



Making space for better forestry

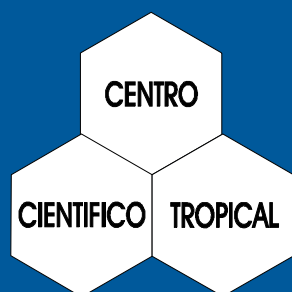
Costa Rica's forests and people are today at a turning point. The conflicting tendencies of the past - from state-promoted deforestation for agriculture, to absolute protection of forests 'against the people' - are today giving way. Strategic alliances formed between social groups have created considerable political space for policy to achieve an effective balance between smallholder forestry and biodiversity conservation. *Making Space for Better Forestry* describes how this might be done - bringing accountability and equity to the core of policies affecting forests; negotiating between local and national interests - to shape policy processes that generate real benefits for forests and people.

Policy that works for forests and people series

Forest issues often concern large amounts of money, long timeframes, huge areas of land, and diverse livelihoods. The issues are complex and vary from place to place. However, a pattern of forest problems is common to many countries: continuing loss of natural forests; over-concentrated control and inequitable access to forests; an ill-informed public; and poorly-resourced, inflexible forestry institutions. Policy is the root cause of many of these forest problems.

This series consists of six country studies - from Costa Rica, Ghana, India, Pakistan, Papua New Guinea and Zimbabwe - and an overview report. The series aims at a better understanding of the forces at play in contests over policy, the winners and losers, and the factors that affect policy outcomes. It also describes the processes that make and manage good policies and the policy instruments that work in different contexts. By dealing with policy in practice - in the 'real world' of people and their institutions - the series aims to go beyond the frequently heard complaint that there is a lack of 'political will' to change, by showing *how* policy can change for the better.

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No: 6

Costa Rica

Watson et al

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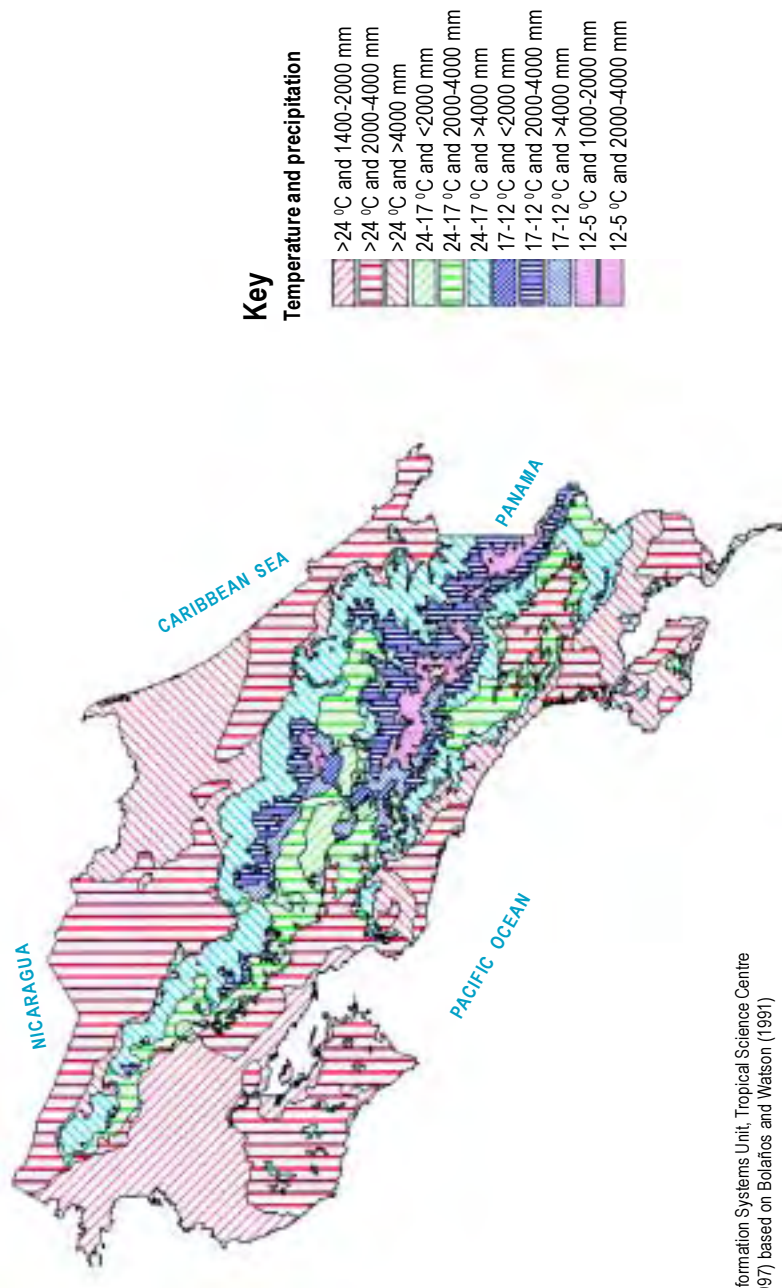


Making space for better forestry

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Policy that works for forests and people

Figure 2.1 Temperature and precipitation ranges in Costa Rica



Source: Information Systems Unit, Tropical Science Centre
(August 1997) based on Bolaños and Watson (1991)

Figure 2.2 Distribution of forest area and districts with high population density in Costa Rica

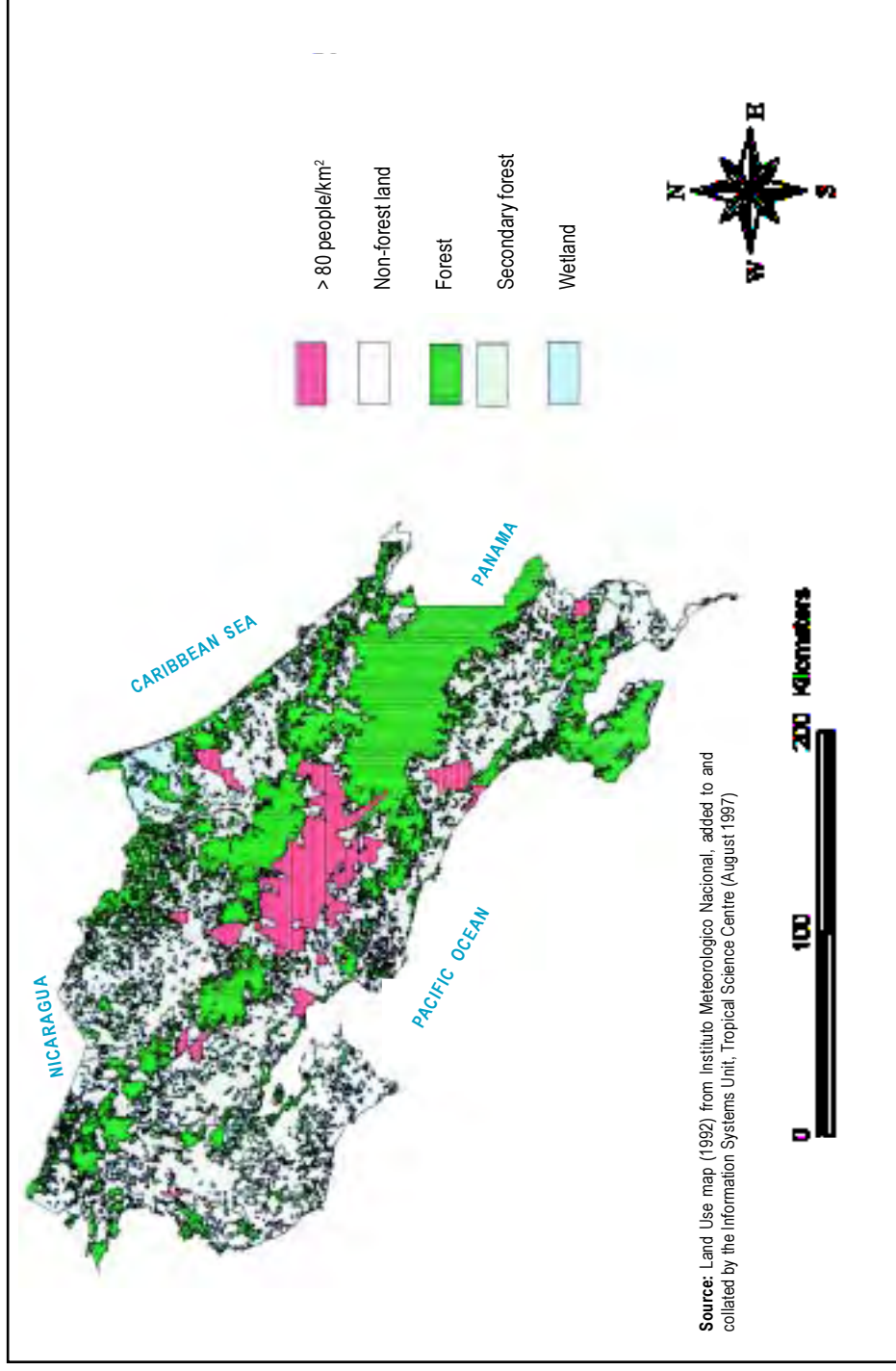




Photo: Yves Thonnereux/Still Pictures

Berries in natural forest. Because of its position between two large continents, its situation separating two oceans and its varied topography, Costa Rica has more species of animals and plants per unit area than most other countries in the world



Photo: Vicente Watson

Well cared-for pastures with jaúl trees (*Alnus acuminata*) planted in stands on the ridges, central Volcanic Cordillera



Photo: Bruce Aylward

Deforestation and cultivation on steep slopes, Lake Arenal area. Costa Rica has been deforested massively during the last century, primarily between 1950 and the late 1980s



Photo: David Boshier

Salt preparation using firewood in Tempisque. A wide variety of local livelihoods depend on forest resources indirectly in this way



Photo: Leonardo Mora

Livelihoods in the forest: a smallholding in the Atlantic zone, with pasture and a variety of forest products used for subsistence or sale



Photo: David Boshier

Party politics. Costa Rica thrives on a relatively democratic political tradition in which participation in political arenas like forestry is generally enabled (Unidad, 1986 election, Turrialba)



Photo: Leonardo Mora

The Costa Rica river, Atlantic zone. Costa Rican law requires that a 10 metre strip of forest be left standing on either side of a river



Views on *Making space for better forestry*

From: Felipe Vega

President, Junta Nacional Forestal Campesina (JUNAFORCA)

Forestry in Costa Rica has been characterised by its poor use of resources, lack of an integral forest policy, little or no participation of communities in policy formulation, aggressive intermediary market traders, and uneven profit distribution. Initiatives to improve forest legislation, to provide the forest sector with resources for reforestation, management and protection of forest resources have been insufficient and at times inappropriate, mainly due to their excessively technical or regulatory approach, which is out of touch with the reality of forest management at local levels.

Whilst communities have strengthened their organisational capacity - which has in turn stimulated the formation of national networks such as JUNAFORCA - the political space opened up for consideration of the forest needs of communities and smallholders is still small. There is a resistance by the traditional forest sector agencies to negotiate with the organisations representing local people who know and make their livelihoods from the forest resource. Coherent development strategies and constant struggle will be needed to enable these organisations to face the challenges posed by their members, and by forest product markets.

This is a valuable study, it compiles a wealth of information and shows a way forward for smallholder communities to influence national forestry policy. It will be a vital reference source for those organisations working to formulate proposals and improve the quality of life of smallholder families.

From: Dr Gerardo Budowski

Director - Natural Resources, University for Peace

Professor Emeritus, Tropical Agronomy Teaching and Research Centre (CATIE)

Costa Rica is often cited as an example, sometimes even as a model, of achievement for its system of protected areas, its policies on the study and use of biodiversity, the promotion of reforestation, and its ingenious schemes to add value to existing forest lands. Yet other reports show that the country had one of the highest deforestation rates in the world. While there is some truth in

all these notions, the current forest situation in Costa Rica is much more complex, and generally poorly understood by government bodies, NGOs, international agencies, foreign observers and the general public.

This study provides a comprehensive picture of the many Costa Rican forest policy issues through a careful compilation and analysis of data, from the past to present, using case studies and indicating trends. Its conclusions and recommendations indicate how forest policy processes in particular can be improved and become more effective.

Better policy processes, policies and implementing instruments are needed to accelerate the transition from past destructive forestry to sustainable forest management, for the benefit of present and future generations. This study will be an extremely useful tool in meeting this challenge - and should be widely used by decision makers and scholars in Costa Rica, and in other countries where these issues have resonance.



Executive summary

Why forests and policy matter

Forests problems have hit the headlines in many countries in recent years. There is widespread recognition that forests are in trouble. Some people point to the adverse environmental impacts of rapid deforestation and forest degradation, whilst others are more concerned with declining access to the forest goods and services which people need. Considerable pressure now exists in many countries to control those who have been stripping forest assets, and to strike a new balance between national economic development, the resilience of the environment, and people's direct needs.

Behind the headlines lie issues of the power of different groups to exert their interests, and of policy frameworks in which these power differences are played out. In Costa Rica, policies that affect people's behaviour towards forests have played a major role in the way the country has developed, and continue to dominate many people's livelihoods. These policies come from many different sources, and their effects vary across groups of people. Capacity to influence policies also varies across groups. The overall effect of the complex web of policies directly conditions the nation's options and potential for sustainable development.

Costa Rica is well-known for its system of protected forest areas, and also for its dramatic rate of deforestation outside the protected areas. Many people would support the contention that the protected area system works well in terms of protection of the environment and biodiversity. There is also an increasing belief that the protected area system is good for Costa Rica in economic terms. However, there is no such consensus on whether protected area policy is meeting social and socio-economic needs.

Outside the protected areas, whilst a range of public policies stimulated the massive deforestation over the last fifty years, in recent times financial and economic incentives have brought an increase in the areas under plantation. Secondary forest has regenerated on grazing lands abandoned because of low beef prices, mostly on large private landholdings. However, there are forest

resources with high productive potential in the small patches of forest on small private lands. Yet the combination of policies influencing decisions by smallholders has tended to create a disincentive to their engagement in forest management. This situation is changing - with local, regional and national organisations of small farmers emerging to address forest policy issues.

This report is based on a collaborative research project carried out by a team of foresters, economists, social scientists and political analysts consulting widely over a period of two years. The report examines the environmental, economic and social 'raw material' for sustainability in Costa Rica's forests; it analyses the evolution of key policies and policy processes; and it draws conclusions about what 'works' and the ways forward for policy that is supportive of both forests and people.

The evolution of contests over policy

Before the 1950s, forest had slowly declined in area as the country's agricultural society emerged. Large coffee-producing landowners dominated, and a collection of laws had been passed which, on the one hand, tried to mitigate certain impacts of agriculture on the forest, and on the other hand, set the scene for dramatic deforestation. Amongst an educated elite there was also a growing sense of concern that efforts to protect the environment were needed.

Wholesale conversion of forest was first stimulated by government policy in the early 1950s, when a new government sought to build a powerbase through a policy of extending low-interest credit to cattle ranching. Colonists were able to secure lands outside the Central Valley by clearing the forest. Some of these colonists were displaced smallholders; others were wealthier interests seeking extensive lands for cattle ranching. Timber industries benefited through a surplus of low-cost timber created by the conversion of forest land to grazing lands, while coffee growers in the Central Valley and the new plantation owners in the southern areas of the country profited from an increase in prices on the international market.

From 1970 to 1990 the protected area system became firmly established, and the forest industry continued its rise. Financial incentives for reforestation became government's main policy tool in forestry. These incentives mostly benefited larger landowners and were generally insensitive to people's motivations for forest management and conservation. The main losers were the smallholders, who collectively own about two-thirds of the country's land. However, the short-comings of the incentives system generated considerable debate, and stimulated the formation of smallholder forestry organisations.

Constraints on better policy

Costa Rica's forests (covering 35 per cent of the nation's land) and people (the population is 3.3 million) are today at a turning point. The conflicting tendencies of the past, from state-promoted deforestation for agriculture, to absolute protection 'against the people' of forests and other ecosystems, are today giving way to a national commitment to sustainable development in which a balance between socio-economic and environmental priorities is attempted. But the history of land allocation, agricultural development and protected area establishment which has shaped today's landscape of forests and people, continues to constrain the available options. The constraints include:

- The macro-economy, particularly structural adjustment, which has a large part in determining forest policy.
- Excessive influence on policy of some actors, particularly sections of government, forest industry, and more recently the advocates of forest protection.
- Limited policy analysis capabilities amongst key actors.
- A high level of regulation which, in effect, protects the existing large-scale forest industry.
- Forestry financial incentives benefiting only the large landholders.
- The integration of forest management and forest product processing is not yet perceived to be profitable by small-scale and medium-scale enterprises.
- Uncommunicative and unresponsive state agencies, and capacity weaknesses in local government.
- Existing mechanisms for regionalisation do not coincide with coherent socio-cultural areas.

Policies and policy processes that work

Costa Rica's 'natural' strengths with regard to policy for forests and people lie in its high level of education, its history of social organisation and its relatively democratic governance systems. Lessons which can be learned about policies and policy processes that work for forests and people in Costa Rica include:

- Cross-sectoral policy analyses, when well-targeted, have brought sectoral actors together and given impetus to policy debates.
- Economic incentives increase capacity amongst large-scale producers, and increase levels of organisation amongst smallholders, if government can afford them.
- Linking local success (e.g. ASACODE) to regional alliances (e.g.

ASUNFORT) and national associations (e.g. JUNAFORCA for smallholder forestry) generates considerable “political space” for improving policy.

- Public/private collaboration for forestry technical assistance has raised standards, for example, through the ‘forest regents’ programme.
- Initiatives ensuring that local groups benefit more from conservation are beginning a necessary ‘socialising’ of the protected area system.
- Progressive land taxation can be an effective tool for redistributing land to those that need it, and for providing locally-controlled resources for better land use.
- New ‘green policies’ can secure international finance. Ecotourism is already providing high returns, while bioprospecting and carbon-fixing both offer much potential. However, distribution of the benefits is an issue requiring negotiation.
- Constitutional guarantees on the environment, through the Constitutional Chamber of the Supreme Court (Sala IV) and the Ombudsman’s Office, have provided new means for citizen participation in environmental management.
- Innovative bilateral support, for example through the National Council of Non-governmental Organisations (CONAO), can create effective space for negotiation of differences between actors.

Some of these policies and processes have forced open doors for a general rethinking of policy. The potential for good forest management is stronger today than in previous decades. For example, in the early 1980s there were neither technologies nor adequate producer support organisations for a smallholder development strategy; this is no longer the case.

Administrative decentralisation through Regional Environment Councils and other measures also gives some room for manoeuvre. There is also much evidence of a local ‘ethic’ of sustainable development, which can be learned from and built on through these measures.

A number of challenges and opportunities present themselves. Formal policy is vital, but cannot do everything. The focus of government institutions needs to shift from attempted control of all decision-making over forests to enabling reconciliation of national, private and collective interests. Policy needs to accommodate uncertainty and change; to clarify how to integrate or trade-off different benefits and costs; and to provide signals to the managers of forests as to how they will be held accountable. This generally implies negotiation amongst different positions, and ‘deal-cutting’ between different social groups to keep policy ‘on the boil’.

Recommendations for an improved national policy process

These challenges imply the need for improvements in the workings of government and the political system. Increased participation and democratisation of forestry policy needs to be reconciled with the increased liberalisation and globalisation of the economy, the effects of which, in Costa Rica, are likely to include increased land concentration. These improvements require active national debate and negotiation.

Negotiating goals and priorities for forests

- a. Install mechanisms for national-level goal-setting for forests and people, whereby priorities debated at the level of local organisations can be channelled up through networks, with proven local-national links, to national-level 'negotiating spaces' involving different sectors.
- b. Set basic forest management principles and objectives at national level, the aim of which is to enable local systems to plan in detail and to pursue practical and flexible action.

Developing institutional roles and practice

- c. Effect key constitutional reforms and congressional laws for 'participatory democracy' - including community election of representatives and public debate of draft laws.
- d. Establish 'socio-environmental areas'. Current planning based on ecological/land use suitability needs to be reconciled with area for which there is socio-economic and cultural-political cohesion. Objectives for environmental areas are only likely to be turned into effective action where they are taken up by existing forms of social organisation.
- e. Build strategic alliances at regional level. Alliances to bridge the divide between environmental and social agendas are particularly needed at the 'meso' levels between national and local organisations.
- f. Support local-level organisational capacity. Financial incentives from government could be more focused on initiatives for social organisation to pursue forest management for local benefits.
- g. Identify capacities that are based on practical collaborations between public forestry agents and private sector/non-governmental actors - and strengthen these collaborations on a case by case basis.
- h. Re-orient work patterns in government institutions to improve accountability

of staff, and create incentives for working flexibly and creatively for results, rather than for rigid compliance with formal procedures.

- i. Government should promote accountability, and seek public opinion on major changes in public-private institutional roles and other key forest-related changes affecting the public, through a referendum or plebiscite.
- j. Focus on resource-conserving production systems. Initiatives should engage with the whole cycle of production, processing and marketing of forest products. In many cases, local actors require regular small benefits from forests, rather than returns from a one-off cut.

Monitoring, analysing, informing and adapting

- k. Track the practice of policy, through practical monitoring and recording, at all levels 'up' to the national goal-setting fora, so that learning can change policy for the better.
- l. Facilitate local involvement in policy analysis. When their interests are recognised, analysis by community-level actors themselves can play a major role in improving policy.
- m. Improve analysis of policy contents and instruments through support for cross-sectoral working groups, and improve information systems for policy, through e.g. Forest Resource Accounting
- n. Spread information on local policy success. Continue the process, begun by this study and others, of analysis, recording and disseminating of information about local forest management success and lessons for policy processes derived from local initiatives.

Existing forest sector bodies and other groups already involved with policy can make a start on some of these recommendations straight away. In addition, an initial forum involving all the key forest actor groups is needed to debate the above options, agree priorities, and identify the institutional mechanisms for taking the next steps.

This study identifies what is good and bad in existing policy processes in Costa Rica. It describes the progress that has been made when strategic alliances form between social groups. The challenge for these alliances now is to put their weight behind some of the key options identified above - bringing accountability and equity to the core of policies affecting forests; negotiating between local and national interests - to shape policy processes that generate real benefits for forests and people.

Acknowledgements

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The opinions reflected in this study are those of the authors and not necessarily of their organisations, DFID or NEDA. All standard disclaimers apply.

Acronyms

| | |
|----------------|---|
| ABDS | Bilateral Sustainable Development Agreement (Costa Rica - The Netherlands) |
| ACA | Arenal Conservation Area |
| ACG | Guanacaste Conservation Area |
| ACT | Tempisque Conservation Area |
| ADEFORBRUNCA | Forestry Development Association of the Brunca Region |
| AECO | Costa Rican Ecology Association |
| AFOCAREN | Northern Smallholders' Forestry Association |
| AGUADEFOR | Guanacaste Forestry Development Association |
| ARAPAC | Pacific Agroforestry Association |
| ASACODE | San Migueleña Conservation and Development Association |
| ASCONA | Costa Rican Association for the Conservation of Nature |
| ASUNFORT | Talamanca United Forestry Association |
| AyA | Institute of Aqueducts and Sewers |
| BANCOOP | Co-operative Bank |
| BCR | Bank of Costa Rica |
| BM | World Bank |
| CACH | Hojancha Cantonal Agricultural Centre |
| CAF | Forest Bond Certificate |
| CAFA | Pre-paid Forest Bond Certificate |
| CAFMA | Forest Management Bond Certificate |
| CANAFOR | National Forestry Chamber |
| CATIE | Tropical Agronomy Teaching and Research Centre |
| CCAB-AP | Consejo Centroamericano de Bosques y Areas Protegidas: Central American Council for Forests and Protected Areas |
| CCB | Forest Conservation Certificate |
| CCF | Costa Rican Chamber of Forestry |
| CCT | Centro Científico Tropical |
| CI | Conservation International |
| CIF | Cost, Insurance and Freight |
| CIBI | Centre for Forest-Industry Integration |
| CIDA | Canadian International Development Agency |
| CINTERPEDS | Centro Internacional en Política Económica para el Desarrollo Sostenible: International Centre of Economic Policy for Sustainable Development |
| CODEFORSA | Commission of Forestry Development of San Carlos |
| CONAI | Comision Nacional de Asuntos Indigenas |
| CONAO | Council of Non-government and Social Organisations |
| COOPEMADEREROS | Cooperativa de Reforestación, Industrialización, Comercialiación de a Madera y Servicios Múltiples del Pacifico Sur R.L.: Cooperative of Reforestation, Industrialisation, Commercialisation of Wood and Multiple Services of South Pacific Region R.L. |

| | |
|------------------|---|
| COSEFORMA | Cooperación en los Sectores Forestal y Maderero: Forestry and Logging Sectors' Cooperation Project |
| CREED-CR | Collaborative Research in the Economics of Environment and Development - Costa Rica |
| CTO | Certified Tradable Offsets |
| CULPA | Cortar Unicamente Lo Producido Ahora (to cut only what is produced now) |
| DFID | Department for International Development, UK |
| DGF | General Directorate of Forestry |
| DGIS | Netherlands Ministry of Foreign Affairs |
| DINADECO | National Community Development Directorate |
| ECODES | National Conservation Strategy for Sustainable Development |
| ECOPERATION | Dutch foundation created to manage the Netherlands-Costa Rica Bilateral Agreement |
| EIA | Environmental Impact Assessment |
| FAO | United Nations Food and Agriculture Organisation |
| FDF | Forest Development Fund |
| FECON | Costa Rican Federation for the Conservation of the Environment |
| FENAC | National Federation of Farmers |
| FESIAN | National Federation of Agrarian Syndicates |
| FMI | International Monetary Fund |
| FONAFIFO | National Forestry Finance Fund |
| FUNDACA | The Arenal Conservation Area Development Foundation |
| FUNDAPAC | The Central Pacific Sustainable Development Foundation |
| FUNDECOOPERACION | The counterpart of ECOPERATION: a Costa Rican based foundation created to manage The Netherlands-Costa Rica Bilateral Agreement |
| FUNDECOR | Foundation for the Development of the Central Volcanic Mountain Range |
| GDP | Gross Domestic Product |
| GTZ | Deutsche Gesellschaft für Technische Zusammenarbeit |
| ICE | The Costa Rican Institute of Electricity |
| ICT | The Costa Rican Tourism Institute |
| IDA | Institute of Agrarian Development |
| IFAM | National Institute for Municipal Advice and Promotion |
| IICA | Inter-American Institute for Agricultural Co-operation |
| IIED | International Institute for Environment and Development |
| INBio | National Institute of Biodiversity |
| INISEFOR | National Institute of Forestry Research and Services |
| ITCO | Institute of Lands and Colonisation |
| ITCR | Technological Institute of Costa Rica |
| IUCN | International Union for Conservation of Nature and Natural Resources (World Conservation Union) |
| JAPDEVA | Board of Port Administration and Atlantic Coast Development |
| JUNAFORCA | Junta Nacional Forestal Campesina |
| MAG | Ministry of Agriculture and Livestock |

| | |
|-------------|--|
| MIDEPLAN | Ministerio de Planificación Nacional y Política Económica: Ministry of National Planning and Economic Policy |
| MINAE | Ministry of Environment and Energy |
| MEIC | Ministry of Economy, Industry, and Commerce |
| MIRENEM | Ministerio de Recursos Naturales, Energía y Minas: Ministry of Natural Resources, Energy and Mines |
| NGO | Non-Governmental Organisation |
| NORAD | Norwegian Ministry for Development Cooperation |
| OCIC | Office of Joint Implementation (Oficina Costarricense de Implementación Conjunta) |
| ODA | UK Overseas Development Administration (now Department for International Development, DFID) |
| OFIPLAN | National Planning Office |
| OTS | Organisation for Tropical Studies |
| PAF-CR | Forest Action Plan for Costa Rica |
| PAFT (TFAP) | Tropical Forest Action Plan |
| PAN | National Agrarian Party |
| PSA | Payment for Forest Environment Services |
| REC | Regional Environmental Councils |
| REMAC | Extractive Reserves of Fallen Timber |
| SETENA | Technical Secretariat for the Environment |
| SI-A-PAZ | International System of Protected Areas for Peace |
| SINAC | Sistema Nacional de Areas de Conservación: National System of Conservation Areas |
| SO | Social Organisations |
| SPN | National Parks Service |
| TSC (CCT) | Tropical Science Center |
| UCR | University of Costa Rica |
| UNA | National Autonomous University |
| UNCED | United Nations Conference on Environment and Development - "Rio 92" |
| UNED | National Distance-Learning University |
| UPANACIONAL | Small and Medium Producers Union |
| URC | Regional Conservation Unit |
| USAID | United States Agency for International Development |
| USIJI | US Initiative on Joint Implementation |
| WRI | World Resources Institute |
| WWF | World Wildlife Fund, World Wide Fund for Nature |

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Photo:Philippe Revelli/Still Pictures

Montane tropical forest. Costa Rica

Policy that works for forests and people series no. 6

Making space for better forestry

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Introduction

1.1 The purpose of this report

This report is about policies and forests in Costa Rica. It aims to understand who and what are important in making policy work or not work. What ‘works’ is what can be sustained - and this means balancing, and achieving, environmental, economic and social goals. The report presents the findings of a study carried out between 1995 and 1997 by people from a range of institutions and disciplines in Costa Rica.

Costa Rica is widely acclaimed internationally for her protected area policies. Within the country, many levels of society would support the contention that the protected area system works well in terms of protection of the environment and biodiversity. There is also an increasing belief that the protected area system is good for Costa Rica in economic terms. However, there is no such consensus on whether protected area policy is meeting social and socio-economic needs. This issue is of rising concern.

Outside the protected areas, there are other issues that concern those who wish to see improvements in the contribution of forests to people’s livelihoods. Whilst a range of public policies resulted in massive deforestation over the last 50 years, in recent times financial and economic incentives have stimulated an increase in the areas under plantation. Secondary forest has regenerated on grazing lands abandoned because of low beef prices on large private landholdings. However, there are forest resources with high productive potential in the mosaic of small patches of forest on small private lands. Yet the combination of policies influencing decisions by landholders about these areas creates a disincentive to manage and expand forest. In the past, smallholders were poorly organised and their capacity to influence policy in this regard was weak. This situation is changing - with both national and regional organisations of small farmers emerging to address forest policy issues.

