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DECENTRALISING FOREST MANAGEMENT AND CONSERVATION IN CENTRAL AMERICA

Michael Richards, Guillermo Navarro,
Alberto Vargas and Jonathan Davies

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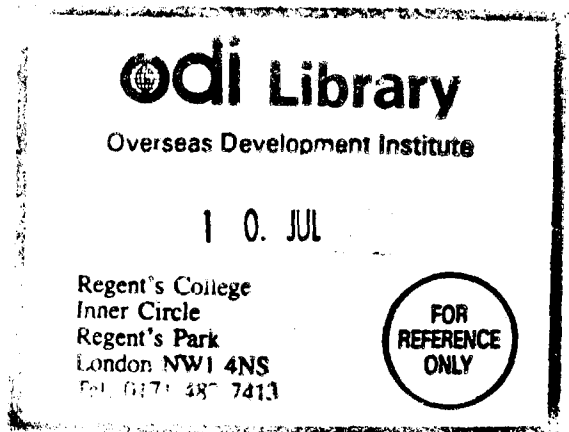
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Preface

This study was undertaken as part of the three-year Overseas Development Administration (ODA) funded Rural Resources and Poverty Research Programme. The authors were Michael Richards, Research Fellow in the Forestry Programme of the Overseas Development Institute (ODI); Guillermo Navarro, Director of the Corporación de Profesionales en Recursos y Manejo del Ambiente (COPREMA) in Cartago, Costa Rica; Alberto Vargas, doctoral candidate at the University of Wisconsin, Madison, USA; and Jonathan Davies, ODA Technical Cooperation Officer (Agricultural Economist) attached to The Integrated Forest Management Project, Ciudad Quesada, Costa Rica.

The Rural Resources and Poverty Research Programme focuses on the changing role of the state in natural resources management and the provision of supporting services. The Programme covers a range of subject areas including agricultural services (including research and extension), forestry, water resources and pastoralism. Individual literature reviews were prepared in all these areas prior to case study analysis and fieldwork. The objective of the overall programme is to derive policy guidelines concerning:

- identification of areas of management and service provision for which the state should retain responsibility;
- which other potential providers are best suited to take over responsibilities ceded by governments;
- how to manage the process of change;
- how the role of the state should evolve so that those activities still undertaken are performed with the greatest effectiveness in terms of meeting the needs of the rural poor (while not unduly compromising other valid objectives such as increasing agricultural production or maintaining biodiversity).

This Working Paper, based on fieldwork in Central America, continues one of the main themes of the programme – decentralisation of state functions in the natural resources sector – and builds on several earlier ODI Working Papers and a Natural Resources Perspectives Paper stemming from the programme:

Devolution of Management in Public Irrigation Systems: Cost Shedding, Empowerment and Performance by Hugh Turrall, ODI Working Paper 80

Changing Public and Private Roles in Agricultural Service Provision: A Literature Survey by Diana Carney, ODI Working Paper 81

Institutional Change Within the Forest Sector: Centralised Decentralisation
by Mary Hobley, Working Paper 92

Management and Supply in Agriculture and Natural Resources: Is Decentralisation the Answer? by Diana Carney, Natural Resources Perspectives No. 4

The Forestry Programme of the ODI has focused specifically on decentralisation and the changing role of the state in the forest sector. This paper follows up Mary Hobley's Working Paper and complements a parallel analysis of decentralisation of the forest sector in Haryana State, India, by Kishore Shah and Mary Hobley, which will form a future Working Paper.

It also stems from an earlier unpublished literature review on institutional change in the Latin American forest sector by the author of this Working Paper, which identified decentralisation and increasing privatisation as a major characteristic of recent change in the region. Costa Rica and Mexico were chosen as case study countries both due to their stronger decentralisation policies (as opposed to decentralisation purely as a forced and disjointed cost-shedding process), which it was felt would give countries in the region and donors more useful policy guidance, as well as due to ODA's on-going forestry interests in these countries. The main objective of the study was to draw out lessons for appropriate decentralisation policies (including privatisation and regulatory issues) by observing the interaction between the macro or policy-level decentralisation process and micro-level efforts to develop sustainable forest management and conservation. The latter cover a wide range of institutional arrangements with differing levels of public sector involvement.

The following are among the many who provided information or facilitated the study:

From Costa Rica:

Alfonso Barrantes, Executive Director, CODEFORSA
Luis Rojas, Director of ACTo and Co-Director of P/ACTo
Stewart Maginnis, TCO (Forester), CODEFORSA
José Zamora, resident of Cocori
Carlos Brenes, FAO
Various staff of ACTo, P/ACTo and CODEFORSA

From Mexico:

Carlos Meade, Yaxche

Sylvia del Amo, Director of PROAFT
Sebastian Poot, Executive Committee, Yum Balam
Francisco Remolina, Yum Balam, AC
Arturo Argueta, Director, National Ecological Institute
Eduardo Mendez, Mayor of Kantunilkin
Don Fidel, President of Mayan Supreme Council, Yum Balam
Francisco Chapela, Estudios Rurales y Asesoría, AC, Oaxaca
Raul Roce and Noe Pascasio, SEDESOL
Members of Tulum *Ejido*

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Acronyms and abbreviations

(CR = Costa Rica, Mex. = Mexico)

ACTo	Tortuguero Conservation Area (Programme)
APAIFO	Association of Agroindustrial and Forestry Producers
CAFMA	Forest Bond Certificate of (Natural) Forest Management
CATIE	Centre of Tropical Agricultural Research and Teaching
CODEFORSA	Commission of Forestry Development of San Carlos
CTCNF	National Technical Forest Consultative Council, Mex.
DECAFOR	Campesino Forestry Department (of DGF), CR
DGF	Directorate General of Forestry, CR
DGVS	Directorate General of Wildlife, CR
FAO	Food and Agriculture Organisation of the United Nations
GO	Government organisation
GTZ	Gesellschaft für Technische Zusammenarbeit, Germany
IDA	Institute of Agrarian Development, CR
INI	National Indigenous Institute, Mex.
IUCN	International Union for Nature Conservation
JAPDEVA	Junta de Administración Portuaria y Desarrollo de la Vertiente Atlántica
JUNAFORCA	National Assembly of Forest Campesinos
MIRENEM	Ministry of Natural Resources, Energy and Mines, CR
NGO	Non-governmental organisation
NTFP	Non-timber forest product
ODA	Overseas Development Administration, UK
OPFZM	Organisation of <i>Ejido</i> Forest Producers of the Mayan Zone
ORCA/IUCN	Central American Regional Office of the International Union for the Conservation of Nature
P/ACTo	Project for the Consolidation of the Tortuguero Conservation Area
PPF	Plan Piloto Forestal
PROAFT	Tropical Forestry Action Plan of Mexico
SARH	Secretariat of Agriculture and Water Resources, Mex.
SEDESOL	Secretariat of Social Development, Mex.
SINAC	National System of Conservation, CR
SMARNP	Secretariat for the Environment, Natural Resources and Fisheries, Mex.
SPFEQR	Society of <i>Ejido</i> Forest Producers of Quintana Roo
SPN	National Park Service, CR
STF	Technical Forestry Services, Mex.

TCO	Technical Cooperation Officer of the UK Overseas Development Administration
UAF	Forestry Administration Unit, Mex.
UCODEFOs	Units of Conservation and Forestry Development
UPAGRA	Union of Small Farmers of the Atlantic Region
URC	Regional Conservation Unit, CR

1. Summary

This ODI Working Paper examines the Costa Rican and Mexican experiences of decentralisation in the forest sector through analysis both at the national and micro or forest level. These two countries were chosen because they have taken a more proactive approach to decentralisation than most other countries in the region, where decentralisation has been more of an enforced process resulting from macroeconomic pressures and structural adjustment. Decentralisation is defined here in a generic sense to include deregulation and the encouragement of privatisation, as well as administrative and political decentralisation within the public sector.

In Costa Rica in the forest sector, decentralisation has been more administrative than political, with regional structures replicating central ones but most decision-making power being retained at the centre. In contrast to Mexico, there was increased rather than decreased regulation. This may have made forest management even more unattractive in comparison with alternative land uses – a situation only partially compensated by the system of financial incentives. However privatisation of technical services was strongly promoted by redirecting a proportion of the forest rent to producer and user associations, which employed professional foresters to provide the technical services necessary to comply with the regulations.

Decentralisation is a central plank of Costa Rica's strategy for protected area management. This is based on the National System of Conservation Areas (SINAC), which seeks to bring the three main natural resources Directorates together in regionally autonomous departments. In the Tortuguero Conservation Area (ACTo), a prototype SINAC approach is being developed, but legal and attitudinal problems have hindered collaboration. Although still evolving, it presents an example of state-led decentralisation struggling to achieve its objectives as a result of inadequate political support to advance much beyond administrative decentralisation, and put regional sustainable development priorities before national economic policies. For example cooperation has been disappointing with other 'decentralised' government organisations (GOs) that are still driven by national economic policies.

In order to counter the negative 'invisible institution' problems (rent-seeking behaviour, patronage, personal power struggles, negative attitudes to participation, etc.) of GO collaboration, and grassroots prejudice against the state, a hybrid NGO called P/ACTo (Programme of ACTo) has been created with European Union funding. P/ACTo has attempted institutional collaboration

through a number of agreements or contracts with GOs, NGOs and communities. Although the project was conceived as a model for community participation, participatory planning methods have only recently been used and there have been problems from by-passing traditional institutions. P/ACTo has also suffered from frequent policy and institutional changes at the national level. However it is important to point out that it is working in a conflictive and recently colonised area with insecure tenure – in contrast to the area where CODEFORSA is working. While there were signs that the project was now on a firmer footing in popular participation, the legal problems were still undermining its longer-term institutional goals.

The second Costa Rican study focuses on CODEFORSA, an NGO that has very effectively taken on the provision of technical assistance to forest owners and managers in the north of the country. Following initial impetus from the private sector, the state has greatly facilitated the process by finding ways of channelling funding to the private sector. It has supported CODEFORSA, and similar organisations, through the incentive programmes for reforestation, and more latterly forest management (payments to farmers who then repay the NGO for support services and control functions); through diverting a small part of forest taxation to the NGOs; and by channelling donor research grants to the private sector.

A second important factor in CODEFORSA's success has been that the state has not intervened in the relationship with the resource managers. A third important factor was the development of an effective regulatory role over the quality of technical assistance – through the hybrid (private/public sector) National College of Agronomy. This contrasts with the unregulated Mexican situation in which the quality of private sector technical assistance has varied enormously.

Some of the best forest management in Central America is to be found in forests that have come under the MIRENEM–CODEFORSA Agreement. There is little doubt that CODEFORSA represents a success story in the privatisation of state services and public–private sector cooperation. However the model was less effective in other areas, where the public–private relationship was less harmonious. This gave additional evidence to a coalition of lobbies, including supporters of the structural adjustment process, popular sentiment against the state's apparently poor record in combating deforestation, and private interests in favour of the old system (less control and lower forest taxes), whose combined efforts resulted in a reduction in fiscal support to the private forestry organisations.

Privatisation has thus run up against the problems of uneven quality in private sector response (a problem that should lessen as the College of Agronomists'

vetting system becomes stronger) and opposing coalitions of interests. It also suggests that privatisation of technical services should be approached as a gradual and cumulative process, as and when adequate NGO capacity is identified, rather than as a blanket, nationwide policy.

Mexico has been steadily deregulating and encouraging privatisation over the last decade. In the remote State of Quintana Roo, several important instances of decentralised community-based forest management and conservation have developed. The *Plan Piloto Forestal* (PPF) is now regarded as something of an international model, although it is not without its problems. Among several key factors, the non-intervention of the state in project management, but continued financing of locally accountable technical assistance, was crucial. A key institutional development was the autonomous *Sociedad* of *Ejido* Forest Producers, which coordinated and controlled the provision of the state-financed technical assistance and research through a coalition of *ejidos*.¹ High quality external support (by GTZ) and state, as well as federal, government support were also critical, for example in ensuring the project was not opposed by the dominant business elites. Although there was some federal support, this was essentially an example of the 'letting the market do the work' – but, unsurprisingly, it has been much less effective in those *ejidos* where the economic value of the forest was much lower.

However the other two case studies, in which the forest resource had a much lower realisable market value, show the limitations of such an approach. The Yum Balam project is a courageous, if possibly over-ambitious, attempt to reconcile conservation and development needs with very limited outside support. Some state support has been channelled through local government, but the main mover has been an NGO composed of a core group of local people and outsider environmentalists. The local institutional basis of the project is strong, but the operational structure is over-complicated and the project is struggling to overcome conflicts between commercial interests and sustainable development priorities.

Finally Tulum *Ejido* is trying to develop a small ecotourism project with support through Mexico's Tropical Forest Action Plan (PROAFT) which comes under the Natural Resources Ministry. In an approach being widely replicated in southern Mexico, PROAFT has set up a Tripartite Agreement between the

¹ *Ejido* traditionally refers to the Mexican modality of land tenure in which, following the Mexican revolution (circa 1918), the government granted common and untransferable usufruct land rights to communities. But land and natural resources belonged to the nation. This situation was changed by the 1992 Reform of Article 27 of the Mexican Constitution (see section 4.2).

community, a local supporting NGO and PROAFT itself in the guise of an NGO. This is seen as a means of avoiding local anti-state prejudice and, since most direct contact is through the local NGO, some of the negative 'invisible institution' problems. While the project is finding its feet after a series of initial difficulties, including interference by a 'decentralised' state agency, it is difficult to see the project generating livelihood incomes quickly enough to achieve its objectives without considerable outside support. An implication of both these projects is that privatisation is not appropriate for multiple objective conservation and development projects – unless an external donor provides the necessary level and continuity of support. There is bound to be a considerable gestation period while such projects develop alternative livelihood-based conservation incentives.

