Labeling scheme was launched by the ministry of environment in 1992. Since June 1999 it has been administered by an NGO, the Singapore Environmental Council.

Table A-2
FSC-certified areas by country

Year of Introduction	Country	Certified Area in Hectares	Percentage of Total National Forest Area	Percentage of Total Certified Area Worldwide
1991	Mexico	490,912	0.89	2.01
1992	USA	3,004,819	1.41	12.28
1993	Costa Rica	78,379	6.28	0.32
1995	Netherlands	70,075	20.98	0.29
1996	Bolivia	983,263	2.04	4.02
1996	Brazil	869,020	0.16	3.55
1996	Poland	3,806,160	43.59	15.55
1996	South Africa	830,808	9.78	3.40
1996	Sri Lanka	12,726	0.71	0.05
1996	Sweden	10,370,453	42.46	42.38
1996	Zimbabwe	110,561	1.27	0.45
1997	Honduras	13,868	0.34	0.06
1997	Italy	11,000	0.17	0.05
1997	Malaysia	55,083	0.36	0.23
1997	UK	1,051,233	43.98	4.30
1998	Belize	95,800	4.88	0.39
1998	Canada	123,253	0.05	0.50
1998	Germany	273,806	2.55	1.12
1998	Guatemala	100,026	2.60	0.41
1998	Indonesia	253,729	0.23	1.04
1998	New Zealand	429,726	5.45	1.76
1998	Panama	8,383	0.30	0.03
1998	Papua New Guinea	4,310	0.01	0.02
1998	Solomon Islands	40,758	1.71	0.17
1998	Switzerland	60,535	5.36	0.25
1999	Denmark	408	0.10	0.00
1999	Namibia	49,000	0.40	0.20
2000	Austria	3,366	0.09	0.01
2000	Belgium	4,342	0.61	0.02
2000	Croatia	245,798	13.47	1.00
2000	Czech Republic	10,441	0.40	0.04
2000	Estonia	517	0.03	0.00
2000	France	13,263	0.09	0.05
2000	Japan	3,319	0.01	0.01
2000	Philippines	14,800	0.22	0.06
2000	Russia	184,515	0.02	0.75
2001	Argentina	18,340	0.05	0.07
2001	Chile	180,527	2.29	0.74
2001	Colombia	20,056	0.04	0.08
2001	Hungary	60,720	3.53	0.25
2001	Ireland	438,000	76.84	1.79
2001	Latvia	3,088	0.11	0.01
2001	Liechtenstein	7,372	100.00	0.03
2001	Norway	5,100	0.06	0.02
2001	Swaziland	17,018	11.66	0.07
2001	Thailand	5,428	0.05	0.02
2001	Uruguay	36,794	4.52	0.15
2001	**Worldwide**	**24,470,898**		100.00

Data Source: FSC International (August 17, 2001); FAO 1999

Table A-3
Diffusion of general eco-labeling systems (1978 to 2001)

	Year	Frequency	Total	Countries
Policy Innovation	1978	1	1	Germany
Policy Diffusion	1988	1	2	Canada
	1989	5	7	Japan, Nordic Council (Sweden,[1] Norway, Finland, Iceland)
	1990	1	8	New Zealand
	1991	4	12	France, Austria, Australia,[2] India
	1992	13	25	Korea, Netherlands, Singapore,[3] Taiwan, EU (Belgium, Denmark, Greece, Ireland, Italy, Luxembourg, Portugal, Spain,[4] United Kingdom)
	1993	4	29	Brazil, Croatia, Hungary, Israel
	1994	3	32	China, Czech Republic, Thailand
	1995	1	33	Poland
	1996	3	36	Slovakia, Lithuania,[5] Malaysia
	1997	1	37	Estonia[5]
	1998	1	38	Zimbabwe
	1999	0	38	—
	2000	1	39	Hong Kong
	2001	1	40	Philippines

Data source: Information provided by national agencies, by national eco-labeling board and by GEN (2001), GENews

[1] Sweden has several general eco-labeling systems: Nordic Swan/Nordic Council (1989); Bra Miljöval (Good Environmental Choice)/Naturskyddsföreningen (1992); European Flower/EU (1992); TCO'92, TCO'95, TCO'99/ TCO Development (1992).

[2] Australia launched "Environmental Choice" in 1991, which was not very successful. Therefore, in November 2000 the "Enviromark" program was introduced.

[3] The Singapore Green Labeling scheme was launched by the ministry of environment in 1992. Since June 1999 it has been administered by an NGO, the Singapore Environmental Council.

[4] Spain introduced its own eco-labeling system in 1993.

[5] In Estonia national labels were introduced, but have not been implemented yet. In Lithuania 17 product groups were defined, but no products have been certified. Moreover, there exist plans to adopt the Nordic Swan label and/or the European Flower in the Baltic states.