The objectives of this study, “*Policy That Works for Forests and People*”, were

to understand and draw lessons from policy and policy processes in Costa Rica:

- to analyse policy options which enable: (a) social goals to be met from forest protected areas; and (b) management of forest resources to become a key part of small-holder livelihoods;
- to identify and disseminate the elements of an improved policy process which allows the above options to be negotiated in the context of the social, environmental and economic development of Costa Rica.

1.2 The existing knowledge base

The current relationships and impacts of policies and incentives in such 'sectors' as land tenure, agriculture and forestry are now better understood in Costa Rica than in many other countries¹. A number of ground-breaking inter-sectoral studies of national development trends, incorporating environmental issues, have also been carried out:

- “*Environmental Profile of Costa Rica*” (Hartshorn *et al*, 1983) analysed for the first time the nation’s environmental situation according to land use capability parameters, health indices, demographic growth and environmental legislation. Soon after this work, the government established the Ministry of Natural Resources, Energy and Mines (now known as the Ministry of Environment and Energy, MINAE) to integrate these fields.
- “*National Conservation Strategy for Sustainable Development*” (ECODES), published in 1990 (Quesada *et al*, 1990) was a wide-ranging study which proposed solutions to existing environmental problems and provided guidelines for sustainable development (see section 3.3).
- “*The State of the Nation*” is an annual publication which began in 1995 (Proyecto Estado de la Nación - Costa Rica, 1995 and 1996). Production has involved quite wide sectoral participation and a unique environmental statistics technical unit is being formed to support it. The approach enables government economic parameters to be assessed in terms of environmental sustainability.

Despite this knowledge base, the *processes* by which policy has been developed and implemented are less well understood. This understanding

¹ Key work on impacts of policies in various sectors influencing forests includes: CCT, 1992; CCT and WRI, 1991; Stewart and Arias, 1994; World Bank, 1993; Utting, 1993; Segura and Solórzano, 1995; Kaimowitz, 1996; and Segura *et al*, 1996a.

is crucial to identify *whose* analysis and information, *used in what way*, can make policy truly supportive of both good forest management and people's livelihoods. A particularly important question is: *How can the key stakeholders, who until now have been largely ignored, gain the 'political space' necessary to improve policy?* This question is at the heart of the study.

1.3 The process of the study

This study was carried out between July 1995 and June 1997. An interdisciplinary *Coordinating Group* was formed, coordinated by a forest engineer, Vicente Watson. The members of the group were: sociologist Sonia Cervantes, political scientist Cesar Castro, forest engineer Leonardo Mora, social planner Magda Solis, environmental economist Ina T. Porras, and forest engineer Beatriz Cornejo. The team members were associated with various institutions and worked on the study as part-time consultants, with a base at the Tropical Science Center (TSC) in San Jose. Coordination with a wider international study (see front inside cover) was provided by James Mayers, a forest policy analyst from the International Institute for Environment and Development (IIED). The National Smallholder Forestry Assembly (JUNAFORCA) was the other main institutional collaborator.

In pursuit of its objectives, the Coordinating Group aimed to establish *communication with local groups* from the early stages of the study, such that local views could shape the direction and substance of the work. After developing some simple criteria by which two reasonably representative communities could be identified for the purposes of the analysis, members of *La Tigra*, *San Carlos* and *San Ramón de la Virgen de Sarapiquí*, both located in the Northern Zone of the country, agreed to participate in the work (see Annex I). Over the course of the study, four visits, each of several days were made to each community where field analysis and meetings with key groups and individuals were carried out.

An *Advisory Committee* was convened to provide a wider range of opinions and experience. The Committee consisted of 15 representatives from different sectors, identified in the early stages of the Coordinating Group's work as key actors. These included community members, small producers, representatives of chambers of commerce, technical advisors from the Legislative Assembly, officials of the National System of Conservation Areas (SINAC), and representatives of the tourism sector, the academic sector and non-governmental organisations (see Annex II). Each of these Committee members was consulted several times, in meetings or individually, through the course of the study. Representatives of some

indigenous communities and municipalities were also consulted on occasion. *Interviews* were held with at least 40 people from various institutions in an effort to gauge diverse opinion amongst different sectors and social actors.

Three major *workshops* were held during the project. The first served to scope and plan the project; the second to discuss preliminary fieldwork and *literature review* results. Each of these workshops was attended by representatives from the two study communities, and Advisory Committee members. Final consultations were held in a National Workshop where study results were discussed by thirty-five representatives from different sectors. Lastly, results were discussed with an international group, including the study co-ordinators of five other comparable country studies (see front inside cover), at a meeting in Zimbabwe in May 1997. Annex III provides a chronology of project activities.

It is worth noting that a number of participants and observers of the study process have concluded that the process itself, through energetic debate, has generated some 'political space' for key issues. Thus, momentum seems to be growing for a more inclusive policy process in Costa Rica. We believe this will result in better policy.

1.4 A note on terms used in the study

Definitions have been kept simple in the study. As used in this work, *policy* is understood to involve *process* as well as *content*. Policy processes include the elements of both policy *making* and policy *implementing*. Thus, we are concerned with both *intentions* and *actual practice*. Often there seems to be rather little linkage between policy statements and what people - the *actors* - actually do, and the *impacts* that these actions have. This project aims to understand why this is so.



Costa Rica's forest and social landscape

2.1 Biophysical landscape

2.1.1 Physical geography and climate

Costa Rica has a total land area of 51,100 km² and a population of 3.3 million (Arcia *et al*, 1991). The Atlantic and Pacific coasts are separated by mountain ranges that extend from the northern border to the south of the country. The Intermontane Valley in the central area of the country, where more than 60 per cent of the population lives, is located at 1,000-1,400 metres above sea level. Variations in altitude and climate have created 12 'life zones' (Tosi, 1969), and at least three rainfall patterns. National average yearly rainfall is 3,300 mm, one of the highest in the world. The average temperature is 26°C on the Atlantic coast, 27.8°C on the Pacific coast and 22°C in the Central Valley (Hartshorn *et al*, 1983) (see Figure 2.1).

2.1.2 Forest areas, timber volume and biodiversity

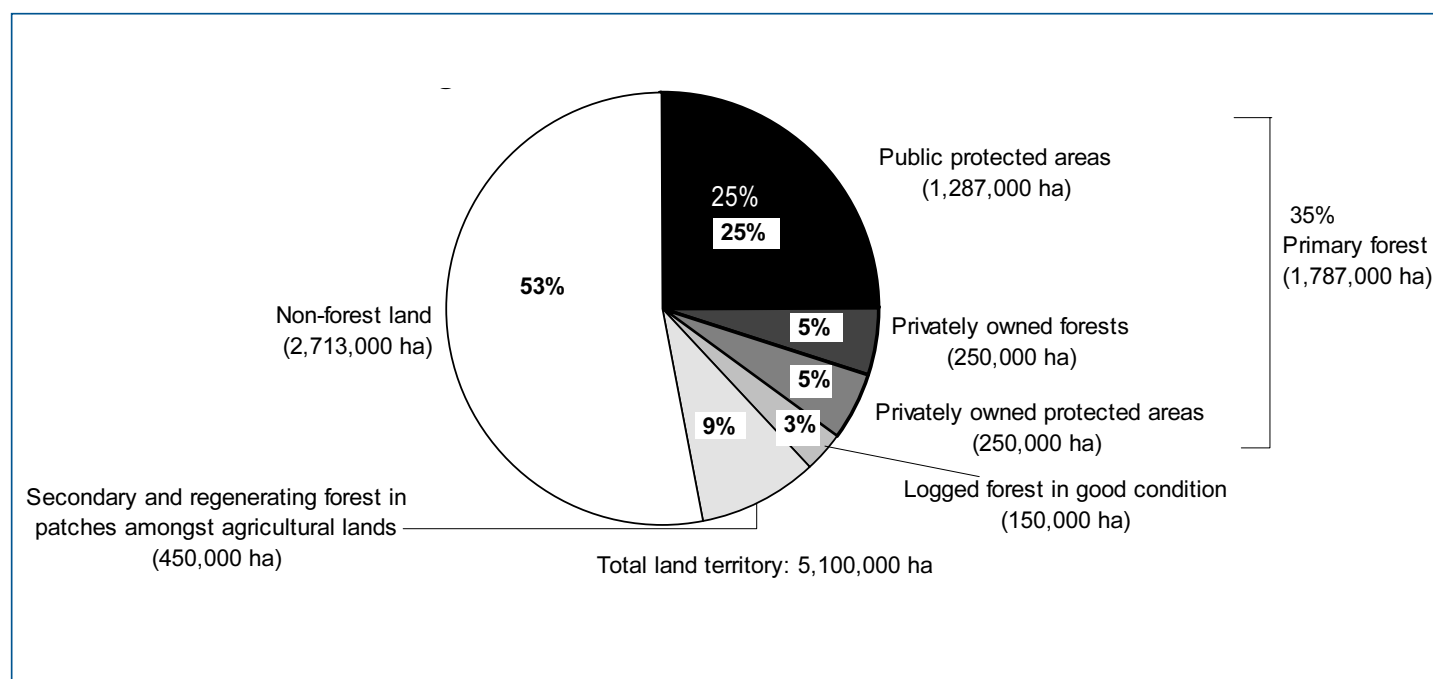
Between 1950 and 1984, the area of natural forest decreased at a rate of 40-50,000 hectares annually, mainly to establish pasture for cattle (Tosi, 1976; Solórzano *et al*, 1991) (see sections 3.2 and 3.3). In 1996, primary forest cover was estimated at 1,787,000 hectares or the equivalent of 35 per cent of the national territory (see Figure 2.2). Of this, protected areas under forest covered 25 per cent of total land area, with the remaining 10 per cent in private hands (MINAE-SINAC, 1996a). The National Network of Private Reserves states that it has a total land area equivalent to 5 per cent of this national territory, or approximately 250,000 ha, among its current and potential affiliates (Bien, 1997).

To the other remaining 5 per cent of national territory, or 250,000 ha, under primary forest in private hands can be added about 150,000 ha of privately-owned logged primary forest in reasonable condition. This is an estimate based on half the total area of forest lands (300,000 ha) that have undergone

some form of logging in recent years (1984-1997). Thus the total area of natural forest that has potential for management for production is estimated at 400,000 hectares (Solórzano *et al*, 1991; IMN, 1995; and Alpizar *et al*, 1997). This is distributed in three regions: the Northern Zone, especially along the San Juan river; the lower area of the Talamanca Cordillera on the Atlantic coast; and the Osa Peninsula in the south of the country (see Figure 2.3). These three areas have very hot and humid climates that stimulate tropical wet forest development. They are located far from the main timber market in the Central Valley. In the Northern Zone the average potential timber volume for natural forest is 146 m³/ha, 104 m³/ha for managed forest and 45 m³/ha for secondary forest (Kleinn and Pelz, 1994). The Tropical Science Centre recorded an average volume of 186 m³/ha in the inventory of 2,000 hectares of natural forest in the Osa Peninsula (CCT, 1987).

Patches of secondary forest growth on abandoned pasture land also represent potential forest management areas (Watson, 1995; Hooftman, 1995). These forests are located mainly on the Pacific coast, particularly in the Northern Pacific coastal region. Different sources have estimated the total area of these forest patches at between 300,000 and 600,000 ha (Solórzano *et al*, 1991; MIDEPLAN, 1995d; and Davies, 1997). An average figure of 450,000 ha is used in Figure 2.3.

Figure 2.3 Forest land in Costa Rica



Source: Solorzano *et al*, 1991; MIDEPLAN, 1995d; MINAE-SINAC, 1996a; IMN, 1995; Davies, 1997; Alpizar *et al*, 1997; Bien, 1997

Costa Rica is one of the most biologically diverse regions of the world. Estimates show no fewer than 500,000 species, representing 4 per cent of the world's biodiversity (Gámez, 1993). This includes over 12,000 species of plants (of which 1,200 are trees), 848 species of birds, 205 mammal species, and 218 reptile species (INBio, 1995). All the main ecosystems of Central America and southern Mexico are represented in the country.

2.1.3 Farm-forest patterns and transition areas

Besides those areas with some type of forest cover, there are agricultural areas with mixed forest cover that form the transition areas between forests, farms and population centres.

The characteristics of these transition areas vary according to zone. The main areas are the Central Valley, the Northern and Atlantic Zone, the Southern Zone and the Central and North Pacific Zone.



Photo: CODEFORSA

A typical smallholding with land devoted to pasture and coffee in the San Carlos area in northern Costa Rica

The Central Valley. The Central Valley is encircled to the north and east by the Central Volcanic mountain range that includes the Poás, Barva and Irazú Volcanoes, which are legally protected National Parks. Towards the south and south-east are the mountains of Escazú and Carpintera that are significantly deforested due to extensive cattle farming, although there have been some efforts to protect these areas as Protected Zones.

The main population centres, including the capital San José and the cities of Alajuela, Heredia and Cartago, are located in the Central Valley. These cities are surrounded by coffee plantations with different species of pollarded trees, among which are “poró” (*Erythrina spp*) and guaba (*Inga spp*) - both nitrogen-fixing trees. In areas located above 1600-1700 metres above sea level, coffee production gives way to intensive grazing land for dairy farming. Here, the forest cover is reduced to a few isolated trees, living fences of pollarded poró trees and strips of riparian forest along watercourses. In some high-altitude areas there are stands of trees associated with nitrogen-fixing pastures such as jaúl (*Alnus acuminata*). The isolated trees are generally high-altitude species such as sweet cedar (*Cedrela tonduzii*), oak (*Quercus*) and lauraceas (*Lauraceae*).

Living fences of this species, as well as jocote (*Spondias*), indian cane

(*Dracaena spp*), madero negro (*Gliricidia sepium*) and others are common. In some windy areas, rows of trees, primarily cypress (*Cupressus spp*) are used as windbreaks. Cypress has also been planted in block stands, some of which are now being harvested.

Northern and Atlantic Zone. The forests of the Northern and Atlantic Zone are located on the plains bordering Nicaragua, and in the northern section of the Central Volcanic mountain range. There are also important forest resources located in the foothills of the Talamanca Cordillera and the Carbon mountains. Much of the land in these regions is used for cattle farming on forested pasture, some of which has stands of valuable

hardwood species such as laurel (*Cordia alliodora*). In the foothills of the Central Volcanic mountain range and the Guanacaste region, this species is left to regenerate naturally for later use. There are also small stands of cedar (*Cedrela mexicana*), gavilan (*Pentaclethra maculosa*) and chancho (*Vochysia hondurensis*) among many others.

In steep areas, where cattle ranching has been discontinued over the last few years due to a decrease in profits, there has been strong natural regeneration of

secondary forests with high productive potential. There are also significant forest patches with good management potential, but also with a high risk of land use change due to the expansion of export crops, such as pejobaye palm heart and ornamental plants. The most frequently used species for living fences in this area are madero negro (*Gliricidia sepium*) and poro (*Erythrina berterana* and *E. fusca*).

Southern Zone. The Southern Zone comprises the Talamanca Cordillera where the International Friendship Park is located. The foothills of this mountain range consist primarily of pasture lands and forest areas. Pastures with stands of remnant trees of natural forest, such as carboncillo (*Sweetia panamensis*) and vainillo (*Cassia spectabilis*) are common. Coffee plantations with shade trees are located in the western part of the valley and pineapple is grown in the central area. The central eastern savannahs are used for cattle farming and there are gmelina (*Gmelina arborea*) and coffee plantations to the east, in San Vito de Coto Brus.

Photo: David Boshier



Living fences are commonly used on farms in Costa Rica, this one is formed by madero negro (*Gliricidia sepium*)

The western area of Pejibaye is predominantly used for cattle ranching and coffee production. In a very rainy section of the eastern part of this region there are grazing lands and forest areas, notably Guaymí Reserve. Rice, banana and African palm are grown on the rainy plateau around which the gmelina plantations of Ston Forestal have been established.

The Corcovado National Park is located in the Osa Peninsula. However, the privately-owned forests surrounding the park are under much pressure for conversion, despite the fact that these areas are forest reserves. There are several forest projects underway in this area.

Central Pacific and Dry Pacific Zone. This region of Costa Rica has historically suffered the worst devastation of its forests because of its seasonal climate, the high value of its forest species, and the development of extensive cattle farming on hilly areas. The foothills usually have some isolated shade trees for cattle, primarily leguminous such as the guanacaste (*Enterolobium cyclocarpum*), cenízaro (*Pithecolobium saman*), guachipelín (*Diphysa robinoides*), and guácimo (*Guazuma ulmifolia*). There are no pure stands of valuable species and natural regeneration, although strong, is slow and exposed to the risk of forest fires.

There are frequently living fences of species of jocote (*Spondias mombin*), pochote (*Bombacopsis quinatum*), and jiñocuave (*Bursera simarouba*). Forest patches in agricultural areas are usually limited to very small areas of remnant forest near watersheds or along river courses, and these are used as resting places for cattle during the six-month dry season. In these forest patches, ojoche (*Brosimum spp*) is found in abundance and its fruit and leaves are eaten by the cattle and various wildlife species.

Riparian forests. Forest strips, ranging in width from 5 to 50 metres, are common landscape features along many watercourses throughout the country. These riparian strips are the result of a combination of farmer self-interest and a fairly strictly enforced law which bans logging in the 10-metre border along waterways, and within the 50-metre area surrounding watersheds. However, in areas where large agro-industries have planted extensive monoculture crops, such as pineapple, citrus, rice and banana, riparian forests are being felled under the pretext that they pose a danger to low-flying crop-sprayer planes.

2.1.4 Plantations of commercial species

Under the reforestation incentives system in place between 1986 and 1995 (see sections 3.3 and 5.2) a total of about 170,000 ha were reforested with

commercial species, according to the Ministry of Environment and Energy (MINAE-SINAC, 1996a). However, Martínez *et al* (1994) note that forest plantations established through incentives for small and medium producers had problems with poor seed quality, inadequate technical assistance, site selection and delays in funding. These authors estimate that these factors have contributed to a situation where 62 per cent of the plantations are in 'fair condition', 21 per cent are in 'poor condition', and only 17 per cent are in 'good condition'. The main objective of these reforestation incentives was to produce sawmill grade timber. However Torres *et al* (1995) estimate that only 50 per cent of existing timber has industrial quality potential. Other commercial projects focused on pulp production with relatively few species. Among these were exotics such as gmelina, teak, cypress, and eucalyptus, and native species of laurel and pochote. The most commonly used species are gmelina (*Gmelina arborea*) and teak (*Tectona grandis*), although several native species have future potential. Recent research carried out under technical co-operation projects has encouraged reforestation with native species such as chancho (*Vochysia* spp), amarillón (*Terminalia amazonia*), pilón (*Hieronyma oblonga*), almendro (*Dypteryx* sp), and maría (*Callophyllum brasiliense*).

2.2 Social and economic landscape

2.2.1 Tenure and administration of forest areas

About 1.6 million hectares or the equivalent of 31.15 per cent of the country's total land area is under some formal category of protection, including Forest Reserves (which in practice does not ensure protection). Forest Reserves account for a total of 5.7 per cent of the national territory. Figure 2.4 indicates the distribution of these areas according to management category.

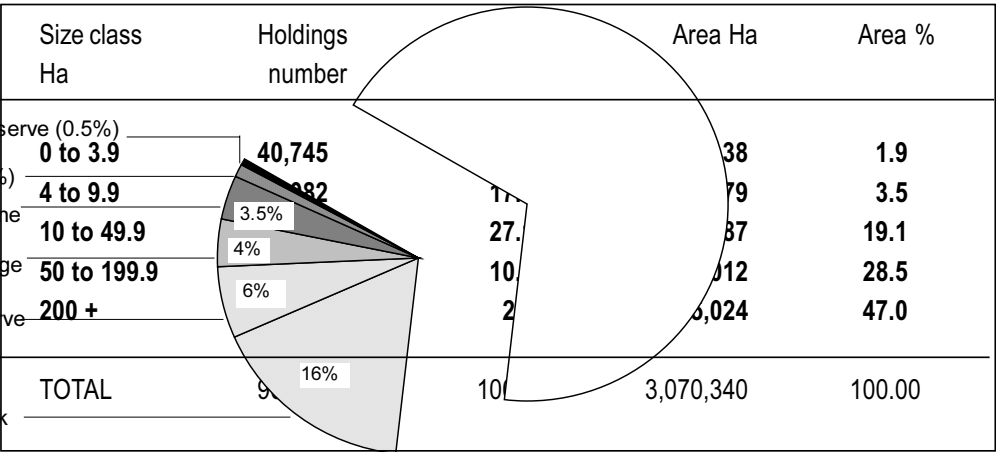
Outside protected areas, larger forest patches (up to 150 ha) are found on larger land holdings, whilst small patches are dotted all over small, medium and large land holdings. According to the 1984 Agricultural Census (the most recent census of this type), of some 96,500 agricultural crop producers in Costa Rica, about 97 per cent have small and medium size holdings (under 200 ha), covering 53 per cent of total agricultural land. Of this, the small farms (under 10 ha) represent about 60 per cent of holdings but they control only about 5 per cent of the land. The 3 per cent of farmers with the largest holdings control 47 per cent of the land (World Bank, 1993).

Figure 2.4 Protected areas of Costa Rica



Source: MINAE-SINAC, 1996

Table 2.1 Agricultural land distribution in Costa Rica



2.2.2 The economic role of forests

Total land territory: 5,100,000 ha.

Costa Rican forests have traditionally been used as a source of timber for building. Up until 30 years ago, most houses were made of wood. Other non-timber forest products such as palm heart, ornamental and medicinal

plants, and materials for handicrafts, have traditionally been extracted in small quantities from the natural forest. Hunting is still prevalent, and among the most widely hunted species are white-tailed deer (*Odocoileus virginianus*), brocket deer (*Mazama americana*), agouti (*Agoutis paca*), saino (*Tajassu tajacu*), and the green iguana (*Iguana iguana*). The trapping of tropical birds and songbirds is also a common practice. Use of forest wildlife is legally prohibited in the protected areas and, in theory, regulated by law outside these areas.

Present estimates show that the 'forestry sector' contributes 4.7 per cent of GDP and employs almost 12,000 people. These indices have risen in recent years. This seems to stem from government's backing of a 'sustainable

development' approach to the economy, with support for some major economic activities linked to natural resources, notably tourism and eco-tourism, the forest industry, "bioprospecting", and forest environmental services.

Tourism and eco-tourism. The increase in tourism and eco-tourism indices has given Costa Ricans a new outlook on conservation and forest management. This sector has been the country's highest source of revenue since 1992. Based on

parameters used by the Costa Rican Tourism Institute's Strategic Plan for 1995, approximately 66,500 workers were employed in hotels and related areas. The ICT estimated that during the 1996 peak tourist season, 57.4 per cent of tourists visited a national park or carried out some type of activity directly related to the existence of protected forests (ICT, 1996) - although this figure includes occasional visits which may not be the main focus of the tourism. If 25 per cent of those employed in the tourism sector are connected to eco-tourism activities, then approximately 16,625 workers depend on the continued attraction of forests to tourists for their livelihood.

Forest industry. In 1993, the forestry industrial sub-sector consisted of 628 companies, representing 13.25 per cent of the total number of companies that form the industrial manufacturing and/or processing sector. The largest group in the sector is the 404 small businesses or small family-owned companies that make furniture and accessories for the home and office. Next in importance are the 185 sawmill businesses, which have a large labour

Photo: Leonardo Mora



Selling baskets made from natural forest vines in the Atlantic zone

force. The industrial sector employed 6,869 people in 1993, or the equivalent of 5 per cent of the jobs generated by all manufacturing and/or processing industries. This total had been more or less steady since 1986. The Free-On-Board value of forest product exports was US\$ 28 million in 1993 (MINAE-SINAC, 1996a).

“Bioprospecting”: This is the exploration, extraction and screening of biodiversity and indigenous knowledge for commercially valuable genetic and biochemical resources. In June 1988, an executive decree established a commission to prepare the ground for an institution that would carry out an inventory of national biodiversity and develop alternatives for forest resource management which could utilise biodiversity sustainably. The work of the commission gave rise to the National Institute of Biodiversity (INBio).

Box 2.1 Biodiversity for sale - National Institute of Biodiversity, INBio

INBio was established as a non-governmental research institute in 1989 with the following objectives:

- a. To form an institution in charge of designing strategies and developing activities needed to carry out a national inventory of existing biodiversity.
- b. To centralise present and future information regarding biodiversity.
- c. To make this information easily accessible to those interested and encourage its use by the Costa Rican public.

INBio is carrying out the National Biodiversity Inventory and has trained young people from communities with forest areas, primarily those located near national parks, in the collection of samples of different species of flora and fauna. These young “parataxonomists” send the samples to INBio’s central offices, where they are stored and later classified. The institution has signed agreements with museums and other technical organisations to assist with taxonomy classification (Aylward *et al*, 1993).

Another INBio project is the Chemical Prospecting Programme. In 1991 INBio signed the world’s first major bioprospecting contract with the US-based pharmaceutical giant, Merck & Co. Under the two-year contract INBio agreed to provide Merck’s drug-screening programmes with chemical extracts from wild plants, insects and micro-organisms mainly collected from Costa Rica’s protected areas. In return, Merck agreed to give INBio a two-year research budget of US\$ 1.135 million, an undisclosed share of royalties on any resulting commercial products, and assistance to establish in-country capacity for drug research. National Parks are supposed to receive half of the royalties.

Other agreements recently made by INBio include:

- **Cornell University, Bristol Myers Squibb** and INBio have signed an agreement that includes research on tropical insects in the search for new pharmaceutical products. This study researches the relations between insects, their natural history and habitat. The Guanacaste Conservation Area (ACG) is assisting in the collection phase.
- **Givaudan Roure** is developing an initiative to obtain fragrances directly from the forest. The exploratory

phase is to determine the feasibility of capturing aromas derived from volatile compounds found in Costa Rican biodiversity.

- **British Technology Group** is carrying out investigations in agriculture on DMDP, a product with nematocide qualities made from a tree of the Costa Rican dry tropical forest.
- **Recombinant Biocatalysis** has contracted research regarding new enzymes in aquatic and terrestrial micro-organisms, which includes plans to collect bacteria from the Conservation Areas, especially the volcanoes.
- **University of Massachusetts** has agreed to carry out research in the insecticide qualities of extracts from plants, insects, bryophytes and molluscs.
- **INDENA of Milan** has signed an agreement in order to research new compounds with anti-microbial qualities, for use as active ingredients in cosmetics.

Through some of these agreements, it is reported that the National System of Conservation Areas (SINAC) received around \$200,000 from 1992 to 1996, under a formula agreed with INBio whereby SINAC provides access to biodiversity within national parks in return for 10 per cent of each research budget (INBio, 1996). The implication is that investments in biodiversity research are at least \$2 million. MINAE has used these funds apparently to protect the national park 'Isla del Coco' (INBio, 1996). INBio has been criticised by some social commentators for being a private institution working with a public resource -biodiversity. Although benefit-sharing arrangements are mentioned in commercial contracts, the specific terms are strictly confidential. It remains to be seen whether bioprospecting will provide local people with economic incentives for conservation, as is often claimed by some conservation groups and INBio's government supporters. However, the institution continues to receive much national and international attention. In 1995 it was awarded the 1995 Prince of Asturias Prize in Science and Technology.

Environmental services: Forest areas provide environmental services that benefit society. Although the concept of environmental services is yet to be fully recognised in Costa Rican society, new national initiatives are being developed to increase awareness. Forestry legislation passed in 1996 established the concept of compensation for forest-derived environmental services to forest landowners through a Payment for Environmental Services (PSA) (see section 5.2). This legislation recognises environmental services, and categorises them as follows:

- recycling soil nutrients
- protection against erosion and flooding
- protection of watersheds
- carbon dioxide sequestering
- protection of biodiversity

Under the same legislation, a tax on fossil fuels has also been established in order to cover the costs of paying forest owners for the provision of these environmental services to society through protection of their forests. Efforts

at quantitative valuation of these services continue to be made (Solorzano *et al*, 1995; Carranza *et al*, 1996).

Since the UNCED agreements in 1992, the Costa Rican government has also been a pioneer in pursuing 'carbon offset' initiatives.

Box 2.2 Carbon offsets - some Costa Rican innovations

Carbon offsets are investments by countries or industrial sectors which seek to 'offset' their emissions of 'greenhouse gases', particularly carbon dioxide, which are now known to be causing global climate change with many potential negative impacts, by increasing their biological uptake. The main route by which this is currently being developed is through industries in developed countries, which are responding to pressures to reduce their emissions by paying a certain fee for every ton of carbon dioxide sequestered by forests. Since forest growth rates are high in tropical developing countries, and forest management costs can be lower, tropical countries can possess a comparative advantage in carbon storage and sequestration. Costa Rica has been a pioneer of this approach. A national programme of carbon offsets has been set up by the Costa Rican Office of Joint Implementation (Oficina Costarricense de Implementación Conjunta, OCIC), established in 1994 (and formalised by Executive Decree N. 25066 MINAE, 1996). This programme aims at generating offsets from forest conservation and reforestation, and selling certificates - known as Certified Tradable Offsets, CTOs - internationally (OCIC, 1996; Stuart and Moura-Costa, 1997).

To date, these developments have enabled Costa Rica and partners in industrialised countries to sign a number of agreements to generate revenue for conservation areas. Agreements approved by the US Initiative on Joint Implementation (USIJI) office include: CARFYX by FUNDECOR (1994); ECOLAND by Tenaska Washington Partners II, Ltd. (1994); and WETFIX and DRYFYX by ACG and INBio (1995). ECOLAND used \$1 million to buy private land within the Esquinas national park in the southern part of the country. In addition, a Norwegian consortium bought US\$2 million worth of CTOs (based on 200,000 tonnes of carbon at US\$ 10/tonne). These funds are being managed by FONAFIFO; part has been used to pay for the Forest Conservation Certificates (CCB) and Payments for Environmental Services (PSA) assigned by the government in 1996 (see section 5.2).

The national-level programme involves the territorial and financial consolidation of national parks and biological reserves. The programme was recently approved by the USIJI and is designed to absorb earlier projects that had not been financed. It involves forest certification linked to negotiation of carbon credits, and aims to deal with 422,000 hectares of primary forest and 117,000 hectares of secondary forest. It has been estimated that the programme will aim to sell 18 million tonnes of carbon at about US\$10 per tonne, giving a potential return for conservation management of US\$180 million.