It is clear that a major benefit in all the case studies has been a reduction of the negative invisible institution problems of state intervention. But one of the main reasons for the successful experiences of CODEFORSA and PPF has been the appropriate supportive role of the state. All the case studies provide further evidence that, at least in the forest sector, decentralisation requires a delicate balance and collaboration between the public and private sector.

2. Introduction

As in other regions, in Central America there is intense pressure to decentralise in the forest sector. Decentralisation has often been a forced 'default' process, usually fiercely resisted and resented by the public sector in the face of tremendous macroeconomic and donor pressures (coming together in the form of structural adjustment). Thus it has often followed an *ad hoc* and disjointed process, complicated by major institutional problems, as for example in Honduras where there have been great difficulties in adapting centralised forestry structures, set up to foster the forest industry, to wider social and environmental concerns (Morell and Paveri, 1994).

It was decided here to focus on two countries (Costa Rica and Mexico) which have taken a more proactive approach to the question of decentralisation in the forest sector. This is partly because of the same macroeconomic and donor pressures, but also because of the realisation, at least in some sectors within the governments, that decentralisation is essential for more effective community participation in natural resource management – now normally regarded as the *sine qua non* of sustainable forest management and conservation. Decentralisation can therefore form part of a self-interested rather than forced process.

Each country's decentralisation process is, of course, quite distinct, and the benefit of this paper should be to shed light on the problems involved in making progress in what is a poorly understood process – in particular the interaction between public sector, largely national level, actors, and private sector local level actors. This should be instructive for countries which are at an earlier stage in this apparently inevitable process.

2.1 Definitions and concepts

The normal definition of 'decentralisation' is a process by which the locus of administrative or political decision-making power moves away from the centre (Carney, 1995). True political decentralisation or devolution occurs when there is a transfer of resources and decision-making powers to the local level. However 'decentralisation' is often used to refer to a situation in which no genuine devolution of decision-making power outside central government occurs. A typical example is the delegation of implementing powers or control to the regional or local level (Elbow, 1994). In this case the term 'deconcentration' or administrative decentralisation is often used. Such 'decentralisation' does not

always lead to greater local participation and can in fact result in greater control over local people and their natural resource management strategies, as pointed out by Webster (1990):

Decentralisation has been seen as a means by which the state can be made more responsive, more adaptable, to regional and local needs than is the case with a concentration of administrative power and responsibility in the central state . . . But decentralisation of government in itself does not necessarily involve a devolution of power . . . [it] can equally serve the objective of consolidating the power of a state at the centre as well as that of devolving power away from the central state; it can both extend the state's control over people as well as the people's control over the state and its activities. Decentralisation is a two-edged sword.

The state could, for example, extend its control by establishing structures for low level local participation which dissipates resentment and strengthens central government power (Hobley, 1995).

Here the term decentralisation is used more in its wider generic sense to include both administrative and political decentralisation, as well as policies of deregulation and encouragement of privatisation. Deregulation refers to the simplification or elimination of government requirements in carrying out an activity and implies the transfer of this responsibility to other actors, and privatisation refers to the process by which individuals or organisations establish ownership rights over a benefit stream. Together they approach the opposite extreme of state control over natural resource management. As Bromley (1991: 35) puts it, 'one view, popular in the "deregulation and privatisation" fad of the 1980s, was to create private property rights in natural resources and then "let the market work"'. This view, still largely held in the influential neo-liberal political economy school of thought, has, for example, been very strong in Mexico over the last decade.

Possible advantages of decentralisation indicated in the wider literature, and adapted from Carney (1995), include:

- improved local participation in decision making, and thus commitment in implementation;
- improved quality and speed of information in decision making;
- better opportunities for effective local level or public-private sector partnerships;
- better targeting of the poor and other marginal groups;
- a faster 'learning by experience' process;

- reduction of corruption and the covert or ‘invisible institution’ problem² of public sector staff attitudes through greater transparency and accountability at the local level.

Disadvantages of decentralisation can include:

- the poor and other marginalised groups may be by-passed, especially if a commercial privatisation strategy is adopted;
- lower technical and administrative capacity than at the national level;
- greater power to local political and economic elites;
- inconsistent and distorted distribution of benefits and costs to stakeholders from not using central guidelines;
- it reduces the scope for regional reallocation of resources, which can be problematic if local revenue generation capability is limited;
- a possible tendency for local people to focus on direct use values as against the more indirect uses and other externality or environmental benefits which accrue more to the national and global society.

However some of these variables would be misleading if used as part of a checklist ‘criteria for success’ approach. For example, at the micro level, the equity impacts depend on the power relations that existed before the project and the direction of change in these relations. Traditional decision-making elites may have been better or worse for the poor or for women; strengthening or weakening them could improve the access of marginal groups to resources or make it worse; and stronger elected political and local economic elites may equally improve or worsen their situation.

2.2 Objectives

The objective here is to draw out lessons for appropriate decentralisation policies by observing the interaction between the macro-level decentralisation process and micro-level efforts to develop sustainable forest management and conservation in several different projects in the selected countries. These cover a wide range of institutional arrangements with differing levels of public sector involvement. Each ‘decentralisation experience’ is assessed in terms of the observable advantages and disadvantages, and an effort is made to identify factors which interact with the decentralisation process to help or hinder its goals – for example the economic incentive for local people to participate,

² Hobley (1995) points out that ‘the power of the covert institution remains dominant, where relationships within formal institutions are still conditioned by patronage and rent seeking behaviour’.

derived from such factors as tenure security and the realisable economic value of the natural resources under their control. From this analysis, the benefits and problems of the particular models of decentralisation followed in Mexico and Costa Rica can be assessed. However it should be stressed that some of the projects (and policies) are still at a fairly embryonic stage, and thus observations are necessarily very provisional.

The data and information analysed here was based mainly on interviews with a wide range of key informants at the local, project and national levels, and a variety of secondary sources, ranging from project reports and agreements, personal accounts written at the request of the researchers, baseline project studies and published papers.

3. Costa Rica

3.1 Background

This section assesses recent policy changes at the national level in Costa Rica promoting decentralisation in the forest sector, and then documents two contrasting experiences at the micro level:

(a) a state and donor-driven strategy to develop a more participatory approach to management of an important protected area, the Tortuguero Conservation Area (ACTo) in north-eastern Costa Rica;

(b) a privatised system of service provision, especially technical assistance, to forest owners in northern Costa Rica, through a non-government organisation (NGO) called the Commission of Forestry Development of San Carlos (CODEFORSA).

Costa Rica has experienced one of the fastest rates of deforestation in the world in recent years, but natural forest still covers some 29% of the country. Much of this contains high natural biodiversity, giving the country's conservation and sustainable management efforts a high profile internationally – a situation that is welcomed at the highest governmental levels, partly because it coincides with the marketing of what has become Costa Rica's boom industry: ecotourism. There is therefore considerable external expectation that, given the country's relative social and political stability, Costa Rica can provide a model policy and institutional approach for other tropical countries to follow. One of the main planks of this model is decentralisation.

The causes and process of deforestation have been fairly typical for the region (see, for example, Kaimovitz, 1995). Conversion to pasture, cash crops and subsistence farming has been fuelled by export demand and the interaction of a series of institutional disincentives to forest conservation and management: a bureaucratic regulatory framework for forest management as compared to alternative land uses, trade restrictions, but above all the tenure problem.

Traditionally Costa Rica has been a frontier society, so landowners who did not clear the forest were punished by the withholding of secure tenure rights. Tenure laws still regard forest land as 'idle' and the granting of more secure property rights is dependent on 'improvement' of land to pasture or agriculture, despite the fact that conversion is illegal according to the 1990 Forest Law. This situation and the low returns to forest management led the World Bank Forest

Sector Review to report that forests were seen as an obstacle to a 'more economic' use of the land (World Bank, 1992). The rural poor take advantage of widespread tenure insecurity to squat on both private³ and public land, clearing the remaining trees as a step in making a land claim.

Forest clearance typically takes the following sequence to avoid the legal restriction on conversion: cutting of non-commercial species and much of the undergrowth; sowing of pasture; acquiring felling permits for commercial trees on pasture land (although much illegal exploitation also occurs); and extensive grazing. In other situations, permission is obtained to extract timber from more intact forest – while actual harvesting is strictly controlled, the lack of follow-up allows the owner to extract more timber illegally and move on to pasture establishment. The effectiveness of state incentives for forest management was limited by their inaccessibility for many farmers – due to lack of secure tenure, complexity of procedures and the lack of state extension capacity. In more recent years, the speed of deforestation has slowed down considerably as the country has entered the post-frontier stage, and intermediate degradation, for example from poor selective logging of primary forest, has become a more important factor.

3.2 Recent policy changes and decentralisation

The Ministry of Natural Resources, Energy and Mines (MIRENEM) was created following President Arias' election in 1986, bringing together the National Park Service (SPN), and the General Directorate of Forestry (DGF) (formerly in the Ministry of Agriculture) including the Wildlife Department,⁴ and smaller environmental agencies under one roof. This move gave greater power to national forest policies as it harnessed wider environmental concerns with DGF's power to approve forest or log permits (over small isolated forest patches typically of 20–40 ha) and exceptionally larger concessions.

In 1987, the government embarked on a broad-based consultation process leading to the development of the National Strategy for the Sustainable Development of Costa Rica. The diagnostic analysis leading to this emphasised the institutional and legal problems already mentioned – and that these were based on national policies to develop forest industry and expand the agricultural frontier. The Directorates within MIRENEM were found to suffer from

³ Outside the protected areas, almost all land comes under private tenure in Costa Rica.

⁴ It became the Directorate of Wildlife (DGVS) in 1992.

conflicting aims and overlapping remits, and legal problems prevented the coordinated and efficient use of its resources. Thus the World Bank (1992) later reported that the 'lack of cohesion between MIRENEM's overall policy framework and the mandates of individual agencies, have a negative impact on the ability of the agencies assigned forest management responsibility – mainly SPN⁵ and DGF – to provide complementary services'. The fear of losing jobs also reduced coordination.

At the close of the 1980s, as part of the structural adjustment process it was proposed to streamline the state, decentralise decision making within government, and transfer some of the responsibilities to the private sector. Decentralisation (within government) has proved a politically difficult process, but eight Regional and Sub-Regional offices of DGF were established. Under the 1990 Forest Law, the Regional offices were divided into Departments of Reforestation and Protection; Management and Extraction; small farmer or *Campesino* Forestry Development (DECAFOR); and Industries. However it was still the central offices of these Departments which decided on the allocation of incentives and took care of legal aspects. The legal section was the only one not to be decentralised. The legal problems preventing effective collaboration between government organisations (GOs) have consequently proved to be a major stumbling block. The main activities at the regional and local levels have been approval and control of forest management plans, and control of the movement of timber. Regional Committees, designed to coordinate the actions of the public and private sector, were also created but were ineffectual, because resources and genuine decision-making power were not handed over. The Costa Rican model of decentralisation within government has thus been more a case of deconcentration than political decentralisation.

Unlike Mexico, deregulation was not part of this package. In contrast, the 1990 Forest Law resulted in the state regulating all aspects of the forest activity, including management, harvest, transport and processing of the forest products, and imposing a ban on log exports. These measures were adopted in response to public pressure to do something about deforestation. In order to obtain permission for forest management and be entitled to incentives, the Law made it necessary for owners to produce several documents, including a management plan, maps and other studies. A stumpage tax and other forest taxes were introduced including forestry guarantee payments for the protection and regeneration of managed forest, and there were restrictions on timber movement both by DGF and the municipalities, which controlled the use of local roads.

⁵ There is some doubt that SPN ever had any real responsibility in the area of forest management. Possibly the reference was more in relation to their forest conservation mandate.

Forest management permits and the receipt of incentives were made dependent on the granting of land titles, which, as already pointed out, were often only obtained when land was deforested. In many of the colonisation or frontier areas where tenure was uncertain, the Forest Law became inoperative.

Thus some argue that the 1990 Forest Law provides further disincentives to forest management, as opposed to alternative land uses, since it increased production costs and presented a series of bureaucratic difficulties. This was only partially compensated by the state reforestation and natural forest management bonds or incentives. It might also have given a slight stimulus to illegal harvesting (reported to be as much as half the total cut) but there is no real evidence of this, and it has always taken place outside the law.

However, others argue that the law and subsequent amendments have strengthened forest management, for example through the regulations concerning management plans, and the innovative concept of forest regents (see 3.4.4), arguably raising Costa Rican forest management standards to a level comparable with the best in the developing world, and laying the framework for the country's forest incentives scheme.

The 1990 Forest Law also created the National Forest Council which was supposed to bring together the public and private sector in an advisory and monitoring body which could revise DGF's annual plans and make recommendations to improve them. While this body has been ineffectual, the principle that the state (DGF) should make no decision without due consultation with the private sector, represented by lobby groups such as the National Assembly of Forest Campesinos (JUNAFORCA), has been maintained.

The 1990 Forest Law did not reduce the alleged corruption problem in DGF as much as was hoped. This was partly because most contact was between DGF and the loggers or industrialists (rather than the forest owners), and this relationship was the least well regulated. Other possible factors have included the high profitability of logging in Costa Rica as real taxation has fallen, and the importance for loggers of timely authorisation for timber extraction from the many small farms they need to get through each 'season'. In other words, DGF officials have been in a good negotiating position to secure a greater proportion of the economic rent.

However, with ODA's approach of helping generate experiences in participatory forest management for counterpart institutions, the nature of the extractive process is slowly changing (at least in the two programmes assessed here) so that the owners become more interested in forest management, the main relationship is between DGF and the owner, and there is less need or scope for

corruption.