Table A-4
Diffusion of the FSC labeling system (1991 to 2001)

	Year	Frequency	Total	Countries
Policy Innovation	1991	1	1	Mexico
Policy Diffusion	1992	1	2	USA
	1993	1	3	Costa Rica
	1994	0	3	—
	1995	1	4	Netherlands
	1996	7	11	Brazil, Bolivia, Poland, South Africa, Sri Lanka, Sweden, Zimbabwe
	1997	4	15	Honduras, Italy, Malaysia, UK
	1998	10	25	Guatemala, Belize, Panama, Canada, Indonesia, New Zealand, Papua New Guinea, Germany, Switzerland, Solomon Islands
	1999	2	27	Namibia, Denmark
	2000	9	36	Japan, France, Russia, Belgium, Croatia, Czech Republic, Austria, Estonia, Philippines
	2001	11	47	Argentina, Chile, Columbia, Hungary, Ireland, Latvia, Liechtenstein, Norway, Swaziland, Thailand, Uruguay

Data source: FSC International 2001 (August 17, 2001)

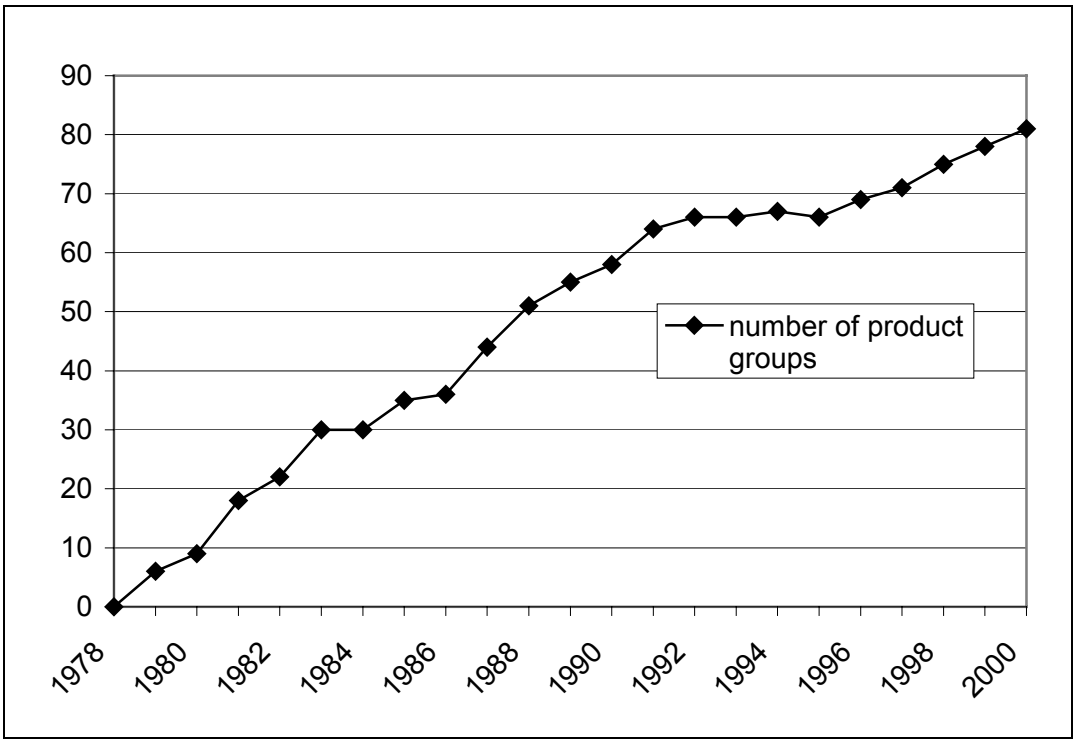

Figure A-1
Number of product groups in Germany ("Blauer Engel")

Data source: RAL (5/2001)