The Costa Rican programme has also been a pioneer in the process of developing an emissions-trading mechanism or international environmental investment regime with emissions crediting. Together with the Centre of Financial Products, the Earth Council and the World Bank, Costa Rica is launching CTOs in the Chicago Board of Trade. It seems likely that if this mechanism is successful, pressure will rapidly build to expand the opportunities of joint implementation to a wider group of participants (Stuart and Moura-Costa, 1997).

2.3 Institutions and actors linked to the forest

2.3.1 Governmental institutions

Legislative institutions: The Government's Legislative Assembly formulates, discusses and approves forestry legislation. It is the Assembly's main duty to exercise political control over government activities and public institutions. For example, during the administration of Calderon Fournier the Special Forestry Commission was created in the Legislative Assembly to investigate the General Forestry Directorate and to reform Forest Law 7174. The present Forest Law (7575) was approved by Congress in March, 1996 (see sections 3.4 and 4.2). To date, the National Assembly has not formally evaluated the law, although submissions for amendments have been made (Gaston Vargas, 1997. Personal communication). Another important new institution is the Ombudsman's Office: even though its resolutions are not compulsory, it has acquired much public respect and political influence.

Executive institutions: The executive institutions are in charge of implementing and supervising the enforcement of laws regarding forestry issues. The main state institution in charge of forests is the Ministry of Environment and Energy (MINA), which manages the administration of forests through the System of National Conservation Areas (SINAC) - which divides the country into ten Conservation Areas (see section 5.3). Much financial support for the government's executive institutions in environmental sectors comes from development assistance agencies and international environmental NGOs. Some claim that, as a result, the influence of this 'international NGO-donor complex' (see section 2.3.4) on policy is very high.

Judicial institutions: The national justice system is represented by the courts and the 'four chambers', including the Constitutional Chamber of the Supreme Court (Sala IV). Since a 1996 amendment to the Constitution guaranteeing a citizen's right to a clean environment, the Sala IV has been handling environmental cases.

Decentralised institutions: The municipalities, as centres of local government, are required by law to control and follow up activities related to use of forest resources. They have authority to process logging permits for timber production in volumes under 20m³, as long as the trees originate from lands under agriculture. National 'decentralised institutions' are an extension of the Executive office. Their executive heads are appointed by the President of Costa Rica, and the main political parties elect the members

Box 2.3 Citizens' rights and the forests - the Ombudsman's Office and the Constitutional Chamber of the Supreme Court (Sala IV)

The Ombudsman's Office was established in November, 1992 under law No. 7319 and opened offices in October, 1993.

The Ombudsman is mandated to:

1. Protect the interests and rights of the common people from acts and omissions of the official public sector.
2. Ensure that the public sector acts according to general legal principles and established moral and legal guidelines: the Constitution, laws, treaties, and agreements subscribed to by the government.
3. Promote individual rights and make these known to the people of Costa Rica.

The Ombudsman's Office consists of four departments which handle complaints that have been filed for study and investigation: Women's Issues; Special Protection; Quality of Life; and the Economic Affairs and Management Department.

The Constitutional Chamber of the Supreme Court or 'Fourth Chamber' is a judicial entity established to uphold the Constitution of Costa Rica. Its main functions are:

- To review laws being formulated, or laws that have been approved, to determine possible conflicts with the Constitution
- To review administrative acts that violate individual or collective rights protected by the Constitution.

Actions are taken on behalf of persons whose constitutional principles or rights have been violated. These principles refer to inalienable rights such as Equality before the Law, Civil Rights, the Right to Life and, since an amendment in 1994, the Right to a Clean Environment. A number of hearings related to the environment have been held. One such case was the verdict in favour of communities that would have been affected by a garbage landfill site in Esparza, located in the Central Pacific province of Puntarenas.

However, the Ombudsman's Office and the Constitutional Chamber have also been used by interests seeking to reinforce the *status quo*. For example, it is understood that forest industry interests, arguing infringement of private property rights, were able to keep the new Forest Law 'bogged down' in these institutions for two years prior to its final approval in 1996. Community-level commentators, on the other hand, have noted that these mechanisms give citizens the 'right' to spend their energies complaining, without having the right to be involved in real decision-making over national development issues.

of the boards of directors. Amongst these institutions, which have been involved in policy formulation and implementation influencing forests, are ITCO, which participated in the creation of the first forest law and managed the forest reserves in the 1950s, the Institute of Aqueducts and Sewers (AyA), and the Costa Rican Institute of Electricity (ICE).

2.3.2 Forest and tourism industry actors

Forest managers: are medium and large-scale producers who carry out

natural forest management activities or reforestation for commercial purposes (see section 5.1). Traditionally, harvested timber would be sold to loggers with direct ties to the timber industry. However, the more established companies are now diversifying into different stages of the production cycle and developing their own log extraction and processing activities.

Loggers: are the licensed or unlicensed persons who handle the extraction and transportation of wood from logging areas (plantations or natural forests) to sawmills. They have traditionally acted as middlemen between the producers and industry.

Timber industries: consist of primary industry, in which the timber is processed into pieces or blockboards before undergoing more elaborate processing; and secondary industry, in which these products are made into consumer goods such as furniture, floors, frames, etc.

Forest industry associations: are developing a wide range of national and regional activities, ranging from the joint management and execution of production and processing projects, to national lobbying for development policies that benefit this sector. The Costa Rican Chamber of Forestry (CCF), the National Chamber of Reforesters (CANAFOR), and the Commission of Forestry Development of San Carlos (CODEFORSA) (see section 5.1) are three of the most important forest industry organisations. The Costa Rican Chamber of Forestry was created in 1994 as the regulating organisation of the private forestry sector in Costa Rica. This organisation represents medium and large-scale forestry enterprises. It is considered to be representative of this sector because the entire range of producers, industrialists, reforesters, natural forest holders, loggers, forestry consultants and the timber industry are included among its members. The influence of the CCF over forest policy development, and forest policy in practice, has been very strong over the last few years. This is discussed further in section 5.1. Industrialists are also organised in the National Chamber of Timber Industries, and are federated with a Central American forest industry organisation established to maximise the comparative advantages offered by each country.

Foreign investors and speculators: are foreigners who have taken up reforestation or forest management projects, either as a way to establish residency in the country with the aim of securing both profit and quality of life, or to access incentives and make money. ‘Investors’ may pay attention to environmental and social issues, whereas ‘speculators’ are less likely to do so. Some investors also run (as a primary or secondary business)

ecotourism operations and thus favour conservation, although they typically have little voice in policy.

Ecotourism industry: is comprised of both Costa Ricans and foreigners. The sector has a fairly unified agenda: pushing the government to effectively protect protected areas, lowering taxes on tourism, keeping park fees low and pushing the Costa Rican Tourism Institute to market Costa Rica as an ecotourist destination overseas.

2.3.3 Community-level actors

Smallholders: Typically, smallholders devote some 30-40 per cent of their land to food crops (mainly beans and maize) for on-farm consumption, about 30-40 per cent to perennial crops (mostly coffee), and the rest to pasture. However, farming systems vary across areas, in the medium elevation areas smallholders will often have much of their land under coffee and some pasture land for milk production. In the lowland areas grazing is the main land use even for small-holders. On these small farms, a low-input, low-risk technology prevails - with consequent low income and low surplus. These rural producers often live near forests and protected areas and their agricultural activities may both affect and depend on these areas. Some smallholders pursue agroforestry systems and a variety of forest products are used for subsistence or sale. Although some smallholders have small areas of forest, they generally do not possess the technical or financial resources to extract the wood, and usually sell the timber through middlemen.

Box 2.4 Farmers want forests and trees in the landscape - a study in Coto Brus

A study reported by Scherlas *et al* (1997) in the canton of Coto Brus (93,552 ha) in the southern Pacific zone adjacent to Panama, found diverse reasons for reforestation and forest conservation amongst farmers. The most important reason given by farmers in two communities was watershed protection - forest conservation is particularly prevalent around sources of household water. The other main group of important reasons given by the farmers was to secure the source of subsistence products, particularly fuelwood and timber for house construction, and also vines for basketmaking.

Few farmers sell their timber regularly, and the stored 'bank account' value of timber is an important factor in the decision to retain forest remnants and patches. Other motivations related to indirect uses including the desire to provide a home for wild animals, and aesthetic values of coolness and landscape diversity. Forest cover is also linked to other components in the farm economy. For example, when the dominant activity is cattle raising, which provides low returns, less land is available for forests than when households depend on cash crops with higher returns such as coffee. The farming system itself also plays a part, for example considerable shade tree and shelter-belt tree cover may be found on some coffee farms.

Smallholder organisations: These union groups are formed at a community level to ensure benefits and fair relations among producers, and between this sector and the government. There are community, regional and national small producer organisations. In 1989, smallholder organisations which were carrying out forestry projects, and others interested in doing so, met to establish their main positions and needs regarding state forest policies. As a result, an informal national organisation emerged to represent the smallholder sector at key decision-level meetings. This organisation is the National Smallholder Forestry Assembly (JUNAFORCA).

Indigenous communities: The native indigenous population of Costa Rica

is estimated to have numbered close to 27,200 inhabitants when the Spaniards arrived. Those that survived the conquest took refuge in the most isolated areas. It was not until 1976 that they obtained legal rights over their territories through the establishment of Indian reserves. There are now 13 reserves throughout the country with a combined total area of 278,839 ha, the largest of which is located in the Talamanca Cordillera. The total indigenous population now numbers between 12,000 to 19,000. Their livelihoods depend on hunting and

fishing in the forest, and on small subsistence plots used in rotation to maintain soil fertility.

Indigenous communities are largely marginalised in terms of state economic and social policies. However, there are several national indigenous peoples' associations, and recently the Mesa Nacional Indígena has begun to represent these groups in various national fora. Meanwhile, the government has established the Comisión Nacional de Asuntos Indígenas (CONAI). There is also a small number of internationally-linked projects working with indigenous groups.

Community development organisations: Beginning in the 1970s, a number of informal rural organisations were established in response to specific community demands and needs. Seeking benefits for the small producers and their community groups, there was a drive to unify a national platform of smallholder organisations and form strategic alliances within this sector. Several small farmer organisations were consolidated and recognised by

Photo: Leonardo Mora



Playing in the forest, Atlantic zone

Box 2.5 Getting smallholder forestry on the agenda - the National Smallholder Forestry Assembly (JUNAFORCA)

This association was formally established in 1991 to coordinate medium and small-scale farmer organisations developing reforestation projects and other forestry activities. JUNAFORCA's stated mission is to "integrate, strengthen and represent medium and small farmer organisations so that they may contribute to development through the appropriate use of natural resources."

At present 56 organisations make up the National Smallholder Forestry Association. These include 15 cantonal agricultural centres, 10 co-operatives, 20 farmers' and/or reforesters' associations (among which are 8 women's organisations), 3 conservation associations, one agrarian union and 5 formal regional organisations.

Combined, these organisations represent about 27,000 producers, located in every region of the country. They are engaged in activities that range from forest plantations, to nurseries, agroforestry systems (covering approximately 31,302 ha), living fences, natural forest management systems, cottage industries and handicrafts.

One of JUNAFORCA's main achievements is the effective coordination of small farmer organisations to recognise the ecological importance and productive potential of their forests, and to share information and experience. As a result, smallholders are less likely to be passive recipients of technical advice and more likely to be active participants in their own organised initiatives.

Through negotiation at national levels, JUNAFORCA has secured support for the establishment of regional organisations, among which are the: Guanacaste Forestry Development Association (AGUADEFOR), Forestry Development Association of the Brunca Region (ADEFORBRUNCA), Central Region's Pacific Agroforestry Association (ARAPAC), Northern Smallholders Forestry Association (AFOCAREN), and the Talamanca United Forestry Association (ASUNFORT) in the Atlantic region. JUNAFORCA was able to secure modifications to the Forest Law in 1990, gaining group access to reforestation incentives (see sections 3.3 and 5.2) which have since benefited 65 organisations including co-operatives, agricultural centres and community development associations.

JUNAFORCA has gradually become active in policy circles through clearly formulated proposals and commentary, which have gained recognition by government organisations and opened the way to participation in the new National Forestry Office and the National Forestry Finance Fund (FONAFIFO). JUNAFORCA has worked on various national commissions and is now moving into trade issues. The association is facilitating discussion on forest certification.

Crucial to JUNAFORCA's effectiveness has been its 'bottom-to-top' integration. It has successfully linked viable local initiatives to regional organisations and the national-level policy agenda - which in recent years has generated significant political space for smallholder forestry (see sections 3.4 and 5.4).

the government. For example, the National Federation of Agrarian Syndicates (FESIAN), established in 1972, and the Small and Medium Producers Union (UPANACIONAL), founded in 1981.

The unification and strengthening of organisations representing the country's small farmer sector has created a base for the development of proposals and alliances between political leaders, forming special interest groups to negotiate demands with the government. The smallholder organisations gradually developed the ability to negotiate and exert political pressure on decision-making systems in the sector (see section 5.4).

Other organisations were formed to handle increasing community demands for infrastructure and public services, such as a community's need for roads, potable water, and electricity. These groups were formally established as the Community Development Associations with national backing by the National Community Development Directorate (DINADECO) and there are now 1,500 Community Development Associations in rural and urban areas.

Some smallholders started to organise locally and recognised the need for the protection and rational use of natural resources as being necessary to ensure their families' survival. The search for production alternatives led a number of small and medium producers to explore a variety of new production activities, such as organic farming, reforestation, agroforestry and forest management.

2.3.4 Academics, conservationists, donors and consumers

Individual opinion leaders: In the recent history of natural resource conservation in Costa Rica, the contributions made by well-known scientists, academics and politicians have helped to obtain government support for environmental projects in forest management, forest legislation, the establishment of protected areas, the diffusion of conservationist ideas, research development, the 'debt-for-nature' swaps, promoting eco-tourism and valuing national biodiversity. Individuals notable for their scientific contributions include Luis Fournier, Joseph Tosi, Leslie Holdridge, Rodrigo Gámez and Daniel Janzen, whilst key figures on the political scene for forest conservation have been Alvaro Ugalde, Mario Boza and Alvaro Umaña. A number of these, and other, conservationists have become key players in the international conservation movement and as such they exert considerable influence on the international environmental groups and donors.

Academic and research institutes: The universities, technical colleges and research centres play an important role in training professionals in technical

and social areas, conducting research, and shaping views regarding the use and management of resources. As well as INBio, the University of Costa Rica and the National Museum have contributed significantly in the area of biodiversity. The Technological Institute of Costa Rica (ITCR) and the National Autonomous University (UNA) both offer degrees in forestry and carry out research in forest engineering and industry. ITCR manages the Centre for Forest-Industry Integration (CIBI), whilst UNA runs the National Institute of Forest Research and Services (INISEFOR).

The main international organisations involved in forest research in Costa Rica are the Tropical Agronomy Teaching and Research Centre (CATIE) and the Organisation of Tropical Studies (OTS).

CATIE offers post-graduate specialisations in forest management and agroforestry, and carries out research in these fields. Through various projects based at CATIE, the centre has good outreach via technical publications and extension programmes. CATIE's research has included the MADELEÑA project on multi-purpose tree species and fuelwood production in Central America. OTS, established in 1963, is made up of a consortium of over fifty teaching and research institutions and is involved in forestry research, notably on native timber species for timber production. It is particularly noted for the hundreds of student research projects carried out at its 'La Selva' field station.



Photo: David Boshier

An on-farm trial with the quick-growing tree *Acacia mangium* is inspected in Puriscal. These trees are approximately two years old

Forest technicians: Forest consultants and NGOs working on forestry issues can be considered a separate group of actors, although there is some overlap with the academic institutes and some conservation groups. Forest technicians generally have a sure grasp of forestry issues and are sometimes called upon to advise on forest policy developments. However, in general this group does not really have a united voice on policy matters.

Conservation groups: There is a wide range of groups in Costa Rica that could be said to carry this label. They have been gaining importance in Costa Rican politics since the 1970s, when the first activist conservation

organisations took steps to preserve the environment. Collectively, they now have considerable political influence. Generally such groups have an advocacy orientation, promoting environmental awareness and training, sometimes linked to their own research. Some also act as ‘watchdogs’ - reporting activities that damage the environment, to the authorities or to the public. Examples are:

- Tropical Science Center (CCT), established in 1962, was the first non-government conservationist organisation in Costa Rica
- Costa Rican Association for the Conservation of Nature (ASCONA) was founded in 1972 and was the first national activist conservation group to attain a high public profile
- Neotropica Foundation has promoted forest management projects in local communities
- Costa Rican Federation for Environmental Conservation (FECON), formed by over 25 organisations is the environmental sector’s largest federation
- Costa Rican Ecology Association (AECO) is known for its work on the social aspects of conservation and for its opposition to the plantations of gmelina (*Gmelina arborea*) established by the Ston Forestal Company in the south of the country, and currently for its efforts to stop open-pit mining operations in the northern region
- National Park Foundation works closely with the government on fund-raising for conservation area land purchases.

There are two main tendencies amongst these groups. Firstly, the scientific and technical organisations have gained high public profiles, considerable financial resources, and consequently strong political influence. Secondly, the socio-political groups emphasise social aspects in the struggle to improve environmental conditions and preserve natural resources. This second grouping has had a lower level of influence in the forestry arena until quite recently. Alliances between these tendencies are growing.

Several international conservation organisations such as the World Conservation Union (IUCN), the World Wildlife Fund (WWF), and Conservation International (CI) have offices and projects in Costa Rica.

Several private reserves are owned by local and international NGOs, individuals and companies. Biodiversity conservation is the primary interest of these actors, whose influence on policy can be considerable since they typically communicate effectively with the executive institutions and can secure funding from the international community.

International donors: Notable bilateral donors on the environmental and forestry scene are those of the US (USAID), Germany (GTZ), The Netherlands (DGIS), the UK (formerly ODA, now DFID), Canada (CIDA), Finland (FINNIDA) and Norway (NORAD). The Netherlands and Costa Rica have a unique Bilateral Sustainable Development Agreement (ABDS) (see Box 2.6).

The Canadian government is supporting the Arenal Development and Conservation project, which emphasises socio-economic development aspects in this Conservation Area (see section 3.4) (Tremblay *et al*, 1996).

Box 2.6 International cooperation gets serious - the Bilateral Sustainable Development Agreement between Costa Rica and the Netherlands

Following the UNCED agreements of 1992, the governments of Costa Rica and the Netherlands ratified a Charter, stating their interest in developing closer ties between both countries that would lead to a long-term alliance based on new levels of co-operation between both States and societies. Discussions over two years led to the signing, on 21 March 1994, of the Sustainable Development Agreement (ABDS) in the Netherlands. The main purpose of this Agreement was to implement a sustainable development policy, while taking into account the differences in levels of socio-economic, political and cultural development, as well as available natural resources. The Agreement is based on the principles of solidarity, equality, reciprocity and the participation of both societies, as well as mutual assistance and consultation. The Agreement remains in effect for a period of 10 years with the possibility of extension. The Netherlands has signed similar agreements with Benin and Bhutan.

Two offices were established to coordinate implementation of the Agreement and administer available resources, ECOOPERATION in the Netherlands and FUNDECOOPERACION in Costa Rica. To promote participation of different sectors of society, the Intersectoral Advisory Commission for Sustainable Development was created with the representation of different sectors including: non-governmental organisations, state institutions, and the business and academic sectors. An assembly of NGOs (CONAO), aiming to link Dutch and Costa Rican organisations, was also founded by the ABDS framework (see section 5.4).

For the first three years, the ABDS forged ahead with the new concept, and provided support to a broad range of initiatives amongst the universities, NGOs, government, and entrepreneurs. More recently, implementation appears have slowed - there is reportedly a large backlog of proposals at FUNDECOOPERACION - and to have fallen back on a more traditional approach to bilateral aid, whereby the Dutch embassy tends to decide what should be financed. In the words of CONAO's Coordinator for the Central Region: *"Within the terms of the Agreement, six business chambers and five universities have more influence than 700 civil organisations. Under this Agreement, the NGOs are the only ones with a regionalised structure. However, the embassy's international co-operation agencies impose their criteria without recognition of the differences between our society and the Netherlands."* Italo Fera, 1997.

The European Community (EC) also provides backing to local initiatives for forest product use, and has financed the Agricultural Frontier project, which is now underway in the Talamanca region. The EC has also financed various phases of a project to strengthen the Tortuguero Conservation Area.

The donors and international environmental NGOs are very influential in shaping forest policy in Costa Rica. They provide funds and, in collaboration with senior academics and the larger national environmental NGOs, provide a strong coalition for an agenda which prioritises biodiversity conservation and improved forest management.

Consumers: play an important part by shaping markets through product demand. The supply and demand of consumer goods and services can be crucial determinants of forest use. Consumers can be divided into the following groups:

- Local populations living near forests in protected areas - who seek to secure access to the benefits generated by these areas;
- National consumers - who have continued to demand tropical hardwoods which, given their rising scarcity, has served to increase their market value in recent years;
- Foreign scientists with business interests - involved in developing the booming environmental products industry (including bioprospecting). Their interest is access to raw materials;
- Foreign ecotourists - who make their influence felt through expenditure in the country and through giving funds to international NGOs for area protection. Some foreign academics who simply stick to their science and are unwilling or unable to seek policy influence also fit in this category;
- Foreigners - 'the international community' - who have not visited Costa Rica. Many in this group are consumers of tropical hardwoods, while some think that their welfare depends in part on Costa Rica forests or forests in general and donate accordingly to international environmental groups.



Policy stories: the evolution of policy influences on forests and people

This chapter analyses the changing influences on the way people and forests have interacted in Costa Rica, and the part policy has played in this. The narrative aims to pick out the key influences and their linkages at particular times, and the relative power of different actors on the policy stage. Through this we may understand what impact policy has had, who benefits from this impact, who loses out, and what makes this situation change. We have divided this into four periods: before 1950; from 1950 to 1970; from 1970 to 1990; and from 1990 to the present.

3.1 Before 1950: large landowners emerge, civil society forms and the forest slowly declines

During the pre-Columbian period (before the 16th century) the indigenous population numbered perhaps 27,000 inhabitants (Fournier Origgi, 1985). These groups subsisted on a few basic crops (tubers, grains and fruit), which they supplemented with hunting and fishing. Tosi (1974) estimates that almost the entire territory was covered by forest at that time. The ecologically-balanced way of life was largely destroyed with the arrival of the Spanish colonizers. For a long time after this, a decimated and culturally demoralised mixed native population lived isolated in the temperate valleys in the interior of the country. The coastal lowlands were abandoned because of malaria and the danger of filibusters, Misquito Indians and English pirates.

The colonial period was initially characterised by a subsistence economy,

and later by the development of the coffee monoculture model in the early 1800s (Facio, 1972). The development of coffee production produced a division of social classes, which until that time had been characterised by a communal or small land parcel system.

Dispossessed landless families went on to clear and settle new forest lands. Parallel to these events was the development of an enclave-type economy with banana production in the Atlantic region, which dated from the construction of the railroads toward the end of the 1800s. The expansion of banana production led to much conversion of forests, and loss of potential for subsequent agricultural production because the crop was planted on completely cleared land, which tended to degrade it. Banana plantations were capital- and labour-intensive, especially during planting and harvesting, and this caused many settlements to form close to areas of virgin forest.

Around 1800, the national population reached 50,000, a density of about 1 person/km². There was a steady conversion of forest to agricultural lands over the course of the nineteenth century. None the less, by 1900, less than 10 per cent of the national territory was used for crops, grazing land and other non-forest uses. Farmlands supported relatively high populations - by 1936 the total population was 430,000.

Several important measures influenced the social development of the country following formal independence from Spain in 1821. One of these was the declaration of free, compulsory education in 1869, that would later help to shape the development of a more democratic political process in the twentieth century.

During the 1940s, changes in government sought to combat the oligarchical power of the large coffee growers and to build a new power base by creating and supporting a population of livestock keepers. The nationalisation of the banking system, to redistribute capital to this sector by opening lines of credit provision at cheap rates, was the main tool used. The first agricultural co-operatives emerged around this time.

The roots of government forest policy go back to 1775, when the Spanish governor proclaimed a ban on setting fire to fields. Through the course of the nineteenth and early twentieth centuries there was a series of presidential proclamations and decrees aimed at securing the supply of wood, fuelwood and water for the main towns, and at reforesting mountain areas with native species (Fournier Origgi, 1985) (see Table 3.1).

In 1934, a law was enacted which, over the course of the next few decades, would be a root cause of massive destruction of forests. The so-called Family Providers Law awarded up to 20 ha of unused public land to heads of families and led to the creation of the Land Tenancy Information Law in 1941, which enabled anyone who could prove effective ownership to register up to 300 ha of unused public land. In order to prove ownership under these two laws, settlers generally had to clear the land, although many did not have the intention, or possess the means, to subsequently cultivate the land. By 1950, forest cover had been reduced to 72 per cent of national territory.

The origins of a ‘conservation consciousness’ and the roots of key conservation measures can also be identified in three key factors during the nineteenth and first half of the twentieth century:

- *Foreign naturalists and scientists working and settling in Costa Rica.* From the late 1800s to the early 1900s, scientists contributed significantly to knowledge of Costa Rica’s natural history. They included Henry Francois Pittier, Julian Carmiol, Adolph Tends, Juan Rudin, Pablo Biolley, and Gustavo Michaud. Their teachings contributed to the fostering of a conservationist tendency that would later develop into an academic trend with the creation of the University of Costa Rica in 1940. Scientists and educators such as Clodomiro Picado and Professor José Maria Orozco Casorla of the School of Biology were especially concerned about human impacts on forests (Barquero, 1982).
- *A national focus on social development.* In the 1940s, government adopted important social reforms in the Civil Code, established basic social guarantees and a national system of health care and social security. National standards of living improved. The emergence of a more critical society was also evident with, for example, the founding by young law students of the Centre for the Study of National Issues. This Centre would later form the ruling National Liberation Party. After the Civil War in 1948, the Costa Rican constitution dissolved the country’s armed forces, established key social institutions and founded a more democratic political process.
- *Siting of international institutions in the country.* A variety of international and regional bodies became based in Costa Rica. Notable amongst these, in terms of forests, were the Inter-American Institute for Agricultural Co-operation (IICA), and the United Nations Food and Agriculture Organisation (FAO).

By the end of this period, there was no formal forest policy in Costa Rica. But there was a collection of laws which, on the one hand, tried to mitigate certain impacts of agriculture on the forest, and on the other hand, set the scene for dramatic deforestation. Amongst an educated elite there was also a growing sense of concern that efforts to protect the environment were needed.

Table 3.1 Summary of policy processes influencing forests and people in Costa Rica before 1950

| Political-Economic Context | Government Policy Instruments | Actors and Actions | Effects on Forest | Effects on People |
|--|--|---|---|---|
| Communal or small land parcel system breaks down and larger private holdings form | Executive decrees: ban burning, instruct protection and reforestation of watersheds in Central Valley region | President and politicians make decisions with modest impact on forests | Forest cover is reduced from 99% of national territory in 1500 to 72% in 1950 | Large agro-export-growing landholders have strong hold over economy and politicians |
| Subsistence production for majority | | Indigenous peoples displaced by settlers | Some conservation of river banks and watersheds in Central Valley region | Formation of national identity, partly through colonisation of national territory |
| Increasing monoculture production by large landholders: coffee in Central Valley and banana in Atlantic region | 'Family Providers' Law, 1934 requires land to be cleared to prove ownership | Smallholders grow subsistence crops | | More equitable access to health care, education and civil rights from 1940s |
| Initial agro-exports | | Agro-exporters control much agricultural land and generate agricultural expansion | | Smallholders begin to gain more access to land |
| Social development prioritised in 1940s | | Academics found University of Costa Rica and promote conservationist ideas | | Early emergence of conservation consciousness amongst educated elite |

3.2 From 1950 to 1970: national agricultural development, land titling and massive deforestation

During this period, Costa Rica enjoyed a stable democracy and major efforts were made to raise the educational level, and improve infrastructure, public health and socio-economic welfare. Agricultural expansion was favoured by the earlier nationalisation of the banking

system, easier credit terms for production activities, particularly livestock keeping, and some reorganised institutions. In 1962, the Institute of Lands and Colonisation (ITCO) was given responsibility for allocating land from National Reserves of 'unused' public lands. When combined with the land titling laws passed in the 1930s and 1940s, with the growing population, which increased from 860,000 in 1950 to 1,730,100 in 1970 (Arcia *et al*, 1991), and with the increasing use of chainsaws and herbicides - the real drama of massive deforestation in Costa Rica started. It has been estimated that forest cover declined by 16 per cent during this period, from a total of 72 per cent of national territory in 1950 to 56 per cent in 1970 (Solórzano *et al*, 1991).

This allocation of land represented a dramatic shift from public to private ownership. In 1950, public lands that were predominantly natural forest represented 65 per cent of national territory and the remaining 35 per cent of lands were privately-owned. In the 1960s this ratio was reversed, so that by 1973 public lands represented only 40 per cent of the total land area and 60 per cent of the land was privately-owned.

In 1968, on instruction from the Executive branch of government, the Ministry of Agriculture and Livestock developed a draft forest law that was approved, as the Forest Law (No. 4465), by the Legislative Assembly on its third debate in October, 1969. As Fournier Origgi (1985) points out, over 200 years had gone by since governor Juan Fernandez de Bobadilla had made his first proclamation, and over 50 years since the Congress of don Cleto Gonzalez Viquez's first rule of office decreed Law 36, 1906 which had stipulated that a forest law be prepared.

The first steps leading to Costa Rica's protected area system were taken during this period. Earlier declarations of protected areas had been made: for example, in 1913 the summit of Poás Volcano was declared protected; and later, in 1955, the summits of all volcanoes were declared national parks. However, none of these measures were implemented to any effective extent. More solid foundations for establishing and managing protected areas were laid with the passing of the 1969 Forestry Law. In order to establish these areas, the State had to acquire the property rights, i.e. to buy out land owners and evict settlers.