While it is reported that there has been much improvement in control, DGF's budget has been inadequate for the regional demands. Therefore some public powers were gradually delegated to the private sector, especially in technical assistance and control associated with the various forestry incentive packages. Privatisation of control and technical assistance was cleverly financed from forest revenue; from 1990, producer associations were allowed to manage a levy of 5% of the stumpage value of standing timber, which was otherwise paid to the state. Another initiative has been the registering of private professional foresters as 'forest regents' by the national College of Agronomists (and foresters). These experiences are examined in depth in the CODEFORSA case study.

However, Costa Rica has suffered from several problems of over-regulation and state bureaucracy. Among these were the regulations surrounding the establishment of new forest industries. This protected the industry, and, due to the limited competition, exerted a downward pressure on log prices. This approach was defended (by MIRENEM) on environmental grounds – lifting the log export ban and deregulating industry would cause greater pressure on the resource – but vested interests are clearly complicating the policy debate.

Forest policy in Costa Rica continues to be hotly debated. There seem to be at least three lobbies campaigning for some degree of reform: from the environmentalists' call for a complete moratorium on logging for one to two years (local sources believe this could be fairly easily policed); for reform of the DGF but maintaining it as a public sector institution, favoured by those with most interest in keeping things as they are; and for the creation of a new predominantly private sector or parastatal forestry authority, favoured by the privatisation/deregulation lobby. The carrot and stick of timber certification is being used to encourage the forest industry to adopt the latter position, although there is considerable confusion within the industry.

Equally there is a wide-ranging discussion about certification. The free-marketeers need it for privatisation to work, as well as a lifting of the log export ban to raise domestic prices, but this conflicts with much of the forest industry which has been protected by trade policies which have kept log prices down and sawn timber prices high by world standards. There is at the same time a widespread concern to maintain an element of control with the public sector; there is resistance to the idea of letting the forest industries regulate themselves, even within a framework of certification, and the private sector still wants some form of subsidy for management and reforestation.

In February 1996, a new Forest Law was approved which reflects the above points of view. Many forestry activities have been deregulated (particularly concerning forest industries and plantations), and stumpage has been eliminated. Nevertheless, the state retains its role in the approval of natural forest management plans, a new incentive for natural forest management will be introduced based on the idea that forest owners are to be compensated for the environmental values of the forest, and for the first time an environmental impact assessment is to be included.⁶

The new legislation also reflects a general awareness of the need for continued effective private-public sector collaboration. The success in the 1990s of introducing forest management technologies, as opposed to traditional logging practices, has depended on a number of interactions between the state and the private sector and others, including national universities, international research centre (e.g. CATIE) and bilateral aid projects. The forestry debate has been widened by this collaboration. The success of CODEFORSA in delivering the CAFMA incentive scheme (see 3.4.1) depended on the ability of DGF in the northern zone to administer it; this was not the case in, for example, the Atlantic zone, where public and private institutions have been weak.

3.3 Case study 1. Tortuguero Conservation Area (ACTo)

3.3.1 Protected area policies and decentralisation

In 1963, the first protected area in Costa Rica was created – by 1995, 72 protected areas covered about 21% of Costa Rica's land area. In 1989, MIRENEM introduced the National System of Protected Areas. Under this statute, about a third of the designated protected area was to come under full protection, to be administered mainly by the SPN, while the rest came under partial protection (which allowed a mixture of uses) managed mainly by DGF. Much of the land administered by SPN was purchased under debt-swap agreements.

Umaña and Brandon (1992) reported on the development of Regional Conservation Units (URCs) in the late 1980s in a manner that made them seem like the solution to all known problems. According to this source, the URCs were designed to coordinate government agency plans, link public-private sector initiatives and encourage local participation in decision making. Each URC

⁶ At the time of writing many of the clauses in the legislation were being processed so the fine details were not yet available.

Director was responsible for coordinating the plans of the other government organisations (GOs) in the region. It was reported that new mechanisms for coordination were developed between community groups, scientists, ecotourism interests, private conservation groups and GOs. Local committees were to be formed so that local people could meet with government officials and voice their demands for land tenure, credit, etc. – but no evidence remains of these. Although Umaña and Brandon (1992) reported that 11 operational URCs were established by 1991 around the main protected areas, enquiries in 1995 revealed that few people had ever heard of them. However the URC concept has recently been revived in the 1996 Forest Law – in the form of *Consejos Regionales Ambientales* (Regional Environmental Councils).

A central idea of SINAC, which was created by decree in 1995, was to bring together the component parts of MIRENEM to develop autonomous regional decision-making bodies – something not achieved at the national level. The three Directorates (DGF, DGVS and SPN) will become departments of SINAC – for example, regionally these will come under ACTo.⁷ At the national level, the Directorates will be restructured in a single Natural Resources administration regulated by SINAC rather than the laws of each Directorate. MIRENEM sees this restructuring and decentralisation as an essential step towards gaining the institutional coherence and freedom to pursue sustainable development programmes and effectively incorporate local people in decision making.

Under SINAC, eight conservation areas have been created, and these are contiguous, i.e. the whole country is covered by conservation areas. Within each conservation area work is apparently under way to study the full protection areas – in effect the National Parks – and see if it is possible and viable to link these together through ‘biological corridors’. Similarly, the buffer zones around the National Parks in each conservation area are being enlarged. For example, with regard to ACTo, the ‘area of influence’ – a term that includes various urban areas exerting an economic influence over the protected area – now shares its limits with the (also enlarged) La Amistad–Talamanca Conservation Area to the south, the Central Volcanic Mountain Conservation Area to the west, and the newly created Arenal Conservation Area to the northwest. Within ACTo the National Park has been enlarged slightly, the existing biological corridor has been enlarged with funds from a Danish NGO, and there are plans to link up with the System of International Protected Areas for Peace (SI-A-LA PAZ) shared with Nicaragua.

⁷ The acronym ACTo has a double meaning: it stands for the Tortuguero Conservation Area as both a physical entity, and as an organisational entity (still not legally sanctioned) which integrates the three Directorates of MIRENEM (SPN, DGVS and DGF).

Given Costa Rica's patchwork of protected areas, most of the country will eventually come into the 'areas of influence'. SINAC is gradually enlarging, integrating and linking, through biological corridors, the protected areas of Costa Rica. One of the rationales of this is that the chances of survival increase with the size of the ecosystem.

3.3.2 *Description of the Tortuguero Conservation Area*

The Tortuguero Conservation Area (ACTo) is located in the north-east of Costa Rica, and stretches from the base of the volcanic central mountain range to the Atlantic coast (see Map 1). Its approximately 470,000 ha of terrestrial area includes an area of influence of 300,000 ha, a buffer zone of 59,000 ha, and three main terrestrial protected areas within ACTo: the Tortuguero National Park (19,000 ha), the Barra de Colorado Wildlife Refuge (73,000 ha) and the Tortuguero Protected Zone (14,000 ha). There is also a Tortuguero National Park marine area of 52,000 ha, and several small protected areas. Some 130,000 people live in the area.

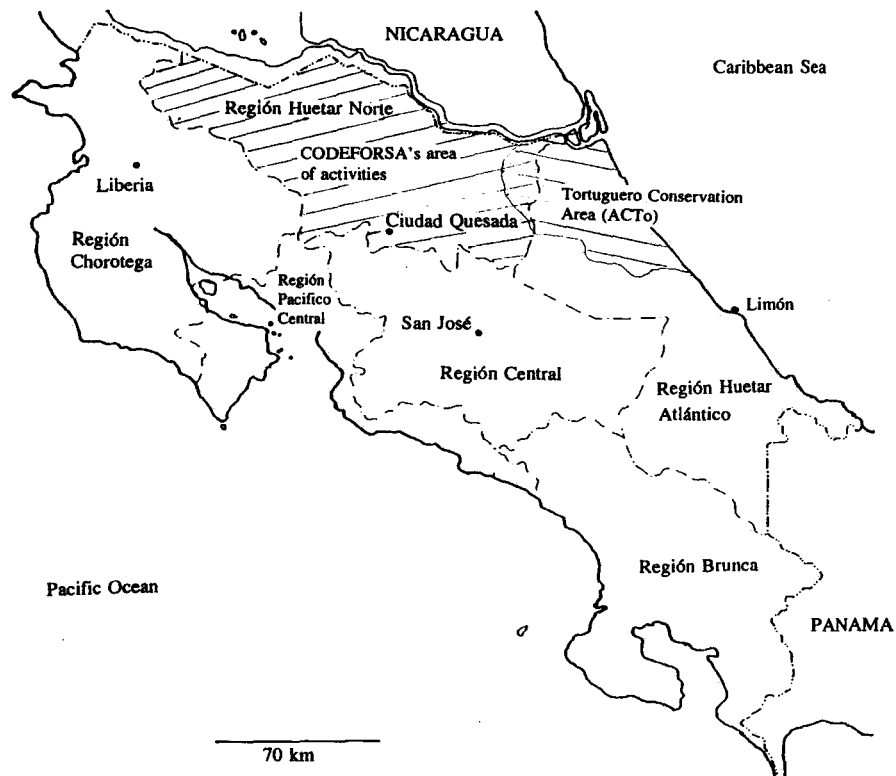
It is an area of high rainfall (from 3,000–6,000 mm, the highest in the Caribbean Basin), high temperatures and humidity, leached and acidic soils, and occasional earthquakes originating from the adjoining volcanic Central Mountain Range of Costa Rica – a major earthquake hit the region in 1991. The Holdridge classification of forest in this area is humid or very humid tropical forest. The forest includes a number of rare ecosystems, including the seasonally flooded *yolillo* (the *Raphia taedigera* palm) ecosystem containing many endangered flora and fauna species.

The main environmental problems of the area stem from colonist deforestation around the main forest blocks, and contamination by chemicals in both the nuclear and buffer zones from upstream banana companies and other non-traditional export crop producers. Also the banana companies have used up most of the best soils for their plantations (some by clearing natural forest), so expansion will be on cropped or pasture land. This raises the issue of what type of land use is more sustainable in the area – colonist agriculture and forest management, or agro-export farming.

An important conflict in the area centres around the state-supported banana industry. Banana cultivation has been encouraged by national policies which reflect the dominion of macroeconomic priorities and the interests of powerful elites over environmental concerns. Land has recently been purchased to increase banana cultivation from 3,000 ha to 10,000 ha. Although banana companies are no longer a real threat as regards deforestation, this could bring

Map 1

Case Study Project Areas in Costa Rica



in 10,000 more workers, significantly raising population pressures on the natural resource base and contamination of the watercourses. However the current perilous economic state of the banana industry could mean this expansion does not occur.

3.3.3 Evolution of ACTo

The Tortuguero Conservation Area (ACTo) is regarded in Costa Rica as the first major attempt to develop a decentralised participatory approach to protected area management, although it originated with less participatory environmentalist ideas. The programme was initially supported by technical assistance from the International Union for Nature Conservation (IUCN). ACTo took a new direction in 1992 with the signing of an agreement between MIRENEM and the European Union for the Project for the Consolidation of the Tortuguero Conservation Area (P/ACTo). This was based on extensive baseline analysis and consultation involving IUCN, ORCA/IUCN (the Central American Regional Office of IUCN), the European Union and JAPDEVA, the regional state development institution.

At first the project contemplated that only the three MIRENEM Directorates would work in the protected area, as departments of ACTo. But P/ACTo was created in the form of an NGO with the task of implementing and strengthening ACTo. Activities were aimed at developing the basic capacity for management interventions and local participation: baseline biological and socio-economic studies, infrastructure development, training, institution building, environmental education, and organisation in the six main rural communities of the buffer zone. The baseline studies were carried out with the idea of creating a basis for discussion and consultation by all the groups and organisations present in the area, as part of a participatory planning process (MIRENEM, 1992).

3.3.4 Institutional arrangements

The European Union's support to ACTo has particularly focused on the institutional and decentralisation aspects of the project, for example by developing mechanisms to strengthen the coordination between ACTo and the regional Directorates of MIRENEM, as well as other GOs (government organisations) and NGOs. There is now a coordinating body composed of the ACTo Director, who is also the P/ACTo co-director and represents the National Parks Service, the Heads of the two Regional DGF offices in the zone (Huetar Atlántica and Sarapiquí), and the Wildlife Directorate (DVS) representative from the Wildlife Refuge of Barra Colorado.

The formation of P/ACTo as a hybrid state-sponsored NGO is central to the project strategies of decentralisation and participation. The advantages of being a hybrid NGO have included greater flexibility; more precise terms of reference for contracted staff; the opportunity to recruit the best staff available; minimising negative attitudinal problems; the raising of funds that can be channelled into project activities without fear of political redirection; and the use of state infrastructure and equipment. Disadvantages have included the tendency for P/ACTo to approach the problems like a government organisation (GO); to be inevitably prone to some political pressures; a possible loss of authority over staff in comparison with a GO; and financial dependency on the main donor and the government.

The project has developed *convenios* or agreements with a large number of community, regional, national and international organisations, both GOs and NGOs. For example, coordination with the decentralised non-MIRENEM government agencies like the Ministry of Agriculture (MAG) and the Institute of Agrarian Development (IDA – responsible for land reform) has been attempted through these *convenios*. Other *convenios* have been more task orientated, as for example, with ODA for technical assistance in natural forest management, with the NGO Fundación Neotrópica to develop sustainable technology in the buffer zone, and with the National University and Ministry of Health in environmental monitoring. There is also a Regional Committee for the ACTo area comprised of representatives from P/ACTo, the GOs, NGOs and universities working in the area.

3.3.5 Popular participation

The 1992 baseline document (MIRENEM, 1992) stated that a basic objective of ACTo was to achieve the necessary level of popular participation for combining development and conservation objectives in a process of sustainable development. The goal was that committees of communities and municipalities would have a central role in decision making, especially regarding the forest resource. However this has not happened. ACTo decided to work through 'Development Associations', which were composed of seven community members and set up by the state under an earlier project, as well as local government municipalities. The main problem here was that traditional unofficial institutions were by-passed and alienated.