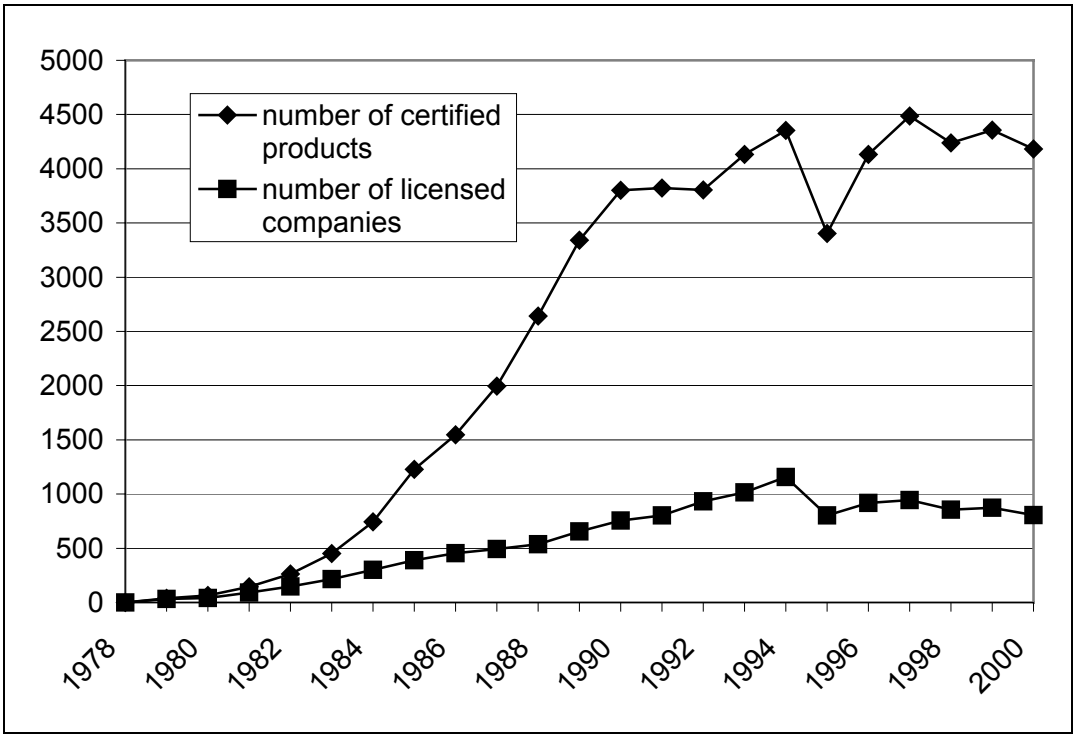

Figure A-2
Number of certified products and licensed companies in Germany ("Blauer Engel")

Data source: RAL (5/2001)

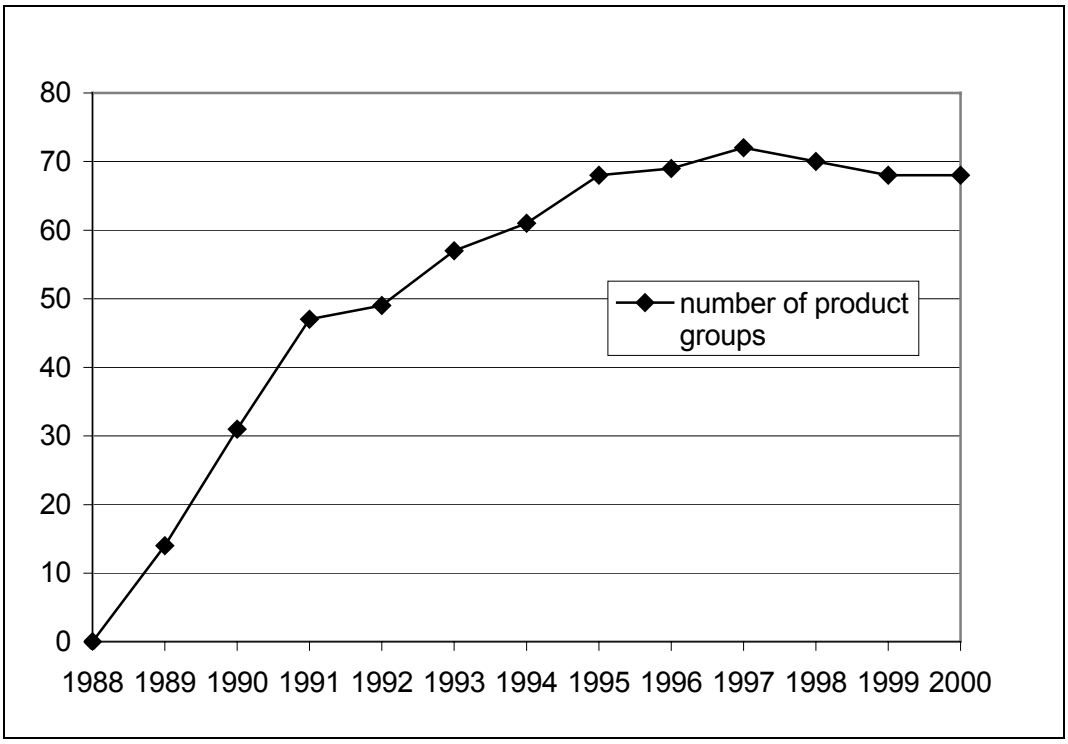

Figure A-3
Number of product groups in Japan (Eco Mark Program)

Data source: http://www.jeas.or.jp/ecomark/english/pdf/ecohistory_e.pdf (July 4, 2001)