Photo: David Boshier

Landslip following reduction of vegetation cover by smallholders on a steep slope, Cerro de la Muerte

Yet the 1969 Forest Law's focus was primarily on forests as a resource for agricultural development. It was in tune with the objectives of the agro-export sector, cattle ranching, and the colonisation of large areas of land. Thus the country's agricultural economic models continued to dominate vision of the purpose of forests: monoculture agro-exports, coffee and

bananas from the early 1900s until the 1960s; and then cattle ranching in response to the economic policy of import substitution. During the 1960s, forest policy was essentially in the hands of institutions from the agricultural and energy sector - the Forestry Department of the Ministry of Agriculture and Livestock (MAG), ITCO and the National Electricity Service.

Photo: John Hudson



Pasture with jaúl trees (*Alnus acuminata*) which are favoured for their quick growth and nitrogen-fixing properties, Central Volcanic Cordillera

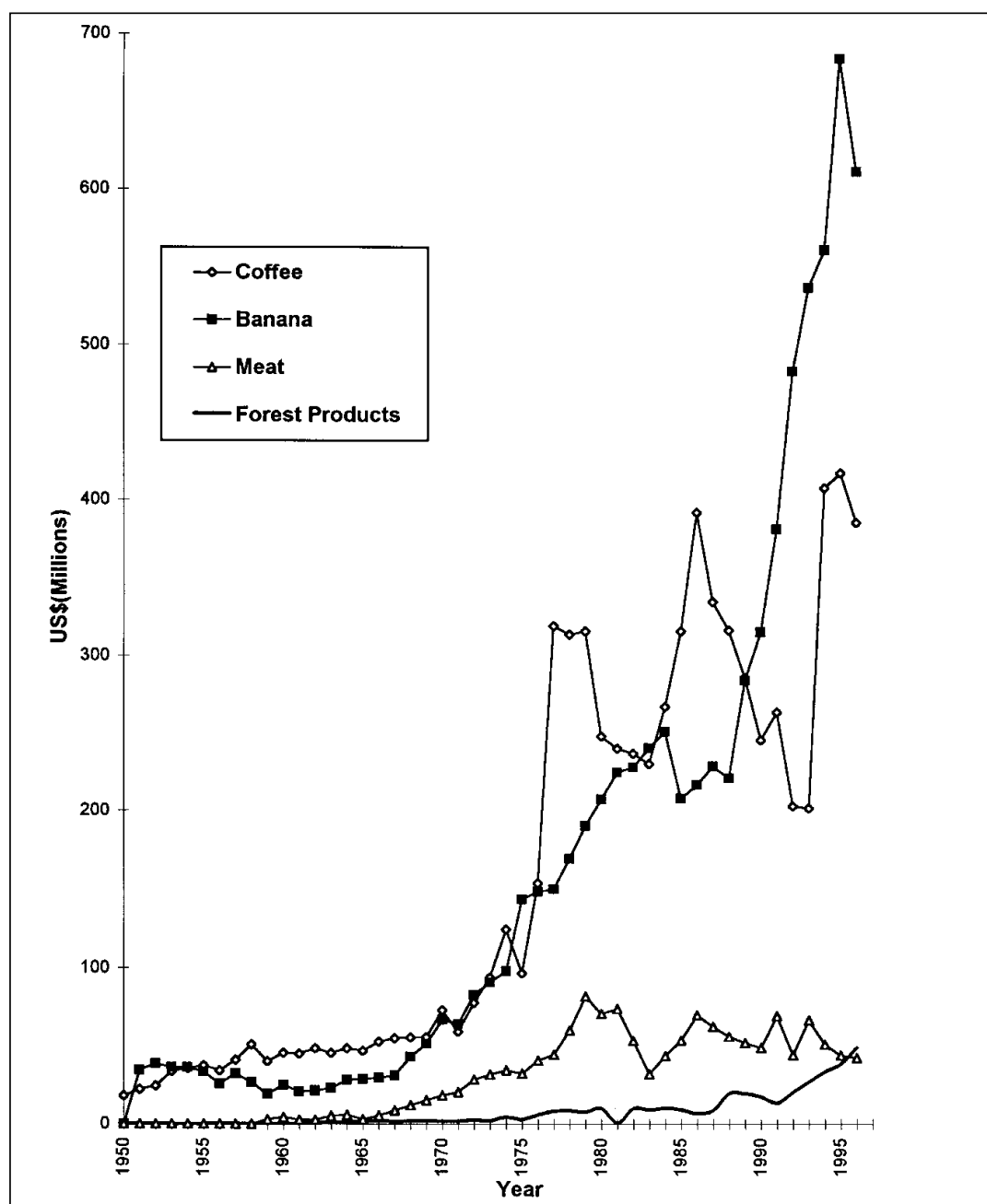
International markets bolstered the government's resolve to support the economically powerful agricultural sectors.

These agricultural sectors included: the large coffee producers that began to expand production to lands outside the Central Valley in the 1950s; the cattle ranchers; and the sugarcane export sector, which gained prominence following the Cuban revolution and the United States' economic embargo on Cuba. The US-backed "Alliance for Progress" with Costa Rica also supported promoted policies of land settlement and favoured beef exports.

The main impacts of the above developments on actors in the policy processes affecting forests and people from 1950 to 1970 can be summarised as follows:

- *large landowners* accumulated extensive land areas and secured access to subsidised credit for agricultural and cattle ranching;
- *timber industries* benefited from the above process with a surplus of low-cost timber created by the conversion of forest land to grazing lands;
- *coffee growers* in the agro-export sector of the Central Valley and the new plantation owners in the southern areas of the country profited, due to increased prices on the international market; and
- *colonists* were able to secure lands outside the Central Valley. Some of these colonists were displaced smallholders; others were wealthier interests seeking extensive lands for cattle ranching.

Figure 3.1 Export value of forest and selected agricultural products from 1950 to 1996



Note: Figures for forestry products 1995 and 1996 are estimates. All values given are FOB export values

Sources: Vargas and Saenz, 1994; Banco Central de Costa Rica, 1997; Consejo Monetario Centroamericano (Secretaria Ejecutiva), 1997; MIRENEM, 1994.

The beginnings of the government's ability to intervene forcefully on forestry matters were evident in the passing of the first Forest Law and efforts to strengthen the Forestry Department of the Ministry of Agriculture and Industry. However, ITCO's management of the National Reserves of land was a much greater force still, in terms of impact on the forests.

Table 3.2 Summary of policy processes influencing forests and people in Costa Rica from 1950 to 1970

| Political-Economic Context | Government Policy Instruments | Actors and Actions | Effects on Forest | Effects on People |
|---|---|---|---|---|
| National development of infrastructure, state institutions and technology | Clearing of National Reserve land and individual titling by ITCO, under Land Tenure Information Law | Politicians promote cattle ranching as state policy ITCO and MAG regulate agriculture and forestry | Accelerated reduction, fragmentation and deterioration of forest lands. Conversion to pasture - total forest cover is reduced from 72% in 1950 to 56% in 1970. | Concentration of capital in business sector with the rise of export agriculture and timber industry |
| Import substitution economic model | Subsidised bank credit for agriculture and ranching | Forest entrepreneurs commercialise timber resources | | Proletarianisation of the smallholder sector |
| Population growth | | | | Migration of poorer urban dwellers and landless rural population to 'frontier' areas |
| International markets favour sugarcane, beef coffee and bananas | The first Forest Law (4465) sanctions clearing of forests for agriculture | Large landowners consolidate their land control | | |
| Commercialisation and industrialisation of timber | Legal protection of watersheds and riverbanks Legal basis for large protected area demarcation Limited timber extraction Banning of uncontrolled fires | Some smallholders proletarianise in response to concentration of capital and land Others become colonists in agricultural 'frontier' forest areas Academics promote conservationist ideas International agencies stress agricultural development | | Rise of land titling amongst colonists on the 'frontier' |

3.3 From 1970 to 1990: protected areas, the rise of forest industry and the end of the agricultural frontier

This was a period of great contrasts. The rate of deforestation reached its height, whilst the establishment of protected areas also proceeded apace. Towards the end of this period, the agricultural frontier had come to an end. Solórzano (1991) calculated annual deforestation for the period between 1973 and 1989 at 31,800 ha, a total of 508,800 ha. By 1990 it was estimated that total forest cover was 1,982,721 ha, or about 39 per cent of national territory.

Deforestation continued on all types of lands, primarily for livestock keeping. Much of the converted land had poor capability for this use. The upward trend in deforestation rate continued until about 1985, when markets for beef and dairy products became less favourable and the timber shortage caused an increase in demand and price. This acted as an incentive to focus attention on forest management.

In 1974, forest area covered about 35 per cent of the national territory or 1.8 million hectares. An estimated one third of these forest lands were so damaged they were not adequate for timber production. Only 23 per cent of the total land area was covered by forest capable of sustainable timber production (Hartshorn *et al*, 1983).

The country was undergoing a structural transformation, beginning in the 1970s, and characterised by: a) a growing service sector headed by tourism; b) a competitive industrial sector; c) an emphasis on non-traditional agro-exports and d) a more 'modern' and efficient public sector that evolved from an interventionist role in economic sectors to a service-provision role, providing the infrastructure needed for private sector development (González, 1990). The municipalities lost power when autonomous central institutions were created to assume the management of social services, such as domestic and industrial water supplies, highways and electricity which were formerly handled by local government.

Smallholders were seriously affected by a reduction in state services for their sector. This was somewhat exacerbated by the high inflation characteristic of the 1970s and 80s which led to land speculation as those with money preferred to buy land with it than lose it in the bank. Landless

farmers became more organised in the 1970s, and land take-over movements affected over 167,000 hectares between 1971 and 1979. ITCO distributed land and issued land parcel deeds in response to this social movement. But by 1980, the landless farmer movement had grown stronger

(Mora, 1987). During the early 1980s the agricultural sector was increasingly liberalised and consequently many smallholders' groups became politicised. The National Federation of Agrarian Syndicates (FESIAN) and the National Smallholders' Federation (FENAC) demanded full-scale agrarian reform. Their demands were not fully met, but the influence of smallholder organisations grew, and by the end of the 1980s their areas of concern had spread to ensure smallholder involvement in a number of key forestry initiatives (see sections 5.2 and 5.4). Also by the late 1980s, increasing employment in service sectors meant that there was arguably less "land hunger" in Costa Rica than in neighbouring countries, as alternative employment was becoming more widely generated.

Photo: CODEFORSA



Skidding logs, with bulldozer, Huetar Norte Region. Timber extraction and transportation in Costa Rica are mostly carried out by loggers who have acted traditionally as middle-men between the large and small producers and the processing industry

Stemming from the 1969 Forest Law, ITCO's Forest and Land Department became part of the Ministry of Agriculture and Livestock as the General Directorate of Forestry (DGF) - the government office with overall responsibility for national forest assets and implementation

of state forest policy. However, institutional complexity, overlap and confusion was evident from a range of responsibilities and roles related to forests held by other bodies, including the:

- Ministry of Agriculture and Livestock;
- National Planning Office (OFIPLAN);
- Ministry of Industry and Commerce;
- District Attorney's Office;
- Costa Rican Institute of Electricity (ICE);
- Chamber of Agriculture;
- Timber Industry Association;
- University of Costa Rica; and the
- Board of Directors of the Port Development Authority of the Atlantic Coast (JAPDEVA).

In 1979, the first coherent attempt was made to go beyond the collection of somewhat contradictory decrees and forest laws, to provide the first comprehensive national statement of forest policy. The result was the National Forestry Development Plan, established with the purpose of integrating the different activities of the forestry sub-sector with other socio-economic aspects. During the government of president Rodrigo Carazo (1978-1982), these activities were included in the “Gregorio Jose Ramirez” National Development Plan and focused on three main areas:

- forest development in buffer zones (to be declared) and reforestation of designated forest use areas;
- efficient and rational logging extraction; and
- access to credit and technical assistance for more effective use of fallen timber.

Costa Rica became noted for its creation of protected areas in this period. From a focus, in the earlier periods, on protecting areas of scenic, historical and cultural value for recreation and national pride, the emphasis shifted in the 1970s to protecting representative examples of biological resources and ecosystems for scientific reasons. Following the legislative basis provided by the 1969 Forest Law, the National Parks Service (SPN) was created within the administrative framework of the Ministry of Agriculture and Livestock (MAG). Between 1970 and 1974, the then First Lady Karen Olsen de Figueres - the ‘godmother of the parks programme’ - secured much aid for SPN from ministries, autonomous institutions, municipalities, the Legislative Assembly and international agencies (Brüggemann, 1997).



Photo: David Boshier

Cattle pasture, Guanacaste. During the 1950s and 1960s, subsidised credit helped start a boom in beef exports and widespread conversion of forests to pasture. Since the 1970s, declining beef prices caused abandonment of pasture and considerable forest regeneration in some areas

International conservation interests had major influence in the 1980s through their financial clout, enabling consolidation and expansion of the protected area system. At the end of the 1980s, the administration of the parks system was able to benefit from the debt crisis through ‘debt-for-nature swaps’. International conservation organisations bought Costa Rican dollar-denominated debt titles at a huge discount and had the Costa Rican

government redeem them in local currency to be invested by local organisations in conservation programmes. Between 1987 and 1989, US\$ 36 million in local currency was released for conservation purposes and debt titles of US\$ 75 million were cancelled (Brüggemann, 1997).

Environmental NGOs also played a key role in advocating conservation and in disseminating environmental information in this period. These included ASCONA and the Environmental Education Foundation. Significant research projects by academics also influenced fundamental aspects of the protected area programme. For example, various studies identified areas of high priority for protection in terms of ecosystems and biodiversity (Ramírez and Lewis, 1981), while research concerning the discovery of altitudinal species migration precipitated the enlarging of a number of protected areas.

The impact of environmental research and advocacy was also evident in the introduction of a land use capability system for forest management and reforestation planning approval. Under this system, permits for forest management could be issued for both forest and agricultural land use capability areas, whilst reforestation under the incentive programme (see below) could only be carried out on lands of forest land use capability. Also, as mentioned in section 2.2.2, work on biodiversity led to the establishment of the National Institute of Biodiversity (INBio) in 1989.

Other features of this period included: the proliferation of road-building programmes, notably in the Northern Zone as a response to the Sandinista revolution in Nicaragua; and the increase in banana plantations, spurred on by favourable credits from government.

In 1987, the groundwork for a 'new ecological order' was established during the administration of president Oscar Arias Sánchez with the initiation of the National Conservation Strategy for Sustainable Development (ECODES). This sought a mutually supportive relationship between conservation and production and an integration of the principles of sustainability in all areas of national development.

In the same period the Forest Action Plan for Costa Rica (PAF-CR) was developed. This was a process which attempted, for the first time, to involve a range of other sectors in developing a view of the role of forests in national development, and a broad-based strategy to pursue it.

Forest policy in this period was also notable for introducing fiscal and

Box 3.1 A “new ecological order”? - the National Conservation Strategy for Sustainable Development (ECODES)

In 1987 the Costa Rican government, through the Ministry of Natural Resources, Energy and Mines (MIRENEM), initiated the efforts of over 100 scientists, national and international conservation organisations and professionals from many fields, to develop a long-term strategy for national socio-economic development based on sustainable use of natural resources.

The process of developing the Strategy was half funded by government, and half by IUCN, Conservation International, WWF-US and The Nature Conservancy. ECODES saw itself as a wide-ranging and on-going process of policy and goal definition designed to respond to changing situations. The effort, between 1987 and 1989, included various public opinion polls, which generated a widespread and well-informed debate regarding the role of natural resources in the nation's long term development.

ECODES stalled when the government changed. Today, it is hard to find any reference to the report, although it is not clear whether this is because of party political considerations, or because the report was seen as being too academic and ‘top-down’. But the informal networks of professionals formed during the process continue, and the intellectual influence of the strategy document - which has an ambitious cross-sectoral approach based on systems analysis - has been strong. It provided a framework for development of the Forest Action Plan for Costa Rica (PAF-CR) and for the creation of INBio. ECODES also led the National Parks Service (SPN) to start working on the concept of buffer zones and resulted in the establishment of a National Commission for Environmental Education and a Master Plan for Environmental Education.

financial incentives for reforestation. These began in the form of tax exemptions in the early 1970s and later took the form of various transferable bonds and credits. It was estimated by MIRENEM that by 1990 the various incentives combined had stimulated the reforestation of about 51,450 hectares of land (see section 5.2). The reforestation incentive programmes strengthened both the forestry industry organisations represented by the chambers of commerce and, eventually, the smallholder organisations (see section 5.2). An example of these incentives being used by a local organisation to integrate forestry into local rural development is the community of Hojanca (see Box 3.3).

An important institutional development took place in 1986, when Forest Law 7032 was enacted to regulate the use of forest resources on both state and private lands. This law brought together the SPN and the DGF, formerly in the Ministry of Agriculture and Livestock, under the newly established Ministry of Natural Resources, Energy and Mines (MIRENEM). However, responsibility for forest policy evaluation, like many other sectoral policies, lay with the National Office of Planning (OFIPLAN) (now the Ministry of National Planning and Economic Policy). This meant that,

Box 3.2 The first statement of cross-sectoral policy for forests? - the Forest Action Plan for Costa Rica

Preparation of Costa Rica's Forest Action Plan (PAF-CR) began in 1987, as an initiative of the Ministry of Natural Resources of that time, with the backing of the Government of the Netherlands and based on the guidance of the global Tropical Forestry Action Plan (TFAP) coordinated by the United Nations Food and Agriculture Organisation (FAO).

In its development, a series of meetings and work groups was held with the participation of forest industry actors, smallholders, foresters, educators, and representatives of central and decentralised institutions. In November 1987, a round table was held with public and private institutions, NGOs, smallholder associations, representatives of the main political parties and observers from different international organisations. The aim was to reach consensus regarding the basic objectives and strategies of the Plan. However, a number of key constraints were noted including: a lack of communication between the forestry industry and forest conservation sector; and little capacity to initiate forestry development projects.

Nevertheless, development of the Plan continued and came to be seen by many as a useful process - going beyond the narrow confines of the traditional 'forest sector' to attempt real cross-sectoral policy for forests for the first time. Following the TFAP model, it focused on 5 main programme areas:

- forestry in land use - 'rational' land allocation and forestry in rural development;
- industrial development - 'optimum' forest utilisation and increased role of plantations;
- fuelwood and energy - organisational development to manage forest energy resources and promote efficiency of use;
- conservation of forest ecosystems - protected areas, buffer zones and sustainable use; and
- institutions - establishment of a national forest management system, capacity development and financial self-sufficiency.

At another Round Table in 1990 the Plan was presented, with 29 project profiles, to which donors promised about US\$55 million. A coordination unit was set up within MIRENEM, with support from the Netherlands.

At the time of the 1990 launch it was notable that smallholder forestry issues did not have a high profile in the Plan. Since that time, however, the organisation and participation of small and medium producers in forest programmes has been actively supported by key donors, they have also formed alliances with the private sector and are able to negotiate effectively with government. This is discussed in sections 3.4 and 5.4.

A key problem for PAF-CR has always been institutional coordination. Since responsibility for management of the plan was given to an autonomous unit, there was friction between the unit and government's main forestry organisation, DGF. With a multiplicity of relatively autonomous forestry projects in Costa Rica (a survey carried out by MIRENEM/PAF-CR in 1991 counted 311 ongoing or planned forestry projects with donor support), the boundaries of what is considered 'within' and 'outside' the PAF-

CR have in practice been poorly defined. In recent years the PAF-CR evolved into the Secretariat of Natural Resources, which then became part of the Department of International Cooperation. Several individuals from the PAF-CR are now involved in the Central American Council for Protected Areas.

A number of important bilateral forestry projects - in particular those with Dutch, German and British bilateral support - have emerged from the PAF-CR. Together with the fourth debt-for-nature swap of 1988, these provided the technical basis for tropical forest management, forest control, and plantation forestry. Costa Rica now has a comparative advantage in the latter in Central America, and arguably beyond. Such bilateral initiatives also helped develop the basis for institutional support for organisations such as FUNDECOR and CODEFORSA (see section 5.1), which in turn has led to the creation of other producer groups and umbrella organisations such as JUNAFORCA (see sections 2.3.3 and 5.4).

instead of being an activity by which policy implementors might monitor, learn and adapt their actions, policy evaluation was limited to the largely quantitative analysis by distant technicians of annual reports and end-of-political-term evaluations.

Meanwhile, the law-makers were at work again. The Constitutional Chamber of the Supreme Court annulled Forest Law 7032 and the Legislative Assembly then approved Law no. 7174 in 1990. However the Assembly also created the Special Forestry Commission with the purpose of reforming Law 7174 and exercising political control of the activities undertaken by the General Forestry Directorate. This began a process which was later to lead to the new Forest Law of 1996 (see section 3.4).

Box 3.3 After the cattle years - diversifying livelihoods and trees in the Hojancha Community, Guanacaste

The community of Hojancha, located in the Northern Pacific area, developed extensive cattle ranching during the 1950s and 1960s, primarily for beef exports to the United States. During the late 1970s, the drop in beef prices caused a collapse in this livelihood strategy, leading to widespread unemployment

and one of the largest known migrations from the Guanacaste region - 57 per cent of the community migrated toward the Central Valley region and other areas of the country. The cattle years had also left a legacy of watershed problems and soil erosion.

Those who stayed in the region started to organise means of working together, and with state institutions began an economic reactivation programme for the area. The Hojancha Cantonal Agriculture Centre was formed in 1978 to group both farmers and personnel from agricultural community organisations. The Centre was able to secure some government financial incentives for reforestation projects, and also worked on coffee production, silvo-pastoral systems and basic grain crops. Technical support was provided by DGF and through projects such as a multi-

purpose tree species project run by CATIE. Further financial backing was obtained through soft credits from the International Development Bank.

There have been significant successes. The degree of organisation and local mutual support has developed greatly and there have been major improvements in: development of educational programmes; access to credit and loans; agricultural extension; and training and development associations. Agroforestry systems, such as polyculture coffee plantations for shade-grown coffee or systems designed to provide organic matter for soils, have been widely adopted by the smallholders. Agricultural diversification is now well-advanced in the Hojancha community, and the local economy is growing once more.

The approach to social organisation in the area seems to be at the core of its success. Good communication and free flow of information within the area have also been particular strengths, as has the focus on periodic and systematic self-evaluations.

Photo: David Boshier



Farmer's Gmelina plot (*Gmelina arborea*), Hojancha area, Guanacaste. Following collapse of cattle production livelihoods in the area, various community organisations have helped farmers secure financial incentives to incorporate forestry into land use systems

Table 3.3 Summary of policy processes influencing forests and people in Costa Rica from 1970 to 1990

| Political-Economic Context | Government Policy Instruments | Actors and Actions | Effects on Forest | Effects on People |
|---|---|---|--|--|
| Import-substitution economic model in 1970s | Promotion, regulation and technical assistance for commercial uses of forests | Legislators create regulatory base for DGF (forest management) and SPN (protected areas) | Public and private protected areas cover about 29% of the national land by 1990 | Society benefits from creation of protected areas |
| Autonomous central institutions formed, local government weakened | Creation and 'fencing in' of protected areas | Technocrats operationalise forest institutions | Continued colonisation until all national land allocated | Tourism emerges as important source of revenue |
| Land invasions by smallholders in 1970s | National Plan for Forest Development 1979 | Forest entrepreneurs secure incentives for reforestation | Expansion of banana production areas | Communities displaced by protected areas |
| Structural economic reforms in 1980s | Tax incentives for reforestation in 1980s | Large forestry businesses control industry and form first Chambers of Forestry | Deforestation of 500,880 ha of natural forest; 39% of national territory remaining as forest in 1990 | Large forestry businesses benefit from incentives |
| Land use alternatives to cattle farming in 1980s | Reforestation incentive bonds initiated in late 1980s | Smallholders increase organisational strength and start promotion of reforestation | | Smallholders begin to benefit from forestry activity |
| End of the agricultural frontier | Land Use Capability System - basis for permits and incentives | Academics provide training and carry out research | | Strong public awareness of environment |
| National 'sustainable development' approach in late 1980s | Valuation of biodiversity and founding of INBio 1989 | Conservationist individuals and organisations emerge, quickly organise and begin advocacy. Buy-outs begin to form protected areas | | |
| International/ donor interest in environment/ sustainable development | National Conservation Strategy for Sustainable Development 1987-89 | | | |
| | Forest Action Plan 1988-90 | International agencies give cash and promote agriculture, forests and sustainable development | | |
| | Debt-for-nature swaps | | | |

3.4 From 1990 to 1997: sustainable development's growing pains

National development strategy in this period began to adopt the principles of sustainable development first expressed in the Strategy for Sustainable Development (ECODES), formulated 1987-89. The new approach can be seen as an attempt to reconcile the two trends from the preceding periods: agricultural expansion with little regard for the forests between 1950 and 1970; and the tendency toward absolute protection with little regard for the needs of the people between 1970 and 1990.

Macroeconomic changes were also afoot, with government responding to economic globalisation and the pressure to reduce Costa Rica's foreign and national debt by lowering public spending and downsizing government agencies. Proposals were under discussion for the privatisation of various state institutions and services, and the forest sector was considered amongst these. Draft legislation was prepared for the purpose of selling national coastal lands, and it seemed that the national parks would soon follow.

The private business sector was affected by the reduction in tariffs that opened the national market to imported goods, and many national industries were taken over by transnational companies. The end of the nationalised bank monopoly and other privatisation measures also affected the forestry sector, attracting international paper companies such as Ston Forestal, a subsidiary of the Stone Container, Co. of the USA. Located in the southern region of the country, this company reforested 16,000 ha with gmelina (*Gmelina arborea*) intended to be exported for paper pulp production. Other companies began to establish teak (*Tectona grandis*) plantations in different regions. Faber Castell is establishing a factory located near the Ston Forestal Co., to utilize gmelina to produce pencils. The government has stimulated imports of industrial grade lumber by lowering import tariffs, which has favoured Chilean imports which are now competing with national plantation wood.

The development of tourism during this period helped to reactivate the economy. Eco-tourism has become the country's top revenue earner. The current government has appointed a Minister of Tourism and international publicity campaigns were developed to promote Costa Rica's "green image", as a model of conservation and sustainable development.

The Costa Rican government ratified the main international treaties and agreements for protecting natural resources and promoting sustainable development stemming from UNCED in 1992, notably the Framework

Convention on Climate Change (ratified by Law 7414) and the Biodiversity Convention (ratified by Law 7416). The Costa Rican government also played a leading role in the formulation and promulgation of the Central American Alliance for Sustainable Development.

The Central American Council for Forests and Protected Areas (CCAB-AP) was created by the Presidents of the region with the purpose of ensuring the optimum management and use of forest resources. This Council has carried out several studies and has proposed a concerted effort to solve issues of mutual concern. The Costa Rican Chamber of Forestry and representatives of private commerce also have formalised roles in this process (see section 2.3.2).

At the national level, the government has proclaimed the need to include the economic and social benefits of forests as national assets. The Ministry of National Planning and Economic Policy (MIDEPLAN) is incorporating forestry in the National Development Plan. The nationalised banking system has been instructed to cooperate with this approach and legislation anticipates the passing of a bill under which standing trees on private property can be used as credit guarantees in the national finance system.

These political changes have both encouraged, and been encouraged by, a series of legislative developments in the 1990s. The most important of these for forests are the 1995 Organic Environmental Law (7554) and the 1996 Forest Law (7575). There is also a Biodiversity Bill under discussion.

Box 3.4 Who owns biodiversity? - the Biodiversity Bill

This Bill, drafted in 1996, has generated much controversy, since it concerns biological resources ranging from seed banks and the extraction and use of germplasms, to species and biodiversity research. It also covers intellectual property rights on discoveries and scientific research made in this field. Another controversial concept is 'national biodiversity patrimony', which considers that biodiversity is the exclusive property of the State and can be ceded in certain cases. One of the organisations that has most questioned these aspects of the concept is the National Institute of Biodiversity (INBio). Representatives of community-level interests, meanwhile, have objected to the notion that government approval will be required before they can harvest anything considered to be 'biodiversity'.

Development of this draft law was spearheaded by legislator Luis Martinez. Technical assistance was provided by consultants from national institutions and international bodies such as The World Conservation Union (IUCN). Consultations on the Bill were held with academics from the universities, conservation organisations such as the Costa Rican Federation for the Conservation of the Environment (FECON), and various sectoral agencies. Legislator Martinez also presented the Bill for consultations with smallholders, indigenous groups, and businessmen, as well as legislators and members of the executive branch.

Two main factions emerged, with opposing positions on the regulation, control and management of biodiversity:

- Legislator Martínez, his project advisors, community organisations, and FECON - who supported the idea of an inter-sectoral commission with representatives of different social actors and communities; and
- the Ministry of Environment and Energy (MINAE), INBio and some legislators - who supported a more restrictive regulatory regime overseen by MINAE and INBio.

A Commission was established by the national assembly, headed by a sociologist from the National University. The Commission is charged with re-drafting the Bill for consideration by Congress. Commission members include: INBio, MINAE, the Forestry Chamber, FECON, an agrarian organisation, Indian groups, and members of the two main political parties. Key issues under discussion by the Commission include access to biodiversity, food security and property rights. With a view to gaining legislative approval for SINAC, MINAE has included provisions for the SINAC structure within the Bill - whilst environmentalists argue that this is an administrative matter and should be kept separate from this Bill. In late 1997 the Bill was on hold, due to the government's 'special agenda' for the final legislative period in its current term.

The 1996 Forest Law was a response to the need to up-date and re-organise legislation in this field. The new law was formulated as a normative instrument by a legislative sub-committee that studied other initiatives, such as the “CULPA” Bill (Solis, 1996) (see Box 3.5) which, amongst other measures, proposed a complete ban on logging in natural forests and permitting exploitation of forest plantations only.

During the formulation of the current Forest Law (7575), consultations were held with different entities including: the University of Costa Rica, conservationist organisations, the Costa Rican Federation for Environmental Conservation (FECON), private businesses, logging unions and smallholder organisations. Three main lobbies were evident in the development of the 1996 Forest Law:

- the state forestry organisations seeking to maintain their authority and control;
- the environmentalists, who were pressing for stronger sanctions on illegal loggers and conservationist incentives for the small farmer; and
- the forestry production sector which was demanding greater freedom of action.

Another group, the medium and smallholder forestry producers, developed a strategy and negotiation process to deal with both government agencies and business unions. Grouped together in the National Smallholder Forestry Assembly (JUNAFORCA), the small producers developed alliances with other productive sectors in order to influence the formulation of the forest law.