The early strategy of ACTo was to develop social infrastructure projects (especially in education, drinking water and waste management) in the communities as a means of gaining their confidence and participation. This was only partially effective and so in 1994 a new approach was taken, involving the

Box 1 Views of the institutions in the ACTo buffer zone

Field interviews were held in two small communities, Linda Vista (30 families) and Cocori (35 families), in the northern part of the buffer zone where forest cover still accounts for over 50% of the land area. The main occupation on the poor quality soils was subsistence farming and small-scale ranching. Illegal timber sales and temporary work with the banana and timber companies, supplemented cash incomes. Since they did not have title, they had no access to forestry incentives or credit.

Both villages had Development Associations. In Cocori there was a power conflict as the ex-President of the Development Association, who held another important position in the village, did not want to work with P/ACTo, whereas the majority of the community were keen to – especially in the proposed land titling programme which would give them access to credit and forestry incentives.

People were generally hostile to MIRENEM, but there seemed to be increasing confidence in P/ACTo (and therefore ACTo). This especially followed an initiative in which 'domestic permission' for extracting and processing 10m³ per user was obtained, enabling villagers to obtain some value-added rather than selling the logs to timber merchants. These communities have also entered the community planning system in return for agreeing to stop their illegal timber sales and hunting activities. The Linda Vista community is actively protecting an area of forest which is the source of water for the community, without any involvement of the project. This may indicate there is more need for economic incentives than environmental education. There was however a negative reaction to ecotourism, as people just came to take photographs 'and never leave anything'.

training of communities in participatory diagnosis methods. This led to each community, with the help of an extensionist, defining their priorities and presenting ACTo with a list of their needs. Although there have been a few problems of unrealistic expectations, this approach seems to be working well as a means of building up trust with the project. ACTo has responded effectively to community requests for conflict resolution and material support, which are often channelled through P/ACTo to outside agencies. Throughout 1994, three monthly meetings were held with the representatives of the organised groups in each of the communities to broaden and improve the level of consultation. ACTo is also currently designing a programme of environmental education for the municipalities of the area, so that local government representatives can serve with community members on committees which would have a decision-making role in the control of the forest resource.

Box 1 reveals that in two communities, there has been a positive response to some of the project activities, in particular land titling and an initiative to allow users to process some of their timber, but also some problems resulting from earlier institutional contacts.

An important aspect of the programme has been that, although ACTo has adopted a top-down approach – arguably unavoidable in the circumstances, the creation of SINAC/ACTo has resulted in a framework within which the state can negotiate with communities about land use change; for example, the granting of permission to log in return for a promise not to deforest their farms, described in Box 1. P/ACTo has also channelled funds to the communities, allowing them to decide how they should be used; and in all communities P/ACTo has assisted in a programme of land titling using these funds. Another part of these community funds has been earmarked to finance a number of forest management plans (where title exists) – to be undertaken by CODEFORSA. It is hoped that this will have a demonstration effect in each community as more farmers gain their title, while CODEFORSA will gain experience in more participatory forest management and eventually village or community level processing.

3.3.6 ACTo's activities and strengths

ACTo has made significant progress in the following areas:

- Coordination between GOs, NGOs and communities in strategic planning, operational and training activities. This is regarded as a long-term process, the results of which are not yet observable.
- P/ACTo has been largely successful in avoiding the negative 'invisible institution' problems. This may be partly because of the rather different nature of the work, in comparison with say the Forestry Department (DGF), but also because staff are hired as consultants and work to specific terms of reference, and staff can be 'hired and fired'.
- Land cadastre and titling activities in the six communities, including 4,500 ha of protective wooded or palm forest areas – land title is a necessary but not sufficient condition for natural forest management.
- An effective Commission of forest management and control of forest permits between ACTo and DGF, resulting in several legal actions against those causing, and benefiting from, deforestation; and following a regional diagnostic analysis of the forest sector with ODA support, a computerised database of forest permits from 1990 to the present to improve management control and supervision

functions.

- Training of community organisations to carry out their own local diagnostic analysis and to prioritise their needs.
- A planning workshop between the three MIRENEM Directorates (but not involving local people) resulting in a diagnostic analysis and work plan for 1995 and 1996.
- Creation of a mobile forest patrol system, with staff from two of the three MIRENEM Directorates, to control timber harvesting, access to the core area and for wildlife protection (although given the size of the area, the population and road network, this is more of a gesture than an effective deterrent).
- Development by Fundación Neotrópica and P/ACTo of a silvipastoral plan in a few communities as pilot experiences – the larger and medium farmers have been incorporated but smaller farmers appeared to be hanging back.
- Increasing community participation in ecotourism, mainly through training local ecotourist guides.

3.3.7 *Difficulties*

The ACTo programme has faced several problems, both in its institutional strategy and in terms of the wider project objectives. These include the following:

- A series of policy, legal and institutional changes causing constant modification to the project strategy, including:
 - the Conservation of Wildlife Law of 1992, which created new regulations about wildlife research, management and conservation and the new General Directorate of Wildlife, which took over this aspect of the project from DGF;
 - SINAC's initiative, financed by the World Bank, from 1994 of dividing the country into Conservation Areas and requesting that the three General Directorates (Forestry, Parks and Wildlife) present their annual plans together;
 - three stages of financing by the European Union.

- MIRENEM's attempts via SINAC at greater coordination between the three Directorates and with other agencies have suffered from legal and attitudinal problems. This has resulted in a lack of cooperation by some MIRENEM staff, both within and outside ACTo, who have resisted changes or activities that could effect or expose their personal interests.
- Limited cooperation from other decentralised government agencies; the Institute of Agrarian Development (IDA) has continued to distribute forested areas to colonising small farmers, who have tended to clear them rapidly for low quality farming land; and the Ministry of Agriculture (MAG) has supported the banana companies in direct conflict with ACTo objectives, but paradoxically in accordance with national MIRENEM priorities – the banana project is a MIRENEM-supported project. This reflects a conflict between national economic policies, like the system of granting concessions to banana companies, and regional conservation and sustainable development priorities. Also a particular problem with the decentralised state agencies is that their respective areas of influences do not always correspond.
- Some of the inter-institutional agreements have not worked, simply because the state agencies have not had the resources to implement them.
- Insecurity of land tenure, which has prevented access to the incentives programme, and thus forest management support; there has been limited interest in forest management in the isolated cases where farmers have been eligible for incentives. A possible solution which P/ACTo could negotiate is to pre-finance titling and a management plan, as in FUNDECOR's approach in the Central Volcanic Region.
- Participation has proved difficult; this has been partly due to divisions and conflicts of interest within the target communities. The Union of Small Farmers of the Atlantic Region (UPAGRA) has offered political resistance making P/ACTo's work with the villages difficult, but things have improved since P/ACTo made UPAGRA an official organisation representing the communities. The idea of allowing communities to decide on the use of common funds was an innovative idea, but has proved difficult due to failure to agree. It should be recalled that this is an area of recent colonisation where distrust of the state runs high, and the project was slow to initiate a genuinely participatory planning methodology. In some areas it has therefore proved difficult to achieve the necessary levels of trust and participation for the achievement of project objectives.
- The normal budgetary limitations of GOs to put into practice the inter-institutional agreements in ACTo.

- Difficulty in the promotion of women's participation in the project. An attempt was made to develop women's groups but was regarded as subversive by the men, so that overall participation fell. Finding that new groups cannot be imposed, ACTo now only promotes the participation of women in already existing institutions. It is claimed that there has been an observable increased participation of women in the committees in two villages, partly stemming from fabric painting courses.

- Conflicts in Barra del Colorado between the Association of Fishermen and the rest of the community. The former had access (due to the project) to a 'communal bank' while the latter had no access to credit. Another conflict was between users of illegal fishing nets in the rivers, drastically reducing the 'sporting' catch for the majority. But ACTo has facilitated a process of consultation and negotiation between these groups.

3.4 Case study 2. The Commission for Forestry Development of San Carlos (CODEFORSA)

3.4.1 *Government policy towards natural forest management*

Although almost all the forest land outside the protected areas is privately owned, the government, through DGF, has adopted a 'command and control' approach to use of the forest resource. Although it involves legal and constitutional problems, the regulatory framework is based on the concept of the 'forestry regime' (*regimen forestal*) which establishes a contractual relationship between the government and the landowner for a 40-year period, if the latter obtains an incentive – and can be voluntarily entered into, or withdrawn from, if there is no incentive. The regime is designed around two cuts – so that the owner can log and reforest at the beginning of the period, and then manage, log and reforest a second time at the end of the 40-year period. It involves detailed management plans and mandatory reforestation, but there are also tax breaks and the state provides effective protection against squatters (while the land is under the forest regime) – which can be very onerous on one's own.

Landowners formerly paid 20% of the stumpage value as an up-front 'guarantee deposit' for replanting (whether appropriate or not), and a 10% forest tax on the stumpage value of extracted timber. The guarantee deposit was refundable if replanting took place, but since the cost of replanting was much higher than the deposit, it was normally forfeited. The deposit was reduced to 5% if the landowner was a member of an NGO supporting forest management, and more recently scrapped altogether. Also loggers have been obliged to provide road

maintenance on the municipality roads. This has made forest management onerous and costly in comparison with other land uses, and together with trade restrictions, like the log export ban, which has kept domestic log prices depressed, has reduced its financial attractiveness. It may also have encouraged illegal harvesting.

The programme of forest incentives for plantation forestry and natural forest management was an attempt to compensate for these disincentives. The first incentive schemes were for reforestation through the income tax deduction scheme; clearly, this only favoured those who paid income tax, and they were phased out. In 1991, the CAF (Forest Bond Certificate) system was introduced, including separate schemes for Forest Management (CAFMA) and afforestation (CAFA). Under CAFMA, landowners could qualify for an incentive in the form of a redeemable bond worth about \$500 per ha (over a five-year period) if they were willing to enter into the 'forestry regime'. There have been some problems with CAFMA, for example it was initially restricted to farmers with titled holdings over 50 ha and subsequently reduced to 30 ha,⁸ but coupled with the expectation of higher prices (linked to certification), it has caused a considerable increase in interest in natural forest management over the last few years.

CAFMA has been particularly important for the introduction of low-impact harvesting methods and post-harvest silvicultural treatments. There is some evidence that forests with CAFMA are looked after by their owners more than non-CAFMA forests. This is particularly the case for intervened or managed forests in the Huetar Norte Region. Economic estimations by ODA/CODEFORSA suggest that forest management is only just profitable without incentives, but that silvicultural treatments are not profitable without them. CAFMA was discontinued at the end of 1995, but the 1996 Forest Law has introduced a new system of incentives to be paid to landowners for environmental services, and for support of reforestation on small farms. This is to be financed by a petrol tax.

3.4.2 *The Huetar Norte Region*

The Huetar Norte Region (see Map 1) covers an area of some 9,800 km² (about 19% of the national territory) and had a population of 147,000 according to the latest (1984) census. The region has an irregular topography characterised by the extensive Atlantic floodplains rising to a height of 2,000 metres. Annual rainfall is very high (3,000–4,000 mm). The majority of the soils are acidic, and suffer

⁸ This change provides a further example of consultation between the public and private sector.

from leaching and aluminium toxicity.

According to a recent survey (COSEFORMA, 1995), which covered about two-thirds of the Huetar Norte Region or an area of 5,600 km², about 27% of the area was under forest cover: there were 34,400 ha of primary forest, 76,000 ha of logged or 'intervened' forest, 20,000 ha of secondary forest, and 20,000 ha of plantations. In addition about 25,000 ha of pasture land had a 'high number' of trees. The CODEFORSA database of their Associates (which may not be truly representative for the region) shows that most of them (80%) had forested holdings below 200 ha, and that this grouping held about 40% of the total forested area. Over half of the associates (55%) had forests of less than 100 ha, and only 10% had more than 250 ha. CODEFORSA therefore mainly served smaller and medium-sized farmers.

3.4.3 *Evolution of CODEFORSA*

At the beginning of the 1980s a senior DGF official helped stimulate the creation of several private sector organisations in the forest sector, mainly representing the interests of loggers, transporters and processors. One of these was the Forestry Development Corporation of San Carlos or CODEFORSA, founded in 1983. The name was later changed to the Commission for Forestry Development of San Carlos.

CODEFORSA's character changed fundamentally from 1988, when one of its main protagonists brought in Morelio Morel, a well-known FAO consultant, to consider the future of the organisation. His recommendations included:

- that membership be widened to include farmers and other landowners and forestry professionals
- that projects be started to generate income for members
- that technical staff be contracted
- that a manual of policies and procedures be written to bring together commercial, technical and wider 'professional ethics' considerations

Consequently the 'Promotion of Reforestation and Natural Forest Management Project in the Huetar Norte Region' project began in 1989, using funds from a 'debt-swap' national fund. This resulted in the reforestation of 400 ha, and management of 500 ha of natural forest, belonging to small and medium-sized landowners. In the case of reforestation, farmers were to repay 30% of the gross product value to cover CODEFORSA's technical assistance costs, but in the case of natural forest management, support was on a grant basis. In 1989, a reforestation project between DGF and CODEFORSA allowed the latter to

recruit more professional staff, and DGF helped CODEFORSA establish a forestry extension programme through channelling funds from the forest revenue (see 3.4.4). In 1990 financing was obtained through several national funding sources. CODEFORSA has grown to be a service organisation for the Huetar Norte Region with an important political as well as technical role. CODEFORSA now has 500 members who are landowners, farmers, timber companies and transporters, and forestry professionals.