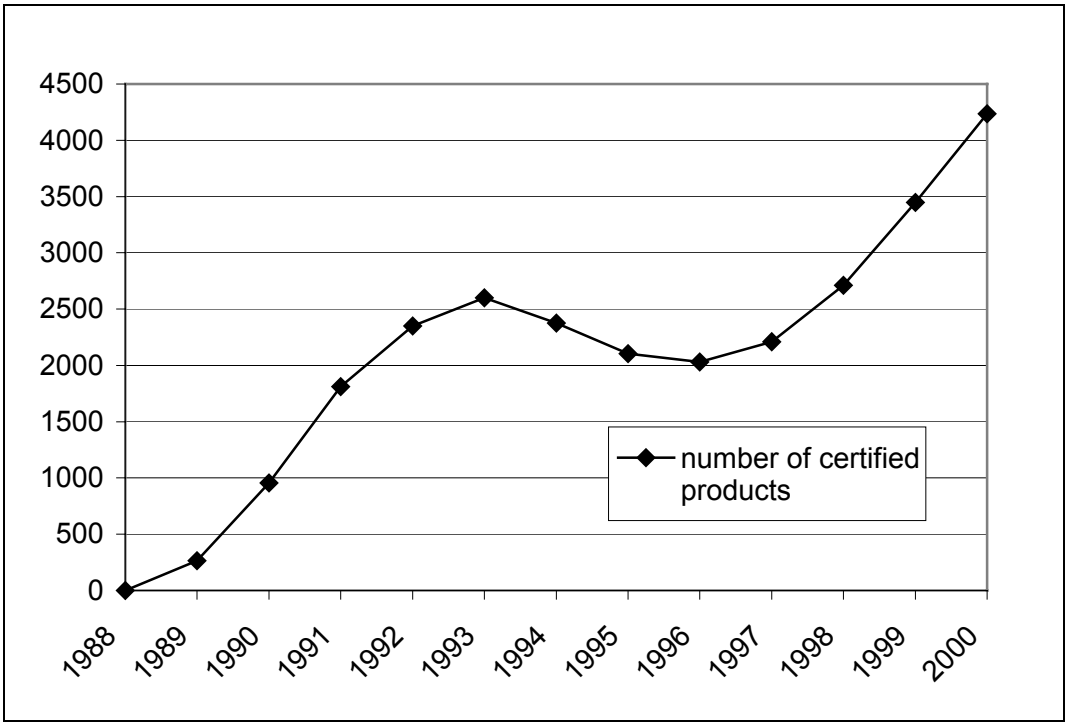

Figure A-4
Number of certified products in Japan (Eco Mark Program)

Data source: http://www.jeas.or.jp/ecomark/english/pdf/ecohistory_e.pdf (July 4, 2001)