Box 3.5 Proposing extreme measures as a policy development tactic - the 'CULPA' Bill

A law bill, which became known as 'Cortar Unicamente Lo Producido Ahora' (to cut only what is produced now), was developed and presented by legislator Otton Solis in 1995. In the view of this legislator, existing forest laws have precipitated the destruction of both national reserves and privately-owned forests. Government subsidy of these activities is "an aberration of the Costa Rican fiscal system", and forestry management plans have allowed the over-logging and exploitation of forest resources. The 'CULPA' Bill proposed:

- that all timber needed for domestic use or export should be obtained exclusively from plantations or agroforestry systems that have been specifically established for this purpose;
- a complete national ban on logging of natural forests;
- deregulation and liberalisation of exploitation of timber grown for industrial or commercial purposes;
- elimination of all current reforestation incentives;
- establishing of a 'CULPA certificate', as a legal and financial tool to compensate smallholders who retain natural forest on their land. Smallholders, here defined as owners of properties no larger than 25 hectares, would receive a single compensation payment of approximately US\$200 per hectare.

After much heated debate, the Legislative Assembly's Permanent Commission on Agricultural Affairs and Natural Resources rejected the Bill on the following grounds:

- forest management planning has been shown to assist conservation of forest resources: water, timber and non-timber resources;
- to completely stop timber exploitation would directly or indirectly affect many livelihoods with serious social consequences, such as unemployment. The measure would paralyse the forestry industry since present timber plantation production cannot satisfy national market demand; and
- the approval of such an extreme measure would set off indiscriminate logging that would cause the destruction of the forest before passage of the Bill through the legislature was complete (File No. 11967, Legislative Assembly).

However, the 'CULPA Bill' demonstrates the effectiveness of taking an 'extreme' position to stir up debate and to allow somewhat less extreme measures to be more easily approved subsequently. In effect this is what occurred - the Bill paved the way for the passing of the 1996 Forest Law which, in some of its provisions, moves forest legislation a considerable way towards the position taken by the Bill, whilst appearing relatively uncontroversial.

The greater or lesser influence of these different social actors on policy processes was reflected in the eventual 'shape' of this law and the measures it contains. In a sense, all lobbies 'won' something: the law focuses more forest management attention onto natural forests and deregulates a number of key activities, but it also retains much regulation. For example, the new law forbids any change in land use on land which has trees on it, or which is forest. This is a remarkable expropriation of private property rights, and represents a considerable victory for certain state and conservationist views. Private sector associations have already begun contesting this section of the law in the Constitutional Chamber (see section 2.3.1).

A measure, guaranteeing a system of financial incentives for smallholders for reforestation over the next 10 years, was also finally established in the law, despite considerable opposition from the forest authorities. However, the linkage of this system to a petrol tax, the revenue from which is subject to great demand from other government sectors, has meant that, by late 1997, this system was yet to deliver any incentive packages. These issues are discussed further in section 5.2.

Institutional reorganisations have also been numerous over the last few years. In the late 1980s, after DGF and SPN were moved from the Ministry of Agriculture to the newly created MIRENEM, the National System of Protected Areas was introduced. The idea was to establish a large conservation area by linking strictly protected areas - administered mainly by SPN - with a buffer zone for sustainable resource use, managed mainly by DGF. Regional Conservation Units (URCs) were promoted, to integrate different state authorities and national and international NGOs operating in the region, and to decentralise administration and management to the regional level. However, despite much planning, lack of inter-institutional cooperation set back the implementation of the URC concept.

However, the URC concept was revived, in the 1995 Organic Environment Law, in the form of Regional Environment Councils (see section 5.4). These Councils, created by the Organic Environmental Law, are given responsibilities under the 1996 Forest Law, together with local municipalities, to set regional reforestation and conservation incentive priorities (see section 5.2).

Central restructuring also continues. In 1996, MIRENEM was reborn as the Ministry of Environment and Energy (MINAE). DGF and SPN were united with the Wildlife Department to form the National System of Conservation Areas (SINAC) within MINAE. This measure established a territorial system for the country, divided into 10 Conservation Areas, most of which are based around a major national park, and each of which is independently regulated with both state and private initiatives for natural resource management and conservation.

State forest management was decentralised, in theory, with the establishment of SINAC and administrative procedures are now regulated by the regional offices of MINAE. The new system permits the establishment of autonomous Foundations for each Conservation Area, which can fund extra-budgetary expenditure - for example, on additional park guards - and by-pass the Treasury. The SINAC system has been operative for only a short while, but forest technocrats at central level are already expressing concern that, given the different organisational and developmental characteristics of each protected

area, the loss of centralised management may jeopardise their previous accomplishments (see section 5.3).

Other developments under the 1996 legislation include the creation of a National Forestry Office, a public NGO under the jurisdiction of the Costa Rican General Comptroller. The main functions of this agency are to propose strategies and policies to the MINAE for the development of forestry activities. This office is to be formed by eight representatives of small and large forestry producers unions, industrialists, commercial loggers, and a representative of the country's ecological groups. The board of directors will be assigned by the assemblies of each sector for a period of three years.

The National Forestry Finance Fund (FONAFIFO), created by previous legislation, was also strengthened by the 1996 legislation and established as a semi-autonomous organisation authorised to receive and administer resources geared towards the development of forestry activities. Forestry producers have three representatives on the board of directors.

Finally, this current period is notable for the growth of privately-owned protected areas. These private reserves now represent almost 16 per cent of the total national protected area. Wildlife Refuges have shown the greatest proportional increase of all the protected area categories. Many private owners of forest lands have applied to have their land designated Wildlife Refuge, stimulated by the potential for external support from conservation foundations etc., the potential government support for protection of environmental services, and the growth of the eco-tourism sector. There has also been significant expansion of National Park areas, brought about by changes made in laws regulating Forest Reserves, which are now included under the category of National Park extensions.

However, the creation of a great number of protected areas has also significantly affected many rural communities, some of whom have been displaced without adequate compensation, or whose lands have been bought out at much less than the market value. Buy-outs by foreigners to set up protected areas have caused much resentment in some areas, and this continuing trend receives much criticism by those concerned with social development in Costa Rica (see section 5.3).

Table 3.4 Summary of policy processes influencing forests and people in Costa Rica from 1990 to 1997

| Political-Economic Context | Government Policy Instruments | Actors and Actions |
|--|--|---|
| Structural adjustment, reduced public spending, privatisation, market liberalisation | Forestry Law 1996: Partial deregulation of industry | Loggers and forest entrepreneurs are financially consolidated |
| Reforming state structures | Institutional coordination: creation of SINAC, National Forestry Office | Legislators accept some state decentralisation measures |
| | Decentralisation: creation of Regional Environmental Councils | Forest industry unions form alliances in Central America |
| Alternative/innovative financing mechanisms | 'Socialising' reforestation: incentives for small producers (CAFA, and FDF) | Smallholders see reforestation as an economic alternative |
| | Forest Management Incentives (CAFMA) | Coordination of reforestation incentives |
| | CCB conservation incentives | Smallholders organisations strengthen technical capacity |
| | Marketing carbon offsets | International agencies provide financial backing for 'social' forestry projects |
| | National Forestry Finance Fund (FONAFIFO) | |
| | Netherlands-Costa Rica sustainable development agreement (ABDS) | |
| 'Sustainable development' as national development strategy | Constitutional chapter on ecological guarantees | Academic sector disseminates 'sustainable development' approach |
| | Organic Environment Law 7554 | Foreign companies involved in AIJ |
| | Activities Implemented Jointly (AIJ) for reduction of greenhouse gas emissions | |
| | Valuation of forest environmental services | |
| | Draft Biodiversity Bill | |
| Eco-tourism as a source of foreign revenue | Promotion of Costa Rica's green image | Tourism entrepreneurs (some of them foreign investors) want incentives promoting conservation areas |
| | | Tourist market demands policies on tourism and biodiversity |

| | Effects on Forest | Effects on People |
|--|--|---|
| | <p>Increase in privately-owned protected forest areas</p> <p>Decrease in national forest cover from 40% to 30%</p> <p>300,000 ha of secondary forest maintained for 10 years</p> <p>Reforestation on farms and land parcels - 72,000 ha planted through reforestation projects</p> <p>Bioprospecting in protected areas</p> <p>Forest scenic and biodiversity values conserved</p> | <p>Growing resentment in some communities at exclusion from protection area</p> <p>Forestry Chambers of Commerce influential in protecting existing industry</p> <p>Greater participation and strengthened organisation of local actors (e.g. ACA, Hojancha)</p> <p>Smallholder forestry organisations strengthened (JUNAFORCA)</p> <p>Environmental groups more coordinated (FECON)</p> <p>Greater public environmental awareness</p> <p>Strengthened eco-tourism sector, search for local approaches in regional, community</p> |

Box 3.6 Decentralisation that works? - the Arenal Conservation Area

The Arenal Conservation Area (ACA) covers a total of 940,000 hectares (almost one fifth of the country) distributed throughout three provinces in the Northern Zone (Alajuela, Puntarenas and Guanacaste). It is one of the country's ten Conservation Areas under the SINAC system, and its management organisation - also called ACA - is thus charged with coordinating the conservation areas or national parks, and overseeing any activities that affect natural resources and the environment in the area. With headquarters in Ciudad Quesada, San Carlos, the ACA includes the Arenal National Park and a group of private reserves that make up the Monteverde Cloud Forest Biological Preserve, the Children's Eternal Forest, San Ramón Biological Reserve and Caño Negro National Wildlife Refuge.

The ACA has made concerted efforts to decentralise environmental management decision-making to the levels at which the consequences of such decisions are experienced. Management authority has been delegated to six Sub-Regions: Cutris, Los Chiles, Pital, San Carlos, San Ramon, and Upala-Guatuso. The communities in each of these sub-regions were organised into Local Environmental Committees which are now well integrated with the Communal Development Associations, the municipalities, environmental groups, producers' groups, the police force, Civil and Rural Guards, youth organisations and student groups, and women's groups; all of which have had the organisational backing of the ACA for various activities in environmental management and institutional development. The first-formed of these Local Environment Committees, Upala-Guatuso, now involves 32 different local organisations which collaborate, chiefly in management of the protected areas.

The ACA has also pioneered the implementation of new measures for community involvement in forest policy processes. During discussions preceding the 1995 Organic Environment Law and 1996 Forest Law the local ACA communities were asked for their views. Several changes were proposed by these communities, although none were accepted. The ACA is now trying to operationalise the Regional Environmental Council concept, established by these Laws, through a joint forum of its six sub-regions.

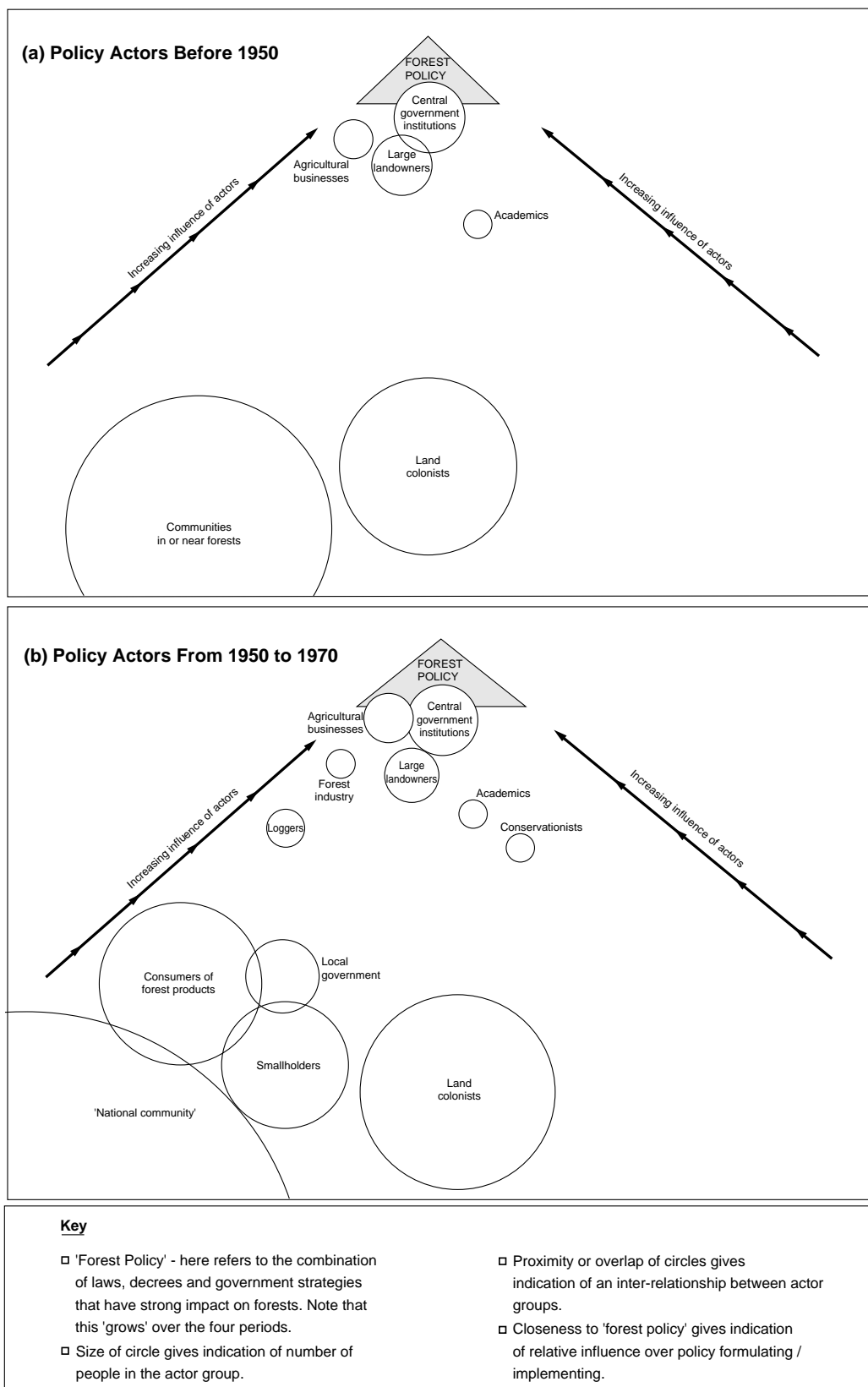
The progress made by the ACA owes much to the involvement of professionals trained and experienced in community development, and by an administrative director who put the central emphasis on community participation. Strong linkages were made with the National Distance-Learning University (UNED) and other training agencies for ACA staff and members of the Committees. However, inconsistent central government support has always been a feature, and when combined with a recent reorganisation which resulted in some key ACA personnel moving on, the successes of the system have begun to look a bit more fragile.

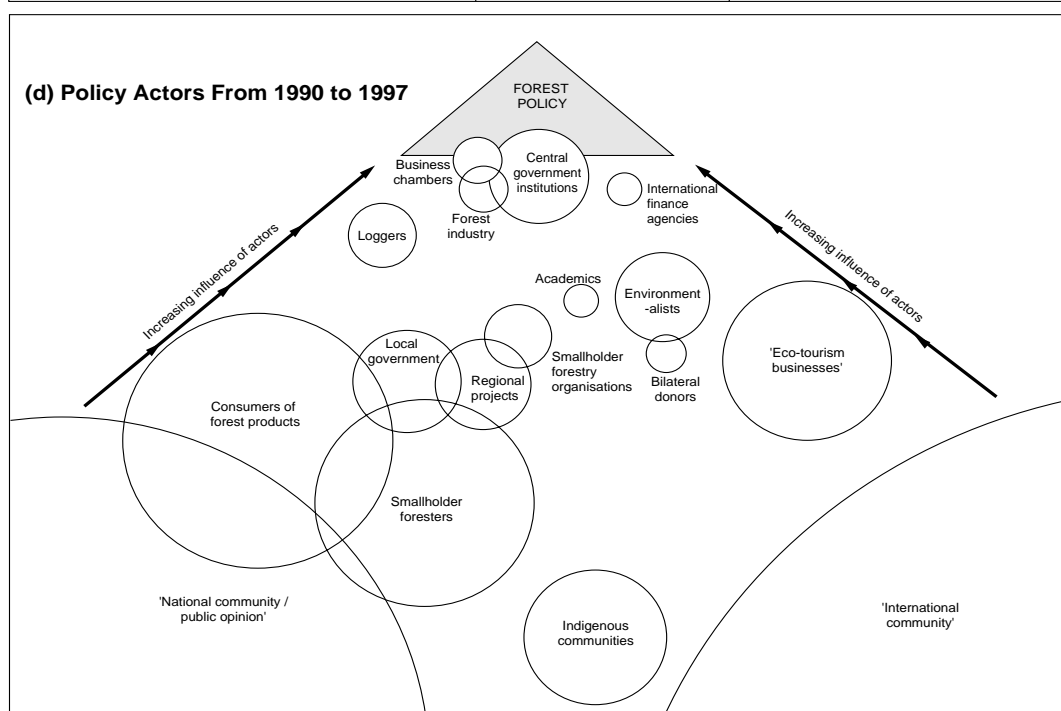
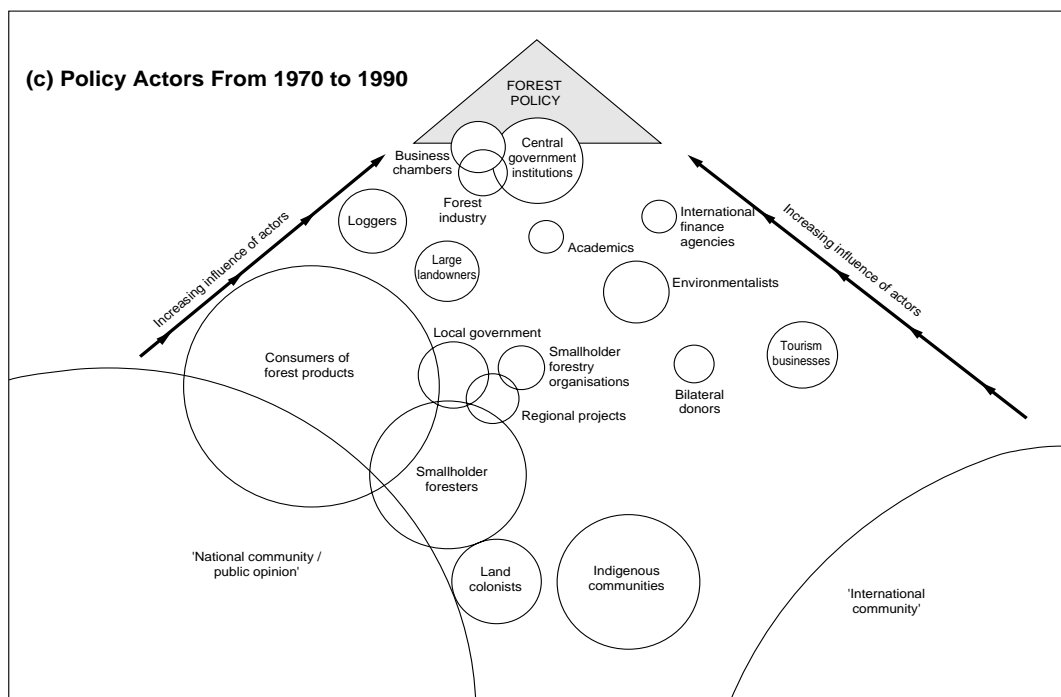
The ACA experience nevertheless offers key lessons on the potential for effective decentralisation: firstly, the region can be an appropriate level for organising support for institutional development at more local levels; and secondly, that local decision-making, backed by the region in this way, can make much progress for environmental management.

3.5 The evolution of power to influence policy - a visualisation

The four diagrams below (see Figure 3.2) are an attempt to visualise the main groups of actors' powers to influence the making and implementing of policies affecting forests and people. The diagrams indicate the relative influence of the different actors, the linkages between them, and the way this pattern has changed over time.

Figure 3.2 The power of difference actor groups to influence 'forest policy' in Costa Rica





Key

- 'Forest Policy' - here refers to the combination of laws, decrees and government strategies that have strong impact on forests. Note that this 'grows' over the four periods.
- Size of circle gives indication of number of people in the actor group.
- Proximity or overlap of circles gives indication of an inter-relationship between actor groups.
- Closeness to 'forest policy' gives indication of relative influence over policy formulating / implementing.



Policy for forests: the current state of play

4.1 Summary of extra-sectoral policy influences

Today, the legal and cultural legacy which values cattle grazing over forestry and which views trees as an impediment to land title is not as strong as in previous years. But it remains a key factor militating against better forest management. Traditionally, agricultural land usage has been more valued than forest, and timber has been considered a sub-product of the process of clearing land for farming. It can be argued that, during a period when forest value was based upon standing timber alone rather than on the wider range of forest goods and services, by liquidating Costa Rica's natural forest and investing in coffee, livestock, bananas and non-traditional export crops, more income and employment has been provided than would have been provided by forestry. It is only very recently that the balance of policies has begun to be less weighted in favour of pasture and agriculture relative to forestry.

Despite the 1996 Forest Law forbidding land use change on land with trees or forest on it, there are still a number of policies which continue to influence conversion of forests to other land uses:

- *Land tenure and titling.* During the advance of the agricultural frontier, landowners who did not clear forests jeopardised their right to clear title to their land, and many properties perceived as abandoned lands were invaded by squatters' groups. Despite the passing of the agricultural frontier, tree felling and cattle ranching are still recognised as a means to secure land holdings. Land speculation is another reason why pasture expansion has continued in agricultural frontier areas (Kaimowitz, 1996). It remains to be seen whether a provision in the 1996 Forest Law for protection against land take-over can be enforced.
- *Livestock credit.* Provision of livestock credit was a key factor behind the

beef export boom of the 1960s and 1970s. This peaked at 58 per cent of agricultural credit in 1974 (Kaimowitz, 1996); by 1989 the figure was about 25 per cent and it has fallen a little further since then. The livestock sector has also been a major beneficiary of debt rescheduling. Thus, whilst less important than in previous years, livestock credit is still an influence on decisions to convert forest.

- *Market interventions.* A 1987 ban on exports of logs and unprocessed timber certainly depressed domestic stumpage prices. This has acted as a disincentive to reforestation and has led to more wasteful milling, etc. It may also have resulted in conversion of forest lands to other land uses at the margin. It is also argued that the ban on issuing licences for new sawmills, combined with transportation subsidies, not only increases the aggregate value of other sectors, but proportionally decreases the value of forests (CCT, 1992). However, policies which increase the domestic price of timber and provide clear individual property rights for tree ownership may, on the one hand, favour reforestation and secondary forest regeneration, but on the other hand, favour rapid timber extraction from existing forests. The balance depends on the effectiveness of regulation or self-regulation (see section 5.1).
- *Agricultural export preferences.* Policies in this area have established Costa Rica's strong comparative advantage in banana cultivation. However this is based more on non-unionised immigrant labour and multinational know-how than on anything peculiar to Costa Rica. Government and company pressure has tended to prevent attempts to organise the workers. The system of granting concessions to banana companies is in conflict with regional conservation and sustainable development priorities (see sections 3.3 and 3.4).

In recent years, a decline in cattle prices, poor marketing infrastructure and land degradation have combined to dramatically lower cattle production. This is leaving many farmers with degraded and under-utilised pastures which they want to convert to more productive uses, and some landholders are gradually reforesting these pastures or abandoning them to natural regeneration. The problem is that the beneficiaries have not been paying the full costs of forest conversion. These costs range from environmental degradation and loss of biodiversity (CCT/WRI, 1991) to the loss of culture and forest-based livelihoods and the more insidious costs of rising inequality in access and control of land and resources. These issues of power differences in the distribution of costs and benefits are taken up further in sections 5.4 and 6.

4.2 Summary of government policy for forests, and perspectives of other main actors

Currently, there is no clear over-riding statement of national forest policy which is widely subscribed to by different agencies of government (let alone by other actors). This has been the case for many years. In 1992, MIRENEM asked the Tropical Science Centre (CCT) to coordinate a consultation process prior to producing a forest policy for Costa Rica. A core group worked on this, drawing on advice from a pool of some twenty professionals representing different forest sector agencies. Their report noted in its introduction:

“In the past, policy guidelines were defined, and national plans for forestry development and the forestry subsector were prepared. Nevertheless, these activities have not been consistent and continuous, to the extent that at present, forestry subsector authorities argue that an explicit national forestry policy does not exist....Legislation, such as the Forestry Law, which has been taken as policy, is only an instrument for policy implementation. The forest policy must be a specific statement of what is intended for the forestry subsector: where it is going, and what is its relation to the economic and general policy of the country” (CCT, 1992; p4)

MIRENEM approved and published the document in 1994. However, with a change of administration, this statement was rather side-lined as a strategic policy document for sector organisations. Later, much of its emphasis was superseded by the 1996 Forest Law. In late 1997, therefore, formal government policy was once again represented by a set of laws and sectoral programmes, with various overlaps and contradictions. Table 4.1 presents a chronology of the main laws and policy statements in Costa Rica since 1775.

In the absence of a national policy which defines a clear and widely recognised vision and strategy for forests in national development, we must continue to infer policy from the collection of laws, programmes, projects and subsectoral actions. The study team has developed an interpretation of these (see Table 4.2). For the reasons outlined above, other valid interpretations could be made.

Table 4.1 A chronology of Costa Rican forestry legislation and policy statements

| Year | Legislation | Main Theme |
|------|--|---|
| 1775 | Proclamation of Spanish governor Juan Fernández de Bobadilla | To ban setting fire to fields in mountain areas - to protect large livestock ranches |
| 1883 | Decree of land concessions to San José, Cartago and Alajuela for agriculture, pastures and forests. | Reforestation of mountain lands by town councils, with native species - cedar, 'guachipelin' - for building wood |
| 1846 | Lands are awarded to San José, Cartago, Alajuela and Heredia for fuelwood, pasture and agriculture | Securing lands for pasture and fuelwood |
| 1888 | The decree of an inalienable 2 km wide zone on either side of the Barva Volcano. | Civic duty to protect mountain as watersheds for Heredia and Alajuela water supplies |
| 1906 | Presidential decree for a special executive commission to formulate a Forestry Law | Excessive deforestation and deterioration of soil and water resources. |
| 1919 | Executive Decree Pres. Alfredo González Flores | Commercial exploitation of forest resources |
| 1934 | 'Family Providers' Law | To reforest the highlands of the Northern Zone and Heredia for wind shelter and water production |
| 1941 | Land Tenancy Information Law | Distribution of unused public lands to heads of family to encourage colonisation and settling of new regions |
| 1969 | Forest Law No. 4465 | Colonisation of forest areas for agricultural purposes |
| 1977 | National Parks Service Law No.6084 | Legislating activities linked to the forest |
| 1977 | Indian Reserve Law No.6172 | The Protected Area system is consolidated |
| 1979 | Regulations regarding the protection and use of Forest Reserves | Regulate and protect Indian Reserve lands |
| 1979 | National Forestry Development Plan | Use and management of the Forest Reserves |
| 1986 | Amendments to Forest Law No.7032 | First coherent plan for the sectoral agencies |
| 1988 | Executive decree No.18105 establishing the Forest Bond Certificates | Allocates proportions of revenues from forest taxes to municipalities (10%) and regional organisations (10%) |
| 1989 | National Conservation Strategy for Sustainable Development (ECODES) finalised | Financial incentives for production forestry activities |
| 1990 | Ministry of Industry and Mines becomes the Ministry of Natural Resources, Energy and Mines (MIRENEM) | A sustainable development framework for all sectors to develop cross-sectoral and participatory strategies |
| 1990 | Amendments to Forest Law, No.7174 | Joins the General Forestry Directorate and the National Park Service under MIRENEM. Centralisation of the natural resource and energy sector. |
| 1990 | Forest Action Plan for Costa Rica (PAF-CR) presented | MIRENEM codifies <i>regimen forestal</i> including rules for forest management plans and incentives. Forest Law 7032 annulled. |
| 1992 | Wildlife Law No.7317 | First cross-sectoral strategy for forests |
| 1994 | Forest Policy for Costa Rica approved by MIRENEM | Regulating and protection of wildlife |
| 1995 | Organic Environmental Law No.7554. | Policy statement developed by national-level professionals within the forestry sector |
| 1996 | Forest Law 7572. | Creation of the Regional Environmental Councils |
| 1996 | Forest Law No. 7575. | Approval of Regional Agreement for the Management and Conservation of Natural Forest Ecosystems and the Development of Forest Plantations. |
| | | Overrides former forest laws. Decentralises state forest management and provides guidelines for the management of National System of Conservation Areas - SINAC |

Source: Adapted from Fournier Origgi 1985, and further developed

Table 4.2 Summary of current government forest policy in Costa Rica

| |
|--|
| <p>Management of forest production and industry</p> <ul style="list-style-type: none"> • Land use change forbidden for land which has trees on it (or is forest) • Contracts between government and landowners to regulate: reforestation, prevention of land invasion, and land tax exemption • EIAs required prior to forestry development (since 1996) • Log export ban (since 1987) • Timber taxes levied on volume at point of primary processing • Technology development promoted - to reduce impact and wastage etc. • Partial liberalisation of large-scale commercial forestry (since 1996) • Register of private professional foresters - 'forest regents' - to provide technical assistance and provide and monitor timber harvesting and transportation permits |
| <p>Fiscal and financial forestry incentives</p> <ul style="list-style-type: none"> • National Forestry Finance Fund (FONAFIFO) for smallholder forestry (since 1996). (In the 1997 national budget FONAFIFO was allocated about \$7 million) • Subsidised plantation development and some forest management (until 1997): income tax deductions, soft credit, transferable bonds (CAFs), municipal forest funds and forest development fund • Credits, mainly through FONAFIFO, to replace above incentives (from 1998). Some credits for farmers to be sourced from carbon sequestration deals, packaged and sold on the international market • Payments for protection (CCBs) and supply of environmental services (PSAs), prioritising buffer zones and biological corridors connecting protected areas (since 1996) |
| <p>Management of forest protected areas</p> <ul style="list-style-type: none"> • Conservation areas system (SINAC) - core protection areas and buffer zones • Approval of private sector/NGO land buy-outs and management for forest protection • Arrangements with NGOs to manage some public protected areas where government unable to finance |
| <p>Decentralisation and participation in policy processes</p> <ul style="list-style-type: none"> • Partial regional autonomy through SINAC • Incorporation of some communities neighbouring protected areas in area patrol and protection • Limited participation space for other actors since 1996: Regional Environmental Councils, National Forestry Office and FONAFIFO |

The story of the evolution of policy influences on forests and people, told in section 3, shows that there are many actors outside the government forest agencies who have alternative perspectives on what the objectives of forest policy should be. (Our history also clearly demonstrates that there are competing perspectives within and between agencies of government over policy for forests). Table 4.3 summarises some of these alternative perspectives, generalised in three groupings: the forestry and tourism industries, environmental NGOs, and smallholders and communities. These alternative views are at the heart of a number of key contemporary contests over policy, which are the subject of the next section.