3.4.4 The public-private sector agreement for the Huetar North Region

DGF has provided incentives for reforestation and natural forest management, but not technical assistance. The only state forestry extension service is that of the Department of Campesino Development of DGF (DECAFOR), but this has been specifically orientated towards incentives for small farmer reforestation. For medium and larger forest owners, as in the Huetar Norte region, there is no state extension available for natural forest management. DGF has overcome this problem in Huetar Norte by channelling funds to CODEFORSA from the forest revenue under the MIRENEM-CODEFORSA Agreement in which the latter agrees to implement DGF's forest management policy and control system. The Agreement includes ensuring there is no change in land use and achieving changes in attitudes towards conservation by forest owners.

Whereas normally the forest owner paid the 20% guarantee payment to the state, under the MIRENEM-CODEFORSA Agreement (s)he could instead elect to pay only 5% of this amount to CODEFORSA, provided a five-year 'endorsement contract' was signed with the latter. In the contract the owner agreed not to change the land use and to submit to a tighter supervision of felling and extraction activities. Loggers or industrialist members of CODEFORSA without forest land could also request such an arrangement by bringing in a forest owner (not necessarily a member of CODEFORSA). The industrialists also received training in improved methods of extraction under the contract with the aim of reducing harmful logging practices. Both owners and industrialists received environmental education.

The system of control and technical assistance instituted by CODEFORSA was important in developing the concept of '*regencias forestales*' (forest regents). The idea was to develop a cadre of professional foresters, approved by the Forestry Affairs Commission of the national College of Agronomists, who would be given the authority by DGF to provide technical assistance and ensure compliance with the technical conditions of incentives.

At the end of 1991, the College of Agronomists created a commission that included DGF officials and representatives of private sector forestry organisations. With CODEFORSA foresters playing a major role, the *Regencias Forestales* Regulations were published in 1993. This regulated the various relationships between professionals in the private sector, the DGF and the College, and conferred decision-making status to the private forester, i.e. they were able to make recommendations which owners or users were obliged to comply with. The 1993 Regulations greatly accelerated the transfer of technical assistance and control from DGF to the private sector.

3.4.5 CODEFORSA's achievements and strengths

CODEFORSA's services to its members, developed from 1989, have been orientated mainly to technical assistance and control in conjunction with the state forestry incentives, promotion of user awareness and assistance in processing credit requests, training in harvesting methods, and environmental education, including an understanding of the complexities of environmental legislation.

By late 1995, CODEFORSA estimated that 9,100 ha of forest had been brought under proper management (as opposed to forests logged) on 91 properties, while CODEFORSA's 'forest control' programme included another 294 farms with an area of 13,175 ha. Since 1988 CODEFORSA has prepared 357 management plans covering an area of 20,000 ha, corresponding to approximately 30% of all the forest management plans in Costa Rica. CODEFORSA has been responsible for supervising 40% all the CAFMA incentive projects. In reforestation, CODEFORSA has provided technical assistance to 270 small and medium-sized landowners who have reforested approximately 6,500 ha (data from CODEFORSA, 1995a and 1995b).

Methods of dissemination have included field days, newspapers, radio, and leaflets. CODEFORSA produces a regular information newsletter (six issues from 1992 to late 1994). These include updates of CODEFORSA's activities, technical articles and news of policy and incentives' developments. Many of CODEFORSA's leaflets have been used at a national level, for example on procedures to get permission for forest management, on how to obtain incentives and on the transport of timber. Other leaflets have a more technical focus, for example silvicultural management.

All this has had a positive effect on CODEFORSA's membership. Forest owners, largely farmers, have gained confidence in CODEFORSA, as the NGO has enabled them to gain access to incentives and credit with good quality

technical assistance. Avoidance of contact with corrupt state bureaucracies has been regarded as a great advantage.

CODEFORSA has accelerated the introduction of improved forest management. Before 1990, forest extraction was undertaken with little concern for longer term productivity. Under the MIRENEM-CODEFORSA Agreement, forest users and industrialists started receiving training for the first time, and during the five-year period, the forests were visited biannually to check they were in good condition.

In 1992, with the support of the Dutch Government, forest management plans were carried out at different cutting intensities. This project emphasised the importance of seed trees, road design and the use of silvicultural interventions. In 1994, with the support of CATIE and ODA, more emphasis was placed on the research and development of silvicultural treatments. Currently (end of 1995), CODEFORSA, with ODA's help, is negotiating a carbon offset agreement with a US Company.

Another important aspect of CODEFORSA, as already indicated, has been its contribution to the definition of policies and forest legislation, for example through participation in the Tropical Forestry Action Plan, membership of the National Forestry Council (through the 1990 Forest Law), and participation in the creation of the SIA-PAZ Costa Rica and Nicaragua System of Protected Areas. CODEFORSA formed part of the Commission that determined the wording of the *Regencias Forestales* decree, and is a member of several important national forestry bodies including the Costa Rican *Camera Forestal* (forestry businessmen), the Commission of Forestry Affairs, the Commission for Reform of the Forest Law, and the Commission of Management Plan Guidance.

The uncertainty over the future of the incentives scheme for natural forest management in 1995, and the recent decline in farmer interest,⁹ led CODEFORSA to consider alternative areas of work. These included agroforestry (coffee with shade trees), silvipastoral systems, secondary forest management, genetic improvement¹⁰ and carbon offset agreements. CODEFORSA is currently developing a high-tech nursery for the production of up to two million plants per annum, and has undertaken some international forest management

⁹ The funding of natural forest management by CAFMA fell from about 10,000 ha per annum to 2,460 ha in 1995 (projected), and reforestation has also fallen sharply. One reason is that farmers are reluctant to tie up their land for 40 years.

¹⁰ In coordination with the Department of Campesino Forest Development of DGF, CODEFORSA has a genetic improvement project for reforesting 400 ha between 90 farmers.

consultancies.

According to CODEFORSA staff, success has been due to the openness of the organisation, the professional integrity of the personnel, and because the constitution of CODEFORSA means that the Board of Directors has not interfered with executive management. Other important factors have included the very good relationship with DGF in the Huetar Norte region, the success in distancing itself, in the eyes of the clients, from the discredited DGF, and the fact that the Huetar Norte Region is an old frontier with settled land tenure and less distrust of development initiatives. CODEFORSA has also achieved good coordination with government institutions like IDA, DGVS and local government municipalities.

3.4.6 Difficulties

The main concerns of CODEFORSA are policy and financial uncertainty. Income has declined for a number of reasons including the fall-off in the incentives programme in 1995, increasing competition (in which CODEFORSA's known strictness in implementing controls can work against them), and the reduction by DGF of the guarantee deposit from 20% to 5%. This made it more attractive to owners to pay the levy to the state (with less control and no technical assistance), rather than the same 5% levy to an NGO like CODEFORSA. Regional DGF offices, by citing the poor performance of some of the other forestry NGOs under the MIRENEM-NGO agreements, may have had a role in diminishing this source of financing to the NGOs. Paradoxically it was anti-state rather than anti-NGO sentiment which caused the fiscal change. The combination of inconsistent private sector response and incipient resistance to NGOs by state agencies, indicates how vulnerable attempts at decentralisation based on public-private collaboration, can be.

In spite of privatisation, there are still problems arising from over-regulation and the slowness of the state bureaucracy. An additional difficulty for CODEFORSA has been that it has spoken out against continued corruption in DGF and been penalised by the latter in the form of delayed permission of harvest permits for their clients – while permissions to competitor NGOs have gone through much faster. However CODEFORSA has so far not been deserted by its clients, as it has compensated these delays by its competence and speed of operation.

A further disincentive for CODEFORSA's members has been the quantity of clandestine timber reaching local markets, which reduces producer prices and profitability. According to industrialist members of CODEFORSA, up to 50% of timber is illegally processed in the forest areas and collusion by state forestry

officials is suspected. The log export ban has been another important negative factor on the market incentive for forest management.

3.5 Discussion: Costa Rica

The two project experiences provide tremendous contrasts, showing both the benefits and immense difficulties of decentralisation, especially when applied in a more complex integrated conservation and development programme. The SINAC (and ACTo) strategy is based on the premise that GOs and NGOs can work together in pursuit of regional conservation and development goals in a semi-autonomous manner. Decentralisation of decision making is also seen as essential for greater community participation. While it is recognised that these are long-term strategies, the progress so far in ACTo has been disappointing – partly for reasons beyond the control of the project. While there has been good private–private sector collaboration, the private–public and public–public collaboration in the ACTo area has been limited.

The development of P/ACTo as an NGO has helped reduce within-project rivalries of the three MIRENEM Directorates, improved staff motivation and reduced grassroots anti-state feelings. But legal and attitudinal problems have resulted in limited cooperation between P/ACTo and the decentralised MIRENEM agencies in the area. This is at least partly because the latter agencies are still imbued with some of the negative staff attitudinal problems of centralised GOs, and the normal inter-institutional and sectoral rivalries. The clash between ACTo and the MIRENEM-supported banana project is an example of a case where, within the same government agency, national economic policies clash with regional sustainable development priorities. This exposes the inadequacy of administrative decentralisation.

The relationship with the non-MIRENEM agencies appears to be similar, with MAG and IDA following centralised policies which clash with ACTo's strategies in the same region. Again there is a problem of SINAC's and ACTo's legal status. It indicates that state-led decentralisation must have full legal sanction to succeed and should be accompanied by serious efforts to improve staff attitude problems – for example through motivational training, stricter auditing and the introduction of performance-related work incentives.

On the issue of participation, it is possible to criticise ACTo for by-passing and alienating traditional institutions, although an earlier phase of ACTo was primarily responsible for this. In a difficult and recently colonised area, where anti-government feeling is high, a strong participatory planning methodology from the outset is essential. However the strategy of the project was to induce

popular interest by providing perceived essential social infrastructure – an attempt to persuade local people that the project could ‘deliver the goods’. There seem to be inadequate mechanisms for popular participation and consultation at the higher planning levels. Local government has been largely by-passed – municipalities do not have agreements with ACTo, but hold a power of veto over infrastructure developments in their jurisdiction. However ACTo is aware of these shortcomings, and has made progress towards a more participatory planning process with all sections. It is evident that the project is still at the early learning stage in terms of effective and broadly-based community participation.

Before the CODEFORSA experience, there was effectively no technical assistance provided for forest management in Costa Rica, and indeed little user interest or incentive to pursue it. With the initiative coming from CODEFORSA, the state has managed to develop a successful model of private–public sector technical assistance and control, with the public sector providing a mainly financial role; it has supported the NGO through redirected forest revenue and provided an economic stimulus to owners and users. The intermediary role of the College of Agronomists has also been critical in the development of a hybrid private–public sector mechanism (involving a lot of prior public and private sector consultation) for ensuring that certain professional standards are met in privatised technical assistance. This contrasts with Mexico, where lack of regulation has resulted in wide variation in the standards of technical assistance, and thus in the ‘rubber stamped’ management plans.

It is also possible to point to equity benefits from the CODEFORSA experience. Small forest-owning farmers have benefited in a number of ways, both from specific projects initiated by CODEFORSA, for example in reforestation and genetic improvement, but also from the information dissemination which opened up access to incentives and credit. State support to small farmers in the area has also been characterised by effective private–public sector cooperation (CODEFORSA–DECAFOR).

The CODEFORSA model has been successfully replicated, for example by APAIFO (Association of Agroindustrial and Forestry Producers), which has established a good reputation in the planning and management of plantations. But other producer associations like ASIREA and AMA have not met with the same success – partly because a less balanced membership has resulted in greater pressures on the professional foresters in these organisations. AMA and ASIREA are composed of industrialists or loggers, who naturally exert most pressure to maximise profitability in extraction, while CODEFORSA is composed of a balance of forest owners (most of whom are farmers), loggers, and transporters. Relative failure in other areas suggests that blanket approaches

are unwise – these failures may have provided detractors of this type of decentralisation, especially the stakeholders (both state and private) with a vested interest in the old system, with the ammunition to persuade MIRENEM to revert to more centrist approaches.

4. Mexico

4.1 Background

Decentralisation is currently a major policy objective in Mexico as apparent from policy statements from the President downwards. This is nowhere more the case than in the environmental area, having digested the environmental and social costs of a centralised command and control approach. In the case of the forest sector, decentralisation has occurred mainly through a gradual process of deregulation and privatisation of support services over the last decade. This case study firstly reviews this process, and then looks at three different initiatives, all of which contain an element of government involvement, to encourage forest management and/or conservation in the State of Quintana Roo.

Mexico is unique in Latin America in that an estimated 70–80% of its forest area comes under some form of community management. As the high social and environmental costs of a centrist command and control approach became apparent in the 1980s, decentralisation, as one strategy for increasing local participation in sustainable management, has assumed particular significance,

Section 4.2 traces the policy and legal changes leading to decentralisation, and 4.3 to 4.5 describe three grassroots experiences involving decentralised support of community forest management and conservation:

- (a) The *Plan Piloto Forestal* (PPF): a well-established programme of community-based natural forest management by the *ejido* communities in southern Quintana Roo.
- (b) The Yum Balam Protected Area: an emerging project seeking conservation and management of a large protected area in the north-east of the state.
- (c) The Tulum Ecotourism Project, in which a small *ejido* group is managing a natural sink-hole and surrounding forest in central eastern Quintana Roo.

Each of these represents, for their proponents, a model approach to participatory management/conservation of natural resources, each involves different strategies at the state¹¹ or federal level, and all centre on the indigenous Mayan and/or

¹¹ In view of the division of Mexico into states, the term federal rather than state is normally used to denote national government intervention, while state is used for regional state government.

immigrant population of the area.

Quintana Roo was chosen for three main reasons: firstly due to the importance of its sub-humid tropical forest resource – it is estimated that there are still 1.5 million ha¹² of reasonably conserved sub-tropical high forest, and up to 500,000 ha has been brought under some kind of forest management; secondly its location, remote from Mexico City, makes the issue of decentralisation particularly interesting; and finally ODA is supporting community forest management (through the *Plan Piloto Forestal*) in this area.