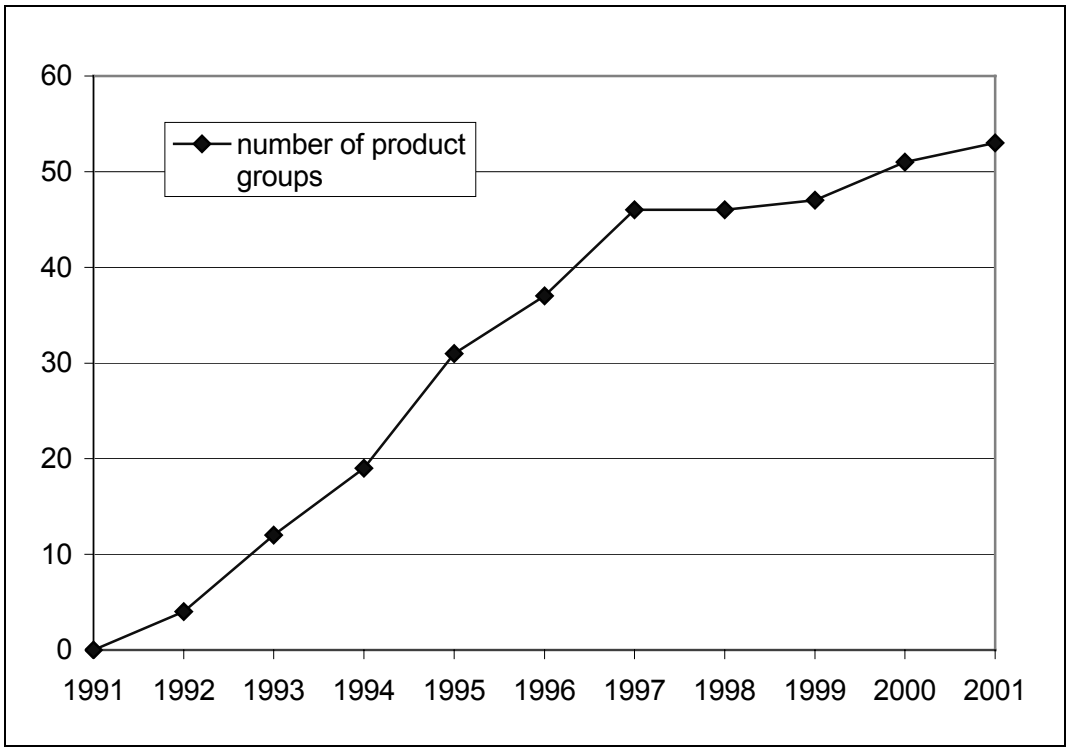

Figure A-5
Number of product groups in the Nordic countries (Nordic Swan)

Data source: Ecolabelling Norway (communication of May 11, 2001)

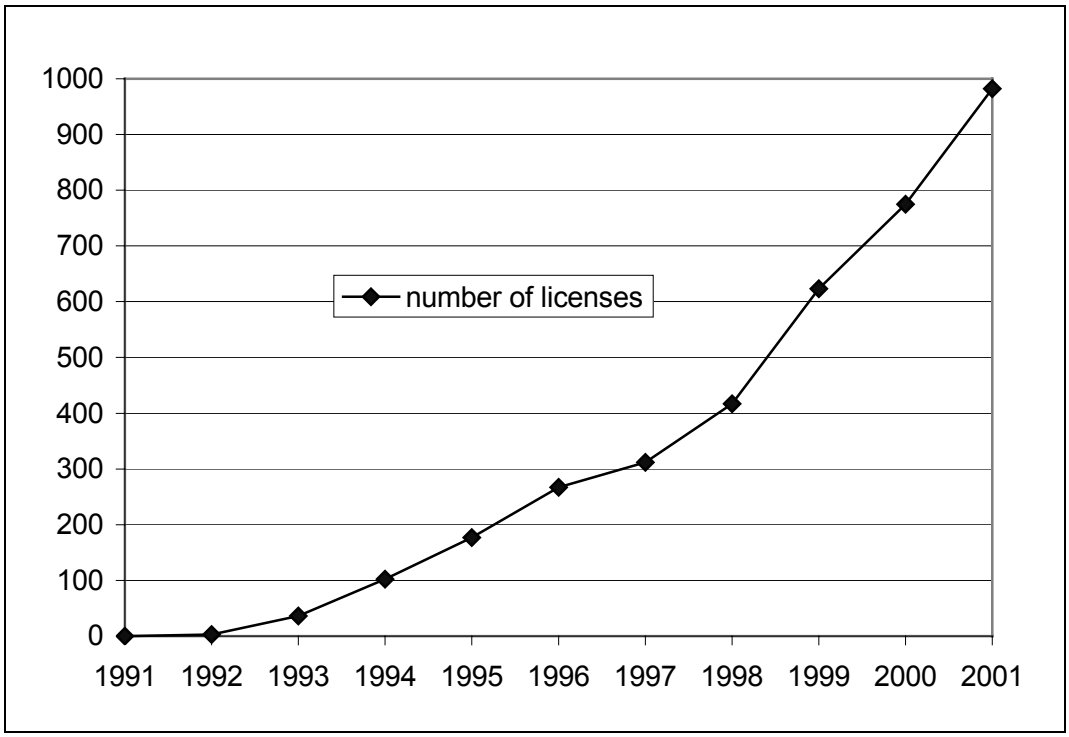

Figure A-6
Number of licenses in the Nordic countries (Nordic Swan)

Data source: Ecolabelling Norway (communication of May 11, 2001)