Table 4.3 Summary of policy positions of some key non-governmental actor groups

| Policy theme | Forestry and tourism industries' perspective | Environmental NGO perspective | Smallholder and community perspective |
|---|--|--|--|
| <i>Management of forest production and industry</i> | <ul style="list-style-type: none"> • Change state functions from command and control to promotion and support • Maintain timber import tariffs to protect national markets • Improve infrastructure • Continue protection of existing industry - keeps log prices low • Implement limited deregulation in 1996 Law, but avoid deregulation which creates illegal competition from portable sawmills, which may use undersized trees | <ul style="list-style-type: none"> • Develop a clear national strategy for timber production • Call a complete moratorium on logging for 1-2 years • Apply strict sanctions to illegal loggers • Carry out full forest inventory • Develop planning by land use capability classification • Apply land taxes linked to land use capability classification • Improve efficiency of industrial processes • Use smaller diameter timber | <ul style="list-style-type: none"> • Deregulate small-scale and medium-scale forestry • Mitigate influence of large-scale national and international businesses which monopolise and centralise resources and information for forest development |
| <i>Fiscal and financial forestry incentives</i> | <ul style="list-style-type: none"> • Retain reforestation incentives rather than bank credit • Establish clear policy commitment to private sector forestry - otherwise reluctant to invest for fear of government policy changes • Keep conservation and environmental service payments oriented to large landholders | <ul style="list-style-type: none"> • Ensure incentives are more equitably distributed • Implement payments for environmental services and natural regeneration • Target conservation incentives at NGOs | <ul style="list-style-type: none"> • Establish clear forest policy to enable long-term planning (incentives have been used as short-term income) • Ensure financial backing for small-scale forest plantation and small industry development over full production cycle (after which it can be self-sustaining), and for agroforestry • Simplify procedures for securing incentives |

| Policy theme | Forestry and tourism industries' perspective | Environmental NGO perspective | Smallholder and community perspective |
|---|--|--|--|
| <i>Management of forest protected areas</i> | <ul style="list-style-type: none"> • Continue promotion of country's "green" image to promote tourism • Increase development of tourism services linked to protected areas • Increase private concessions for protected areas and limit public investment in non-tourism infrastructure within public protected areas | <ul style="list-style-type: none"> • Ensure effective protection of conservation areas and designate more areas for protection • Develop economic alternatives for communities in buffer zones • Promote community participation in protected area management | <ul style="list-style-type: none"> • Involve communities in real decision-making about protected areas • Stop creating false expectations about the social benefits of protected areas • Reduce counterproductive repressive measures keeping communities out of protected areas • Secure foreign funds for communities near protected areas directly, rather than for NGOs • Increase flows of park revenues to neighbouring communities |
| <i>Decentralisation and participation in policy processes</i> | <ul style="list-style-type: none"> • Keep involvement in forest policy development restricted to experts such as Forestry Chamber on board of FONAFIFO and National Forestry Office | <ul style="list-style-type: none"> • Institute a process to generate a national vision of forests in development and a clear national forest policy • Guarantee equal and widespread participation in forest decision-making process | <ul style="list-style-type: none"> • Specify participation of smallholder forestry organisations on Regional Environmental Councils • Ensure involvement of community organisations in policy development at local and regional level, and through alliances and representation at national level |

Source: Interviews and review of background material undertaken by this study



Photo: CODEFORSA

Training farmers in optimal methods for the first commercial thinning of Gmelina plantations (*Gmelina arborea*), CODEFORSA. Many reforestation initiatives have involved small and medium-scale landowners planting Gmelina; thinning operations offer the first economic return for the farmers



Key policy contests and dilemmas

5.1 Management of forest production and industry

Most forests outside protected areas are privately owned. However, since the establishment of DGF in the late 1970s, government has attempted to exert significant control over these areas, offering the justification that well-managed forest harvesting is in the ‘public interest’.

Until recently, no trees could be cut in Costa Rica without permission of the forest service. With the passing of the 1996 Forest Law and the efforts to operationalise SINAC, permission is still required but the process has been decentralised. Regional Environmental Councils and Municipalities are allowed to issue timber harvesting permits in cases where: the total number of trees concerned is under 20; they average less than 5 trees per hectare; and they are located on ‘agricultural land’ as defined by the land use capability classification. However, many municipalities are as yet ill-prepared to operate the prescribed permit-issuing process. Criticism of these arrangements has been expressed following several cases of apparently uncontrolled felling. In response, in August 1997, the government decreed a three-month moratorium on the issuing of permits in the Osa peninsula and appointed a Commission to look at the problems of deforestation in the area.

In forest areas, permits are still provided by the forest service within SINAC. Permits are obtained after the approval of a forest management plan prepared by a forester affiliated to the National Council of Agronomists² under the supervision of a ‘forest regent’. The ‘forest regents’ programme is a recent innovation in which private professional foresters are registered by the Forestry Affairs Commission of the National Council of Agronomists, and are given authority by SINAC to provide forestry technical assistance and ensure

² The literal translation of *Colegio de Ingenieros Agronomos* is *National College of Agronomists*; however - rather than being an educational institute - this is primarily a self-regulating body of professionals (examples in the UK would include the British Medical Association and the Bar Council), so the term used here is *National Council of Agronomists*.

compliance with the technical conditions of incentives. Once management plans are approved by SINAC, the forest regent has the power to issue the necessary harvesting and transportation permits. Management plans must now include determination of the environmental impact of the operation. Some landowners complain that management plans are expensive and act as a disincentive to landowners of small but manageable forest patches.

Photo: David Boshier



Gmelina thinnings (*Gmelina arborea*) from farmer plantations at the sawmill. Gmelina is predominantly used for pulp and low grade timber

The forest tax system was also changed, and somewhat simplified, by the 1996 Forest Law. In the early 1990s a stumpage tax and other forest taxes including forestry guarantee payments were in force, but the 1997 law replaced these with a tax of 3 per cent of timber value (calculated in accordance with CIF values) levied on volume at the point of primary processing. The Law's provisions also cover distribution of the revenue as follows: 40 per cent to FONAFIFO, 28 per cent to the Government, 10 per cent to the local municipality, 10 per cent to the REC, 10 per cent to the National Forest Office, and 2 per cent to the National Council of Agronomists.

Another aspect of the regulatory framework is a contractual relationship between government and landowner which comes into force once a landowner has secured an incentive payment from the government. Government then monitors the landowner's reforestation or conservation efforts, whilst the landowner benefits from government protection against land invasion and exemption from land tax. This relationship is compulsory for those parcels of land that are inside a protected area.

Environmental concerns have been at the root of some stringent forest management regulations. For example, in the early 1990s, a technical land use capability study was needed in order to change forests to other uses, but following large-scale conversion of forests to banana plantations, in particular between 1991 and 1993, the law was changed to prohibit any further conversion of forest, regardless of land use capability class.

There is some basis to the claims that standards of commercial forest management in Costa Rica are amongst the highest in the developing world. For example, the forest regents programme has been noted as contributing

significantly to improved standards (Richards *et al*, 1996). However, the high level of regulation of the forest industry and the log export ban - which MINAE argues is necessary to reduce pressure on the resource - seem to favour those who currently dominate the industry. Regulations surrounding the establishment of new industries protect the existing industry, and due to limited competition, keep log prices low - thus keeping raw material cheap for the industry. Meanwhile sawn timber prices are high by world standards (Richards *et al*, 1996). Existing industry thus exerts strong pressure to retain current policy. However, other interests are campaigning for reform. Environmentalists call for a complete moratorium on logging for a period of one or two years. Other private sector interests favour deregulation and greater privatisation, overseen by a predominantly private sector or semi-private forestry authority.

The 1996 Forest Law reflects the relative power of some of these interests. A number of forestry activities have been deregulated - chiefly those concerned with large-scale forest industry and plantations - and stumpage levies have been removed. There is a tentative opening up of the industry to small and medium producers. The law

eliminates the previous incentives and institutes a new incentive for natural forest management, based on the idea that forest managers should be compensated for protecting the environmental values of the forest. This new incentive is to be financed by a petrol tax (see section 5.2). Regulatory provisions remain however, including the requirement that management plans be approved by the state. Others are introduced, such as environmental impact assessments being required prior to forestry development.

Regulations blocking the way

"I wanted to use some trees the river had pulled down during a flood. These trees were blocking up the river, which was about to wash away some of the forest. I went to Puerto Viejo at least 10 times and I still haven't got the permit. Eventually they told me to present a management plan and just cut down all the forest."

Reyner Vargas, Community of San Ramon de la Virgen de Sarapiquí, 11 November, 1996.

The need for constructive public-private sector collaboration is reinforced by the new law. This has been a growing feature of the 1990s, with some concrete results. The introduction of resource-conserving technologies in forest management is one example. The universities, research centres such as CATIE, and a number of bilateral aid projects have also contributed significantly to these collaborations. Efforts have been made to eliminate circular saws and replace them with band saws, and to maximise use of sawmill waste and small-diameter timber.

Box 5.1 Public-private collaboration for forest management - the Commission for Forestry Development of San Carlos (CODEFORSA)

Founded in 1983 in the Huetar Norte Region (which covers about 19 per cent of national territory in the north), CODEFORSA started as an organisation representing the interests of loggers, transporters and processors but today has grown to become a service organisation for the whole Region, with both a technical and a political role. CODEFORSA now has some 700 associates including small, medium and large farmers, timber companies and transporters, and forestry professionals.

CODEFORSA's main objective is the management and conservation of the region's forest resources. Under an agreement made with MIRENEM (now MINAE), CODEFORSA has received government funding from forest revenue to implement DGF's forest management policy and control system for the Huetar Norte Region. More recently, CODEFORSA has channelled the various government forestry incentives to its associates. These programmes have also had the technical assistance of various institutions, such as: CATIE; the UK's Department for International Development (formerly the ODA); the Costa Rican Institute of Technology (ITCR); and the Forestry and Logging Sector's Cooperation programme (COSEFORMA), run jointly by MINAE and GTZ.

In 1989, reforestation projects with smallholder groups were begun under the Forest Development Fund and later the Forest Bond Certificates (CAF) system, as well as natural forest management projects under the forest management bond (CAFMA) scheme. Reforestation programmes have to date involved some 410 small and medium landholders with plantations totalling 7,802 ha, about 45 per cent of which is gmelina (*Gmelina arborea*).

In late 1995, CODEFORSA estimated that some 9,100 ha of forest had been brought under 'proper management' on 91 properties, while the 'forest control' and management programme had issued permits to another 294 landholders with an area of 13,174 ha (Richards *et al*, 1996). CODEFORSA has also supervised some 40 per cent of all the CAFMA incentive projects in the whole country - representing 10,072 ha. Other CODEFORSA programmes include a tree nursery able to produce up to a million seedlings a year of quick-growing species, and a forestry extension programme.

The system of control and technical assistance instituted by CODEFORSA was instrumental in developing the 'forest regents' programme, now in place nationally. Under this programme, nationally registered private forestry professionals provide technical assistance and ensure compliance with technical conditions of incentives and forest management regulations (Richards *et al*, 1996).

CODEFORSA has participated in national forestry sector forums such as those developing the Forest Action Plan (PAF-CR), the SIA-PAZ Costa Rica and Nicaragua System of Protected Areas, forestry regulations and incentives, and the 1996 Forest Law. The Association is also active in the Costa Rican Chamber of Forestry (CCF), the Green Macaw Commission, the Smallholders Forestry Association of the Northern Region (AFOCAREN) (a regional affiliate of JUNAFORCA), and is represented in the management of the National Forestry Finance Fund (FONAFIFO).

Today, however, CODEFORSA faces problems. The public-private collaboration approach which is CODEFORSA's strength, also presents difficulties. For example, its strictness in implementing government controls sometimes leads to reluctant private-sector response, whilst on the other hand, its status as an NGO creates difficulties when government agencies show periodic resistance to NGOs. Government's abolition of the CAFMA incentive in 1995 caused a major reorientation and CODEFORSA is now attempting to rise to the challenge of operationalising the new payments-for-environmental-services programme.

This study found that medium and large-scale entrepreneurs frequently stress the lack of a clearly-defined state forest policy as a major disincentive to their further investment in forestry. Some entrepreneurs state their reluctance to invest in reforestation, since they perceive changes in government policy may prevent them from harvesting their plantations.

Box 5.2 Does small- or medium-scale timber production pay?

There are arguably some basic economic reasons why vertical integration has not occurred - neither sawmill owners investing in forest lands, nor producers investing in timber processing. The principal reason is that it is not perceived to be profitable (standing timber value being less than its cost of production). Many small-scale producers - supported by bilateral aid programmes - have learned this the hard way. Many sawmill owners have purchased natural forests and established plantations, but this is risky until such time as the adoption of forest management technologies for natural forest and plantations can be demonstrated to be technically feasible and profitable and that (sustainable) annual timber yields will generate sufficient income to cover all costs of production and the cost of the initial investment.

High real interest rates mean a high opportunity cost for both industrialists and producers, whilst stumpage values have not risen much in real terms, and are unlikely to increase in the future. In order to profitably operate their own sawmills the number of smallholders will have to be large (and they would need good business skills) and the dividends will be low. These truths are recognised by basic grain producers who rarely attempt to produce and sell bread and cakes. In this context, it can be argued that: the present incentives for smallholders are more a social instrument than a forestry policy instrument; that smallholder timber production is unlikely to be able to compete with larger scale production and imported forest products; and that support for forest industry development may be justified (Jonathan Davies and Stewart Maginnis. 1997. Personal communication).

Existing industry leaders also claim that some government economic policies have caused serious problems for the national timber industry. They cite, for example, the current list of species on which there is a ban on utilisation; and the flood of low priced Chilean wood products, mainly pallets, made possible by a recent 1 per cent reduction in import tariffs. Industry has also found that there has been much investment to increase the volume of production, but none to improve the quality of the product.

However, in general, forest industry leaders as a group have the financial resources, the organisational ability and the political backing to directly influence the process of forest policy definition. The forestry chamber (CCF) succeeded in securing prominent representation in the institutions created by the 1996 Forest Law - notably the National Forestry Office and FONAFIFO.

FECON representatives, from a different standpoint, also believe that a clearly defined forest policy is crucial for long term sustainability. These

A forest industry leader on the 1996 Forest Law

"A lot has been accomplished through the new [1996] forest law. The law tries to reorient state actions towards promoting forestry, instead of trying to control the whole process. The CCF was an active participant in the formulation of the 1996 Forest Law. It allows greater participation of other sectors of society through the decentralisation of the government's power.

This law also liberalises forest management activities and simplifies the administrative process, as well as providing a broader, clearer definition of private property and a more realistic view of State forest patrimony. We forest entrepreneurs have to accept some regulations that we consider too severe. However, in general the law allows work to be accomplished if things are managed correctly".

Edgar Salazar, President of CCF (1997).

environmental groups point out that Costa Rican forest policy has traditionally been characterised by a bipartisan, bureaucratic viewpoint that has emphasised short term results and the clear-cutting of forests. For them, the 1996 Forest Law does not solve the problems confronting national forests. They are worried that the

tendencies toward the liberalisation of forestry industry may lead to uncontrolled exploitation and poor industrial practices. In response, FECON groups have proposed that forest policy should be based on key principles (FECON, 1995), which include:

- *Definition of forest and land use changes.* It is suggested that an absence of explicit definition of key value-laden terms such as "deforestation" and "reforestation" has meant that application of laws, regulations and incentives has in many cases been arbitrary, and on balance has allowed forests to be further degraded rather than better managed.
- *Planning by land use capability.* It is proposed that policies influencing land use should be geared to promoting 'optimum' land use according to biophysical characteristics. This would help avoid the land degradation caused when agriculture or forestry are practised without regard for the dynamics of local ecosystems. Suggestions have also been made to gear land taxes towards land use capability classifications, so that those who use their land according to its 'capability' bear reduced or negligible tax burdens.
- *Guaranteeing equal and extensive participation.* With the understanding that there are many conflicts of interest between different groups in society regarding forest resources and services, it is proposed that broad-based participation of these groups is crucial to negotiate policy and the practical conservation and management of production forests and protected areas.
- *Making conservation and use of forest resources a public concern.* Part of the

government's responsibility is to consider collective welfare above private interest. FECON proposes that the primary purpose of a coherent national policy is to define normative and general limits to the use of natural resources which are in the public's best interest.

Some of the key forest policy changes advocated by FECON members are included in the perspectives in Table 4.3.

Box 5.3 Low-impact community forest management with significant financial returns - the Fallen Timber Extractive Reserves project

Forest farmers in Osa have traditionally sold their timber through loggers, despite possessing considerable forest management skills themselves. After identifying and validating some of the existing local technologies for extracting timber, the TUVA Foundation's Fallen Timber Extractive Reserves project (REMAC) started in 1993 in Rio Piro, on the southeastern buffer-zone of Corcovado National Park. The pilot initiative aimed at demonstrating that forest tree-fall gaps can have significant economic importance, and that with some technical and financial support, organised smallholders could effectively exploit this resource in a way which was consistent with regional conservation priorities set by the government.

REMAC has shown that primary forest fallen trees can provide a sustainable annual yield of up to 0.75 cubic meters per hectare. Through a process that has emphasised appropriate technology and co-operative organisation, naturally fallen trees found in forest gaps are mapped, extracted, processed and sold. Each management unit (or extractive reserve) has a minimum area of 250 ha and can provide employment to a group of 8 to 12 people. By utilising proven technologies used in this region for many years (buffalo haulage, mechanical leverage and winching devices), together with new equipment and good information systems - including GIS - fallen timber extraction becomes a profitable form of natural forest management. Local forest landowners have organised in three small producer associations that have generated low but steady returns plus some financial resources to negotiate an innovative system of incentives with other interested smallholders (Alonso-Martinez and Sanchez Urbina, 1995).

After securing independent certification from the Rainforest Alliance's Smart Wood Programme, REMAC negotiated with a conservationist organisation interested in protecting migratory birds' habitats in the Osa Forests. This organisation offered to match the income from 25% of all timber sales generated by the REMAC producers, as long as the conservation goals specified in the certification were being met. In this way, the high costs of certification are being covered through selling forest 'environmental services'.

The pilot REMAC project is thus beginning to demonstrate a productive community-based forestry enterprise, striking a balance between environmental and socio-cultural needs, which capitalises on the potential in Costa Rica to diversify returns from forest management by independently negotiating non-timber services in the market (Alonso-Martinez and Bedoya, 1997).

5.2 Fiscal and financial incentives

Government has used fiscal and financial incentives to influence forestry development since 1979. Until recently, these subsidies have been directed mostly at stimulating reforestation and have taken the form of tax deductions, soft credit, redeemable bonds, municipal forest funds and a forest development fund. In the 1990s, the focus shifted firstly to incentives for good management of production forest, and since 1996 to conservation and environmental services. Table 5.1 outlines the chronology and objectives of these various incentives and outlines their impacts.

The total area - under reforestation, natural forest management or conservation - affected by these incentives between 1979 and 1995 is estimated by MINAE at 214,000 ha. About 170,000 ha of this area is under reforestation, about 22,000 ha under natural forest management, and about 22,000 ha is under management for conservation (MINAE-SINAC, 1996a).

Of the total reforested area, an estimated 48,000 ha has been managed by small and medium producers, while 122,000 ha were reforested by large companies (MINAE-SINAC, 1996b). The main incentives made accessible to small and medium producers were the Pre-paid Forest Bond Certificates (CAFA) and the Forest Development Fund (FDF) issued to a total of approximately 7,000 producers from 1988 to 1995. The Dutch-supported FDF had the disadvantage that the total incentive amount was only about 70 per cent of the CAFA incentive. Farmers thus preferred the CAFA incentive. The government resolved this issue by allocating farmers 50 per cent of each of the two incentives. Large producers and reforesting companies have been the main beneficiaries of the tax exemptions since 1979, and of the CAF and CAFMA payments. Official figures for the number of CAF beneficiaries are not available, but it is estimated that from 1979 to 1995, a total of 600 forest businessmen participated in the CAF programme, and at least 180 landowners used the CAFMA incentive for forest management on a total land area of 22,120 hectares (MINAE-SINAC, 1996a).

Alongside the successes of the incentives programmes, there are problems. These include:

- *Large landholders have benefited most, but have not needed the incentives.* Since about 1989, there has been a large increase in private reforestation without subsidy. There are several private plantations covering about 25,000 ha in total, growing mostly teak (*Tectona grandis*) for sawnwood and parquet, laurel (*Cordia alliodora*) for sawnwood and gmelina (*Gmelina arborea*) for pulpwood and pallets (used for packing bananas and other fruit). Private

Table 5.1 Incentives for reforestation, forest management and protection in Costa Rica

| Incentive and Year Initiated | Description | Impacts |
|---|--|--|
| Income tax deductions 1979 | Reforestation incentive. Investors deduct the cost of plantation establishment and maintenance (about \$800/ha) from income tax | About 36,000 ha planted (1979-1992). Favoured the larger investors - who earn sufficient income to be liable to pay income tax |
| Subsidised Credit 1982 | Reforestation incentive. Donor-funded, and later national bank-funded, credit schemes with low interest rates | No area information. Schemes have been sporadic and limited in success. Intended to create rotating funds for reforestation projects, but interest rates had to rise to replenish the necessary funds. The high rates were not acceptable to many farmers |
| Municipal forestry 1986 | Reforestation incentive. 10% of forest taxes allocated to municipalities and 10% to regional organisations for forestry projects | No area information. Guidelines have been ill-defined and the schemes have had little effect |
| Forest bond certificate (CAF) 1987 | Reforestation incentive. Redeemable bond, can be used to pay any kind of tax or sold at slightly less than face value (currently about \$650/ha). Paid after proof of plantation establishment | About 38,000 ha planted (1988-1995). Favours those who can afford to pay up-front since CAFs could be cashed only after establishing the forest plantation, which excluded those farmers who could not afford the initial investment |
| Pre-paid forest bond certificate (CAFA) 1988 | Reforestation incentive. Redeemable bond for smallholder plantations of less than 25ha/family. Worth about \$520/ha (reflecting expected farmer contribution). 50% paid on signing contract, remainder spread over following 4 years | About 34,000 ha planted (1988-1995). CAFAs encouraged smallholder organisation for forestry, such as co-operatives and cantonal agricultural centres, and offered a genuine production alternative to small and medium producers - particularly those on degraded, non-arable lands |
| Forest Development Fund (FDF) 1988 | Reforestation incentive. Grants 70% of the costs of establishing the plantation. The smallholder provides the remaining 30% as labour FDF founded with debt-for-nature financing (\$13 million) from the Netherlands | About 13,000 ha planted (1989-1995). No land deed was required to be eligible for the incentive, which favoured the small producer with land parcels and/or tenancy rights. |
| Property and import tax exemptions 1990 | Reforestation incentive. Exemption from property tax, import duties on machinery used in reforestation, and income taxes on wood harvested from plantations (Forest Law 1990) | About 16,000 ha planted (1990-1995). Has included large foreign companies with substantial investment capital, including Ston Forestal, Bosques Puerto Carrillo SA, Canateca, Flora y Fauna SA. As with deductions against income tax, this benefits large companies and excludes farmers who do not pay taxes |

| Incentive and Year Initiated | Description | Impacts |
|--|---|--|
| Forest management bond certificate (CAFMA) 1991 | Forest management incentive. Redeemable bond for landholders with 30-300ha under contractual arrangement with government (worth about \$460-520/ha) paid over 5 years after submitting a management plan to DGF. Designed to stimulate interest in commercial forest management. | About 22,000 ha under management (1992-1995). The CAFMA system had considerable impact - in conjunction with interest in forest certification. The original threshold of 50 ha was dropped to 30 ha but this still made it inaccessible for the large number of small farmers who own patches of forest - many of which have regenerated on abandoned pasture lands |
| Forest Protection Certificate (CPB) 1995 | Forest conservation incentive. Redeemable bond for forest protection in areas of 1-300ha in protected area buffer zones, watersheds and elsewhere - worth about \$270/ha over 5 years. Areas must be protected for 5 years. | About 22,200 ha under preservation (1995). Landholders have expressed concern that the value of the CCB is low compared with possible returns from other land uses. Some fear that lands left under forest will later be expropriated by the state |
| Forest Conservation Certificate (CCB) 1996 | Forest conservation incentive. Redeemable bond for forest protection in areas of 1-300ha in protected area buffer zones, watersheds and elsewhere - worth about \$270/ha over 5 years | Areas must be protected for 20 years. Areas prioritised include biological corridors connecting protected areas |
| National Forestry Finance Fund (FONAFIFO) 1996 | Reforestation incentive. Low interest-rate credit financing for farmers, founded with timber tax funds and other national budget allocations. Credits to replace CAFs in 1988. | FONAFIFO also to negotiate carbon sequestration credits with farmers and prepare packages of carbon offsets for international market |
| Payment for Environmental Services (PSA) 1996 | Forest conservation incentive. To compensate forest landholders for environmental services which forests provide to society. The Centro Científico Tropical prepared estimates for the level of these payments, based on erosion prevention, carbon storage, and watershed and biodiversity protection. Average payment was estimated at \$50/ha/year | Government allocated about \$7 million for CCB and PSA incentives in 1997, which could meet approximately 30% of demand |

Sources: CCT, 1991; CCT, 1992; World Bank, 1993; Segura and Solórzano, 1995; MINAE-SINAC, 1996a; Carranza *et al*, 1996.

companies have become more interested in forest management - with some expectation of real increases in value of high quality hardwoods. These large landholders were also able to ensure the upward adjustment of the value of the CAFs and other incentives with little relation to inflation rates (CCT, 1991). Other tax exemptions and concessions have favoured establishment of international timber industries in the country.



Photo: Leonardo Mora

Artisan working with wood from a cypress plantation (*Cupressus lusitanica*)

- *Plantation establishment may have contributed to conversion of natural forests.* At the margins, subsidising plantations to the tune of about US\$800 per hectare offered a considerable temptation to clear any existing forest to establish them. Furthermore, plantations of a single species, or a small number of species, tend to support much lower biodiversity than natural forest. The later CAFMA incentive may have slightly counteracted this conversion-to-plantations effect.
- *Plantations are of variable quality.* Most of the attention given in the past to forestry incentives has focused on the area planted, rather than on the quality of the plantations. It is increasingly recognised that the plantations established are in very mixed condition (see section 2.1.4). This situation demands more emphasis on farmer extension and activities to promote better forest management (for an example see Box 5.1 on CODEFORSA).
- *Social benefits of forests have been marginalised.* Incentives have emphasised income, and more recently biodiversity, rather than social benefits. For example, private landowners have tended to choose plantation technologies that maximise income rather than social benefits. In addition, conservation incentives may lead to a further concentration of forest on the large landholdings which have capabilities to protect forest 'against people' at the expense of a focus on the mosaic of forest patches on smallholdings which can provide both biodiversity and local socio-economic benefits.
- *High fiscal cost.* The cost of the incentives programme has been considerable. Plantation incentives rose from a fiscal cost to government of US\$ 0.5 million in 1981 to US\$11 million in 1989 before dropping a little

in the early 1990s (World Bank, 1993). From the early 1990s, central government financial planning agencies, under pressure particularly from the International Monetary Fund, wanted the incentives scrapped.

The 1996 Forest Law reformed the system considerably. The main reforestation incentives (CAF, CAFA, FDF) are being gradually eliminated over a period of five years and the emphasis is being put on incentives for conservation, specifically payments for environmental services (PSA). According to measures introduced by MINAE in 1996, reforestation will continue to be supported, although this will be done through credit provision rather than direct payment.

Under the 1996 Forest Law, environmental services include CO₂ fixation, water quality, biodiversity, and erosion prevention. The PSA monetary incentives aim at increasing the attractiveness of forestry compared to higher impact forms of land use. Incentives are paid to land owners over a period of 5 years following the signing of a contract to keep their land under a specified type of utilisation for a minimum period of 20 years. Farmers who receive these incentives assign the rights to the environmental services to the government.

The National Forestry Finance Fund (FONAFIFO) has the role of coordinating the administration of private sector incentives: receiving and analysing applications, conducting field verifications, making the payments, and monitoring field implementation of forestry projects. The government, through FONAFIFO, hopes to bundle environmental services for potential sale by the recently created Costa Rican Office on Joint Implementation (OCIC) as Certified Tradable Offsets (CTOs) which are credits of carbon fixation based on the amount of CO₂ fixed in forests (see section 2, Box 2.2). It is hoped that future incentive payments to farmers will be based upon successful sales of CTOs.

Box 5.4 Forest certification: a fast-evolving policy instrument

Forest certification is about providing a guarantee to the buyer of forest products that his or her purchase comes from a well-managed forest and will not favour unsustainable or inequitable practices. It has the twin objectives of (a) working as a market incentive to improve forest management; and (b) improving market access and share for the products of such management. Forest certification is voluntary and takes place by assessing the effect of forest activities against standards previously agreed as significant and acceptable by forest actors. It is undertaken by independent professional third party organisations.

In Costa Rica, discussions about forest certification have been underway for several years. An area of 3,900 ha of forest managed by Portico S.A. was certified by the US certification programme Scientific Certification Systems in 1993.

The 1996 Forest Law included provision for potential national-scale forest certification. A “national committee on certification” was prescribed, with a mandate to: develop national standards for natural forests (against which forest management can be assessed in certification); prepare by-laws for the committee’s operation; and monitor and supervise certification bodies. Draft terms of reference for this national committee were developed in late 1996. Meanwhile, the development of national standards for plantation forest has been initiated by the COSEFORMA programme (see Box 5.1).