Quintana Roo, located in the far south-east of Mexico and bordering Belize and Guatemala, still has a relatively low population density and contains some large well-preserved areas including the 500,000 ha Sian Ka'an Biosphere Reserve. The area is gently undulating (from sea level to 60 metres) with shallow and rocky limestone (pH 6.4 to 7.5) soils of adequate nutrient availability, high clay content and good moisture retention. With an annual rainfall of only 1,100 to 1,300 mm, its climate can be classified as sub-humid tropical, according to the Holdridge classification.

The forest forms part of the Peten Forest type which extends from the Yucatan to northern Guatemala and western Belize. The forest was (and still is in parts) relatively rich in mahogany (*Swietenia macrophylla*) and to a lesser extent cedar (*Cedrela odorata*), species that have been mined over the last 150 years. It is also commercially important for the Chicozapote (*Manilkara zapota*) tree, which produces *chicle* or latex from which chewing gum is produced and exported, largely to Japan, and for the veneer of Amapola (*Pseudobombax ellipticum*).

The livelihood basis of the predominantly Mayan rural population is slash and burn farming, but this is increasingly reaching its ecological limits. Over the last 100 years, the major cash crop has been *chicle* for chewing gum, but this has been in decline due to apparent over-exploitation of the *chicozapote* (*Manilkara zapota*) tree, and an obsolete administrative organisation, in the form of a Federation of Cooperatives, which is currently under reform. While honey is another important cash crop, people have increasingly turned to the exploitative lobster diving industry, also in decline, and tourism for their livelihoods. With its beaches, coral reefs and Mayan ruins, the region has a flourishing tourist industry with approximately two million visitors per year, generating about one-third of Mexico's foreign exchange from tourism.

¹² Following large-scale deforestation this century – there were about 5 million ha of intact forest at its beginning.

4.2 Recent policy changes and decentralisation

Forest policies and institutions in Mexico have undergone several major changes in recent years, many of these changes representing a shift towards decentralisation (including deregulation and privatisation) in some way. Until 1986, the government through the Ministry of Agriculture and Water Resources (SARH) retained control over forest lands, and generally encouraged maximum exploitation through industrial forest concessions to the mainly parastatal timber companies. This caused widespread environmental and equity problems – for example, forest degradation resulted directly from rent-seeking management practices and an over-selective silvicultural system,¹³ and indirectly from forest clearance for slash and burn farming. The latter occurred because the state had allocated concessions on *ejido* forest land in return for a nominal stumpage fee, paid by the concessionaires to the landholding *ejidatarios*. The latter, in spite of possessing inalienable usufruct rights, had no participation in these decisions. Stumpage fees were paid into a community development project fund administered by the Ministry of Agrarian Reform – but little benefit was transferred to the communities.

The result of this system was not only unsustainable management by the concessionaires,¹⁴ but also encouragement of illegal extraction, corruption by professional foresters responsible for issuing extraction and transport permits, and large-scale clearance for subsistence farming. In short none of the stakeholders had an incentive to conserve the forest – thus in Quintana Roo, half of the main forest concession area (500,000 ha) was cleared during the 30-year concession period.

In 1978, an attempt was made at the national level to decentralise control of the forest resource through the creation of the Forest Administration Units (UAFs). The UAFs were given responsibility for developing management plans and defining stumpage fees, but suffered from bureaucracy and corruption. They fared a little better when their name was changed to Units of Conservation and Forestry Development (UCODEFOs), and their role modified to work more closely with communities under the 1986 Forest Law.

¹³ The standard applied state silvicultural system, the *Metodo Mexicano de Ordenacion de Montes*, resulted in gaps that were too small for effective regeneration – often the first step leading to clearance for farming or pasture.

¹⁴ Due to several factors: the over-selective silvicultural system, lack of tenure security, and a dwindling forest area (due to the large-scale clearance) to maintain the forest harvest.

Following widespread grassroots discontent in the early 1980s, and the emergence of the *Plan Piloto Forestal* (PPF) as a model for community forest management, several pieces of legislation (culminating in the 1986 Forestry Law) gradually handed decision-making power over forest extraction to the land-owning *ejidos*, although the government continued to retain the right of granting permission to manage the forest – on presentation of a management plan drawn up by a professional forester. These changes were promoted by a far-sighted Head of the Forestry Sub-Ministry (in SARH), Ing Leon Jorge Castaños, who was a trained forester and started a programme to motivate and train communities in forest management.

By 1988, there were at least 23 peasant organisations managing their forests in 13 states. These were at first ‘supported’ by the government Technical Forestry Services (STFs), but this support was limited mainly to expensive (to the communities) management plans. However the 1986 Forest Law privatised these services, so that the STFs worked for rather than above the communities, and the communities were able to pay a fairer price for their services. Also, under Castaños’ leadership, a number of positive changes were introduced: the Forestry Subsecretariat was eliminated, and the National Forestry Commission created, enabling better coordination by several government agencies; the state’s mediating role in administering benefits from stumpage fees was eliminated; the real value/cost of stumpage and technical services was established; appropriate silvicultural and management plans were promoted; the timber market was liberated from the problem of monopsonistic undervaluation; and vertical integration by communities into processing was encouraged. However Castaños was ousted in 1989 and there was a regression back to the old Subsecretariat of Forestry and political leadership.

In 1992 a further Forestry Law resulted in the creation of the National Technical Forest Consultative Council (CTCNF) and their regional counterparts. These bodies integrated representatives of the forest sector agencies, comprising the Forestry sub-Ministry under SARH, the Social Development Ministry (SEDESOL), strangely given responsibility for ecological issues, universities and research centres, producer organisations, NGOs, entrepreneurs and others. These provided policy influencing fora at which communities could also theoretically have a voice, but do not as yet seem to have had a significant impact. The 1992 Law also introduced tighter ecological controls in forest management plans, but these have proved to be little more than a further bureaucratic hurdle.

The 1992 Forest Law also pushed forward the deregulation and privatisation process. Before 1992, the movement of timber was controlled at road checkpoints, but permission was granted for only eight hours. It was recognised that this did not achieve anything except provide good ‘business’ for the

checkpoint officers. All controls on internal timber movement were removed. The other main change was the complete privatisation of technical assistance. This has led to a lot of 'unfair competition' (*competencia desleal*) between a mixture of good and bad consultants, the latter offering cut-price management plans necessary for cutting permission. Management Plans are now approved by state-level delegations, corruption has been reduced and delays are minimal – but so are check-up visits. These only normally occur when there is a complaint or '*denuncio*'. This deregulated and privatised system has been 'favourable' not only for serious community enterprises, who are able to obtain good quality technical assistance and get their management plans through fairly quickly, but also for groups intent on exploiting the forest as quickly as possible (Francisco Chapela, Oaxaca, personal communication).

SEDESOL was more logically given responsibility for social programmes in indigenous areas. Working with another federal agency, the National Indigenous Institute (INI), a major reforestation programme called Forestry Solidarity has been established in which local people in over a thousand communities have been paid to produce and plant seedlings. This was part of President Salinas' National Solidarity Programme to combat poverty, and channelled through the local government municipalities. But the latter proved very variable in their level of social commitment and honesty. Although the programme had political and paternalistic characteristics, some communities were significantly strengthened organisationally, administratively and technically. The consequent community development and reforestation involved genuine devolution of resources and decision making from the centre. This occurred particularly where resources were transferred directly to the grassroots organisations – as in the case of INI's Regional Indigenous Fund (Arturo Argueta, Director, National Ecological Institute (under SMARNP), personal communication).

A further major 'privatisation' development was the 1992 reform of Article 27 of the Mexican Constitution, which effectively privatised land as well as tree tenure. Until 1992, land and natural resources belonged to the nation, but use rights were granted to communities or *ejidos*. These had rights of access, exclusion and management, but the land could not be sold, transferred or owned by corporations. This provided security of tenure for some 28,000 *ejidos* and communities covering about 70% of Mexico's forests and wilderness, and 50% of the agricultural area. The 1992 constitutional reform has meant that, on the one hand *ejidos* and traditional communities now have the legal right to own and manage forest, but on the other hand, has opened the door to individual land 'parcelisation' and sale. Now, once the forest has been cleared, it is possible with agreement of the *ejido*'s General Assembly to divide up the land and sell or lease it, or enter into joint ventures with companies.

This means that there is an incentive to clear the forest if community members collectively decide they are no longer interested in forest management. The relative economic attractiveness of the latter is currently under threat as a result of cheap timber imports from North America following the North American Free Trade Agreement (NAFTA), and the new impetus given to the business sector. The recent collapse of two multi-million dollar World Bank and Inter-American Development Bank projects reflects the highly uncertain future of community forest management in Mexico's current neo-liberal political economy context.

In 1994 a new federal agency was created to take charge of the environment and forest policy – the Secretariat for the Environment, Natural Resources and Fisheries (SMARNP). This is headed by a highly-regarded (at least among the 'green' intelligentsia) biologist rather than a politician. Moving further towards decentralisation is an explicit objective of SMARNP, but clearly the institution is still evolving and confusion is high, particularly of funding, staffing and implementation strategies. This confusion has been further deepened by a proposal to create the Rural Development Agency, which would take over from SMARNP all matters relating to forestry and rural land use.

In a nutshell, Mexico's version of decentralisation has been largely one of deconcentration, deregulation and privatisation. Federal structures have been reproduced at the state level, e.g. SMARNP's policies and organisational structures are copied intact in Quintana Roo, although the state representative can 'orientate' national policies to local conditions. Decentralisation has occurred both within government – e.g. transfer of control of community forestry enterprises to the state level – and outside government, e.g. privatisation of technical assistance. There was some transfer of resources to the community in the INI/SEDESOL initiative mentioned above, but in general it is difficult to identify genuine devolution of power in the forestry sector.

Privatisation of land and tree tenure and of the technical services has reduced the state to a supervisory role. This has been based on overt recognition that decentralisation is essential for the local participation vital for achieving the twin goals of development and conservation, but there is also much confusion and disagreement as to how this should take place. This is not helped by the severe current economic and political crisis.

4.3 Case study 3. The Plan Piloto Forestal (PPF)

4.3.1 Evolution of the PPF

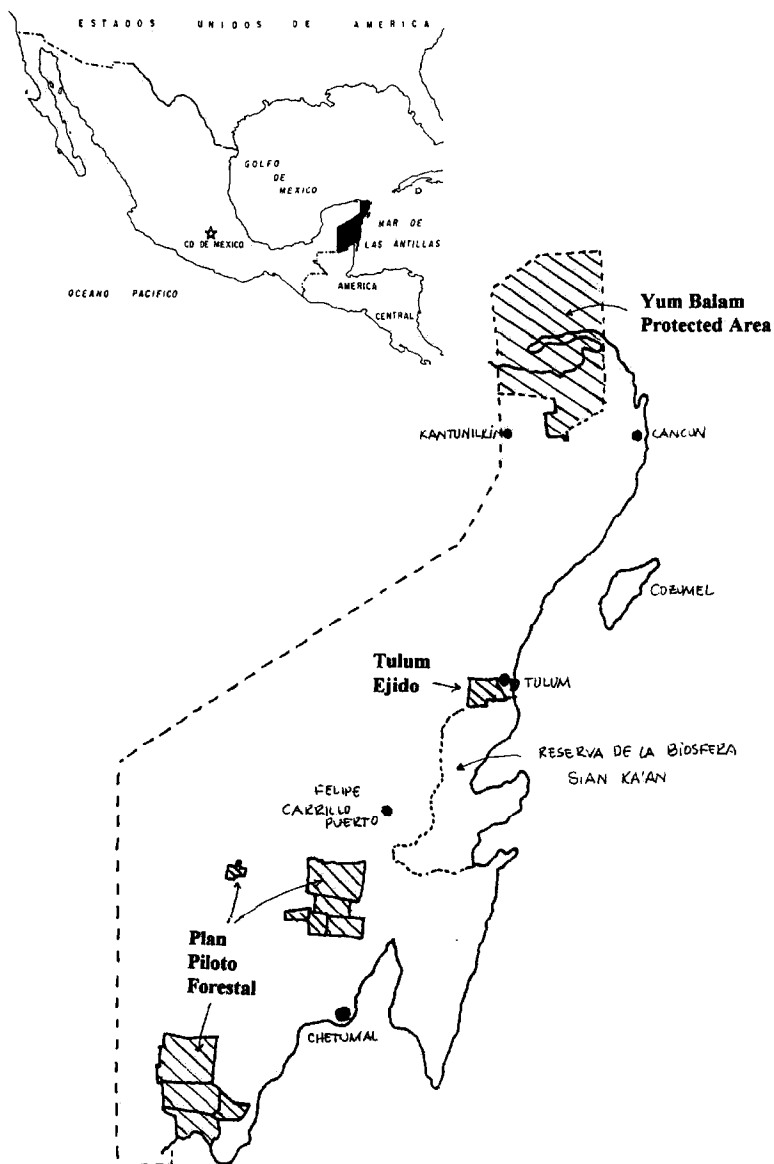
The *Plan Piloto Forestal* (PPF) or Pilot Forestry Plan is an internationally-known project in which a group of 10 forest communities (*ejidos*) have successfully directed forest management and industrialisation since 1983, when it commenced with a forest area of 110,000 ha. By 1995 there were approximately 50 *ejidos* participating in the scheme and grouped in five organisations, each with its own forestry support service, involving more than 6,000 families and covering 500,000 ha (see Map 2). It has been replicated four times, and been described by Synnott (1993) as 'probably the largest, most important and successful forest management operation in Latin America'.