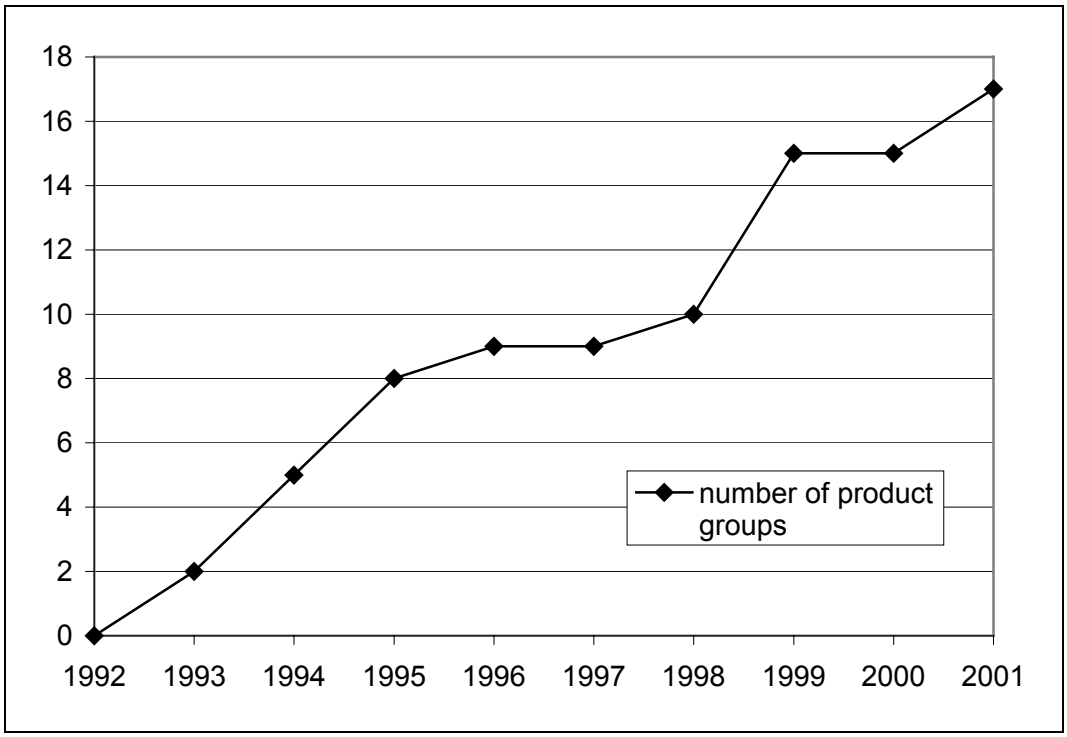

Figure A-7
Number of product groups in the European Union (European Flower)

Data source: European Commission (communication of July 5, 2001)

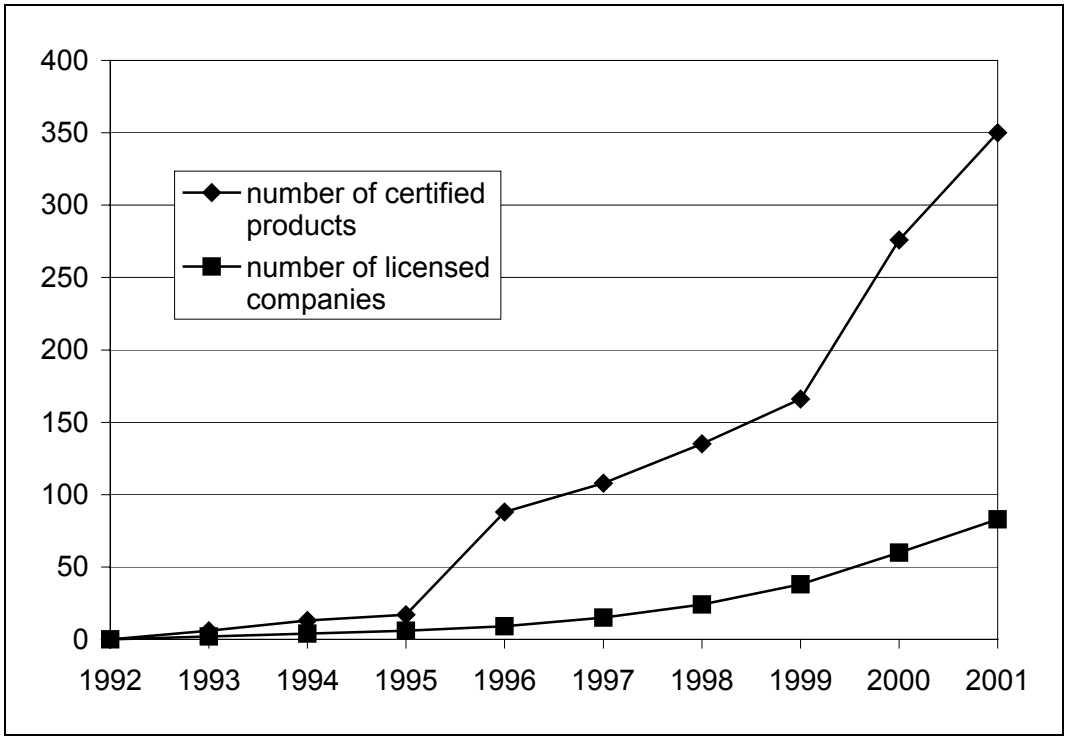

Figure A-8
Number of certified products and licensed companies in the European Union (European Flower)

Data source: European Commission (communication of July 5, 2001)