Also in 1996, an informal working group was formed with seven members from the government forestry service, academic institutions, an environmental NGO - Fundación Ambio, a consumer group, and COSEFORMA. The group has drafted guidelines for forest certification in Costa Rica which are being circulated amongst forest actor groups for comment (WWF, 1997). The draft guidelines are based on guidelines prepared by the Forest Stewardship Council (FSC). FSC is an international non-governmental umbrella organisation which seeks to promote good forest management by evaluating and accrediting nationally-based forest certifying bodies. For accreditation, certifiers must demonstrate that they operate reliably, and that products carrying their labels have been produced from forests managed in accordance with principles developed by FSC and recognised national standards.

Two Costa Rican NGOs are developing the capacity to certify: Recursos Naturales Tropicales has applied to the FSC for accreditation; and, Fundación Ambio is developing ties with the Smart Wood certification programme of the Rainforest Alliance in the USA (WWF, 1997).

In February 1997, FUNDECOR was awarded certification for a group of forest areas managed by individual forest owners under contract with FUNDECOR (and in collaboration with MINAE). The scheme had 149 members, mostly smallholders, and covered a total area of 14,900 ha under different types of management - plantation, claimed protected area and natural forest management - all in a buffer zone around Braulio Carrillo National Park in the Central Volcanic Mountain Range.

The assessment covered the quality of management of the individual properties and the control systems employed by FUNDECOR to ensure such management quality. The certification was carried out by QUALIFOR (based in the UK) through its Group Certification Programme (QUALIFOR, 1997). FUNDECOR has also developed a carbon offset deal (see Box 2.2).

Certification of protected forests is also soon to be implemented under the scheme to store CO₂ and generate finance for forest protection and management under the programme of Certified Tradeable Offsets to be managed by FONAFIFO and OCIC (see Box 2.2 and section 5.2)

Forest certification, as a market-led voluntary instrument of forest policy, is evolving fast in Costa Rica. Whilst it is too early to be sure whether it can be a strong force for better forestry, the indications are positive. However, many issues and dilemmas are yet to be resolved in the certification debate in Costa Rica including: how much regulation should complement the voluntary approach; efficient procedures throughout the chain of custody; and, the costs and benefits for different groups. Some of these issues can only be resolved through greater experimentation and experience on the ground. Support for forest certification initiatives and their evaluation is therefore likely to prove valuable.

At the time of announcement of the 1996 Law, government intentions appeared to be to maintain some subsidy for the reforestation. It established an additional 15 per cent tax on fossil fuels. It was expected that this would raise about US\$ 21 million per year, of which 30 per cent was ear-marked for forestry activities under the Law (the remainder is designated for improving Costa Rica's roads). However, the revenue generated by this measure has thus far been used for non-forestry purposes. JUNAFORCA, with the support of the CCF, has filed suit against the Minister of Finance for diversion of funds. In 1997, the government agreed with JUNAFORCA and the CCF to allocate \$7 million to the incentives programmes for the fiscal year. It was estimated that this would cover about one third of the demand.

An environmental economist on the 1996 Forest Law

"The new Forestry Law must be regarded as a step backward. It effectively expropriates land use rights on forested terrain, stipulating as it does that land covered in forest may not be changed to another use. While ecological and economic methods may differ, both suggest that the existence of forest on a particular piece of land is by no means a guarantee that forest is the superior use of the land. Thus the law is both ecologically and economically flawed. What is needed is effective institutional implementation of existing laws and regulations regarding land use and protected areas, not a new law that is even more sweeping and, hence, difficult to enforce. In addition, it is clear that the short-term incentive produced by the law is to pressure landowners with forest land that has productive potential to quickly turn it to another use before the government can begin to implement the law and monitor land use change, thus incurring more deforestation in the short-term.

"The other principal effect of the new Forestry Law is to set up a new incentive system for managing existing forest through new conservation incentives (CCB). The CCB is, however, fundamentally flawed. The CCB allows interested parties to enter the programme two years following a sustainable harvest or immediately in the case of untouched primary forest. Participants then promise not to harvest the forest for twenty years, harvesting the forest in a sustainable rotation being the only other option given that it is illegal to change land use. Participants are then rewarded by obtaining their certificates in recompense for the environmental services provided by the forest. The first choice then facing the landowner is whether to cut and maintain the option to enter the programme in year 2, or to not cut and enter the programme immediately. It does not take a degree in economics to see the false choice implicit here. No profit-maximising landowner would forego the opportunity to selectively harvest and then enter the programme.

"Furthermore, since the new Forestry Law effectively eliminates land use change, it also essentially limits the options available to forest owners and by definition limits the potential value of environmental services which the new incentives programme is supposed to secure. This is because the change in these services will be accounted for by the difference between service levels under alternative land uses. The difference in service levels between forest and pasture is much larger than between a mature regenerating forest and a recently cut regenerating forest."

Bruce Aylward, Consultant, October 1997

Forest industry actors complain that the incentive policy has been discontinued too early, before the majority of plantations have reached first harvest and before the processing industry has sufficient impetus to make plantation management economic (see also section 5.1). They are opposed to the substitution of incentives with credit because pay-back is so difficult given the long-term nature of forestry. Another objection raised is the relatively high real interest rates proposed (which in turn are based on base rates which are high due to high government borrowing).

Smallholders have certainly secured major benefits from the incentives programme, after a period of early monopoly by larger landholders. Through local, regional and national alliances, particularly JUNAFORCA, these producers are now a relatively strong, organised group, capable of exerting influence at decision-making levels. The technical capacity of other smallholder organisations in forestry has also been strengthened through the incentives programmes which allowed the organisations to use 15 per cent of the grants to pay for the employment of a forestry technician. JUNAFORCA is concerned, however, that the Forest Conservation Certificate (CCB) value will not meet the opportunity cost of foregone income from crops or the sale of timber. The 20-year term of the certificate is another stated concern, given that the producer only receives some payment for the first five years.

The environmental lobby has actively engaged in the incentives debate for several years. Its increased influence in recent years explains, in large part, the reorientation of the incentives approach towards environmental services and natural regeneration.

5.3 Management of protected areas

The creation of Costa Rica's national parks and other protected areas was to a large extent motivated by the high rate of deforestation. During the period when most protected areas were founded, it was argued that this was the only viable policy option. An interpretation that is rarely discussed, however, is that the financial value desired from liquidating much of the forest was in part used to finance the setting up of protected areas³.

By 1995, when the National System of Conservation Areas (SINAC) was created by decree, 72 protected areas covered about 21 per cent of Costa

³ Stemming from this interpretation, it has been hypothesised more generally that countries with low rates of deforestation are less likely to set up a network of protected areas (Jonathan Davies and Stewart Maginnis, 1997. Personal communication).

What keeps protected areas on the agenda?

"Success of the protected areas has come from: firstly, lots of hard work by a few people; secondly, these enthusiasts have stayed active and available for a long time, although they changed their institutions; thirdly, a strong capacity for raising external funds was developed early by Government; fourthly, the general level of development in Costa Rica - Honduras, Nicaragua and Haiti cannot afford our kind of conservation; fifthly, we have had support from students and congress; and lastly, we have been able to demonstrate benefits - through environmental education, watershed protection and ecotourism. There is no real opposition to the idea of sustainability - we just have to eliminate indifference. People should say 'we need national parks' with the same delight that they say 'we don't need an army'."

"In Costa Rica we started with activities first, then we made institutions, then last of all came some policies. Now we have too many institutional islands, and conflicts of mandate of different bodies within the same Ministry".

Mario Bosa, Coordinator, Wildlife Conservation Society
Meso-American Biological Corridor for Panama, Costa Rica,
and Nicaragua, November 1995.

Rica's land area. Under SINAC, the whole country is divided into ten conservation areas. The concept represents a further extension of the shift from emphasising protection against human interference towards integrating resident people's needs in buffer zones. The central idea was to bring together component parts of the Ministry of Natural Resources, Energy and Mines to develop autonomous regional decision-making bodies - something not achieved at national level.

State forest policy concerning land tenure and administration of protected forest areas has been to directly purchase and administer lands by negotiating with landowners, although compulsory expropriation has also been used. There are now an estimated 100,000 hectares within the nucleus of Conservation Areas that have not

been paid for by the government. With restricted financial resources, the Costa Rican government has instigated a privatisation policy in an attempt to secure these areas for conservation.

A range of administrative mechanisms is being pursued in the different SINAC regions. In the Tortuguero Conservation Area for example, the concept has been steered by a state-sponsored NGO which is able to raise and retain its own funds, and recruit its own staff, whilst retaining access to state infrastructure and equipment. For a period, this enabled significant progress to be made in pursuing a number of projects. However, more recently the initiative has foundered, in part because of the way the "NGO" isolated itself from MINAE and other state agencies (Michael Richards, 1997. Personal communication). In general, MINAE is struggling with a number of core difficulties in implementing SINAC (García, 1996; Richards *et al*, 1996; SINAC, 1996):

- *Opposition from other government agencies* - which stand to lose authority with the changes proposed, e.g. the Institute of Agrarian Development

continuing to distribute forested land to colonists who have tended to clear the forest for low-quality farming land.

- *Conflicting objectives within MINAE itself* - e.g. support of banana projects which conflict with conservation area objectives. There are also conflicting motivations amongst MINAE staff, leading in some cases to staff resisting changes or activities that could affect or expose their personal interests. An example arising from the creation of SINAC is the different perspectives of the ex-Parks Service conservationists and the ex-DGF foresters.
- *Insecurity of land tenure*, which has prevented access to the forest management incentives programme. A way forward on this is suggested by the FUNDECOR approach in the Central Volcanic Region, which pre-finances titling and a management plan.
- *Lack of clarity in the system of state purchase for protected areas*. There is inconsistency in the acquisition of lands for state forest patrimony. In properties within areas designated as protected, but not yet purchased by the state, there are no legal mechanisms preventing the issuing of permits for exploitation of natural resources. The weaknesses in the legal process have also led to properties not being registered or to double purchase.
- *Inadequate coordination between the state and NGOs*. Lack of coordination on issues of land purchase for protected areas is particularly apparent. In some cases uncertainty about the true boundaries of protected areas has exacerbated the resulting lack of control over these lands.
- *Public hostility to privatisation of areas designated for protection*. A number of civil organisations have expressed opposition to the state's initiative to allow private organisations to buy-out areas designated for protected area status. NGOs and social organisations have also expressed their disagreement with the proposed privatisation of the public zone along the coastal line⁴ and have steered an apparently clear majority of public opinion against the proposal, so as to cause government to shelve it.
- *Limited social cohesion in the conservation areas*. Planning within the regions seems to have been based more on 'land suitability' and environmental considerations than on cultural and institutional coherence. Hence there are many conflicts of interest within communities, and the areas of influence of various agencies do not fully overlap.

⁴ Government's coastal line proposal was an attempt to raise revenues against internal debt. It was proposed that the first 50m from the mean tidemark remain an inalienable public zone, but that the following 150m in the public domain could be allocated under concession to private enterprise.

One core problem which these constraints highlight is that of ‘half-hearted’ decentralisation, i.e. a transfer to more local levels of responsibilities in some agencies without legally-backed decision-making powers and resources to implement decisions. This is a consequence of, and is continually hamstrung by, conflicting interests at the centre. In the case of SINAC, the push to promote regional conservation and sustainable development seems to be challenging vested corporate and public interests which have formed a powerful alliance in favour of agro-exports and macroeconomic growth.

In this study, members of the La Tigra community, San Carlos, neighbouring the privately-owned protected Children’s Eternal Forest, and the people of San Ramón de la Virgen de Sarapiquí, neighbouring the Braulio Carrillo National Park, both voiced concerns about negative impacts of the protected areas on their communities’ development. One of the main effects was the displacement of many farmers, which led to out-migration and the deterioration of roads that until then had been maintained by the community.

Community objections to private protected areas

“The community of La Tigra lived with the forest until they privatised it to protect it. The foreign buyers changed the name of the forest to the Children’s Eternal Forest. But now we see that they meant Swedish children, not our children.

The big mistake was to close access to people, which caused community reactions in some cases. We should feel that the land is still ours, but we feel like trespassers. The foreign buyers seem to be watching over us all the time”

Antonio Vasquez, community leader, La Tigra, San Carlos, February 1997.

Some of the common concerns mentioned by members of both of these communities regarding forest policy processes and protected area issues included:

- **Exclusion from forest policy decision-making.** Forest policy formulation and approval are in the hands of politicians and their technical advisors. In reality, ‘community participation’ refers to consultations regarding decisions that have already been taken. The community is not usually considered and does not influence the formulation of laws or other instruments of policy.
- **Exclusion from protected area management.** Communities have typically been excluded from the process of consolidation and management of protected areas, which limits their potential to play a part in the conservation of these areas.
- **Resistance to protected areas.** On many occasions their exclusion has caused communities to actively resist the creation of protected areas, which are perceived as a threat to the productive activities they depend

on. The sometimes repressive measures used to keep nearby communities out of the conservation areas are counterproductive. Community members point out that these measures divide communities and keep them from learning about the benefits of the park.

- *Failed promises of development.* False expectations are raised concerning development activities, tourism and the employment which protected areas could generate for the inhabitants of the area. Their experience has been one of unemployment, population displacement and increased isolation. Tourists and foreign researchers represent a source of income which rarely reaches the communities, while the research often has little practical relevance for the park or neighbouring communities.
- *Lack of access to external finance.* Some forest conservation projects use the financial resources from donations made by international organisations for administrative expenses and patrolling the area, without appreciating that neighbouring communities have also protected the forest in the past. The communities involved in this study plan to seek their own economic backing abroad, to eliminate the need for intermediary NGOs.

However, in contrast to the example of La Tigra, some communities have actively participated in the declaration of a specific zone as a protected area - for example in Cerros de Escazú and Cabo Blanco.

Community support for private protected areas

"The community can take care of the park through the development association, and earn money managing it. To do this the government has to agree to help the community and make the necessary changes so that the community can receive the full benefits."

Fidel Solis, Community of San Ramon de la Virgen de Sarapiquí, February 1997.

5.4 Decentralisation and participation in policy processes

In the 1990s, forest policy has, to some extent, been guided by the approach established in the ECODES process. Participation has grown, in the sense of consultation over the formulation of laws. However, major decision-making remains in the hands of politicians who are strongly influenced by short term production and economic interests, and their own political goals.

Although the development of both social organisations and the forest itself has created a favourable environment for some sectors of society to make

their views known, this has not been accompanied by policy mechanisms that enable genuine participation of civil society in the decision-making process for forests. For some groups, the trend is in the opposite direction. For example, the 1,500 community development associations have been particularly hard-hit by national economic policies that have neglected this sector.

Since the 1950s, the municipalities have played an important part in managing public services. However, when the 'decentralised' or autonomous institutions of central government were created in the 1970s and 1980s, local governments lost some jurisdiction. Since then, the municipalities have played a secondary role in the forestry policy process, limited to issuing logging and road use permits and the protection of watersheds. They have effectively been reduced to the role of forest *gendarmes*.

The 1995 Environmental Law and 1996 Forest Law respond to increasing international pressure and demands from conservation and social organisations, and open up some formal 'participation spaces', such as the Regional Environmental Councils (RECs). Yet there is no principle of democratic representation of social actors amongst the high-ranking officials of the central institutions that coordinate operational forest policy in practice - MINAE is still in charge of appointing these officials.

Who should law-makers consult?

"As far as forestry matters are concerned, neither the logging sector nor other directly involved sectors should be consulted. Figures show that previous forestry legislation has been over-influenced towards incentives and official permits for deforestation. Communities are capable of planning their own development and production, but only on a local level."
Otton Solis, Legislator. February 1997.

There are several regional mechanisms, local level associations and forms of national-local alliance that are important to the prospects for decentralised decision-making for forests:

1. **SINAC.** Within each SINAC area there are several protected areas grouped under different management categories. The system was structured to increase the conservation areas' sphere of influence, in order to reduce environmental impact on these areas.

Another objective was to involve the communities in the efforts to preserve the conservation areas, and for these communities to somehow benefit from the environmental services of these areas. Essentially, however, the SINAC system is aimed at administrative decentralisation rather than devolution of decision-making to local levels.

2. **Regional Environmental Councils.** RECs were also created to help

Information is power

"Policy implementation requires other elements [in addition to legal provisions]. Information is one such element... even now at the end of the 20th century there is still uncertainty as to the full extension of forests on national territory. This important forest policy issue has seemingly been forgotten, and I sometimes feel this is part of a strategy to keep the forest sector in a permanent state of confusion. The current forest law is one such example, since it is very contradictory and continues to view the forest sector based on short term criteria."
Tirso Maldonado U., Neotrópica Foundation,
July 1997.

conservation area management and open the way for organised sectors of civil society. The RECs include representatives of previously excluded sectors, namely conservationists. The representation of smallholders is less clear. JUNAFORCA's affiliates are in a position to ensure such representation, but this is not recognised in the current specifications. In general, the issue of defining appropriate representation of communities in RECs is not yet adequately dealt with. The administrative regionalisation established by MINAE was not based on political or cultural coherence, but was concerned with decentralising administration. The new laws give many functions to the RECs but, whilst the RECs can make some decisions about timber

permits, they have no rights to raise revenue. Thus their powers, in practice, are uncertain. There are, however, some promising public-private models already in existence, for the now formalised RECs to learn from, such as ACA (see section 3.4).

3. *Council of Non-government and Social Organisations (CONAO).* CONAO was created within the framework of the Bilateral Sustainable Development Agreement between Costa Rica and The Netherlands (ABDS) (see section 2.3.4). It stems from the grouping of environmental and social organisations that had joined forces to find backing for projects. This grouping evolved into a broader alliance advocating a national sustainable development approach, which in turn led to the ABDS.
4. *Community Development Associations.* These were the first forms of community-level organisation recognised by government. Many were founded in the 1950s and 1960s - and many still have strong support at community level (see section 2.3.3). However, as mentioned above, these associations receive greatly reduced government support these days. In the early 1990s, an attempt by the National Community Development Directorate to establish an agency of the directorate to support local forestry and environmental activities by community development associations foundered through lack of government support.
5. *Cantonal Agriculture Centres.* These centres were set up by government in

Box 5.5 A civil society policy forum? - the National Council of Non-governmental and Social Organisations (CONAO)

CONAO was created in 1994 as part of the Netherlands-Costa Rica ABDS agreement and consists of 700 organisations from various regions of the country. These NGOs and social organisations are engaged in activities ranging from environmental and agricultural projects to broad-based efforts to support sustainable development. One objective of CONAO is to develop mutually beneficial projects between NGOs in Costa Rica and the Netherlands.

Structurally, CONAO is steered by a National Directorate comprising regional and national delegates. These delegates are members of a National Assembly which comprises representatives elected by regional assemblies. CONAO has a number of commissions, such as the Project Evaluation Commission, the Commission on Gender, the Agro-ecotourism Commission, and the Solid Waste Commission. There are also plans to establish an Agroforestry Commission. These commissions have been quite effective at fostering community participation with a view to problem-solving.

CONAO has been successful in uniting a diverse range of social and environmental organisations, and 'top-bottom' linkages are working quite well. However, participating organisations have criticised CONAO's project approval procedure as being very bureaucratic and slow. Indeed the ABDS funding agency FUNDECOOPERACION has issued a number of key restrictions on funding and stated that it will not approve CONAO projects until 1999. It is perhaps too early to judge whether CONAO can move beyond a focus on NGOs receiving ABDS support, to nurture a national NGO assembly with longevity and sufficiently deep participation to provide a strong civil society counterbalance to policy processes which are currently over-concentrated in government. In the words of CONAO's General Coordinator: *"Our politicians do not have a participatory and conciliatory culture. The relation between different social sectors has been defined by hegemony, imposition and coercion. The politicians in charge are more interested in selling the agreement [the ABDS] as another show of good government policy and in not losing political control over the management of the agreement."* Jorge Coronado, February 1997.

each municipality (of which there are 81) for financing and extending agricultural credits, seed and other supplies, as well as promoting organisation for collective agricultural production. These Centres were considered by the community members in this study as government mechanisms to neutralise or control locally designed forms of organisation. In other areas however, it is reported that the Centres have been quite successful in enabling such organisation. Nevertheless, the formal inclusion of representatives of the Ministry of Agriculture and national banking system on their boards can lead to allegations of political interference.

6. *Smallholders' organisations and alliances.* At regional and local level we have noted a number of successful smallholder organisations (see Boxes 3.3, 3.6, 5.1, 5.3 and 5.6). Others, such as FORO EMAUS (an alliance between non-Catholic churches and other actors such as social

organisations, syndicates and others in the Atlantic zone) have struggled to provide consistent support for agroforestry. JUNAFORCA (see section 2.3.3) and others have managed to influence the national political agenda by pressuring public officials and legislators. JUNAFORCA has managed to place two representatives on the new National Forestry Office's board of directors, and one on the National Forestry Finance Fund (FONAFIFO).

The smallholders view their participation in current forest policy processes, through JUNAFORCA, as a "political space" from which they can influence policy in broader terms as a united sector. When consulted in this study, small and medium producers commonly mentioned the lack of clarity in forest policy and the strong political influence of

Box 5.6 Securing small, regular, low-impact and equitable benefits from the forest - the San Miguieleña Conservation and Development Association (ASACODE)

This association in Talamanca began, in the mid-1980s, as a conservation-minded smallholders' organisation concerned with answering the needs of the community. The community had experience of previous logging by outside companies in which management plans were blatantly ignored, there was much wastage, and the local benefits were minimal. Information on management and growth of native species could not be found by the association's members, so their first objective was to learn about the forest and different species of plant and animal life. This led them to acquire a 70 hectare communal farm with primary and secondary growth forest.

ASACODE went on to develop forest production initiatives, including a low-impact forest management project that included the use of water buffaloes in timber extraction, and charcoal-making with the wood waste. The project developed an approach with the smallholders that showed it was possible to secure a small but regular offtake from the forest. The regular benefits, minimal environmental impact and long term management viability were in contrast to the previous one-off heavy cuts.

ASACODE started with 18 partners and now has over 60 from the community. The association is linked to other communities of Talamanca - seven organisations have joined to form the Talamanca United Forestry Association (ASUNFORT), a regional affiliate of JUNAFORCA. Through this, other forest-linked communities concerned with finding alternatives to poorly-managed commercial logging and clearing for banana plantations have formed smallholder forestry organisations, and a range of different technology and organisational experiences have developed.

ASACODE also found that there was much external interest in their approach. This led them to develop an eco-tourism project which has received some international support. The members of ASACODE have reported to this study that implementing these initiatives has generated real alternative sources of employment and has 'raised their sights' to other development possibilities.

national and international commerce, which tends to centralise resources, information and forestry development initiatives. They have treated forestry incentives, for example, as short-term income because of their uncertainty about future policy. Smallholders believe that the political process can be improved by giving real participation to ground-level organisations and strengthening these organisations at local, regional and national levels.

"We campesinos are spending a lot of our time and efforts, not in trying to get someone to help us, but to keep from being hurt even more."

Member of La Tigra community,
San Carlos, November 1996.

All of the above participatory mechanisms are operating relatively separately from each other, and some, notably the community development associations and cantonal agricultural centres, have been strongly influenced by the interests of the main political parties and different government administrations - which have in general been mistrustful of community-based organisations.

Locally-rooted political movements that integrate environment, forests, land and social concerns are weakly developed in Costa Rica at present. But they appear to be developing to be a significant force. Several regional political parties have emerged, such as the National Agrarian Party (PAN) in the Atlantic region, trying to develop a process of sound municipal natural resource management based on more equitable distribution of benefits for small producers. Several observers have noted the possibility that the impacts of globalisation, government economic difficulties and privatisation may exacerbate local perceptions of insecurity, leading to more active and extensive questioning of existing political structures, and a more dynamic political process at community, municipality and regional levels.



Photo: David Boshier

A small scale forest extraction unit, CATIE



Conclusions and recommendations

6.1 Constraints on better policy

Costa Rica's forests and people are at a turning point. The conflicting tendencies of the past, from state-promoted deforestation for agriculture, to absolute protection "against the people" of forests and other ecosystems, are giving way to a national commitment to sustainable development in which a balance between socio-economic and environmental priorities is attempted. But the history of land allocation, agricultural development and protected area establishment which has shaped Costa Rica's landscape of forests and people, continues to condition the options available today.

Policy for sustainable development of Costa Rica's forests and people will have to overcome a number of key constraints:

- *Macro-economy determining forest policy.* Most of the national-level changes made in forest policy in recent times respond to international influences, notably those exerted through structural adjustment programmes.
- *Excessive influence of some actors.* Government has been over-influenced by forest industry and the business sector and, to a certain degree, by academic environmental interests. More recently, conservationists and their external supporters have increased their influence considerably. Other interests, some of which represent major sections of the population, have not made it onto the national policy agenda. However, the smallholder forestry organisations have made up much ground and now have significant 'political space' at national policy level.
- *Limited policy analysis capacities.* Some policies or instruments with negative consequences are put in place simply because analysis has been inadequate. The quality and targeting of analysis of policy instruments such as financial incentives is a major concern.

- *High level of regulation protecting existing large-scale industry.* Formal policy on forest production has been based on a “command and control” approach. Regulations have protected those who currently dominate the forest industry. Forest management regulations were recently modified to emphasise greater administrative decentralisation and market liberalisation. However, the current extent of deregulation still favours large-scale, rather than small-scale, forest producers.
- *Incentives not achieving social objectives.* Reforestation incentives, established to counteract the weight of subsidy given to livestock and agriculture, and to generate fibre for the forest industry, have tended to benefit the larger higher-income landowners, not smallholders. This is because the incentives have been focused on technical and economic forestry objectives - funding medium-large afforestation programmes and conserving large areas - putting a premium on lower supervision costs and better marketing prospects, rather than a programme of smaller schemes which may be more costly but can achieve greater, and more equitable, spread of benefits. From a social point of view the former approach is no longer acceptable. Yet the constraint remains - the greater costs per ha of socially desirable incentive schemes.
- *Integration of forest management and forest industry is not perceived to be profitable.* Vertical integration - sawmill owners investing in forest lands, or producers investing in timber processing - has not occurred amongst small- and medium-scale enterprises. This is largely because it is not perceived to be profitable, standing timber value generally being less than its cost of production.
- *Uncommunicative and unresponsive state agencies.* The inability of state institutions to include communities in forest policy definition has provoked community defiance of laws on protected areas. There is a lack of effective national mechanisms to channel information to communities and, conversely, of mechanisms which allow experience at local level, and community views on forest policy, to be appreciated at national level.
- *‘Regionalisation’ prospects and problems.* The recent re-establishment of regional bodies to steer environmental management - the Regional Environmental Councils - is an opportunity with much potential. But their areas of responsibility - which coincide with the national system of ten conservation areas - are too large, and the human populations are highly diverse. These ‘regions’ do not represent coherent socio-cultural areas within which motivations for regional action might emerge.

- *Capacity weaknesses in local government.* Whilst the involvement of municipalities in the forest policy process is a positive recent development, they and other local government institutions lack the experience or training, or the resources, to adequately implement environmental programmes. Indeed, central government has decided to disband both the National Institute for Municipal Advice and Promotion (IFAM) and the National Directorate for Community Development (DINADECO), which were the institutions charged with providing such capacity building.

Some of these constraints can, however, be converted into opportunities (see section 6.3).

6.2 Policies and policy processes that work

Costa Rica's 'natural' strengths with regard to policy for forests and people lie in its high level of education, its history of social organisation and its relatively democratic governance systems. These factors have helped create a reflective society in which national development is evaluated and debated, and in which participation in political arenas like forestry is generally enabled. Lessons which can be drawn about policies and policy processes that work for forests and people in Costa Rica include:

- *Cross-sectoral policy analyses make a difference.* In the last fifteen years there has been a number of initiatives which have involved a range of sectors and expertise (mostly at national level only) to establish national environmental principles and policy priorities. Some have had significant impact on formal policy, in general, positively. Notable amongst these analyses are: "*Environmental Profile of Costa Rica*" (Hartshorn *et al*, 1983); "*Strategies for a Sustainable Development*" (Quesada *et al*, 1990), "*Tropical Forestry Action Plan for Costa Rica*" (Ministerio de Recursos Naturales Energía y Minas, 1990), "*Natural Resource Depreciation and its Influence on the National Economy*" (Solorzano *et al*, 1991), "*Investigación sobre políticas del sector forestal en Costa Rica*" (Segura *et al*, 1996a) and "*The State of the Nation*" (Proyecto Estado de la Nación, 1995 and 1996).
- *Economic incentives work - if government can afford them.* The use of economic incentives as government's main policy tool in forestry has established reforestation as an alternative to the logging of natural forests. Large scale producers have acquired the experience, knowledge and technology needed to develop plantation projects and have established a considerable resource-base for national forest production. Smallholders, who benefitted much less

from the first types of incentives to be introduced, were nevertheless motivated by the possibilities of securing incentives to get better organised. However, future incentive programmes need a clearer sense of purpose. Areas to consider include: incentives for the conservation of forests that exist on lands that are not suited to other uses; incentives which differentiate between forest conservation and forest production, such that incentives offered to conservation are larger since this provides a higher level of environmental services.

- *Linking local success to regional alliances and national policy.* Smallholders' access to reforestation incentives has recently improved (although some incentives have still been rather ill-matched with people's motivations for forest management and conservation). This access has resulted in strengthened local, regional and national smallholder forestry organisations, notably the national-level JUNAFORCA, which coordinates organisations like ASUNFORT regionally, and ASACODE locally. These organisations have today generated considerable political space and can push for policy processes which better accommodate their concerns.
- *Partial decentralisation of forest decision-making.* The Regional Environmental Councils, and the National System of Conservation Areas (SINAC) with which the Councils overlap, hold much potential for incorporating local views in forest and environmental policy definition and management. However, these Councils have yet to become operational in these terms. A current problem is that MINAE is trying to operationalise the Councils, yet they are formally under the control of SINAC.
- *Public/private collaboration for technical assistance and raised standards.* Government agencies, universities, research centres and NGOs have collaborated on introducing effective resource conserving technologies, spreading knowledge of native commercial species, and providing technical assistance in forestry.
- *'Socialising' the protected area system.* The country's protected area system has been a remarkable success in terms of biodiversity and ecosystem conservation. But this success has been bought at the cost of the livelihoods and cultures of a number of local groups, who have lost access to forest goods and services. A number of projects and initiatives linked to protected areas are beginning to redress the balance, by trying to ensure that these groups benefit more from conservation. These approaches need a firmer basis in formal policy.
- *Progressive land taxation.* Although still with more potential than actual

impact, Costa Rica's experience suggests that a progressive land tax can be an effective tool for redistributing land to those who need it. If effectively levied and managed by Municipalities, it can also provide linkage to, and provide locally-controlled resources for, better land use.