From 1954 to 1983, most of southern Quintana Roo's productive forest came under a 540,000 ha concession to a parastatal company called MIQRO. Quintana Roo was very sparsely populated when the concession started, but during the next 30 years, a simultaneous and contradictory (to sustainable forest management) policy of colonisation took place. This was encouraged by a law through which campesinos could create *ejido* rights by land clearance, and a national policy of agricultural self-sufficiency (especially in the 1970s), under which the banks financed clearance of up to 30% of the forested area. From six *ejidos* that existed at the beginning of the MIQRO concession (1953), there were 60 by the end of the concession (1983) with an accompanying 50% reduction in the forest area.

The main characteristic of the concession era was the exclusion of the *ejidatarios* (*ejido* members) from forest management and its benefits. The only benefit was a nominal stumpage fee paid by MIQRO, which was erratically channelled through the Ministry of Agrarian Reform. At the same time there was rapid deforestation in the area as *ejidatarios* sought to sustain their agricultural livelihoods. This period was characterised by political clashes between agriculturalists and foresters, between federal and state interests, and between foresters and farmers. However the only real dialogue was between the foresters and the concessionaires. The problems could only be perceived and analysed in terms of the traditional forest development model.

However another lower profile dialogue was taking place, initiated by those who had come to the realisation that the interests of the State (Quintana Roo) were very close to those of the *ejidos*. The outcome of these discussions was that in 1983 the *ejidos*, with the backing of the State Governor, requested the non-renewal of the MIQRO concession, and instead proposed to the Forestry Sub-

Map 2 Case Study Project Areas in Quintana Roo, Mexico



Secretariat in SARH that with adequate technical assistance they could manage the forests themselves and slow up deforestation.

This shift, in terms of the involvement of the local population and the transfer of rights and technical assistance, was made possible by the skilful intervention and mediation of the staff of the *Acuerdo Mexico-Alemania*, a bilateral agreement between the governments of Mexico and West Germany, financed mainly through the GTZ. The *Acuerdo* provided initial technical assistance, social promotion and the creation of a 'political space' within the Forestry Sub-Secretariat, allowing the *ejidos* to start the process of marketing and harvesting the timber by themselves. Although this was still in the command and control period of Mexican forest policy, there was a loophole in the law which permitted the Ministry to grant a forest concession under special circumstances. Consequently in 1983, SARH agreed to pass the MIQRO concession area to the *ejidos*, and the first three-year Pilot Forestry Plan was initiated.

Silva (1994) emphasises the importance of the process of struggle and confrontation in the development of strong grassroots organisations, for example of Nohbec *Ejido*. He also points out that there was an alignment of local business and political interests in this evolution. The State Governor connected sustainable forestry with ecotourism, which clearly had high economic potential in the area, and so succeeded in winning over the local business elite to support (or at least not opposition) of the programme. The other vital part of this nexus was GTZ. The GTZ team was composed of expatriates who had lived in Mexico for many years and understood local needs and capacities, as well as the political system. It lent essential credibility (for example in political circles) that the project was supported by a respected international aid agency.

4.3.2 *The role of the state*

The main initial role of central government was to provide the political space for this programme to occur, and to be willing to follow the guidance of the PPF on critical policy issues. With the essential support of the Minister of Forestry, Ing. Castaños, as well as the State Governor, a positive role was played by the state from the beginning. For example SARH continued to pay the salaries of the forest technicians, although the latter were made accountable to the PPF and the communities. This facilitated new technical assistance functions emphasising participatory forest inventory, silvicultural research and control of forest operations, as opposed to SARH's traditional policing and recording activities (Galleti and Arguelles, 1987). The state also responded to pressures from PPF to lift subsidies and promote market transparency leading to more efficient management practices. Later on, central government distanced itself

from the project – and essentially maintained its policy of non-interference.

In addition, central government has maintained a financial contribution (mainly for operational expenses) to the PPF under the Mexico–German Agreement. The Coordinator of the Agreement sends periodic monitoring and evaluation reports to the government. At another level, the government is still involved in the approval of management plans – although this is usually little more than a bureaucratic formality.

However Silva (1994) also reports that federal involvement has not always been so benign and well-intentioned. It was only the State Governor's support of the *ejidos* which prevented SARH's attempt to manage the forest income on the *ejidos*' behalf. Also towards the end of his tenure, he helped push through a vital legal change which made the *ejidos* more independent of the patronage of any particular state or federal government – in 1986 they obtained the legal right to negotiate contracts with the government and to hire its own technical personnel.

4.3.3 *The Sociedad de Productores Forestales Ejidales de Quintana Roo (SPFEQR)*

It was soon realised that, in order to promote sustainable community-based forest management, a coherent, flexible and autonomous institutional structure was essential – also to minimise the need for inter-institutional coordination, observed to operate very poorly in the state and elsewhere, as well as to allow staffing continuity, a bottom-up approach to forest management, and the new emphasis in technical assistance. Thus SPFEQR was developed in 1986 to provide legal and technical assistance, including research support, to the *ejidos*, to provide a united market presence, and to lobby for political support. However all production and management decisions continued to be made by the General Assembly of each *ejido*.

The significance of SPFEQR being an *Asociación Civil*, was that the *ejidos* could function independently of the Ministry of Agrarian Reform and that SPFEQR could request the concession of the Forestry Technical Services from SARH – although most of the cost of technical assistance continued to be paid by the latter. It also meant that the *ejidos* now had legal authority to request and be granted forest concessions – rather than as a legal loophole. Furthermore, the constitution of SPFEQR proved essential in the transitional period following the term of the supportive State Governor. While the attitudes and policies of the State Government of Quintana Roo have always been very significant in the project, the local government municipalities have exerted a negligible influence.

4.3.4 PPF's strengths

Few would question that the PPF has achieved considerable progress towards establishing the social, institutional, technical and economic basis for sustainable forest management, and has had a major impact on deforestation. This has been recognised in the wider literature; thus, for example, Poore (1989) cited the PPF as one of the few identifiable examples of good, if not yet sustainable, forest management.

The relative success of the PPF can be ascribed to such factors as the high realisable market value of the forest (including access to markets), political support, tenure stability, the high quality and continuity of external technical assistance, strong grassroots organisations, the success of the *Sociedad* in providing appropriate technical assistance and advisory services, relative socio-political stability, and participatory methodologies (see Richards, 1992, for a fuller description).

4.3.5 Difficulties

However the PPF faces several pressing problems:

- *Ejidors* rich in mahogany have been able to effectively capitalise and reach higher levels of internal organisation, but those less fortunate have struggled to maintain the interest of the *ejidatarios* in forest management; there has consequently been a very uneven impact on economic and equity goals – both between and within the four *Sociedades*.
- The programme has not yet come to terms with the planned phasing out of GTZ, and in spite of the training emphasis there appears still to be a problem of technical dependency.
- *Chicle* extraction has made a vital economic contribution to sustainable forest management, but there is evidence that over-harvesting is gradually reducing this.
- The lack of clear and constant communication between the SPFEQR and *ejido* members, resulting in some confusion and lost opportunities.
- Failure to account for depreciation of plant and machinery in the usual way, raising questions about the economic sustainability of the programme.

- The project has generated an abundant set of data and literature, but lacks a systematic monitoring and evaluation system.
- The PPF still lacks a clear and coordinated marketing strategy, especially for the lesser-known species.

4.3.6 *Equity considerations*

It should not be forgotten that *ejido* forests are basically managed as common property resources, although for historical reasons some *ejido* members have more extraction rights over *chicle* than others. As such they are vulnerable to the usual free-riding problems. There is some evidence of this in the case of *chicle* extraction and where the forests are less 'wealthy', although the lack of hierarchy in the *ejido* social structure counteracts this somewhat.

Communal organisation is generally good, partly as a result of the experience obtained in the *chicle* cooperatives, which were formed in the 1930s and there is frequent re-election of leaders. This has the advantage of reducing social differentiation, but means that training costs are high and continuous. However women are clearly one disadvantaged group with only a very minor role in decision making, as are the non-*ejido* members who have no rights to land and work only as labourers.¹⁵

4.4 Case study 4. The Yum Balam Protected Area

4.4.1 *Evolution*

There were two main external catalysts for the development of the Yum Balam Protected Area of Flora and Fauna on the north-eastern tip of the Yucatan Peninsular (see Map 2). The first was the nearby development of the Sian Ka'an Biosphere Reserve during the 1980s, and the second was a devastating hurricane. Internally, these developments have coincided with a growing local realisation of the need to protect livelihoods through management and conservation of natural resources.

The 528,000 ha Sian Ka'an Biosphere Reserve represented a pioneering approach in the early 1980s to the integration of scientific research and natural

¹⁵ Some of these issues, like gender effects, are under investigation by Anna Malos, the ODA forester working with PPF.

resource management by local people. The participation of local people was ensured by the creation firstly of an Assembly of Representatives, a decision-making body involving the widest stakeholder participation, and later an NGO called the Friends of Sian Ka'an. However the project was perhaps too dependent on a charismatic Spanish anthropologist who led a team from a local research agency to set it up. When he was forced to leave as a result of local political graft in 1988, the Assembly was dissolved and the NGO changed direction. Management by politically appointed staff gradually took over. They lacked commitment to, and understanding of, the concepts of genuine participation and a regional development strategy. In spite of these problems, the demonstration impact of the project, especially the potential benefits of ecotourism, was considerable; Yum Balam has adopted a similar methodology.

In 1989, Hurricane Gilbert caused major direct and indirect (devastating forest fires from the debris) damage to the neglected northern part of Quintana Roo. This stimulated the discussion by both environmentalists and local people of alternatives for the conservation of the natural resources in the area. A core group of seven individuals committed to conservation and sustainable management came together to establish an NGO called Yum Balam, AC (Civil Association). The goal of the NGO was to promote the management and conservation of a sparsely populated (approximately 8,500 people) area of 154,000 ha, half of which is marine. During the early years (1989 to 1994) the core group worked hard to establish effective links with research institutions; this resulted in research collaboration with national research institutions based in Merida, Yucatan, and the Universities of Merida and Miami, which provided the baseline biological and anthropological data to justify the official creation of a Biosphere Reserve in June 1994.

4.4.2 Institutional basis and operational structure

The NGO, which was only legally recognised in 1994, works closely with the Municipality of Lazaro Cardenas, which has its headquarters in Kantunilkin, with the local technical agricultural school, and the Mayan Supreme Council, an indigenous organisation of Mayan elders. This broad local institutional basis, which operates through a series of agreements and committees, is the real strength of the project. It represents a collusion of interests between 'environmentalist' outsiders and local interests. One of the main perceived (if not actual) roles of the NGO was as a legal entity that could receive funds to support the project.

The agricultural training school also plays an essential role as it provides the area and facilities to undertake applied field research and demonstration,

provides technical expertise and a supply of young technical promoters. The Mayan Supreme Council, formed in 1980 but only legally constituted in 1994, has a strong history (through its founders) in the labour union movement, and is respected by local people as having a mandate to maintain the cultural wealth of the area. It sees its role as one of restoring or maintaining traditional Mayan values and technologies – an objective which is compatible with the overall programme objectives.

District municipalities play a major role in Mexico's system of local government. Thus the Municipality of Lazaro Cardenas has decision-making power at the local level, but must compete with the other seven District Municipalities of Quintana Roo to obtain resources from the state government for projects in its jurisdictional area. It provides political support and links the project to the state government, helps to settle disputes, and provides some financial and logistical support to Yum Balam.

The main project decisions are made by a core group of about 10 from these local and regional institutions. This arrangement seems to have resulted in good cooperation between the main local actors to date. But when the federal agencies are included, it becomes a large group of institutions and people to work with on a project of this nature; it is therefore not surprising that the administrative structure of the project is fairly complex:

- A Commission of representatives of the federal, state and municipal levels of government, which is supposed to meet every three months to oversee, approve, monitor and fundraise.
- An Executive Committee formed by representatives of the three branches of government and representatives of producer organisations and other interest groups – to meet monthly to prepare projects and support the Commission.
- A Technical Consultative Council composed of researchers and advisors to provide technical assistance, draw up plans and assist in conflict resolution (by providing information).

This structure appears to have achieved a reasonable operational effectiveness. The sporadic meetings of the Commission have ensured political support, and the other bodies include sufficient core group members to ensure that they function.

4.4.3 *Federal involvement in Yum Balam*

Although federal agencies were hardly involved in the evolution of Yum Balam, they are now well-represented in Yum Balam's system of agreements and committees. As a result of the efforts of the core group, limited material support has been obtained from the National Institute of Ecology and the National Indigenous Institute. Interviews with high level federal officials revealed a strong interest in Yum Balam, particularly in the newly created SMARNP – this included the Minister herself (a biologist) who has visited the project.

In 1994, SEDESOL, which had the appropriate authority, formally delegated the management of the Yum Balam Protected Area to the state and municipal governments. An agreement was signed in August 1994 between all the interested parties at the local, state and federal levels, including individual *ejidos*, fishing cooperatives, tourist organisations, and the State Governor – no less than 22 people signed the agreement. SEDESOL, the National Institute of Ecology and PROFEPA, the federal environmental protection agency, were the three federal parties to the agreement.

4.4.4 *Yum Balam's strengths*

The sound diagnostic and methodological base, the balance between the private and public sector (and local, regional and federal actors) has given the project a strong institutional and political basis. The emphasis on a participatory community planning (several workshops have taken place with the main local interest groups) and extension process has also been essential in the generally strong local popular support for the project.

There are also several very promising project activities to encourage sustainable resource management, including the development of multi-layer agroforestry from traditional principles, an emphasis on the reintroduction of traditional knowledge (e.g. stingless bee apiculture), a deer breeding project, a revolving fund for handicrafts, and training and credit projects with women's groups. However these activities have suffered from insufficient financial support to scale up enough to have a major impact.