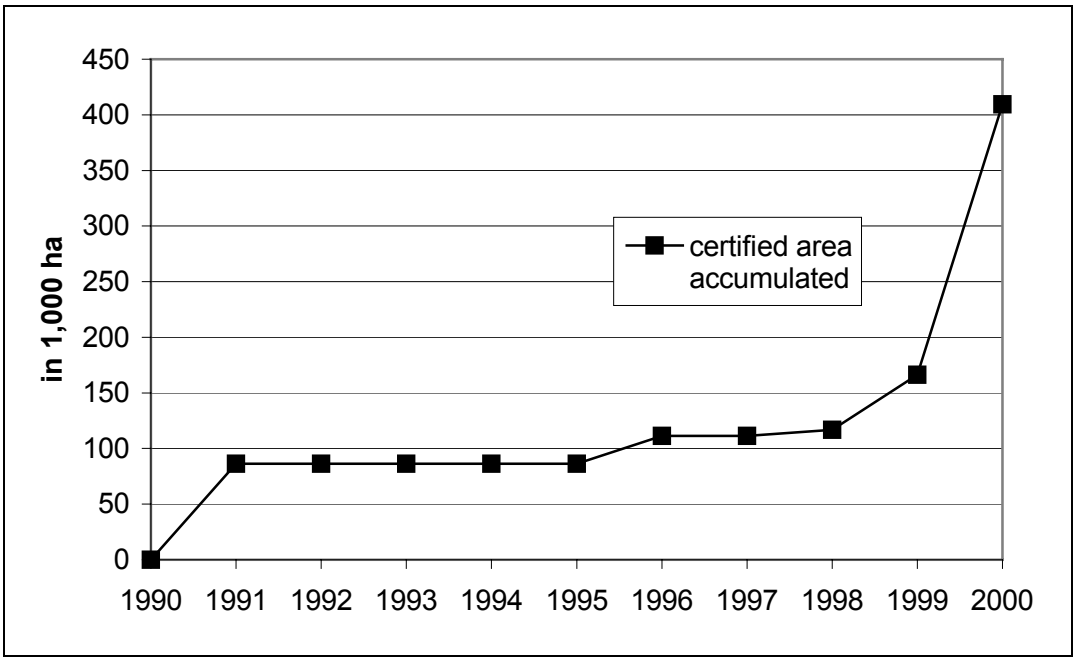

Figure A-9
FSC-certified area in Mexico

Data Source: FSC International

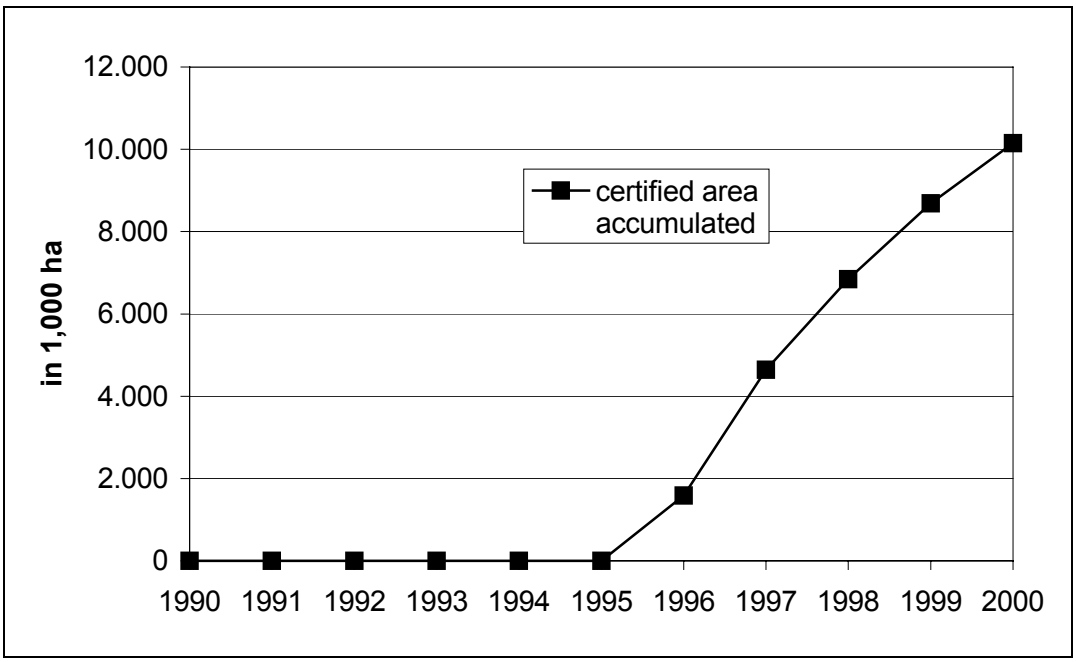

Figure A-10
FSC-certified area in Sweden

Data Source: FSC International