- *New 'green policies' for securing international finance.* Ecotourism, as Costa Rica's top foreign exchange earner for the last four years, has justified protected areas to the public. In addition, currently developing bioprospecting and carbon-fixing projects signal potential income to those institutions who have already experienced the benefits of debt-for-nature swaps. It remains to be seen whether such initiatives can channel significant returns to those communities and forest managers who are trying to maintain good management of the resource.
- *Constitutional guarantees on the environment.* Environmental guarantees have now been incorporated at a constitutional level within the Costa Rican political system. The Constitutional Chamber of the Supreme Court (Sala IV), the Ombudsman's Office, and public hearings regarding consumer issues and public services, have opened new areas for citizen participation on forest and environment issues.
- *Bilateral support makes space for negotiation of differences.* The bilateral 'sustainable development' agreement between Costa Rica and the Netherlands has created a framework in which different sectors, and environmental and social organisations, can interact. The National Council of Non-governmental Organisations (CONAO) has been promoted under this framework and has developed participation within guidelines which emphasise negotiation of conflicting interests.

Recent strategic alliances between international co-operation agencies, NGOs, private sector groups and community organisations have put considerable pressure on top government officials, and have forced open some doors for rethinking policy. The resulting cross-sectoral initiatives, such as ECODES, worked quite well at the time, but tended to be 'one-off' consultative productions run mostly 'from the top'. The challenge is to develop long-term inclusive processes which can accommodate change, deal with future needs and keep policy 'on the boil'.



Politics in the trees: a campaign poster from the 1982 elections

Photo: David Boshier

6.3 Challenges and opportunities

The context for forest management in Costa Rica has changed greatly over the last few years. In taking stock of the lessons of policy success and failure, a number of challenges and opportunities present themselves:

- *The potential for good forest management is stronger today than in previous decades.* The forestry sector as a whole has benefited in many ways from forestry and non-forestry policies: farmers and loggers have been given unprecedented access to national forest land; farmers have received subsidies and credits for reforestation and, more recently, for forest management; and the forest industry has been protected during most of this period. In addition, since the late 1980s the sector has enjoyed a number of technical assistance and public research programmes. Forest certification is a market-led instrument which now has potential to bring benefits to both managers and forest management. Whilst it is certain that larger landowners benefited from the earlier reforestation subsidy programmes, it might be argued that there were neither technologies nor adequate producer support organisations available in the early 1980s for a smallholder development strategy. The technical aspects of smallholder forestry should not be underestimated. These earlier experiences enabled the nascent producer organisations, such as CODEFORSA, to simultaneously develop technological packages, attract bilateral support, widen their producer base and initiate a dialogue with the state forestry service (Jonathan Davies and Stewart Maginnis, 1997. Personal communication).
- *Formal policy is vital - but needs to be based on a new understanding.* Forests have many benefits and costs, some of which apply to society in general, others to a few direct 'managers' only. Forestry is also a long-term, often uncertain enterprise and much socio-economic, market and environmental change can occur over the years. Policy needs to be able to deal with this - to clarify how to integrate different benefits and costs; to provide signals to the direct managers as to how they will be held accountable; to state objectives over a long period with a system for decisions about forest allocation, rights and law; and to define how to accommodate change.
- *Formal policy cannot do everything - but can distribute control to those who can.* Whilst government policies of various kinds influence the ways in which people behave towards forests, other factors influence people too. In Costa Rica there are other key non-formal 'policy' approaches which influence forests and people: international efforts (such as intergovernmental and certification forest management standards and 'activities implemented

jointly' to mitigate greenhouse gas build-up); introduction of market instruments (such as forest certification); and efforts by civil society and the private sector (such as NGO campaigns, projects and programmes, and industry codes of practice). Government cannot control these processes, but formal policy is still vital since it will have strong influence on their failure or success. The focus of government institutions shifts from attempted control of all decision making over forests to enabling reconciliation of national, private and collective interests.

- *Rights and responsibilities for forest goods and services can be negotiated.* Different social groups have different priorities for forests, and for them to believe in policy, their priorities must be either reflected or in some way accommodated in policy. This generally implies negotiation amongst different positions, and 'deal-cutting' between different social groups. Traditional policy-makers in government are no exception: their interests, or their claims to represent the 'national interest' in such matters as conserving biodiversity and intergenerational equity, have to be negotiated with other interests - from local to national.
- *Administrative decentralisation gives some room for manoeuvre.* Government efforts in administrative decentralisation, and the more recent emergence of organised actor groups, has certainly opened up opportunities for articulation of community-level concerns and potential solutions. There is much evidence of a local 'ethic' of sustainable development in Costa Rica, and a number of projects have built successfully on this. The challenge is for policy to learn from and enable this on a national scale.
- *Government may need to seek specific support for its role.* Government claims to represent the national interest on forests are only as strong as people's belief in them. This belief varies greatly across social groups, and changes over time. There may be a need for government to seek a concrete statement of public opinion - through a referendum or plebiscite - on the role of the state with respect to forest goods and services. For example, the public could be asked whether it agrees that the state role is to protect critical natural capital - such as biodiversity and unique landscapes, whilst other functions should be negotiated with other social groups on a case-by-case basis. This can clarify mandates, increase government accountability and provide legitimacy to actions (see below).

We believe that the power differences which currently restrict some groups' potential contribution to good forestry, whilst giving others too much leeway for bad practice, can be tackled through innovative alliances pushing for changes and new kinds of involvement (outlined below). However, the above

premises imply profound changes needed in the workings of government and the political system. Increased participation and democratisation of forestry policy needs to be reconciled with the increased liberalisation, deregulation and globalisation of the economy, and increasing land concentration. This requires active national debate and negotiation (see below).

6.4 Recommendations for an improved national policy process

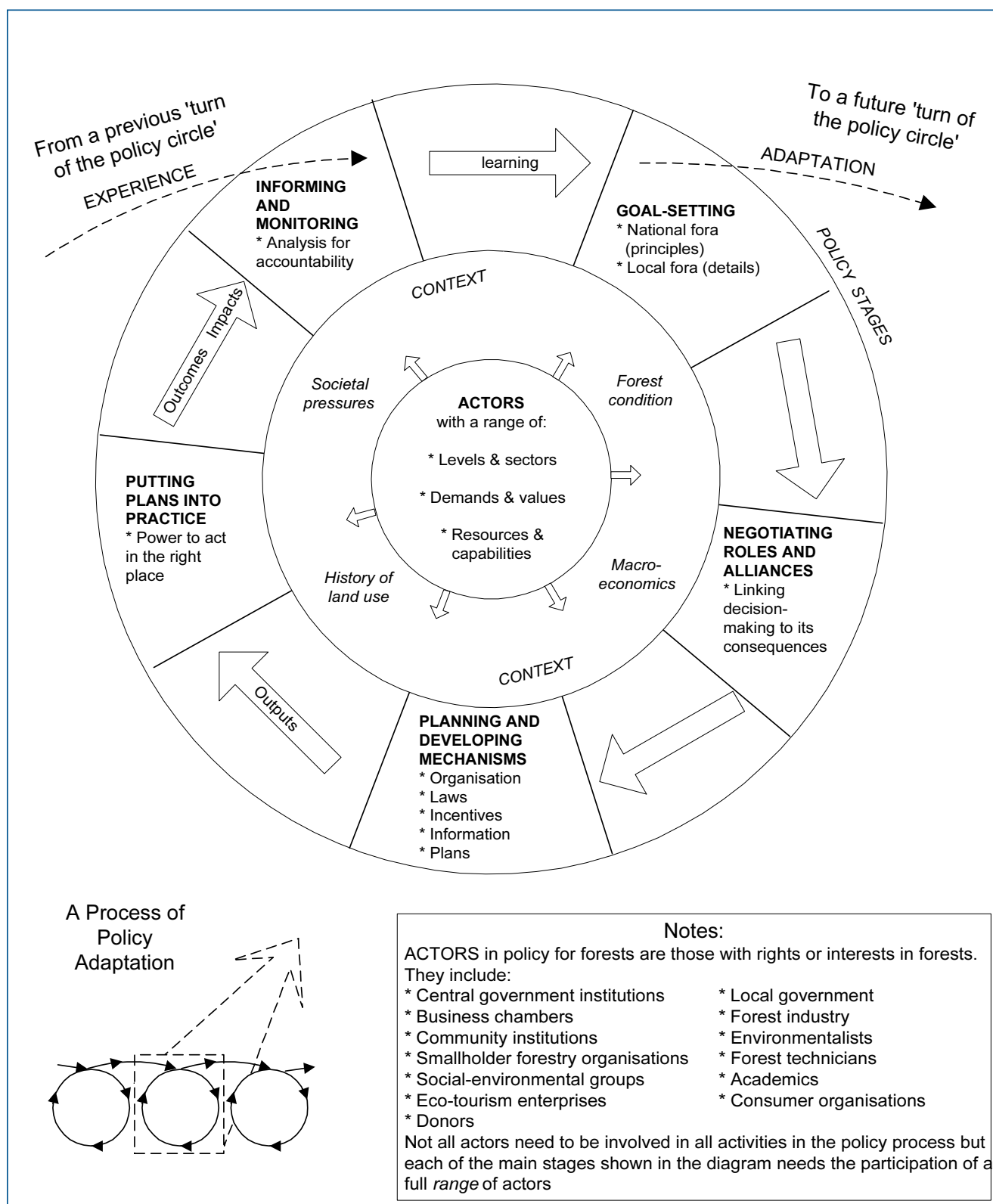
Ways forward identified by the study team are outlined here in terms of the notional ‘stages’ of policy: goal-setting; negotiating roles and alliances; planning and developing mechanisms; putting plans into practice; and informing and monitoring. In practice these stages are unlikely to be self-contained and sequential; far from it - they may overlap or run simultaneously or completely out of time with this simplistic sequence. However, these stages are linked and interrelated, and all of them are eventually needed for policy to be truly adaptive and to have the commitment of a wide range of people who are vital for sustainability to be achieved.

Figure 6.1 represents the elements which need to be considered in establishing an improved policy process. Keeping the ‘wheel’ of policy turning is crucial - so that each of the notional stages of policy are re-visited regularly enough to permit learning, adaptation and improvement.

Negotiating goals and priorities for forests

- a. *Mechanisms for national-level goal-setting for forests and people should be installed.* These received some attention during preparation of the National Conservation Strategy for Sustainable Development (ECODES) in 1988-1990 but in practice this process involved mostly technocrats. Since then, however, stronger national-level civil society organisations have emerged which both link to the grass-roots and combine social and environmental priorities, e.g. JUNAFORCA, CONAO, FECON, and community development associations. They help *priorities debated at the level of local organisations*, to be *channelled up through vertically integrated networks* to “*negotiating spaces*” at national level for different sectors. These spaces, which could be various kinds of forum, should provide producers’ organisations, environmentalists, local government, academics, autonomous institutions, forest entrepreneurs, and other sectoral agencies with opportunities to state their needs and interests, to listen to those of others, and to negotiate.

Figure 6.1 Elements of an improved policy process



b. *Basic principles and objectives should be set at national level. These should aim to enable and guide local systems in pursuing practical and flexible action. Some core principles which this study suggests should be highlighted in national goal-setting include:*

- *Equity in distribution of the social, economic and environmental benefits generated by forest goods and services.*
- *Local ideas, knowledge and capacity.* For example, forest management needs to be consistent with rural lifestyles and economies, and creatively integrated into community planning and agricultural extension approaches.
- *'Livelihoods first' through local control.* This should legitimise the concerns and practices of the smallholder and enable a deregulation of small- and medium-scale forestry. Lower-cost alternatives to the current economic incentives need to build on farmers' motivations so as to have more intrinsic value for landholders.
- *Protected areas with social benefits.* In practice this can be achieved through contracts between state/private owners and communities for forest use and other services in protected areas.
- *Accountability of forest management.* This is needed at several levels. Locally, sanctioning mechanisms are most likely to succeed if community organisations and local people are partners in their development and use, and if they are applied fairly across all social groups.

The Legislative Assembly should guarantee the involvement of the different sectors and social actors through approval of appropriate regulations, laws and national development plans.

Developing institutional roles and practice

- c. *Effect key reforms for 'participatory democracy'.* A more open and inclusive forest policy process is closely linked to the wider national challenge of realising the rhetoric of 'participatory democracy'. Constitutional reforms on electoral policies are needed to give communities the opportunity to directly elect their government and municipal representatives. Reform is also needed to enable wider participation in the formulation and approval of congressional laws: for example every stage of decentralisation should be subject to national debate on political reforms needed in the government, and the Legislative Assembly's regulations should be reformed so that civil society may benefit from regulated public audiences.
- d. *Establish 'socio-environmental areas'.* Decision making on plans, programmes and projects needs to be devolved to levels at which more equitable management of the forest goods and services required at that level can be

effected. For example, the responsibilities currently given to the Regional Environmental Councils for watershed management may be appropriate, but management of timber and non-timber forest products could be transferred, with rights and accountability mechanisms, to more local organisations where people are motivated to act. Furthermore, planning based on ecological/land use suitability needs to focus on areas for which there is some socio-economic and cultural-political cohesion. Detailed surveying of the various forms of local and regional organisations would help prepare for this, as would integration of the currently unlinked regional environment-focused systems: the Regional Environmental Councils, the National Council of Non-governmental and Social Organisations (CONAO) and the National System of Conservation Areas (SINAC).

- e. *Build strategic alliances at regional level.* Alliances to unite environmental and social agendas are particularly needed at regional level. Such alliances capitalise on the political space generated by projects and new laws to shape joint action, spread local successes, and feed information to national policy processes. National objectives, opportunities and resources can also be disseminated through them to local level.
- f. *Support local-level organisational capacity.* Ample evidence from successful community initiatives shows them to be characterised by widespread participation, effective organisation and an ability to formulate and manage their own plans. Capacity for mutually reinforcing social and forest development was clearly evident in the initiatives and communities worked with in this project. In the course of this work, community members highlighted the following elements needed to further develop this capacity:
 - increased access to technical training programmes for community members;
 - autonomy to work with the communities' own organisational mechanisms and leaders, rather than having to cope with externally-invented institutions forced on communities;
 - removal of unnecessary intermediaries in economic support from international cooperation programmes; and
 - government recognition and support of local authorities in the self-management process.

The Ministry of the Environment and the National System of Conservation Areas should support initiatives which strengthen community organisations. There is a strong case to be made for financial incentives from government to be focused on support of community self-management and organisational processes.

- g. *Identify existing public-private collaboration and strengthen case by case.* The experience of CODEFORSA illustrates the potential of public-private collaboration for forest management. This has enabled it to grow to become a service organisation for the whole region, with a technical and political role. However the public-private approach presents particular challenges, and a flexible approach to identifying and supporting active partnerships is needed.
- h. *Re-orient work patterns in government institutions.* Work patterns of institutions should be developed so that they stress accountability but encourage staff working flexibly and creatively for results, rather than for rigid compliance with formal procedures. An emphasis on securing regular feedback on the actual priorities of forest actors, particularly smallholders and the rural poor, can create a driving force for institutional learning. In order to re-orient forestry institutions from a policing role towards an extension and support role, adaptive project work with farmers in developing multi-value forest resources is recommended, rather than considering forests only in terms of marketable timber values. Analytical and managerial skills are needed most, and this will require retraining and new recruitment.
- i. *Promote institutional accountability.* Transparency in access to, and use of, information is a key practical measure to increase institutional accountability (see below). In addition, some have suggested that the *plebiscite* should be established as a means to enable a public decision to be made on key issues affecting them. The formulation of a law bill to this effect could prepare the way for other important reforms, which would foster a more open and accountable policy process. Such reforms would include reform of the National Constitution and the electoral process, definition of the agenda in the Legislative Assembly, and increase of government institutions accountability.
- j. *Focus on resource-conserving production systems.* Many local people require regular, if small, benefits from forests, rather than a one-off cut of timber after many years. There is a need to bridge the gap between the rich vein of scientific forestry research in Costa Rica, and smallholder experimentation. Low-impact timber-harvesting technologies, such as using water buffalo for timber extraction, is one such area needing more analysis and support. The long term success of many initiatives depends on engaging with the whole cycle of production, local industrialisation and commercialisation, in a way that favours the development of community management ability. Government incentive packages should be directed to this type of integration.

Monitoring, analysing, informing and adapting

- k. *Track the practice of policy.*** Monitoring the practice of policy is in the interests of those who have been involved in its development, who bear its costs or gain its benefits. The key need is to make sure that this monitoring, which is mostly done informally, can lead to learning which feeds into the policy process such that policy can change for the better. Thus, the periodically-convened national level goal-setting forum (described in recommendation (a)) also constitutes the apex of a system for monitoring and evaluating policy in which relevant social actors participate.
- l. *Facilitate local involvement in policy analysis.*** There is much evidence to suggest that, when their interests are recognised, a wide range of actors contribute to improved policy processes at local levels. There is a need to analyse the conditions and mechanisms for this, and to demonstrate that community level policy processes have much to offer. The best way to do this is through analysis of policy processes carried out by communities themselves. This project has developed an effective approach for facilitating this.
- m. *Improve quality of analysis and information systems for policy.*** Better policy requires better preparation, analysis and use of a broader range of information - on forest assets, uses made of them, and people's changing values linked to forest goods and services. Examination of Costa Rica's comparative advantages at a global level is also needed. Better information flows amongst participants are required for this. An approach such as Forest Resource Accounting could be used to meet these needs (see Box 6.1).
- n. *Spread information on local policy success.*** An important basis for improving policy lies in the analysis, recording and disseminating of information about the experience of successful or potentially successful policy models within various initiatives. This project has contributed to the process with analysis of initiatives such as ASUNFORT in the Atlantic region, AGUADEFOR in the Pacific, and CODEFORSA in the Northern Zone. This process needs to continue through:

 - ***Recording and analysis of forest and social development experience.*** The range of experiences of different forest production systems, local technical knowledge and capacity need to be analysed through the use of diagnostics, self-evaluation and other participatory methodologies that consider both weaknesses and strengths.

Box 6.1 Forest Resource Accounting - strategic information for better forestry

Forest Resource Accounting (FRA) is an approach which aims to provide the right kind of information for forest policy and management goals to be set, achieved and reviewed. FRA focuses on three key areas of information: the supply of forest assets; the demand for forest goods and services; and the use and management of forest resources (IIED-WCMC, 1996). The approach is based on:

- bridging the gap between highly technical information systems and common-sense systems in everyday use;
- keeping down the costs of information usage by focusing on what is essential only;
- enhancing transparency and accountability; and,
- making progress in improving forestry practices in a step-by-step, practical manner.

The FRA approach can draw from, and feed into, all the stages of a policy process such as that outlined in Figure 6.1. It involves direct consultation with forest actor groups and synthesis of existing data before focusing on which outputs are urgently needed and which are longer-term prospects. These outputs might include:

- state-of-the-forests data and reports;
- balance sheets of forest stocks and flows;
- systems for monitoring forest investment; forest valuation;
- audits of forest management and administration;
- forest sustainability assessment, according to national and international standards.

The first activity towards implementing FRA is usually a feasibility study to build up a picture of broad information needs. Implementation proposals then follow, which will include a process by which forest actors agree on the appropriate implementing bodies.

- *Dissemination of lessons from experience.* Effective presentation and dissemination of lessons requires information networks, technical training and the support of community organisations. Local, regional and national exchange between different communities can strengthen locality-specific learning and adaptation of appropriate processes, and can strengthen the alliances described above, on which broad-based policy change depends.

Existing forest sector bodies and other groups already involved with policy can make a start on some of these recommendations straight away. In addition, an initial forum involving all the key forest actor groups (see Figure 6.1) is needed to debate the above options, agree priorities, and identify the institutional mechanisms for taking the next steps.

This study has identified what is good and bad in existing policy processes in Costa Rica. It has noted the progress that has been made when strategic alliances form between social groups. The challenge for these alliances now is to put their weight behind some of the key options identified above, to shape policy processes and policy instruments that generate real benefits for forests and people.

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Annexes

Annex I. Participating community members

| Community | Name | Organisation |
|--|-------------------|-----------------------------------|
| La Tigra, San Carlos | Antonio Vázquez | Development association |
| | Gerardo Arias | Smallholder |
| | Abelino Jiménez | Development association |
| | Floribeth Camacho | Women's association |
| | Joselina Chacón | Women's association |
| | Enrique Araya | Smallholder |
| San Ramón de la Virgen, Sarapiquí | Hipólito Corrales | Butterfly producer |
| | José Luis Salas | Transport and smallholder |
| | Miguel Salas | Smallholder |
| | Orlando Brenes | Development association president |
| | Miguel Solís | Smallholder |
| | Reyner Vargas | Smallholder |

Annex II. Advisory Committee Members

| Name | Professional field | Institution |
|-------------------|----------------------------|---|
| Daniel Alvarado | Conservation | Arenal Conservation Area |
| Bruce Aylward | Economics | CREED-CR Project |
| Jan Bauer | International co-operation | Dutch Embassy |
| Gerardo Budowski | Tourism and environment | World Society of Eco-tourism |
| Antonieta Camacho | Social science | UNA |
| Adelaida Chaverri | Ecology | UNA |
| Guido Chaves | Government and environment | MINAE |
| Isabel Macdonald | Environmentalism | FECON |
| Stewart Maginnis | Forestry | CODEFORSA/ MINAE/ ODA |
| Tirso Maldonado | Forestry | Neotrópica Foundation |
| Yamileth Oviedo | Conservation | Central Volcanic Cordillera Conservation Area |
| Leonel Pérez | Logging | COOPEMADEREROS |
| Freddy Rojas | Forestry | ITCR Forestry Department |
| Edgar Salazar | Forest industry | Costa Rican Chamber of Forestry |
| Oscar Sánchez | Conservation | Arenal Conservation Area |
| Raúl Solórzano | Government and environment | MINAE |
| Johnny Soto | Local government | National Union of Local Government |
| Steward Rito | Indigenous groups | National Board of Indigenous Peoples |
| Joseph Tosi | Ecology | Tropical Science Centre |
| Olman Varela | Smallholder organisation | JUNAFORCA |
| Gastón Vargas | Political science | Legislative Assembly |

Annex III. Chronology of Activities

| DATE | LOCATION | ACTIVITIES |
|-------------------------------|---|--|
| March to June 1995 | CCT and IIED | Discussion of potential objectives activities and roles in <i>Policy That Works for Forests and People</i> project |
| July 1995 | Woburn, UK | Workshop. Discussion of global literature review findings and project planning for six country studies. Participants: country team coordinators, IIED staff, resource people, donors |
| August to October 1995 | CCT and elsewhere in Costa Rica (mostly San Jose) | Collation and first synthesis of existing information. Preparation of initial conclusions on main policy issues for study focus. Establishing potential study team and project advisory committee group. |
| November 1995 | Irazu Hotel, San Jose | Workshop. Debate key policy issues and strategy to address them. Participants: 30+ from wide range of Costa Rican institutions |
| December 1995 to May 1996 | CCT, JUNAFORCA and elsewhere in Costa Rica | Development of study plan, including fieldwork on local objectives for protected areas and forest management. Continuing analysis and synthesis of secondary information. Identification and interviews with key actors - members of Project Advisory Committee and others |
| June to August 1996 | La Tigra de San Carlos and San Ramón de Sarapiquí | Analysis with key individuals and groups in two communities on local perceptions on policy and objectives for protected areas and forest management. Three visits, each of several days, to each community |
| September to October 1996 | CCT | Two cross-sectoral meetings of key opinion-formers and policy-makers. To discuss synthesis of local level findings and study methodology |
| November 1996 to January 1997 | CCT and JUNAFORCA | Study team meetings, draft report writing and discussion of results with JUNAFORCA |
| February 1997 | Hotel Europa Zurquí, San Jose | Workshop. Presentation and discussion of study findings and range of case studies. Participants: 30+ from wide range of Costa Rican institutions plus community representatives |
| March to April 1997 | San Jose | Report writing |
| May 1997 | Hwange National Park, Zimbabwe | Workshop. Presentation of six country studies involved in <i>Policy That Works for Forests and People</i> project, drawing comparisons and conclusions. Participants: country team coordinators, IIED staff, resource people, donors. |
| June to August 1997 | CCT and IIED | Preparation and review of country synthesis report and strategy for supporting the ongoing policy debate. |

Annex IV. Data used for figures

Data used for Figure 2.3 Forest land in Costa Rica

| Forest land category | Area (ha) | Percentage of total national territory |
|---|------------------|--|
| primary forest comprising: | 1,787,000 | 35 |
| - <i>public protected areas</i> | 1,287,000 | 25 |
| - <i>privately owned forests and</i> | 250,000 | 5 |
| - <i>privately owned protected areas</i> | 250,000 | 5 |
| logged forest in good condition | 150,000 | 3 |
| secondary and regenerating forest in patches amongst agricultural lands | 450,000 | 9 |
| non-forest land | 2,713,000 | 53 |
| Total national territory | 5,100,000 | 100 |

Sources: Solórzano *et al.*, 1991; MIDEPLAN, 1995d; MINAE-SINAC, 1996a; IMN, 1995; Davies, 1997; Alpizar *et al.*, 1997; Bien, 1997.

Data used for Figure 2.4 Protected areas of Costa Rica

| Management Category | Number | Total estimated area (ha) | Equivalent % of total protected area | Equivalent % of national territory |
|----------------------|------------|---------------------------|--------------------------------------|------------------------------------|
| national park | 22 | 838,542.32 | 52.68 | 16.41 |
| forest reserve | 12 | 291,191.00 | 18.29 | 5.70 |
| wildlife refuge | 34 | 197,401.66 | 12.40 | 3.86 |
| protected zone | 30 | 184,496.00 | 11.59 | 3.61 |
| wetlands | 14 | 50,465.00 | 3.17 | 0.99 |
| biological reserve | 10 | 29,495.30 | 1.85 | 0.58 |
| national monuments | 1 | 217.90 | 0.01 | |
| Total | 123 | 1,591,809.10 | 100.00 | 31.15 |
| Non-protected land | | 3,508,190.90 | | 68.85 |
| Total land territory | | 5,100,000.00 | | 100.00 |

Source: MINAE-SINAC, March 1996

Data used for Figure 3.1: Export value of forest and selected agricultural products from 1950 to 1996 (in million US\$)

| Year | Coffee | Banana | Meat | Forest products |
|------|--------|--------|------|-----------------|
| 1950 | 17.8 | 0 | 0 | 0.3 |
| 1951 | 22.0 | 34.3 | 0 | 0.3 |
| 1952 | 24.3 | 38.3 | 0 | 0.4 |
| 1953 | 33.5 | 35.9 | 0 | 0.3 |
| 1954 | 35.2 | 35.8 | 0 | 0.1 |
| 1955 | 37.3 | 33.1 | 0 | 0.2 |
| 1956 | 33.9 | 25.5 | 0 | 0.3 |
| 1957 | 40.7 | 32.1 | 0 | 0.2 |
| 1958 | 50.7 | 26.4 | 0 | 0.2 |
| 1959 | 40.0 | 19.1 | 2.9 | 0.2 |
| 1960 | 45.4 | 24.6 | 4.3 | 0.2 |
| 1961 | 44.9 | 20.7 | 2.7 | 0.5 |
| 1962 | 48.4 | 21.1 | 2.7 | 1.0 |
| 1963 | 45.3 | 22.7 | 5.1 | 1.0 |
| 1964 | 48.2 | 28.0 | 6.0 | 1.5 |
| 1965 | 46.8 | 28.4 | 3.1 | 1.8 |
| 1966 | 52.7 | 29.4 | 5.3 | 2.4 |
| 1967 | 54.8 | 30.9 | 8.6 | 1.7 |
| 1968 | 55.5 | 42.8 | 12.0 | 2.1 |
| 1969 | 55.7 | 51.4 | 15.2 | 2.2 |
| 1970 | 73.1 | 66.8 | 18.1 | 1.9 |
| 1971 | 59.2 | 64.2 | 20.4 | 2.0 |
| 1972 | 77.7 | 82.8 | 28.3 | 2.6 |
| 1973 | 94.0 | 90.6 | 31.4 | 2.3 |
| 1974 | 125.0 | 98.1 | 34.2 | 4.5 |
| 1975 | 96.7 | 144.0 | 32.0 | 3.0 |
| 1976 | 154.2 | 148.7 | 40.4 | 5.9 |
| 1977 | 319.1 | 150.3 | 44.2 | 8.4 |
| 1978 | 313.6 | 169.8 | 60.1 | 8.7 |
| 1979 | 315.7 | 190.4 | 81.6 | 7.9 |
| 1980 | 247.9 | 207.5 | 70.7 | 10.0 |
| 1981 | 240.1 | 224.8 | 73.9 | 0.8 |
| 1982 | 236.9 | 228.1 | 53.1 | 10.1 |
| 1983 | 230.2 | 240.3 | 31.9 | 9.3 |
| 1984 | 267.2 | 251.0 | 43.5 | 10.2 |
| 1985 | 315.9 | 208.0 | 53.6 | 9.3 |
| 1986 | 391.9 | 216.8 | 69.8 | 6.9 |
| 1987 | 334.5 | 228.6 | 62.5 | 9.0 |
| 1988 | 316.4 | 221.1 | 55.8 | 19.5 |
| 1989 | 286.2 | 284.4 | 51.9 | 19.6 |
| 1990 | 245.4 | 315.0 | 48.6 | 17.4 |
| 1991 | 263.6 | 380.9 | 69.3 | 13.5 |
| 1992 | 203.2 | 482.9 | 44.0 | 20.4 |
| 1993 | 201.8 | 536.5 | 66.5 | 27.0 |
| 1994 | 407.6 | 561.0 | 50.9 | 33.3 |
| 1995 | 417.3 | 683.8 | 43.6 | 38.3 |
| 1996 | 385.4 | 611.3 | 42.0 | 48.8 |

Note: Figures for forestry products 1995 and 1996 are estimates. All values given are FOB export values.

Sources: Vargas and Saenz, 1994; Banco Central de Costa Rica, 1997; Consejo Monetario Centroamericano (Secretaría Ejecutiva), 1997; MIRENEM, 1994.