4.4.5 *Difficulties*

The Commission and the Executive Committee were given the key task of developing a management plan. Programmed for June 1995, the plan was to include a baseline description of resources; objectives; short, medium and long-

term action plans; and the development of rules to protect and regulate use of the natural resources. However at the time the plan was due, there was some confusion about the functions and responsibilities of each party, and consequent problems in defining priorities and a strategy.

The main difficulty in developing a clear plan of action is the number of stakeholders and their divergent interests. The problems are most acute where the highest market values are involved – fishing and tourism. A predictable conflict has developed between the strong cultural and ecological concerns of the core group and more commercial interests. The municipality has been unable to mediate effectively, partly because these commercial interests extend to its members.

Another problem for Yum Balam is that, unlike the PPF, there is no main high-market-value activity unifying all the main interest groups. Although there are plans to develop a forest management component along the lines of the PPF, the stumpage value of the forest is much less. Also combining environmental objectives with diverse livelihood needs is inevitably more complex. While a number of income-generating opportunities, like ecotourism and a variety of agricultural activities do exist, considerable further research and development is needed to convert them into positive environmental incentives for local people. If this project is to survive this gestation period, it is likely to need considerable outside material support. Much of the work of the core group has been voluntary – continued dependence on individual '*voluntad*' is, to say the least, risky. It was surprising that this apparently model participatory conservation and development programme, which is highly approved of by the government and has a high biodiversity profile, has not attracted donor support.

The project can be criticised for being too ambitious (especially in view of its limited resources), as it appears to be trying to solve all the problems at once. However, combining conservation and development objectives is necessarily complex, and there are bound to be clashes between project objectives and stakeholders with vested interests in commercial resource exploitation. Arguably the project needs to focus more on the problems surrounding the main income-earning activities, tourism and fishing, and there needs to be even more emphasis on environmental education directed at the vested interest groups before effective consultation can take place.

4.5 Case study 5. Tulum *Ejido* Ecotourism Project

4.5.1 Evolution and institutional actors

The Tulum *Ejido* Ecotourism Project involves a small group of Mayans working with a local NGO and federal agencies to generate income from a *cenote* or sink-hole, used by divers and as a local beauty spot, as an incentive to conserve the surrounding forest. This is located in an important tourist area, near the spectacular coastal Mayan ruins of Tulum and very close to the Sian Ka'an Biosphere Reserve (see Map 2).

Tulum *Ejido*, which comprises some 25,000 ha and 120 *ejidatarios*, belongs to one of the second generation *Sociedades* of the PPF – the Organisation of Forest Producers of the Mayan Zone (OPFZM). However, due to low volumes of precious wood, forest extraction in the 8,000 ha of permanent forest does not represent an attractive activity. Most *ejidatarios* have abandoned traditional livelihoods and gone to work in the many hotels along the coast and in other parts of the tourist business. However several motives persuaded a sub-group on an alternative course of action: the economic potential of ecotourism to bring about a better standard of living for themselves and their children; realisation that without an economic incentive the forest will inevitably be lost, and with it livelihood and environmental benefits, as control of natural resources falls more and more into the hands of outsiders; and regret for the accompanying loss of dignity, customs (Tulum is one of four sacred Mayan villages) and values.

Some members of the *ejido* noticed that divers were using the natural sink-holes (*cenotes*), which were also used by local people for recreational purposes, and linked by passages in the limestone sub-strata. In 1989, the *ejido* applied to a development fund under the Social Development Ministry (SEDESOL) for support. At about this time, one Carlos Meade who was one of the technicians of OPFZM, and also belonged to a local NGO, established contact with the group. He encouraged them to develop an ecotourism/forest conservation proposal to the Mexican Tropical Forestry Action Plan (PROAFT), which was based in the Forestry Subsecretariat of SARH. The idea was to provide basic infrastructure like access roads and a car parking area, better services, refuse control and vigilance; the surrounding forest would clearly form an integral part of these beauty spots and would therefore increase in value.

Thus two groups of *ejidatarios* (focusing on two *cenotes*) committed themselves to the concept, attending meetings and carried out initial activities. They received approval from the General Assembly of the *Ejido* to usufruct rights over the *cenotes* provided they were maintained – and provided the *Ejido*

received a proportion of the future ecotourism income.

For several years no financial support was forthcoming from either of the federal sources – in the case of PROAFT, a proposal was rejected in 1990 and a re-submission made in 1992. At this time one of the groups disintegrated completely and the other fell from 25 to 12 members. The project then came to the attention of the National Indigenous Institute (INI), a federal agency operating under SEDESOL. INI granted the surviving group about US\$3,000 in 1993 and a further \$10,000 in 1994 for a fence, parking area, latrines and restaurant. However the local office of INI wanted direct control over the project, and succeeded, against the wishes of the group, in building a high wire-mesh fence. They also wanted to put in an asphalt parking area (involving some tree felling), a beer shop and a roadside kerb, ideas which Meade described as 'absurd'. The local INI office also delayed the release of the money, and only did so when pressure, via PROAFT, was put on INI's national office. Once again disillusionment threatened abandonment of the project.

These incidents are related here because they illustrate some of the problems of decentralisation within government in which moving the decision-making locus away from the centre did little to alter some of the negative 'invisible institution' problems of state assistance. These included the known political use of INI-managed funds (Meade, 1995).

4.5.2 *The Tropical Forestry Action Plan (PROAFT) project and strategy*

Eventually (in 1994), PROAFT approved a three-year project to support Tulum *Ejido*. In an approach which is being reproduced throughout southern Mexico, a tripartite agreement has been set up between PROAFT, AC (an NGO created by the government), the community (an *ejido*), and a local supporting NGO called Yaxche (Tree of Life) developed by Carlos Meade. The role of PROAFT, AC is to link the other two actors to international financing, coordinate actions and provide planning and monitoring methodology and training support. Meetings with PROAFT take place once or twice per annum. The PROAFT project focuses on further infrastructure development and training, but as with Yum Balam, there have been problems developing a coherent strategy and plan.

These tripartite agreements represent a strategy by which the government can support forest conservation and development projects, and encourage local participation, without the negative problems associated with federal agencies – this is the reason for the creation of the NGO, PROAFT, AC. Although it seems a thin disguise, in the case of the Tulum project, it has dissipated some of the

anti-government feeling which prevented federal agencies from taking a more constructive role in the past. By the end of 1994, some 27 such projects were being supported by PROAFT.

The combination of the INI grant and the PROAFT project has now revived interest in the ecotourism projects, so that the second group reformed and, without assistance, made an access road and cleaned up another *cenote*. Both groups are now making small entrance charges for divers and other tourists. Future ideas include the development of trails, rattan houses and botanical gardens.

4.5.3 *Tulum's strengths*

One of the advantages over Yum Balam is that the Tulum ecotourism project is much more focused in its activities and objectives. It is trying to achieve conservation objectives through a specific activity which, it is hoped, will provide sufficient economic incentive to unite conservation and development needs. The project is now benefiting from significant federal support, receives excellent support from a committed local NGO, and the tripartite agreement appears to be working well.

4.5.4 *Difficulties*

However the project is not without its problems. Firstly there is the question whether this level of ecotourism will generate sufficient income to achieve the objectives – even with considerably increased entrance charges, there will be a considerable gestation period before the project is profitable. When it does become profitable, problems are foreseen in profit distribution in view of the clause giving the *Ejido* a proportion of the income (C. Meade, personal communication).

The project is also faced with the possibility that the General Assembly may, at some future time, decide to divide up the *ejido* land and sell it, following the constitutional change in 1992. There is also a severe problem of alcoholism, possibly worse in this area due to the influence of tourism.

4.6 Discussion

Although progress towards decentralisation has been hampered by the recent changes in federal agencies, the policies of deregulation and encouragement of

privatisation have clearly played a major part in the development of these three highly participatory projects. NGOs have played important roles in the development of the Yum Balam and Tulum Ecotourism projects. The development of the mainly autonomous *Sociedades* or *ejido* forest producer associations can also be considered as private sector initiatives, although the (federal) state was also proactive, as shown by its willingness to not only cede its technical assistance role to the *Sociedades*, but also to continue to pay for it. However the PPF story has been largely one of 'letting the market do the work'.

Different strategies have been used by government to support community forestry without incurring the normal problems of state intervention. In the case of the PPF, federal support has been channelled through producer organisations and been made accountable to the communities. In the Tulum Ecotourism project, PROAFT has used the tripartite agreement to avoid anti-government problems; the state is disguised as an NGO and the main contact with the community is through a local NGO. In the case of the Yum Balam project, limited, but important material support has come through local government. The municipality has been a key local actor, able to make resource allocation decisions once resources are justified from the state government.

The deregulation and privatisation approach was able to work for the PPF because of the focused objectives, the high stumpage value of the forest, the support of GTZ and various other factors. The Yum Balam experience raises the question of whether this approach is sufficient when applied to integrated conservation and development projects. This is because there is a much greater conflict between private opportunity costs (of not exploiting natural resources) and the societal externality benefits. Even if ecotourism and the other initiatives result in a significant conservation incentive, it is clear that existing natural resource use must be rapidly diversified and intensified if livelihood pressures on remaining natural resources are not going to swamp its impact. In these situations, a more proactive role by the state appears essential. A project like Yum Balam, and to a lesser extent the Tulum Ecotourism Project, is bound to be more dependent on outside support, at least in the gestation period before the project activities generate sufficient livelihood conservation incentives. The state also has an important mediating role between more conservation or socially-orientated concerns and privately-orientated vested interest groups. This mediation would often involve some kind of material compensation for forgone development benefits.

Whatever the level of intervention, the effectiveness of state support to grassroots natural resource management ultimately depends on the motivation and commitment of individuals in key decision-making positions. Thus, for example, the early development of the PPF depended critically on the support

of the Subsecretariat of Forestry and the Governor of Quintana Roo at the time. But there have also been many negative experiences due to poor personal motivation, for example in the case of the Si'an Kaan Biosphere Reserve. Local sources report that there is still too little understanding and interest in local participation by many of those in charge of implementation. Decentralisation can help reduce the negative invisible institution problem if it increases transparency and local accountability, but other ways of tackling attitudinal problems need to be found.

5. Conclusions

The main findings of these case studies for the decentralisation process, in its wider generic interpretation, are as follows:

- State-led decentralisation without a genuine devolution of resources and decision-making powers to the regions, is likely to suffer (in terms of its social and environmental objectives) from a clash between national economic interests and regional sustainable development priorities. These economic interests, which bring together vested interests in the private and public sector who support the *status quo*, and macroeconomic growth and export pressures in the economy to form a strong coalition against effective decentralisation, as particularly evident in the Costa Rican studies. The continuing legal problems of ACTo reflect some of these underlying political problems.
- The more deregulated 'let the market work' approach of Mexico was clearly deficient for complex and multiple-objective integrated conservation and development programmes, and where market incentives are lower (i.e. where timber or a high-value NTFP is not the main source of income) – unless an external donor provides the necessary level and continuity of support. There is bound to be a considerable gestation period while such projects develop alternative livelihood-based conservation incentives. Community forest conservation and management justifies and requires considerable state support, as well as external donor support, in view of the distribution of the costs and benefits of forest conservation. There is considerable economic evidence that the benefits of conservation are highest at the national and international levels, while the costs of conservation are usually highest for local people (Wells, 1992). In the case of Costa Rica, support has been provided (at least to those with property rights) through non-market forestry incentives.
- The unevenness of quality in public-private sector collaboration or privatisation is an important constraint to successful decentralisation. While the MIRENEM-CODEFORSA Agreement worked very well, and can be regarded as an outstanding example of public-private sector collaboration, in other regions of Costa Rica and with other NGOs, it proved less successful, partly due to less harmonious relationships between public and private bodies. This indicates that privatisation should not be implemented as a blanket strategy, but rather be approached as far as possible on an area and organisation-specific basis – privatisation should move forward as a gradual, cumulative process according to the identification of adequate NGO capacity.

- Effective regulation is an essential concomitant of decentralisation of support services for natural forest management. Mexico could learn from Costa Rica's approach to regulation of private sector technical assistance – not by the state, but by a highly respected hybrid (neither private or public) body, the National College of Agronomists.

- Administrative decentralisation is not enough to ensure effective coordination between decentralised public agencies, as shown particularly in the ACTo study. Some of these reflect power struggles, often centring around people trying to hold on to their jobs at a time of budgetary cutbacks, within and between state institutions. It is interesting to compare this with the institutional strategy in the PPF, where an important rationale for the creation of an autonomous institution (the *Sociedad of Ejido Forest Producers*) was to minimise the observed problems of collaboration between public sector agencies.

- The level of genuine participation and bottom-up initiatives is likely to be higher in the privatisation and deregulation approach, as in Mexico. However this participation can be vulnerable in the face of limited outside support, as in the case of Yum Balam.

- The state has an important mediating role in conflicts between private and public (environmental) interests in multiple-objective programmes like ACTo and Yum Balam, where local vested interests can make it difficult for local government to mediate effectively. But it is surprising that, for all the talk about bringing back the disenfranchised into democratic decision-making processes, there has been little emphasis in these projects on developing relationships with local government, except in the Yum Balam project, and to a lesser extent, ACTo.

Among the five case studies examined here, two can be considered as providing models of global significance for forest management – the *Plan Piloto Forestal* and CODEFORSA. It is hard to think of any comparable public sector experiences in the forest sector in Central America. The other three programmes are still at the institution-building stage and will require several years of state and/or external support before they are consolidated. It was clear that a major benefit in all the case studies was the reduction of the negative invisible institution aspects of state intervention at the grassroots level. But one of the main reasons for the success of PPF and CODEFORSA has been the appropriate supportive role of the state. Decentralisation in the forest sector therefore requires a delicate balance between the public and private sectors.

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