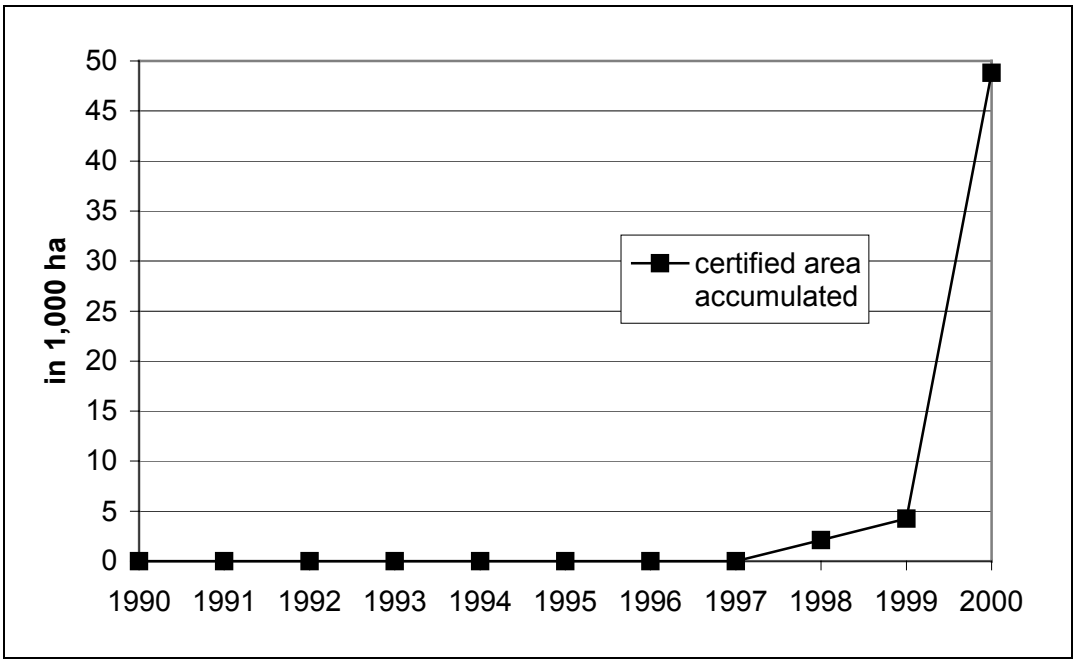

Figure A-11
FSC-certified area in Switzerland

Data Source: FSC International

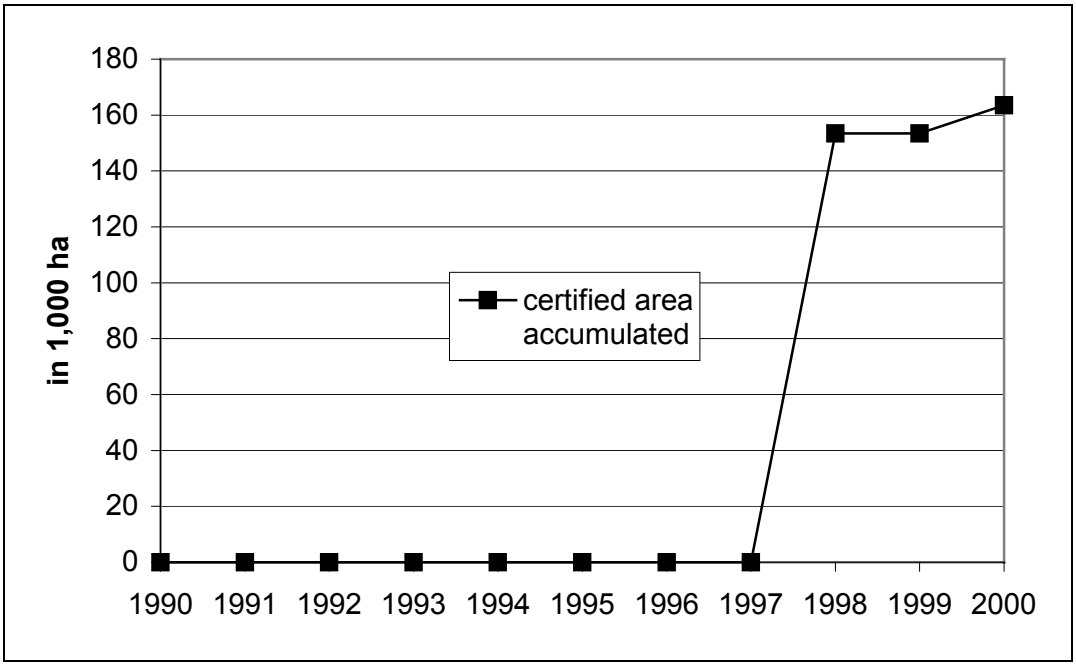

Figure A-12
FSC-certified area in Indonesia

Data Source: FSC International